

School of Medicine

Academic Year 2009-2010



Contents

Foreword	5	Core Clerkship Attendance Policy	28
Historical Perspectives	7	Involuntary Leave of Absence	29
The University, The School of Medicine		Academic Honesty	30
Mission Statement and Education Program Objectives	9	Honor Code	30
		Special Students/Visiting Students	30
		Enrollment	30
		Interdivisional Studies	31
The Johns Hopkins Medical Institutions	11	Graduate Programs	33
The School of Medicine, The Bloomberg School of Public Health, The School of Nursing, The Welch Medical Library, The Johns Hopkins Health System, Johns Hopkins Medicine, The Johns Hopkins Hospital, The Johns Hopkins Community Physicians, The Johns Hopkins Bayview Medical Center		Office of Graduate Student Affairs	33
Associated Institutions	14	Degree Requirements	33
The Kennedy Krieger Institute, Inc., The Good Samaritan Hospital of Maryland, Inc., Sinai Hospital of Baltimore, Other Hospitals		Departmental Requirements	33
		Biochemistry, Cellular and Molecular Biology	33
Instruction Leading to the M.D. Degree	17	Biological Chemistry	34
Curriculum, Electives, Required Work, Requirements for M.D. Degree, Preparation for Medical School, Requirements for Admission, Application for Admission, School of Medicine Technical Standards for Admission, Course Requirements for M.D., M.D.-Ph.D., and Transfer Applicants, Early Decision, Deferred Admission, Combined Study-M.D.-Ph.D., Advanced Standing		Biomedical Engineering	35
Grading and Examinations	22	M.S.E. Program in Biomedical Engineering	37
Promotions	22	Biophysics/Molecular Biophysics	38
Grade Appeals Policy	23	Cell Biology	40
Policy on USMLE Requirement	24	Cellular and Molecular Medicine	40
Guidelines for Conduct on Teacher/Learner Relationships	24	Functional Anatomy and Evolution	41
Procedures Relating to Student Discipline	26	History of Science, Medicine, and Technology	42
Attendance Policy in the Preclinical Curriculum	27	Human Genetics and Molecular Biology	43
		Immunology	46
		Medical and Biological Illustration	48
		Molecular Genetics	51
		Neuroscience	52
		Pathobiology	53
		Pharmacology and Molecular Sciences	56
		Physiology	57
		School of Public Health	58
		Interdivisional Program: Ph.D./Sc.M./M.H.S. in Clinical Investigation	58
		Interdepartmental Councils	60
		Graduate Student Honor Code	60
		Graduate Student Policy Statements	60

The Training of Medical Scientists: M.D.-Ph.D. Programs	63	Gynecology and Obstetrics	151
Postdoctoral Education	65	Health Sciences Informatics	155
Postgraduate Study and Fellowships, Internships and Residencies, Postdoctoral Courses-Continuing Education		History of Medicine	157
General Information	69	Medicine	159
Student Advising, Office of Student Affairs, Policy Statements, Women's Advisory Committee, Medical Care for Students, Student Services, The Office of Cultural Affairs, International Services, Student Organizations, Recreational and Cultural Opportunities, The Denton A. Cooley Center, Living Accommodations, Libraries, Medical Societies, Publications of the Medical Institutions, Teaching Awards, Other Awards, Faculty Traveling Fellowship and Visiting Scholar Fellowship, Named Professorships, Lectureships and Visiting Professorships, Lecturers 2008-2009		Molecular and Comparative Pathobiology	192
Tuition, Fees, Financial Aid, Scholarships and Awards	97	Molecular Biology and Genetics	194
Tuition and Other Fees, Tuition Policies, Refund Policy, Health Fees and Insurances, Student Research Scholarships and Awards, Young Investigators' Day, Student Financial Assistance, Scholarships, Loan Funds		Neurology	197
Departments, Divisions, Institutes, Centers, and Subjects of Instruction	117	Neuroscience	203
Anesthesiology and Critical Care Medicine	117	Oncology Center	211
Biological Chemistry	123	Ophthalmology	224
Biomedical Engineering	126	Pathology	229
Biophysics and Biophysical Chemistry	133	Pediatrics	239
Cell Biology	136	Pharmacology and Molecular Sciences	251
Dermatology	139	Physical Medicine and Rehabilitation	256
Emergency Medicine	142	Physiology	258
Epidemiology	144	Psychiatry and Behavioral Sciences	260
Functional Anatomy and Evolution	147	Public Health	271
Institute of Genetic Medicine	149	Radiation Oncology and Molecular Radiation Sciences	272
		Radiology and Radiological Science	275
		Section of Surgical Sciences	282
		Department of General Surgery	295
		Department of Neurological Surgery	296
		Department of Orthopedic Surgery	297
		Department of Otolaryngology- Head and Neck Surgery	298
		Department of Urology	299
		Multi-Department Courses	301
		Schedules	303
		Administration, Faculty, Fellows, and Students	305
		Administration	305
		Faculty	321
		Postdoctoral Fellows	423
		Students	447
		Postgraduate Appointments	484
		Appendix	491
		Alphabetical List of Names	495



Foreword

Medical education is a complex mixture of graduate and professional education. Students are expected to master basic principles and theories as well as to obtain sufficient knowledge and experience to practice medicine. The education must convey the continually expanding body of medical science and prepare students for a lifetime of competent and thoughtful interactions with patients at a time of rapid change in technology and societal needs.

To meet these educational goals, schools of medicine must be at once conservative and creative. They may often seem overly conservative, but this can be attributed to the physician's painfully acquired distrust of panaceas. There is a generally accepted need to preserve certain fundamental principles—the axiom, for example, that the rational practice of medicine rests on a firm understanding of the basic medical sciences. Yet the great advances in medicine, the need to reasonably limit the number of years of formal education, the increasing number and complexity of special fields, and the diversity of interests and talents among students all demand continual examination of our educational aims and process.

Old traditions and new methods are characteristics of the Johns Hopkins University School of Medicine, which to a large degree was founded in response to the highly variable standards of medical education at the time. Hopkins was the first medical school in the United States to require a college degree for admission, quite a radical idea when the first class entered over one hundred years ago. A college degree is still required, and current admission policies encourage a broad undergraduate education and permit successful applicants to select from a number of options prior to matriculation. The relative flexibility of the original curriculum foreshadowed the even greater number of choices available today. The wide variety of elective courses in the current curriculum allows students to extend their knowledge in special fields of interest and to schedule elective and required clinical courses in a flexible manner.

In addition to the four-year M.D. program, the School of Medicine provides a number of graduate programs in biomedical sciences and related fields that will lead to a Ph.D. or Master's degree. Also, selected students are given the opportunity to work simultaneously towards both the M.D. and the Ph.D. degrees.

The diversity of these educational options is detailed in this catalogue.



Historical Perspectives

THE UNIVERSITY

Johns Hopkins was a Quaker merchant of Baltimore who bequeathed \$7,000,000 for the establishment of a university and hospital. The University was incorporated in 1867 under the terms of his bequest, and instruction began in 1876, three years after his death.

Daniel Coit Gilman, a graduate of Yale in the class of 1852 and president of the University of California, was elected first president of the Johns Hopkins University. It was a most propitious choice. In his inaugural address in 1876, Gilman elaborated his philosophy of education, in terms both prophetic and practical, which was to become the guiding principle of the University. Students should be free to select under guidance their courses of study; professors should be free of routine; investigators should be “free, competent, and willing” research and teaching should supplement one another.

“The object of the University,” said Gilman, “is to develop character—to make men. It misses its aim if it produces learned pedants, or simple artisans, or cunning sophists, or pretentious practitioners. Its purport is not so much to impart knowledge to the pupils, as to whet the appetite, exhibit methods, develop powers, strengthen judgment, and invigorate the intellectual and moral forces. It should prepare for the service of society a class of students who will be wise, thoughtful, progressive guides in whatever department of work or thought they may be engaged.”

During President Gilman’s twenty-five years of enlightened leadership, his high hopes came to full fruition. It was in this environment of the first true university in America that the School of Medicine was evolved.

THE SCHOOL OF MEDICINE

The School of Medicine was opened in 1893, seventeen years after the University’s founding. Part of this delay was occasioned by the desire to have a fully equipped hospital before students were accepted. The Johns Hopkins Hospital was completed in 1889, and from the outset its destiny has been inextricably woven with that of the School of Medicine. This policy was established in a letter from Mr. Hopkins to the first trustees of the Hospital: “In all your arrangements in relation to this hospital,” he wrote, “you will bear constantly in mind that it is

my wish and purpose that the institution shall ultimately form a part of the Medical School of that university for which I have made ample provision by my will”. Unfortunately, what was ample in 1867 was no longer so twenty years later. The final establishment of the School was made possible by the generosity of a number of Baltimore women, of whom Miss Mary E. Garrett was the principal donor.

President Gilman took steps to lay the educational foundation of the School of Medicine soon after his investiture. He was duly concerned with the lack of fundamental knowledge of biology, chemistry, physics, and modern languages in students undertaking the study of medicine. He therefore organized a “preliminary medical course” in the Faculty of Philosophy, setting a standard which ultimately became a prerequisite for admission to many medical schools in the United States. His action influenced Miss Garrett to make her grant to the School contingent on its admitting only students whose preparation had been the equivalent of the Hopkins preliminary medical course. This was a great departure from the then accepted requirements for admission (see Appendix).

Although it occasioned disappointment at the time, the delay in opening the School of Medicine was a blessing in disguise, for it allowed time to assemble an excellent faculty. The first appointments, made in 1884, were those of Professors H. Newell Martin, Ira Remsen, John Shaw Billings, and William H. Welch. Assisted by William T. Councilman, Welch began to organize courses in pathology and bacteriology for practicing physicians. He also assembled a group of young men, among them Mall, Flexner, Nuttall, and Abbott, with whom he carried out fundamental research which reflected great credit on the Hospital and University. Thus, the principles of postgraduate medical education and research were established even before the School was officially in existence.

In 1888 William Osler was called from the University of Pennsylvania to be Physician-In-Chief to the Hospital and Professor of the Theory and Practice of Medicine in the University. The following year William S. Halsted and Howard A. Kelly were summoned to the chairs of Surgery and Gynecology and Obstetrics, respectively. Also called from many parts of the country to serve on the faculty when the

school opened in 1893 were Henry M. Hurd, Superintendent of the Johns Hopkins Hospital and subsequently Professor of Psychiatry, Franklin P. Mall, Professor of Anatomy, John J. Abel, Professor of Pharmacology, and William H. Howell, Professor of Physiology. William H. Welch served as Professor of Pathology and Dean of the Medical Faculty.

The opening of the Johns Hopkins University School of Medicine marked a new departure in medical education in America because it was the first time that all professors in the preclinical branches served on a full-time or university basis. The chairs of Anatomy, Physiology, Pharmacology, and Pathology in the School were from the outset true university chairs, filled by men who gave their "entire time and strength" to the University, to use Gilman's words. Available to their respective departments were funds, all too meager, making it possible for the professors and their assistants to carry out research in fields of their own choice. Thereafter, medical schools all over the country would follow the lead, and medical education, instead of being largely a proprietary business conducted for profit, would become a major concern of university endeavor.

The clinical as well as the preclinical departments of the School continued to prosper in the succeeding years. Osler contributed to the development in America of exact diagnosis, with the assistance of the laboratory, and of detailed description of disease. He also laid the foundations for intern and residency training in American hospitals. Halsted and his colleagues developed in the laboratories and clinics a new approach to surgery based on

meticulous operative technique. He also, with Welch, championed the system of full-time clinical departments. The General Education Board's establishment, in 1913, of The William H. Welch Endowment for Clinical Education and Research made it possible for the responsible instructors in Medicine, Surgery, Pediatrics, and Obstetrics to devote their entire time to their university duties. The endowments of the Henry Phipps Psychiatric Clinic and the William Holland Wilmer Ophthalmological Institute accomplished the same ends for the Departments of Psychiatry and Ophthalmology. Each of the clinical departments of the School is now staffed by men and women who devote their entire time to teaching, hospital practice, and research, as well as by practicing physicians who perform these duties on a part-time basis.

The organization of the preclinical and clinical departments as full-time university faculties was an innovation that has been accepted by many American medical schools. Of comparable significance, perhaps, was the development of the graduate school concept in medical education. Students in their clinical years at the Johns Hopkins School of Medicine became an integral part of the staff of the Hospital, learning largely by actual participation in patient care rather than by attendance at lectures. They were also encouraged to participate in research activities in the laboratories and clinics under the supervision of members of the faculty. Graduates of the School introduced the Hopkins practices elsewhere when called to fill posts at other institutions.

Mission Statement and Education Program Objectives

The mission of the Johns Hopkins School of Medicine is to educate medical students, graduate students, and postdoctoral fellows in accordance with the highest professional standards; to prepare clinicians to practice patient-centered medicine of the highest standard; and to identify and answer fundamental questions in the mechanisms, prevention and treatment of disease, in health care delivery and in the basic sciences.

The aim of the pre-doctoral curriculum of the School of Medicine is to produce leaders in Medicine who will take the foundation of a broad education in Medicine to improve health through patient care, research, and education.

As a measure of their competence, every graduate of the Johns Hopkins University School of Medicine will:

The Science and Practice of Medicine

- Apply scientific principles and a multidisciplinary body of scientific knowledge to the diagnosis, management, and prevention of clinical problems.
- Understand the variation in the expression of health and disease through critical evaluation of biomedical research.

Clinical Competence

- Obtain a sufficient level of medical knowledge to understand the basic facts, concepts, and principles essential to competent medical practice.
- Exhibit the highest level of effective and efficient performance in data gathering, organization, interpretation and clinical decision making in the prevention, diagnosis, and management of disease.

The Social Context of Medicine

- Understand and respond to factors that influence the social, behavioral, and economical factors in health, disease and medical care.

Communication

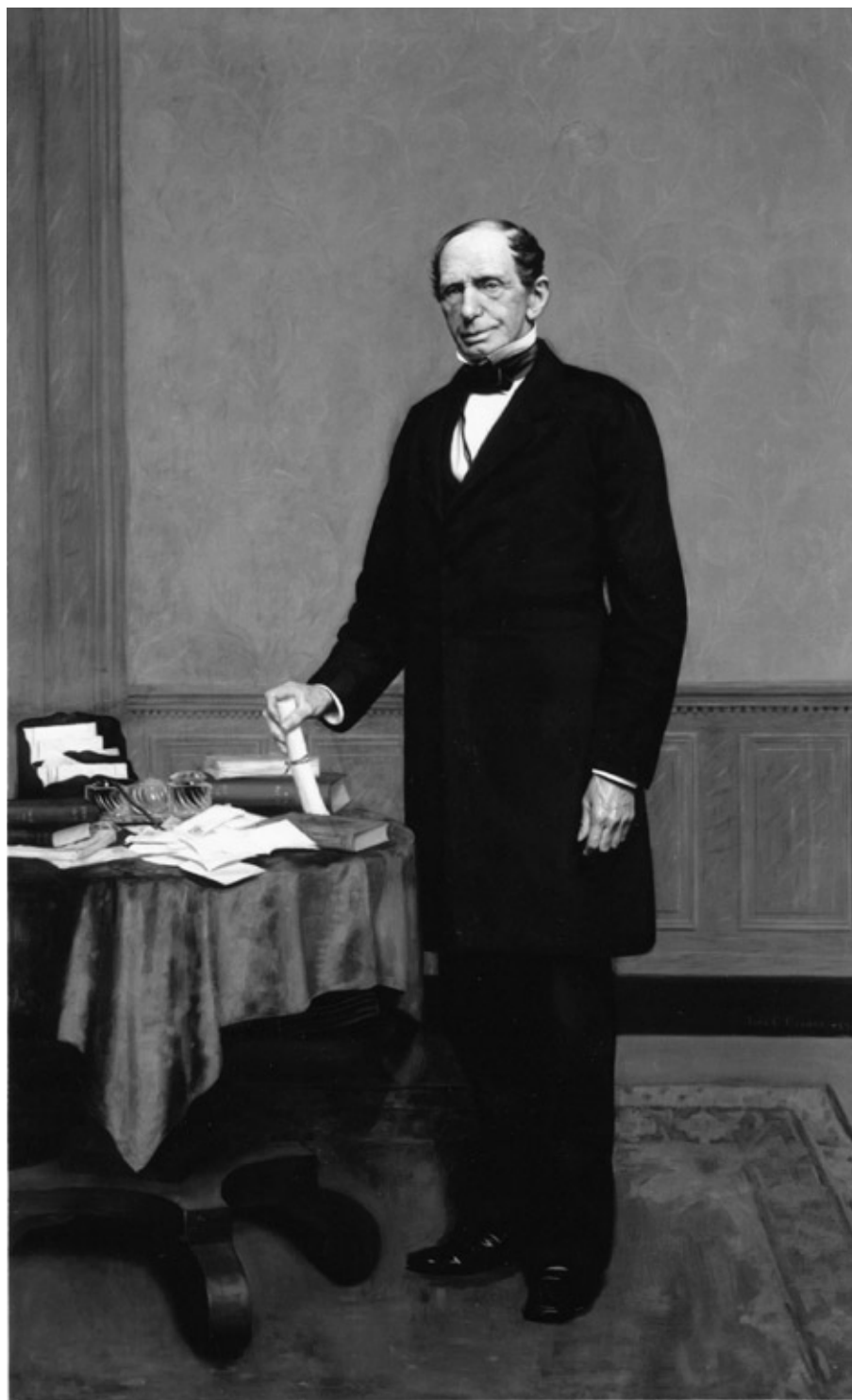
- Demonstrate effective and compassionate interpersonal communication skill toward patients and families necessary to form and sustain effective medical care.
- Present information and ideas in an organized and clear manner to educate or inform patients, families, colleagues and community.

Professionalism

- Display the personal attributes of compassion, honesty and integrity in relationship with patients, families, and the medical community.
- Adhere to the highest ethical standards of judgment and conduct as it applies to the health care milieu.
- Demonstrate a critical self-appraisal in his/her knowledge and practice of medicine, as well as received and give constructive appraisal to/from patients, families, colleagues and other healthcare professionals.

Lifelong Learning

- Understand the limits of personal knowledge and experience and will demonstrate the intellectual curiosity to actively pursue the acquisition of new knowledge and skills necessary to refine and improve his/her medical practice or to contribute to the scientific body of medical knowledge.



The Johns Hopkins Medical Institutions

The School of Medicine, the Bloomberg School of Public Health, the School of Nursing, the Welch Library of the University, and The Johns Hopkins Hospital are often referred to as the Johns Hopkins Medical Institutions.

THE SCHOOL OF MEDICINE

The school is located in the eastern part of Baltimore, about twenty minutes by car from the Homewood campus. The preclinical curriculum for medical students is taught in the new Anne and Michael Armstrong Building, a four story, 100,000 square foot structure which opened in the Fall of 2009. The Armstrong building was designed to accommodate, nurture, and encourage learning opportunities. The building's advanced anatomy lab, digital classrooms, and laboratories, lecture halls and study areas are designed to better prepare physicians for fully understanding the relevance of science to patient care.

The preclinical departments of Biological Chemistry, Biophysics and Biophysical Chemistry, Cell Biology, Functional Anatomy and Evolution, Molecular Biology and Genetics, Neuroscience, Pharmacology and Molecular Sciences, and Physiology are primarily situated in the Hunterian III, Wood Basic Science, Biophysics, Physiology, and the Broadway Research buildings. The Wood Basic Science Building contains teaching laboratories, conference rooms, and lecture halls for graduate student teaching, as well as research laboratories. The Department of Pathology occupies a building across Monument Street from the other preclinical departments and adjacent to buildings accommodating the clinical departments. The Richard Starr Ross Research Building houses the research laboratories of the clinical departments.

The Traylor Research Building augments the basic research facilities of the clinical departments and houses the Department of Biomedical Engineering. The Turner Auditorium Building contains a 750 seat auditorium, a 150 seat auditorium, and conference and seminar rooms. The Broadway Research Building is home to the Department of Molecular and Comparative Pathobiology, the McKusick-Nathans Institute of Genetic Medicine, the Institute for Basic Biomedical Sciences

High Throughput Biology, and the Institute of Cell Engineering. Johns Hopkins Medicine and School of Medicine administrative offices are also located in the building.

The offices, research laboratories, and facilities for patient care of the clinical departments are located in buildings operated by the Johns Hopkins Hospital but owned jointly by the Hospital and University.

Instruction in the School of Medicine is under the supervision of the Advisory Board of the Medical Faculty, composed of the President of the University, the Dean and the departmental directors.

THE BLOOMBERG SCHOOL OF PUBLIC HEALTH

The Bloomberg School was founded in 1916 by William H. Welch and John D. Rockefeller and was the first institution of its kind worldwide. Today, it is the largest school of public health and provides opportunities for graduate education to individuals from a wide variety of backgrounds and experience.

Ten departments offer seven graduate degrees, including a school-wide Master of Public Health. Programs of study embrace research and service in diverse fields: professional practice, basic and applied research; social policy; planning, management and evaluation of the delivery of health services; and the biological and environmental health sciences. Graduate training programs in clinical investigation, pre-and postdoctoral training programs, certificate programs, and other continuing education opportunities are also offered.

The School is situated on Wolfe and Monument Streets, directly opposite the Welch Medical Library.

THE SCHOOL OF NURSING

The School of Nursing was established in 1983 as the eighth academic division of the University. Its mission is to provide leadership to improve health care and advance the profession through education, research, practice, and service.

The School of Nursing offers baccalaureate, master's and doctoral degrees in nursing. The baccalaureate program is offered in two forms: a traditional, two year upper division

option, and a 13.5 month accelerated option for students with previous degrees in a field other than nursing. The School offers a Peace Corps Fellows option for individuals who have successfully completed Peace Corps Service and desire to participate in community nursing practice.

The Master's program includes nurse practitioner, clinical specialist, nursing management and community health options. In addition, the School offers a combined MSN/MBA in conjunction with the Carey School of Business, and a MSN/MPH with the Bloomberg School of Public Health. Certificate programs are available in the Business of Nursing and in post-master's nurse practitioner and clinical specialist options.

The School of Nursing offers an individualized Ph.D. program in selected areas of research congruent with the student's area of interest and the expertise of the research faculty. The School began offering a Doctor of Nursing Practice program in January 2008. This practice-focused doctoral program is designed to prepare expert nurse clinicians, administrators, and executive leaders to improve health and health care outcomes. Selected postdoctoral programs prepare nurse scientists with advanced skills and knowledge in a selected area of practice and with expertise in the design and conduct of related research.

The School of Nursing is located at 525 N. Wolfe Street, directly across the street from the Johns Hopkins Hospital. This ten year old structure, named in honor of Anne M. Pinkard, is the first building dedicated solely to nursing education at Johns Hopkins.

THE WELCH MEDICAL LIBRARY

The William H. Welch Medical Library provides the Johns Hopkins Medical Institutions (School of Medicine, the Johns Hopkins Bloomberg School of Public Health, Johns Hopkins School of Nursing, Johns Hopkins Hospital, Kennedy-Krieger Institute) and its affiliates with information services that advance research, teaching, and patient care. Since 2001, Welch has been organizing library services around the all-digital collection of the future, creating state-of-the-art interfaces to these collections and redefining the role of librarians supporting the digital collection. WelchWeb (www.welch.jhu.edu) guides users to a rich array of electronic information resources and library services. The Welch Library offers a wide range of services to the Medical Institutions including liaison consultation, classes and online tutorials, document delivery, and an editing referral

service. Welch services are available online and at a number of campus locations. The Lillienfeld Library in the Bloomberg School of Public Health is the primary resource for information in public health, management science and social sciences.

By registering as library users, faculty, staff and students can search a range of databases and full-text electronic journals, as well as take advantage of the library's information services and classes. The WelchWeb (www.welch.jhu.edu) provides users with Internet access to databases in many disciplines, a collection of online full-text journals, and online reference services called "Ask Welch Now" and "Ask Us". Interlibrary loan and document delivery services are available online through WelDoc at www.welch.jhu.edu/services/ill.html. The library owns over 400,000 books and journal volumes, and subscribes to approximately over 5,000 online journals. Desktop computers and selected software are available for use in the library.

With an emphasis on providing services at the point of use, a number of "information suites" (http://www.welch.jhu.edu/services/information_suites.html) have been created for Hopkins communities such as in the Population Center (<http://poplibrary.jhmi.edu>), the basic sciences (<http://bsdlibrary.jhmi.edu/>), and oncology to provide a range of library services and digital resources. Authors at the Medical Institutions can find open access publishing resources from WelchWeb or directly from a website sponsored by University's Scholarly Communications Group (<http://openaccess.jhmi.edu>).

The library's education program is designed around tools and technologies for biomedical communication. Online tutorials on information resources and tools are made available on Welch Web as they are developed. Classes are offered to advance skills in searching online databases, managing information, and scientific writing; details at www.welch.jhu.edu/classes/. In addition, discipline focused lecture series are offered for Welch information suite (WIS) communities. Welch co-sponsors associated lecture series in Nursing, Oncology, and Basic Sciences (www.welch.jhu.edu/classes/wls.html).

Other campus service sites in the Welch system are the Adolf Meyer Collection, with a focus on neurology, neurosurgery, anesthesiology, critical care, and psychiatry, and the Nursing Information Resource Center. A special library of historical materials, administered by the Department of History of Medicine, Science, and Technology, is located on the third floor of the Welch building.

Johns Hopkins Medicine

The Johns Hopkins University and the Johns Hopkins Health System Corporation (JHHSC) have entered into a collaboration called Johns Hopkins Medicine. Johns Hopkins Medicine provides a vehicle for internal operational coordination among JHHSC and its affiliates and the Johns Hopkins University School of Medicine (JHUSOM). Johns Hopkins Medicine also provides a united voice for external activities. JHU and JHHSC, as distinct yet independent corporations, are now able to respond in an integrated fashion to opportunities and pressures affecting the medical enterprise. The Dean of the JHUSOM serves as the Chief Executive Officer of Johns Hopkins Medicine.

THE JOHNS HOPKINS HEALTH SYSTEM

One of the first of its kind, the Johns Hopkins Health System is a nonprofit, academically based healthcare system offering a comprehensive array of services, including outpatient care, ambulatory surgery, community hospital care, home health care, long-term care for the elderly and sophisticated treatment centers in virtually every area of medical specialization.

Formed in July 1986, the Johns Hopkins Health System includes the following chief components: The Johns Hopkins Hospital, Johns Hopkins Bayview Medical Center, Howard County General Hospital, Suburban Hospital, and Johns Hopkins Community Physicians which operates 18 primary care centers. Johns Hopkins Medicine specialty physicians practice at two major suburban sites in Baltimore County: Green Spring Station and White Marsh., as well as in Odenton in Anne Arundel County and Columbia in Howard County. The facilities offer care in a variety of medical and surgical sub-specialties. Once within the Johns Hopkins Health System, patients have access to the resources, capabilities and facilities of The Johns Hopkins Hospital.

The Johns Hopkins Hospital

At its founding, the School of Medicine became the first to be intimately allied with both a university and a hospital especially designed as an institutional partner. Today, the Hospital complex is a collection of more than a dozen "mini hospitals" and centers, 51 buildings, 226 separate clinical services and 1049 licensed beds sprawling over half of the 52 acres housing the Johns Hopkins Medical Institutions in East Baltimore.

A \$1.2 billion redevelopment project encom-

passing new construction for a new clinical building, the Wilmer Eye Institute Outpatient Surgery and Laboratory Building, a medical education building, the School of Nursing Biethics Building, the Hackerman-Patz Patient and Family Pavilion, and a basic biomedical sciences laboratory and office building is currently underway. With a total of 2.6 billion square-footage of new construction, numerous health, safety and space challenges resulting from outdated facilities will be addressed over the course of the next six years.

In the summer of 2006, the new 90,000 square foot Harriet Lane Children's Health Building opened to provide health care to the children living in the East Baltimore community. The new facility replaces the Harriet Lane Clinic, founded in 1912, which is the oldest continuously operating pediatric clinic in the United States. In the fall of 2005, the Orleans Street Parking Garage opened providing 860,000 gross square feet of parking and mixed use space which includes a new loading dock, kitchen space to serve the new clinical building and an adjacent 45,000 gross square foot energy plant.

The Weinberg Building contains a Comprehensive Cancer Center and Surgical Pavilion and brings together medical and surgical disciplines for the treatment of cancer under one roof in a state-of-the-art facility.

The Bunting-Blaustein Building and Koch Cancer Research Building combine progressive laboratory design with state-of-the-art equipment, and allow scientists to be located in one physically integrated research and teaching facility. This enhances interdisciplinary interaction that is integral to the discovery and understanding of cancer.

A century ago, the Medical Institutions became the first to integrate fully the missions of teaching, research and patient care, a synergistic triangle that became a "model of its kind", one adopted by virtually every American medical school. The model's strength rests on the autonomy of each of its member institutions. Thus, the Hospital is a separate corporation governed by its own Board of Trustees and has an endowment independent of the University's. But in keeping with the vision of founder Johns Hopkins, relations between the School of Medicine and Hospital are close and formal. The head of each clinical department of the Hospital also is director of the corresponding academic department of the School of Medicine. The President of the Hospital, the department heads and medical staff representatives comprise the Medical Board of the Hospital, which advises the Trustees in all matters related to patient care.

Patient care facilities include such world renowned specialty centers as the Wilmer Eye Institute, Adolf Meyer Center for Psychiatry and the Neurosciences, Brady Urological Institute, Clayton Heart Center, Meyerhoff Center for Digestive Diseases, the Children's Center, Oncology Center, Halsted Surgical Service and Osler Medical Service.

All inpatient clinical services, including obstetrics and gynecology, pharmacology, emergency medicine, transplant surgery, and diagnostic imaging are located in the Hospital complex. The inpatient and teaching buildings also house administrative offices, several cafeterias and restaurants, a physicians' dining room, gift shop, lounges, florist, mini-post office and banking services.

All of the Hospital's buildings and most of the Medical Institutions', including parking garages, are connected by covered corridors or tunnels.

The Johns Hopkins Community Physicians

Johns Hopkins Community Physicians is a wholly-owned subsidiary of the Johns Hopkins Health System. It provides quality primary and secondary care to families throughout Maryland. JHCP owns and operates numerous attractive, convenient medical centers in communities across the state including: Baltimore City, and Anne Arundel, Baltimore, Carroll, Charles, Frederick, Harford, Howard, Montgomery, Prince George's, Queen Anne and Washington counties. JHCP centers offer easy access to primary care physicians, specialty physicians, diagnostic and laboratory services, and, at Wyman Park Medical Center, White Marsh and Odenton, pharmacy and optical services. Through its physician group, more than 200 physicians, nurse practitioners, nurse midwives, and physician assistants provide care to over 200,000 patients. JHCP has implemented a fully electronic medical record so that patients' records can be viewed from any of our locations. JHCP at Water's Edge in Harford County is a level 3 NCQA Certified Patient Centered Medical Home, a designation bestowed on few practices in Maryland. JHCP accepts most insurance plans. In addition, as a Department of Defense designated uniformed services treatment facility, JHCP provides managed health care to active duty and retired military families under the Uniformed Services Family Health Plan, a Tricare Prime designated provider.

Johns Hopkins Bayview Medical Center

Johns Hopkins Bayview Medical Center,

located just three miles from The Johns Hopkins Hospital, is home to major centers for research, teaching, and clinical activities for the Johns Hopkins Health System, the Johns Hopkins University School of Medicine, the National Institute on Aging (NIA) and the National Institute on Drug Abuse (NIDA).

Johns Hopkins Bayview is a full-service, Joint Commission-accredited academic medical center. Among the wide range of services offered are an area-wide trauma center and the state's only regional adult burn center. Founded in 1772, our 561-bed facility features several centers of excellence including stroke, geriatrics, joint replacement, wound care and bariatrics, to name a few.

The Bayview Medical Offices (BMO) provide clinic and ambulatory care. From July 2008 to June 2009, there were 202,341 emergency and ambulatory visits; 238,170 visits to programs in psychiatry, alcohol and drug abuse; 20,849 admissions to the acute care hospital; and 8,658 operations in the surgical suite.

As part of the Johns Hopkins Health System, Johns Hopkins Bayview physicians hold full-time faculty positions at The Johns Hopkins University School of Medicine. Residents and medical students participate in basic and advanced rotations, as well as fellowships and elective rotations at Johns Hopkins Bayview.

Extensive research programs on the campus reflect the commitment to expand and understand the pathophysiology of disease and develop innovative treatments for their cure. The 200,000 square-foot Asthma & Allergy Center, with state-of-the-art laboratories and other facilities, has served as the focus of this research for the School of Medicine. Most recently, NIDA's Addiction Research Center and NIA's Gerontology Research Center moved into the National Institute of Health's Biomedical Research Center, a 550,000 square-foot facility on the Johns Hopkins Bayview campus.

ASSOCIATED INSTITUTIONS

Kennedy Krieger Institute, Inc. - located adjacent to the Children's Medical and Surgical Center of the Johns Hopkins Medical Institutions, directs its efforts toward improving the lives of children and adolescents with disorders of the brain, spinal cord, and musculoskeletal system by building patient independence and strengthening participation in home, school and community life. Services are provided in inpatient, day treatment, outpatient, community and home-based settings. Furthermore, the Institute focuses upon biomedical and behavioral research, training of healthcare professionals, and lower, middle

and high school programs for children and teens with a wide range of learning, emotional, physical, neurological, and developmental disabilities (including autism).

The major inpatient programs that constitute the 70-bed hospital follow. The Pediatric Rehabilitation Unit (Brain Injury Program and Comprehensive Inpatient Rehabilitation Program) provides services for patients with a wide range of diagnoses or conditions, including traumatic brain and spinal cord injuries, developmental disabilities, recovery from orthopedic surgery and spina bifida. The Neurobehavioral Unit serves children and adolescents with developmental and intellectual disabilities with severe behavior disorders who have highly treatment-resistant problems and require intensive behavioral assessment and treatment services as well as targeted application of behavioral and pharmacological interventions. The Pediatric Feeding Disorders Program offers evaluation and treatment of severe pediatric feeding disorders in children (average age of 36 months) with the most severe, life threatening feeding problems. Ambulatory care services comprise more than 40 specialized clinics.

Whether serving inpatients or outpatients, comprehensive interdisciplinary care features the medical disciplines of pediatrics, neurology, rehabilitation medicine, orthopedic surgery, psychiatry, and neurodevelopmental disabilities as well as 15 clinical disciplines such as nursing, physical therapy, social work, and behavioral psychology.

The International Center for Spinal Cord Injury serves children and adults with spinal cord injury due to a variety of causes. Services extend beyond the immediate acute phase of injury by applying cutting edge treatment that promotes improved health and recovery of function.

Since June 2009, the Center for Genetic Muscle Disorders provides multidisciplinary and individualized care (diagnosis and management) for children and adults with muscular dystrophy and congenital myopathy.

Biomedical, behavioral, and translational research focus on the diagnosis, treatment, and ultimately, prevention and cure of childhood neurological disorders and neurodevelopmental disabilities. Many studies are underway in such areas as autism, spinal cord injury, learning disabilities, Down syndrome, adrenoleukodystrophy (ALD), and cerebral palsy that will help identify treatments and improve outcomes.

Multidisciplinary programs related to autism spectrum disorders combine research, assessment, treatment, community outreach and training. IAN, the Interactive Autism Network, an online national database project, is

designed to facilitate research that will lead to advancements in the treatment, care, and prevention of these disorders.

The F.M. Kirby Research Center for Functional Brain Imaging, a joint venture between the JHU Department of Radiology and the Institute promotes advanced neuroimaging that allows observation of the human brain as it works.

Professional training programs provide medical students, residents and postdoctoral fellows in pediatrics, neurology, physical and rehabilitation medicine, child psychiatry, and neurodevelopmental disabilities and professionals in the clinical disciplines with a comprehensive approach to the child and adolescent with a brain disorder, spinal cord injury, or musculoskeletal disorder and a knowledge of the methods in which diagnosis, management and therapy may best be accomplished.

The Good Samaritan Hospital of Maryland, Inc., situated on a 43-acre site in residential northeast Baltimore, is a 317-bed academic/community and specialty center particularly known for its orthopaedic, rheumatology and rehabilitation programs which are affiliated with the Johns Hopkins University School of Medicine.

The hospital recently completed a major renovation project with the expansion of its full service emergency department, backed up by fully equipped intensive care and critical care units, a cardiac catheterization laboratory, a state-of-the-art surgical complex, and two new inpatient units.

The hospital has 236 licensed acute-care beds, 51 rehabilitation beds and a 62-station renal dialysis unit and a 30 bed Transitional Care Unit. The outpatient departments have approximately 200,000 visits a year, over 55,000 of which are through the emergency department. In addition, the hospital's ambulatory surgery center performs approximately 9,000 procedures annually.

Teaching programs are developed primarily for postgraduate education and research programs. There is an exchange of medical house officers and residents at various levels from Good Samaritan Hospital and the Johns Hopkins Hospital. Clinical clerkships and externships are available for predoctoral medical students during elective periods. In addition, Good Samaritan Hospital's Department of Medicine offers an Internal Medicine Residency Program which provides a range of patient care and didactic experiences designed to prepare its trainees for entry into clinical practice or fellowship training.

The hospital is involved in research at both the basic and applied levels. The Thomas

O'Neill Memorial Research Laboratories occupy the north wing, conveniently located adjacent to patient care areas.

Good Samaritan Hospital is part of Med-Star Health which includes Union Memorial Hospital, Franklin Square Hospital Center, Harbor Hospital, Washington Hospital Center, National Rehabilitation Hospital, Georgetown University Hospital, Montgomery General Hospital, and St. Mary's Hospital. To assure that the most appropriate level of health care is available to all members of the community, the Good Samaritan Hospital has constructed two professional office buildings, two housing complexes for the elderly and a 147 bed nursing home on its grounds.

Sinai Hospital of Baltimore has a long and proud tradition of leadership among community-based teaching hospitals. The hospital serves as a model for the delivery of quality health care to patients of diverse socio-economic backgrounds.

Sinai Hospital was founded in 1866, as a voluntary hospital and for many years was located on Monument Street opposite The Johns Hopkins Hospital and School of Medicine. During the 1950's Sinai Hospital developed a full-time chief system in its clinical departments to complement its full-time chiefs of radiology and pathology, and a formal affiliation between the Johns Hopkins Medical School and the Sinai Hospital was developed. In 1959 Sinai Hospital moved into its entirely new physical plant about six miles from the former location, where it serves a large segment of the population of northwest Baltimore and the adjacent suburbs.

Sinai Hospital has become one of the most active medical centers in the state of Maryland and maintains its dedication to the highest standards of service and education. The acute general hospital has 472 acute care beds, 21 NICU beds and 35 bassinets. There are approximately 28,410 patients admitted to Sinai Hospital annually plus nearly 2,600 deliveries. The Outpatient Departments have more than 69,506 clinic visits a year and the active emergency service has more than 74,000 patient visits. ER-7, the 34,500 square foot Emergency Center, provides seven specialized care centers: Emergent, Trauma, Urgent, Fast Track, Pediatrics, Chest Pain Evaluation and Observation. The hospital has a comprehensive Psychiatric Care Program including a 24 bed inpatient psychiatric unit and an open-heart surgery program. Sinai

has a large Rehabilitation Center with a 57 bed rehabilitation hospital for inpatients, 10 of which are traumatic brain injury beds. Across the street is the 292 bed Levindale Hebrew Geriatric Center and Hospital, which provides subacute, chronic and long-term care. In 1998, Sinai Hospital and Levindale merged with Northwest Hospital Center to form LifeBridge Health, which now provides under one umbrella virtually all health services, ranging from prenatal care to hospice care. LifeBridge Health is one of the regions most innovative providers of high quality health care. In 2000, Levindale merged with Jewish Convalescent & Nursing Home. LifeBridge Health & Fitness is a national model for hospital-sponsored wellness centers.

The Medical Staff of Sinai Hospital numbers over 1,032 full-time and private practicing physicians. There are chiefs of Anesthesiology, Medicine, Obstetrics-Gynecology, Ophthalmology, Orthopedics, Otolaryngology, Pathology, Pediatrics, Psychiatry, Radiology, Radiation Oncology, Rehabilitation Medicine, Surgery, Urology, Emergency Medicine, Neurology, Neurosurgery and Dentistry, most of whom hold teaching appointments in the Johns Hopkins Medical School.

Sinai Hospital offers residency training programs in Obstetrics and Gynecology, Physical Medicine and Rehabilitation, Pediatrics, General Surgery, and Ophthalmology. Sinai also offers the Johns Hopkins/Sinai Hospital program in Internal Medicine. Residents from the Johns Hopkins University rotate within the departments of Ophthalmology, Cardiology, Gastroenterology, and Infectious Disease.

There is a long-standing commitment to both basic science and clinical research. The Research Building houses laboratories in biochemistry, obstetrics and gynecology, pathology, surgery, medicine, and animal facilities to accommodate the activities of a staff of physicians and scientists. Johns Hopkins medical students have the opportunity to receive instruction on the clinical services of the departments of Medicine, Obstetrics-Gynecology, Pediatrics, Rehabilitation Medicine, and Surgery. Students at any level of training are eligible to participate in the research activities of the departments listed.

Other Hospitals participating in instruction offered by several clinical departments include Union Memorial Hospital, Franklin Square Hospital, Greater Baltimore Medical Center and St. Agnes Hospital.

Instruction Leading to the M.D. Degree

CURRICULUM

The curriculum is organized to allow each of our graduates to achieve the eleven educational objectives noted in the Mission and Education Program Objectives for the Johns Hopkins University School of Medicine (page 9). The regular M.D. curriculum comprises four academic years designated First through Fourth Years. The academic requirements of this program can be combined with graduate study leading to a Masters or Ph.D. degree. These programs are described in later sections.

The Genes to Society curriculum is highly integrated both vertically and horizontally across the four years. Elective time is available beginning in Quarter 4 of the Second Year. Elective courses are described in the programs of the various departments in the section under Departments and Divisions, Centers, Institutes and Subjects of Instruction. This information is supplemented by an elective book which is updated annually. Selected students may interrupt the regular curriculum for one or more years in order to pursue special studies.

The study of science basic to the practice of medicine begins in the First Year with four months of Foundations courses, including Introduction to Human Anatomy, Scientific Foundations, Clinical Foundations and Foundations of Public Health and Ethics. These courses are intended to introduce students to the basic language and concepts of biomedical science, including molecular biology, cell biology, biochemistry, anatomy, and the social and behavioral sciences. During Clinical Foundations, students begin training in the physician-patient medical interview, physical diagnostics and clinical reasoning. Each student is assigned a college advisor (see Student Advising, page 69) upon entry to medical school, who serves as the instructor in Clinical Foundations, and academic and career advisor for the remainder of the four years.

Following winter break in First Year, students begin an 18-month organ systems-based course, Genes to Society, which presents genetics, molecular biology, advanced anatomy, physiology, pathology, pathophysiology and clinical presentations related to each organ system. Immunology, Infectious Disease, Hematology-Oncology, Psychiatry,

and Nerve and Special Senses are covered in the First Year. One half-day per week is devoted to a precepted clinical experience, the Longitudinal Clerkship, which provides further training in patient-centered interviewing, physical diagnosis, and health care systems.

Beginning with the first week of medical school and periodically in between courses, 3-day intersessions will focus students on a multidisciplinary topic related to the social and behavioral sciences. The titles of these intersessions in the First Year are Health Care Disparities and Service Learning, Prevention and Health Promotion, Global Health Care, Pain Care and Disaster Medicine. Students will have a variety of lecture and small group discussions supplemented by experiential and skill learning in each intersession. In the afternoons of these intersessions students will be attending a Scholarly Concentration course in one of five concentrations: Basic Science Research, Clinical Research, Public and Community Health, History of Medicine, and Medicine and the Arts. Beginning as a seminar series, each student will eventually complete a mentored scholarly project by the end of the Second Year of study.

Second Year students return in late August to complete the Genes to Society course in the following organ systems: Respiratory, Renal, Cardiovascular, Gastroenterology, Reproductive Health and Endocrinology, and Rheumatology. The Longitudinal Clerkship continues one-half day per week until the winter break. The intersessions in the Second Year are Substance Abuse Care, Patient Safety and Quality, and End-of-Life and Palliative Care. The Genes to Society course ends in February of the Second Year, and is followed by a 4-week Transitions to the Wards course, which provides intensive training in procedural skills, team communication skills, and clinical reasoning in preparation for the hospital-based clerkships that follow.

In the final quarter of the Second year, students begin the core clinical clerkships. These are 8-week rotations in the clinical disciplines of Medicine, Surgery, Pediatrics, and Gynecology, Obstetrics and Women's Health, and 4.5-week rotations in Neurology, Psychiatry, and Emergency Medicine. A week of Translational Medicine is required after each 8-week clerkship; during these intersession

weeks, students will return to a discussion of state of the art biomedical investigation. Students may elect to delay one 8 week rotation in the next 5 quarters, but must complete this required core of rotations by the end of the first quarter in Year 4. Three one-month advanced clinical rotations are required prior to graduation: Chronic Care and Rehabilitation, Subinternship, and Critical Care Medicine.

The clinical clerkships are devoted to the study of health and disease in the various clinical departments of the School of Medicine, The Johns Hopkins Hospital, Johns Hopkins Bayview Medical Center, Sinai Hospital and other affiliated hospitals. Students are introduced to practical clinical problems through instruction and participation in a health care team. Elective courses available in every department range from direct participation in current biomedical research to advanced clinical work. Many clerkships and elective courses may be taken during the summer.

In addition to the advanced clinical clerkships noted above, students are required to complete a 2-week course in the Fourth Year designed to refresh clinical skills and prepare them for internship. This course, Transition to Internship and Residency and Preparation for Life (TRIPLE), is offered twice in the spring of the Fourth Year, and includes simulation-based training, advanced cardiac life support, and advanced communication skills.

The academic year begins in August and ends in mid-June. There is a winter break in December and a spring break in March.

Between the First and Second Years there is a summer vacation of eight to nine weeks when students may engage in research or other studies. Students must arrange their schedules to include, between the start of the fourth quarter of the Second Year and graduation in May of the Fourth Year, 7 quarters and 2 weeks of required clinical clerkships and 20 weeks of clinical elective work; two additional vacation periods may also be scheduled. At the student's discretion, vacation quarters may be used for research, board preparation, or additional elective study. Graduating students cannot schedule required clerkships during the fourth quarter of the Fourth Year, unless approved by the Associate Dean for Student Affairs.

The total number of students in each class of the regular four year program is 120.

Electives

Programs in which elective study and research leading to graduate degrees are integrated with the medical program are described in a later section ("M.D.-Ph.D. Programs"). A limited number of stipends are available for

students who wish to devote one full year to research.

Approval may be granted for elective study at institutions other than the Johns Hopkins University. In such instances, the student must present a description of the elective including goals and objectives to the Associate Dean for Student Affairs for approval. One of the required 2 1/4 elective quarters may be taken at another non-affiliated medical institution. **Students desiring to study at other institutions must make final arrangements through the Office of the Registrar of the Johns Hopkins University School of Medicine.**

Students visiting other institutions and those who devote their free time to elective courses in this institution will be held responsible for proficient work just as in the case of the required subjects of instruction.

Formal registration for elective quarter programs is through the Office of the Registrar of the School of Medicine. The elective work for the Second through the Fourth Years is denoted by the symbol E (e.g., Neurology E). Such courses are listed numerically by department or sub-department. The catalog does not list all elective courses. The Elective Book, an up-to-date description of all elective opportunities, is maintained by the Registrar and is available from the Registrar's Office or the following website: <http://www.hopkinsmedicine.org/som/students/Academics/electives.html>.

Required Work

The required departmental work for each course and basic clerkship is usually regarded as a unit. It may be offered and graded as a single course, although the catalogue may indicate various course elements that comprise the whole. Formal registration for all required courses must be made through the Registrar of the School of Medicine.

REQUIREMENTS FOR M.D. DEGREE

To be eligible for the M.D. degree, candidates must successfully complete the prescribed course of study of the First through the Fourth Years.

PREPARATION FOR MEDICAL SCHOOL

The courses taken and the grades earned are but a portion of an applicant's credentials. Certain areas of study (i.e. introductory biology, chemistry, physics and organic chemistry with associated laboratory exercises and

calculus) have traditionally been of value to medical students. Beyond the successful fulfillment of these basic prerequisites the Committee on Admissions is concerned solely with the quality and scope of an applicant's undergraduate educational experience. The field of concentration for undergraduate studies and the selection of additional courses in the sciences and mathematics should be the choice of the student and will not affect the admissions process.

REQUIREMENTS FOR ADMISSION

The following general requirements must be met by all applicants:

1. Accredited Institution. All applicants must be or have previously been in attendance at an institution on the list entitled "Accredited Institutions of Postsecondary Education," authorized and published by the American Council on Education, One DuPont Circle, N.W., Washington, D.C. 20036. Extension or evening courses taken in fulfillment of premedical course requirements are not acceptable unless they are identical to courses offered in the college's regular academic program. Preparation in foreign universities, in most cases, must be supplemented by a year or more of course work in an accredited United States university.

2. Required Academic Work. Each applicant must have received the B.A. degree or its equivalent prior to matriculation. A list of specific pre-medical course requirements may be found on page 20. In order to assess the classroom performance of an applicant, the Committee on Admission requires that all of the coursework submitted in fulfillment of admission requirements must be evaluated on the basis of a traditional grading system. Such a system must employ a range of numbers or letters to indicate the comparative level of performance. If the applicant has received a grade of Pass/Credit for any of the specified premedical course requirements, the instructor must supply, in writing, a statement evaluating the student's performance in that course. CLEP credits may not be substituted for any course requirement.

3. Conditions of Admission. Students admitted to the School of Medicine on a conditional basis (i.e. requirement(s) yet to be completed) must fulfill those conditions prior to matriculation in the School of Medicine.

4. Standardized Testing. The Medical College Admissions Test (MCAT) is required for acceptance. The MCAT must be taken no later than September in the year the application is submitted. The oldest MCAT consid-

ered will be from four years prior to the year of matriculation.

5. Letters of Recommendation. A recommendation from the applicant's college premedical committee or an officially designated premedical advisor is required. If the college does not have a premedical advisor or premedical committee, two letters of recommendation are required from science faculty members in science departments who have taught the applicant and one non-science faculty member who has also taught the applicant. In addition to the letters indicated above, applicants with advanced degrees and/or full time employment are required to submit recommendations from each component of their education and major work experiences.

6. Non-U.S. Citizen Applicants. Official transcripts are required from all colleges attended outside the United States and Canada. Applicants who do not hold a permanent resident visa or an immigrant visa are not eligible for the financial aid program from Johns Hopkins University School of Medicine due to federal restrictions on the use of a large percentage of the loan funds which support the aid program. Because of these limitations, qualified students will be issued conditional acceptances into the School of Medicine under the following terms: on or before July 1 of the year of matriculation the accepted student must provide an escrow account or a four year irrevocable letter of credit drawn on a major United States bank in the favor of Johns Hopkins University. These funds must be sufficient to meet all tuition, mandatory fees and living expenses for the anticipated period of enrollment. The current escrow requirement is \$270,000. In the event of tuition increases for future years, accepted students will be billed for additional charges as they become due. Details of financial requirements will be included in letters of acceptance.

7. Application Review. Following receipt of all required credentials, the committee on admission will review applications and make interview decisions. Applicants selected for interview will be notified by the committee. It may be possible to arrange an interview with a regional representative of the committee when the applicant lives at some distance from Baltimore. Notification of acceptances are made between October 15 and April 15.

APPLICATION FOR ADMISSION

Applicants must first submit an on-line application with the Association of American Medical Colleges: www.aamc.org; 2501 M Street, N.W., Lobby-26, Washington, DC, 20037-1300; telephone: 202-828-0635. The dead-

Course Requirements for Regular M.D. and M.D.-Ph.D. Applicants

1. BIOLOGY

College Biology with laboratory, one year (8 semester hours)

The student should have an appreciation for the diversity of life such as viruses, prokaryotes, plants and animals, and a familiarity with the life cycles and metabolic activities of these organisms. The student should attain a basic understanding of the structure and function of the mammalian cell. Included should be a basic understanding of mammalian genetics. Credit for advanced placement is not acceptable as a substitute. Individuals who have completed their studies in biology more than 4 years prior to their application are strongly advised to take a one semester advanced mammalian biology course.

2. CHEMISTRY

General college chemistry with laboratory, one year (8 semester hours)

Organic Chemistry with laboratory, one semester, and a second semester of either organic chemistry or biochemistry with laboratory. The student should have knowledge of chemical equilibrium and thermodynamics, acid/base chemistry, the nature of ions in solution and redox reactions, the structure of molecules with special emphasis on bioorganic compounds, reaction rates, binding coefficients, and reaction mechanisms involved in enzyme kinetics. Also important is a basic understanding of the structure of nucleic acids including how they store and transfer information. Applicants with advanced placement in general chemistry must take one additional semester of advanced chemistry with lab.

3. COMPUTER LITERACY

It is highly recommended that the student have a working knowledge of computers including the use of computers to retrieve information and to communicate with others.

4. HUMANITIES, SOCIAL & BEHAVIORAL SCIENCES

The study of the humanities, social and behavioral sciences is an essential foundation for the study of medicine. (24 semester hours)

An applicant's educational experience must include at least 24 semester hours in these disciplines. Effective communication skills are essential and candidates must be proficient in spoken and written English and be able to communicate well. The TOEFL exam is not needed for foreign students to apply to the School of Medicine, however, the applicant must be proficient in spoken and written English.

5. MATHEMATICS

Calculus or statistics, one year (6-8 semester hours)

Mathematics courses should enable the student to develop equations, to interpret graphical representations of function and to evaluate probability involved in testing hypotheses. Advanced Placement credit for calculus, acceptable to the student's undergraduate college, may be used in fulfillment of the math requirement.

6. PHYSICS

General College Physics with laboratory, one year (8 semester hours)

The student should have an understanding of the constants and units of physical measurement, Newtonian mechanics, the physical properties of various states of matter such as liquids, solids and gases, and the basic aspects of electricity, magnetism and optics. Advanced Placement credit for physics, acceptable to the student's undergraduate college, may be used in fulfillment of the physics requirement.

line for submitting an application to AMCAS for Johns Hopkins is October 15.

Once you have completed your AMCAS application and received your AAMC ID number, you may then submit the Johns Hopkins secondary application via the internet at www.hopkinsmedicine.org/admissions. The deadline for submission of the secondary application to the MD-PhD Program is November 15. The deadline for submission of the secondary application for the regular MD Program is December 1.

Letters of recommendation to the MD-PhD Program must be received by November 15. Letters of recommendation to the regular MD Program must be received by December 1. All letters of recommendation should be sent to the AMCAS letter service: <http://www.aamc.org/students/amcas/faq/amcasletters.htm>.

Application Fee: The secondary application fee for Johns Hopkins University School of Medicine is \$80. This fee is non-refundable and must be paid on-line when submitting the secondary application. The application fee will be waived for applicants who have received an AMCAS fee waiver. Specific details are available in the secondary application instructions.

For the latest information concerning admissions requirements and procedures, please visit our website at: www.hopkinsmedicine.org/admissions/. Specific questions about applying to the School of Medicine may be answered by calling the Admissions Office at 410-955-3182. Information may also be requested by writing to: Committee on Admissions, Johns Hopkins University School of Medicine, 733 N. Broadway, Suite G-49, Baltimore, MD 21205 or via email at somadmiss@jhmi.edu.

Accepted Applicants: It is the policy of the Johns Hopkins University School of Medicine to require criminal background investigations on accepted students in any professional or graduate program at the School of Medicine, interns, residents, and clinical fellows in any Graduate Medical Education program sponsored by Johns Hopkins, and other clinical and research postdoctoral fellows at the School of Medicine.

SCHOOL OF MEDICINE TECHNICAL STANDARDS FOR ADMISSION

Applicants to the Johns Hopkins University School of Medicine are considered without regard to disability, but with expectation that they can complete satisfactorily all parts of the curriculum within the prescribed four year period. The School does not offer a decel-

erated curriculum. In addition to certain academic standards, candidates for the M.D. degree must have abilities and skills in observation, communication, motor function, quantification, abstraction, integration, conceptualization and interpersonal relationships and behavior. Some disabilities in certain of these areas may be overcome technologically, but candidates for the medical degree must be able to perform in a reasonably independent manner without the use of trained assistants. The candidate must have sufficient motor function to elicit information from patients by palpation, auscultation, percussion, and other diagnostic maneuvers. The candidate must be able to execute motor movements reasonably required to provide general care in emergency treatments to patients. Such actions require coordination of both gross and fine motor muscular movement, equilibrium and functional use of the senses of touch and vision. Those desiring additional information should contact the Admission's Office.

EARLY DECISION

We do not accept applications for early decision.

DEFERRED ADMISSION

The Deferred Admission Plan enables students to diversify their educational and life experiences as they prepare for a career in medicine. Deferred admission may be approved for a period of one to three years to pursue international fellowships (Rhodes, Rotary, Marshall, Watson, Fulbright scholarships, etc.), join the Peace Corps, participate in service assignments in the United States or abroad, teach, or conduct research. Admitted applicants who are interested in deferring their matriculation into the first year class, must submit a written request by May 1 for review and approval by the Deferral Committee. If approved, applicants must complete an AMCAS application by the August 1 deadline of the year prior to matriculation. Please contact the Admissions Office for further information.

COMBINED STUDY-M.D.-Ph.D.

The Committee on Admission accepts applications not only from applicants for the M.D. program but from those who are interested in a combined M.D.-Ph.D. degree. Provided with the Johns Hopkins application for the M.D. program is a supplemental form which should be completed by those applicants for the combined degree. Under the section "Graduate Programs" in this catalogue, those departments which offer study leading to a Ph.D. degree are listed. When the application

for the M.D. program as well as the “Application Supplement for Admission to Combined M.D.-Ph.D. Study” are received along with all necessary letters of recommendation, they will be reviewed by the Committee on Admission, the M.D.-Ph.D. Committee, and by the appropriate graduate department. If admitted to both degree programs, the student will ordinarily be expected to complete at least the first year of M.D. study before starting full-time Ph.D. work. Students initially accepted for only one of the two degrees are eligible to reapply for study towards the other at a later time. Students enrolled in the M.D. program can make application for a graduate program at any time during the course of their medical training. See section entitled “The Training of Medical Scientists: M.D.- Ph.D. Programs.”

Advanced Standing

Due to space limitations, the School of Medicine is unable to admit transfer students.

Doctors of Medicine. Persons who have already received the degree of Doctor of Medicine elsewhere will not be admitted as candidates for that degree from the Johns Hopkins University.

Grading and Examinations

Grading at the Johns Hopkins University School of Medicine is not viewed as an end in itself. Although grades are an appropriate means for monitoring and recording achievement and progress towards the M.D. degree, they represent but one indicator of a student’s performance and attributes. Descriptive evaluations are of equal importance.

Students at Johns Hopkins receive continual feedback on their progress toward achieving the educational objectives of the curriculum. For the knowledge-based courses in the first 20 months of the curriculum, written assessments occur approximately every 2-3 weeks; students also receive narrative feedback from course and small group leaders for each course block. In Clinical Foundations, detailed feedback is provided in face-to-face meetings with college advisors, as well as with online evaluations. With the Genes to Society curriculum, the student portfolio is introduced as another method of feedback and assessment. Periodically, students are asked to enter documentation into the portfolio, such as reflective writing, credentialing, and patient care documentation. This portfolio is reviewed twice a year with the College advisor and used as a framework for individualized learning plans.

At Johns Hopkins, the student has access to grades and written evaluations. Competition between students for grades per se is strongly discouraged, emphasis being placed instead on giving each student full opportunity to develop his or her particular abilities and interests.

Grades in the preclinical courses are designated as Pass or Fail. Beginning with the Longitudinal Clerkship and Transition to the Wards, and continuing with subsequent clinical clerkships and electives, grades are designated as Honors, High Pass, Pass or Fail. Pass is awarded to the student who fulfills all of the requirements of a course or clerkship in an entirely satisfactory manner. High Pass is awarded to students for excellent performance. Honors is awarded to a student who has been consistently outstanding in scholarship and professionalism.

The grade of Fail is used if a student does not meet the minimum performance requirements of a course or clerkship as defined by the course directors.

If a student exhibits a marginal performance in which the minimal performance expectations of a course or clerkship are met, but individual components of the course have not been satisfactorily mastered, a grade of Unsatisfactory may be given. Remedial work will be required before a grade of Pass is awarded. Remedial work will not allow an Unsatisfactory grade to be remediated higher than a Pass. If the remedial work for a failing grade requires repetition of the entire course or clerkship, the resulting grade will reflect the student’s performance on the retaken course/clerkship and will be recorded next to the failing grade already entered on the transcript.

Students who do not complete all required components of a course are given an Incomplete. When students are unable to complete requirements because of illness or other compelling personal circumstances, they should promptly contact the Associate Dean for Student Affairs in order to request permission for a temporary interruption of studies. The Associate Dean for Student Affairs will assist in making arrangements for completion of course requirements by an excused student. The Incomplete is a neutral statement and reflects nothing per se about the quality of a student’s performance. The Incomplete may be remediated to Pass, High Pass or Honors. The Incomplete must not be used in lieu of a failing or marginal grade.

Promotions

The record of each student will be reviewed by the appropriate Committee on Student

Promotion at scheduled intervals and action will be taken on each student's status. In addition to maintaining good academic standing, students are expected to adhere to the accepted standards of professional behavior in their contacts with fellow students, faculty, patients, staff, and others. A student must satisfactorily complete the work of an academic year in all regards and be in good standing before advancement to the next year.

During years one and two, students must pass every course in order to be promoted. In either the first or second year, dismissal is automatic if a student receives two failing grades, one failing and one unsatisfactory grade, or unexcused incompletes in two or more courses.

A student may repeat only one year of the first two years of the curriculum. During the repeat year dismissal is automatic if the student receives one failing grade or two unsatisfactory grades.

During the clinical years, a failure in a required course/clerkship will be referred immediately to the Promotions Committee for discussion and presentation of a remediation plan, unless the student's overall performance requires consideration of dismissal. The student will be permitted to complete any subsequent required course/clerkship he/she has begun, but no additional required clerkships can be taken until the failure is remediated. Unsatisfactory performance in two courses/clerkships or failure in a subsequent course will result in dismissal from school at the discretion of the Promotions Committee.

The Committee on Student Promotion may make specific recommendations regarding remediation of grades in any year.

A student dismissed for academic reasons may submit a written petition for readmission to the appropriate Committee on Student Promotion setting forth an explanation for the student's deficient performance, any extenuating circumstances, and any other information relevant to the student's fitness to continue the academic program. The student additionally may request the opportunity to appear personally before the Committee on Student Promotion.

In accordance with the high standard of ethical conduct required of a physician, students are expected to refrain from acts of dishonesty which impair the academic integrity of the University. Students whose behavior appears to be unbecoming a physician will be reviewed by an ad hoc committee of the Advisory Board of the Medical Faculty, and such other persons as may be deemed appropriate. The ad hoc committee will be appointed by the Dean, or in the Dean's absence, the Vice Dean for Education. This committee

will decide on the student's status within the school. Students reviewed under such circumstances will have the opportunity to meet with the ad hoc committee in person prior to a decision. A student whose status is affected by a decision of the ad hoc committee will be afforded an opportunity to appeal to the Dean and, thereafter, to the Provost of the University. A complete description of procedures to be followed in disciplinary matters is located in this catalog in the section titled "Instruction Leading to the M.D. Degree." It is also available in the Student Affairs Office.

At the end of the Fourth Year the candidate's entire record, including both required and elective work, will be reviewed by the Committee on Student Promotion. Those who have satisfactory records and who are judged by the Committee to have demonstrated evidence of personal fitness for a career in medicine will be recommended to the Advisory Board of the Medical Faculty for the degree of Doctor of Medicine. Students must have resolved all outstanding charges of misconduct and violations of academic ethics to be eligible for graduation.

Grade Appeals Policy

The components of evaluation in a course or clerkship should be transparent to the student and discussed at the start of the student's experience. Grades are generated by the course/clerkship director. Should there be a disagreement about a grade in a course or clerkship, the student is to follow the guidelines below for grade appeals.

1. The first stage of a grade appeals process will be a meeting between the student and the course director. The course director may also request any faculty preceptors involved in evaluating the student be present for this meeting. At that time, the student will have an opportunity to voice his/her concern(s) about the grade which he/she received. The course director will have the chance to review the criteria by which the final grade is determined and will be expected to answer any questions the student has. The course director may elect to obtain additional information based upon what the student has said and would ultimately decide to maintain the original grade or submit an amended grade to the Registrar.

2. If dissatisfied with the results of the above, the student may appeal to the appropriate Promotions Committee (First and Second Year or Third and Fourth Year) by contacting the Office of the Vice Dean for Education. The Committee will be chaired by the Vice Dean who will vote only in the case of a tie. The Associate Dean/Registrar, the Associate Dean for

Student Affairs, and the Assistant Dean for Minority Affairs will be non-voting ex-officio members. The student will be asked to provide information regarding the grounds for the grade appeal and will be given an opportunity to address the Committee if they so desire. The course director involved will not be allowed a vote in the matter and will be excused for the period of debate and voting after being given a chance to address the Committee. After consideration, the Committee will advise the Vice Dean for Education of any changes merited. Two standards will be employed by the Committee in evaluating the appeal which could lead to a recommended amendment:

- a. if the grade is not found to reflect valid and consistent academic performance standards or criteria, or the considered academic judgment of the course director;
- b. if the grade is found to be based upon impermissible criteria beyond performance, achievement, and effort such as gender, race, age, or other factors as delineated in the policy on Teacher Learner Relationships.

3. The student may appeal an adverse decision to the Dean of the Medical School by notifying him/her in writing within 7 days of the decision. The Dean's review will be limited to review of procedural integrity and his/her decision will be final.

Policy on USMLE Requirement

Students must schedule Step I and both components of Step II by December 1 of his/her senior year and sit for the examination prior to graduation. Effective with the Class of 2012 students must pass Step I by the end of quarter one, third year, in order to continue in the clinical curriculum.

Guidelines for Conduct in Teacher/Learner Relationships

Statement of Philosophy

The Johns Hopkins University School of Medicine is committed to fostering an environment that promotes academic and professional success in learners and teachers at all levels. The achievement of such success is dependent on an environment free of behaviors which can undermine the important missions of our institution. An atmosphere of mutual respect, collegiality, fairness, and trust is essential. Although both teachers

and learners bear significant responsibility in creating and maintaining this atmosphere, teachers also bear particular responsibility with respect to their evaluative roles relative to student work and with respect to modeling appropriate professional behaviors. Teachers must be ever mindful of this responsibility in their interactions with their colleagues, their patients, and those whose education has been entrusted to them.

Responsibilities in the Teacher/Learner Relationship

Responsibilities of Teachers

- Treat all learners with respect and fairness.
- Treat all learners equally regardless of age, gender, race, ethnicity, national origin, religion, disability, or sexual orientation.
- Provide current materials in an effective format for learning.
- Be on time for didactic, investigational, and clinical encounters.
- Provide timely feedback with constructive suggestions and opportunities for improvement/remediation when needed.

Responsibilities of Learners

- Treat all fellow learners and teachers with respect and fairness.
- Treat all fellow learners and teachers equally regardless of age, gender, race, ethnicity, national origin, religion, disability, or sexual orientation.
- Commit the time and energy to your studies necessary to achieve the goals and objectives of each course.
- Be on time for didactic, investigational, and clinical encounters.
- Communicate concerns/suggestions about the curriculum, didactic methods, teachers, or the learning environment in a respectful, professional manner.

Behaviors Inappropriate to the Teacher-Learner Relationship

These behaviors are those which demonstrate disrespect for others or lack of professionalism in interpersonal conduct. Although there is inevitably a subjective element in the witnessing or experiencing of such behaviors, certain actions are clearly inappropriate and will not be tolerated by the institution. These include, but are not limited to, the following:

- unwanted physical contact (e.g. hitting, slapping, kicking, pushing) or the threat of the same;
- sexual harassment or harassment based on age, gender, race, ethnicity, national origin, religion, disability or sexual orientation;

- loss of personal civility including shouting, public or private humiliation, displays of temper (such as throwing objects);
- discrimination of any form including in teaching and assessment based upon age, gender, race, ethnicity, national origin, religion, disability, or sexual orientation;
- requests for others to perform inappropriate personal errands unrelated to the didactic, investigational, or clinical situation at hand;
- grading/evaluation on factors unrelated to performance, effort, or level of achievement.

Avenues for Addressing Inappropriate Behavior in the Teacher/Learner Context

Learners' Concerns

Learners may address situations in which they feel that they have been the object of inappropriate behavior at various levels. At the most basic level, the most effective way to handle a situation may be to address it immediately and non-confrontationally. Oftentimes, a person is simply unaware that his/her behavior has offended someone, or even if aware, will correct the behavior appropriately if given the opportunity to do so in a way that is not threatening. The way to raise such an issue is to describe the behavior factually ("When you said..."), describe how the behavior made you feel ("I felt ..."), and state that the behavior needs to stop or not be repeated ("Please, don't do that again.")

Sometimes, such a request is not successful, or the person repeats the behavior, or the learner does not feel comfortable speaking directly to the teacher about his/her behavior. In those cases, it may be helpful to discuss the behavior with course directors, laboratory mentors, program directors, or department chairs. Students may also elect to speak to their respective Associate or Assistant Deans for informal advice and counsel about these issues. These individuals may offer additional suggestions for resolving the matter informally, such as, for example, speaking to the individual on the learner's behalf or on behalf of an entire class, raising the general issue in a faculty meeting, assisting the learner with writing to the individual teacher or even direct intervention to get the behavior to stop.

If no satisfactory resolution is reached after these discussions or the learner does not feel comfortable speaking to these individuals, he/she may bring the matter formally to the attention of the School of Medicine administration. The avenues for this more formal reporting vary depending upon the status of the reporting individual.

- **If the person reporting the behavior is a medical student:** The student should speak with one of the Associate or Assis-

tant Deans in the Office of Student Affairs.

- **If the person reporting the behavior is a graduate student or M.D./Ph.D. student pursuing their graduate studies:** The student should speak with the Associate Dean for Graduate Student Affairs and/or the Director of the M.D./Ph.D. program.
- **If the person reporting the behavior is a post-graduate trainee (i.e. resident or clinical fellow):** The trainee should speak with the Associate Dean for Graduate Medical Education.
- **If the person reporting the behavior is a research fellow:** The trainee should speak with the Associate Dean for Postdoctoral Affairs.

Teachers' Concerns

If a teacher feels that a learner has engaged in inappropriate behavior, it is likewise most effective to address the situation immediately and non-confrontationally. If the matter is not resolved satisfactorily, the teacher should contact the course director, program director, or laboratory mentor to discuss the matter. If the teacher wishes to make a formal allegation of misconduct, they should contact the following members of the administration:

- If the matter involves a medical student, contact the Associate/Assistant Dean for Student Affairs;
- If the matter involves a graduate student, contact the Associate Dean for Graduate Student Affairs;
- If the matter involves a postgraduate trainee, contact the Associate Dean for Graduate Medical Education;
- If the matter involves a research fellow, contact the Associate Dean for Postdoctoral Affairs.

These allegations will be handled according to established School of Medicine policies published elsewhere.

Procedures for Handling Allegations of Inappropriate Behavior in the Teacher/Learner Context

- If the behavior involves unlawful discrimination or sexual or other forms of unlawful harassment, the matter will be referred to the Office of Institutional Equity and be handled through University policies established for that office. The student may also directly contact that office.
- If the behavior involves unwanted physical contact or other forms of violent or threatening acts, the matter may be referred for evaluation under the University's Policy Addressing Campus Violence.
- Upon being notified of alleged inappropriate

behavior, the Associate or Assistant Dean will notify senior administration officials in a written report within 5 business days of the allegation as follows:

- If the complaint is lodged against a faculty member, the Vice Deans for Education and Faculty will be notified. Other than those matters referred to the Office of Institutional Equity, the matter will be handled in accordance with the School of Medicine's Procedures for Dealing with Issues of Professional Misconduct.
- If the complaint is lodged against a post-graduate trainee, the Vice-Dean for Education and the Associate Dean for Graduate Medical Education will be notified. If the complaint is lodged against a research fellow, the Vice Dean for Education and the Associate Dean for Postdoctoral Affairs will be notified. Other than those matters referred to the Office of Institutional Equity, if based on the written report, those Deans decide that a formal investigation is merited, they will convene an ad hoc committee to investigate the complaint and will notify the complainant, the respondent and appropriate department chairs and program directors of such an action. The ad hoc committee will be composed of three faculty members from departments other than those of the complainant or respondent. The committee will be responsible for gathering information and interviewing the complainant, respondent, and other individuals as they deem appropriate. Based upon information gathered and their deliberations, the committee will submit a written report to the Deans involved within thirty days from when they were convened which will include their findings and recommendations for dismissal of the complaint or for disciplinary action(s). The senior Deans will then communicate to the complainant and respondent in writing that a determination has been made. If the committee finds against a post-graduate trainee, the findings will be communicated to the appropriate Department Chair and Program Director and sanctions will be determined and enforced according to the policy on Probation, Suspension, and Termination of Post-Doctoral Fellows published elsewhere which also includes an avenue of appeal.
- The School of Medicine is committed to the fair treatment of all individuals involved in this process. All efforts will be made to maintain the confidentiality of the resolution process to the extent possible and subject to the overriding concern of a prompt and fair investigation and/or resolution of the complaint.

- The School of Medicine will not tolerate any form of retaliatory behavior toward learners who make allegations in good faith. Individuals who believe that action has been taken against them in retaliation for raising concerns under this policy, may address those concerns through the procedures described in this policy.
- Records of all communications as well as the written reports of the Associate Deans and ad hoc committee will be kept in the Office of the Vice Dean for Education.
- If it is determined that the allegations from the complainant were not made in good faith, the student or post-graduate trainee will be referred for disciplinary action under the appropriate University procedures which are described elsewhere.

Procedures Relating to Student Discipline

The following procedures will govern complaints regarding the conduct of a student enrolled in the School of Medicine.

A student's record within the School of Medicine will contain documentation reflecting conduct during the period of enrollment. A student will have access to his School record, including those documents, if any, reflecting conduct, in accordance with the standards set forth in the Family Educational Rights to Privacy Act and applicable University policy. The University's policy on access to and release of student records is published annually and a copy may be obtained from the Office of the Registrar of the School of Medicine.

1. When information reaches the School indicating that a student has engaged in behavior unbecoming a physician and/or a medical scientist, the student will be requested to confer with the Associate Dean for Student Affairs.
2. Where a matter involving student conduct cannot be resolved to the satisfaction of the Associate Dean for Student Affairs, or where the gravity of the acts with which the student is charged appears to warrant further attention, the Dean of the Medical Faculty will appoint an ad hoc committee of the Advisory Board of the Medical Faculty to hear the charge of misconduct. The Committee may include such other persons, for example, student peers, as may be deemed appropriate. Each person appointed to the ad hoc committee shall be free of bias or personal interest in the matter. The Dean, Vice Dean, Associate Dean and Registrar shall be non-voting ex-officio members of the ad hoc committee. The Dean, Vice Dean, or an Associate Dean shall preside at meetings of the ad hoc committee and may

vote when the ad hoc committee is equally divided on a question.

3. A student charged with misconduct will be given written notice of the charges and of the date and time of the Committee hearing. Prior to the hearing an accused student shall be given access to all documentary evidence to be presented against him. An accused student may request an opportunity to consult with the Dean, Vice Dean, or an Associate Dean prior to a hearing.

4. A student may be accompanied to the hearing by a faculty member or student advisor. Representation of the accused student or the accusing party at the hearing by attorneys will not be permitted.

5. In the course of the hearing, a student will be given the opportunity to present evidence and witnesses in his behalf, to question all witnesses, and to make statements to the Committee.

6. Members of the ad hoc committee may ask questions of the student charged and of witnesses appearing before the Committee.

7. A hearing before the ad hoc committee will be closed and persons other than Deans appearing as witnesses will be asked to absent themselves before and after their testimony. Parents of the accused student will be permitted to accompany a student throughout the hearing, and, if they should wish to do so, to make a statement.

8. A hearing shall be recorded but the deliberations of the ad hoc committee shall not be recorded. Following the hearing, the accused student shall be permitted to listen to the recording upon request, but all copies of the recording shall remain in the School's possession.

9. All parties, witnesses, and representatives shall be excused at the conclusion of the hearing and the ad hoc committee shall deliberate privately. The Committee shall make findings as to the truth or falsity of the charges against the student and, where necessary, shall submit to the Dean a recommendation of a penalty.

10. The options for disciplinary action, should the Committee decide that the student's behavior warrants discipline, will include, but will not necessarily be limited to the following:

a. Reprimand without probation or suspension.

b. Probation for a specified time period or until explicit* conditions are met. Review and final decisions to be administrative.

c. Suspension for a specified time period or until explicit* conditions are met. Review to be administrative.

d. Suspension for a specified time or until explicit* conditions are met. Review by the ad hoc committee of the Advisory Board.

e. Unconditional Expulsion

**Explicit conditions are to be unambiguous and as objective as the conditions allow.*

11. A student may appeal an adverse decision to the Dean of the School of Medicine, or, in the absence of the Dean, appeal may be made to the Vice Dean or an Associate Dean. The appeal should be made within 30 calendar days of the date of the committee decision.

12. A student may attend classes pending the proceedings before the ad hoc committee unless the student is judged by the Dean, Vice Dean, or Associate Dean to be a danger to himself or others. A student must seek the permission of the Dean, Vice Dean, or Associate Dean in order to continue the educational program pending appeal from the recommendations of the ad hoc committee.

Attendance Policy in the Preclinical Curriculum

Among the goals of the Scientific Foundations of Medicine and the Genes to Society courses are to develop a sense of professionalism, to promote collegiality, to engage students in teaching one another, and to give students experience working in teams where different backgrounds and expertise are represented. Meeting these goals requires each student to be actively engaged, therefore attendance is mandatory at all group learning and teamwork activities including activities in the Simulation Center and workshops. Attendance is also mandatory at all activities that involve patients and/or guests, such as clinical correlations. Videofiles of large group lectures where attendance is not required are available online via course management software.

Failure to attend at least 80% of these events in a block will result in the student being reported to the course and block directors and the Associate Dean for Student Affairs. Unexcused attendance below 80% will affect the student's performance in the course and will be considered a breach of the standards of professionalism expected by the School. In blocks where at least five sessions of one type of event occur (e.g., Small Group Discussions), attendance at 80% of these sessions is required in addition to overall attendance at 80% of interactive and patient and guest events.

Excused absences may be granted in cases of illness, religious observance, fam-

ily emergency, presentations at scientific conferences, or required legal activity (e.g., jury duty) through discussion (in advance whenever feasible) with the section director, course director, and/or Associate Dean for Student Affairs.

Core Clerkship Attendance Policy

The School of Medicine recognizes the primacy of the Core Clerkships as critical components of medical students' education. Core Clerkship attendance is required. Attendance rules are governed by the School of Medicine in the following ways:

The School of Medicine recognizes the primacy of the Core Clerkships as critical components of medical students' education. Core Clerkship attendance is required. Attendance rules are governed by the School of Medicine in the following ways:

School Holidays: The School of Medicine publishes an annual calendar that identifies official SOM holidays for students (<http://www.hopkinsmedicine.org/som/students/academics/calendar.html>). These holidays currently include the following:

- Labor Day (Quarter 1, 1 day)
- Thanksgiving (Quarter 2, 4 days [2 week-days, 2 weekend days])
- Christmas and New Year (winter break)
- Martin Luther King Day (Quarter 3, 1 day)
- Spring vacation (spring break)
- Memorial Day (Quarter 4, 1 day)
- Independence Day (Summer Quarter, 1 day)

The holidays which occur during the Clerkship time generally fall on a Monday or Friday adjacent to a weekend. These weekend days adjacent to these weekday holidays are NOT considered official school holidays (with the exception of Thanksgiving) and required activities may be scheduled on those weekend days at the discretion of the Clerkship Director. University Commencement and Convocation are NOT considered holidays for Core Clerkship students. Similarly, election day, presidential inauguration, and other public or civic events are not considered holidays for Core Clerkship students.

Excused & Unexcused Absences

a. Residency Interviews The following policy is to address the amount of time that fourth year students can miss from their Core Clerkships for residency interviews. The goal is to ensure that students obtain sufficient experi-

ence in each of the basic disciplines to meet the objectives of the Hopkins curriculum. Interview days should not be considered the equivalent of PERSONAL days. Students should make every effort to leave as late as possible and return as early as possible when interviewing to minimize time lost from a core clerkship.

1. On 6-9 week clerkships, students will be allowed to miss 3 full days of responsibilities as excused absences for interviews.
2. On 4-4.5 week clerkships, students will be allowed to miss 2 full days of responsibilities as excused absences for interviews.
3. Students must inform course directors of any such absences in advance of the beginning of the clerkship when possible. If students do not contact the course director in advance of any absences, they will be considered unexcused and will impact on the student's final grade.
4. All students who miss more than the allowed days above will be required to develop a plan for remediation of missed days with the clerkship director. Such remediation is a necessary requirement for successful graduation from the M.D. curriculum.

b. Comprehensive Clinical Skills Exam (CCSE)

The CCSE is a required educational activity for all graduating medical students. Students are encouraged not to schedule their CCSE during a Core Clerkship, but this is not always possible. The student is to be excused from Clerkship duties for the duration of the exam (approximately 7-9 hours, since the current 10-case version of the exam runs from about 7AM to 4PM). Students should expect to attend required basic clerkship educational activities after they have completed the exam.

c. Other Required Coursework

Certain required courses (e.g., Rational Therapeutics) may occasionally be scheduled concurrently with a Core Clerkship. If this occurs, scheduled activities for these other courses take priority over all scheduled Clerkship activities. Nevertheless, if such a conflict arises for a particular student, remediation may be required (see below).

d. Elective Coursework

Under no circumstances will elective coursework supersede required Core Clerkship activities. Students will not be excused from required Core Clerkship duties to attend clinical elective courses (or similar activities,

such as research electives or ACLS training), whether such electives are internal or external to Johns Hopkins SOM. This includes elective experiences requiring complex or expensive travel arrangements, such as those conducted overseas. It is the responsibility of the student to ensure that no such conflicts arise. Students should consult the SOM calendar and the Registrar's office for official start and end dates for each required Core Clerkship.

e. Personal Reasons (including Religious Holidays)

Students must notify the Clerkship Director as early as possible before the start of the clerkship regarding any scheduled absence other than those described above, and should expect that they will need to make up missed time. This includes (but is not limited to) any absence for religious holidays, academic events (e.g., national meetings and other presentations, including within Johns Hopkins), and civic responsibilities (e.g., election day, jury duty). Although each Clerkship Director has discretion to allow or disallow such absences (except for jury duty and religious holidays, see below*) based on their potential impact on the educational experience, the general rule is "a day for a day" (i.e., each missed day will generally result in one additional day made up at a later time).

*University policy regarding religious holidays states, "Religious holidays are valid reasons to be excused from class. Students who must miss a class or an examination because of a religious holiday must inform the instructor as early as possible in order to be excused from class or to make up any work that is missed."

f. Weather and Other Related Emergencies Within the Baltimore Area

Weather-related policies are stipulated by the Johns Hopkins University. Core Clerkship students are not considered "Required Attendance Employees" and are excused from attendance at normally-required Clerkship activities if affected by circumstances (e.g., weather) related to University delays or closings. As necessary, remediation plans will be made on a case-by-case basis by the Clerkship Director.

Weather and Other Related Emergencies Outside the Baltimore Area

Students who travel during (e.g., on weekends) or in close temporal proximity to (e.g., just before) a Core Clerkship may be delayed in their return travel plans by inclement weather, flight cancellations, or other similar events outside their control. In such circumstances, safety is the first priority. Once the student's safety is assured, they should immediately

notify people related to the Clerkship, as appropriate (e.g., Clerkship Director or Coordinator, clinical team or preceptor with whom they are rotating, etc.). Students will generally be required to remediate any time or activities upon safe return or at a later date. Students should be advised, however, that extended or repeated travel-related absences will be considered unprofessional behavior and will likely result in grade reductions, failure, or disciplinary action.

g. Illness or Injury (Personal or Family)

Illnesses or injuries are handled on a case by case basis by Clerkship Directors. In almost all cases, such events cannot be predicted in advance. When either occurs, the student's first responsibility is to their own personal safety and the safety and well-being of those around them. Once the situation has stabilized sufficiently and it is safe to do so, a student should immediately notify people related to the Clerkship, as appropriate (e.g., Clerkship Director or Coordinator, clinical team or preceptor with whom they are rotating, etc.). Family emergencies (including illness or death of a loved one) should be handled similarly. As necessary, remediation plans will be made on a case-by-case basis by the Clerkship Director.

It is at the discretion of the Clerkship Director to establish a required remediation plan for the student, regardless of the reason for absence. Note that if a significant component of the educational experience is missed for any reason, it is at the Clerkship Director's discretion to require remediation, reduce the student's grade, or remove the student from the Clerkship that cycle. In such cases, students may need to wait for the next available Clerkship slot, potentially delaying promotion or graduation in some circumstances.

Students who fail to attend required activities (e.g. Clerkship Orientation) without advance notice and are unable to offer a reasonable or appropriate justification (as judged by the Clerkship Director) may be subject to grade reductions, failure, or disciplinary action on grounds of lack of professionalism.

Any student who feels unfairly treated with regard to attendance or duty hours policy should discuss these issues with the Clerkship Director. If a mutually agreeable decision is not reached, the student should contact the Office of Student Affairs if they wish to pursue the matter further.

Involuntary Leave of Absence

Students may be asked to withdraw or be placed on an involuntary medical leave of

absence when their health, or the behavioral manifestations of their health, render them unfit to continue the course of study. Prior notice and the opportunity to be heard will, under ordinary circumstances, be given before the imposition of an involuntary leave of absence. However, the School of Medicine reserves the right to conclude that, on certain occasions, conditions exist which warrant an immediate leave of absence in order to avert imminent harm to the student, or to other persons or property. In such an event, a student on an involuntary leave of absence will be appraised immediately of procedures for appeal and reinstatement by the Associate Dean for Student Affairs.

Academic Honesty

Students must show integrity and honesty at all times in carrying out classroom assignments, in taking course examinations, in discharging their patient obligations, and in their dealings with others. It is also the duty of students as well as faculty to report dishonest acts to the course director or other faculty member, the Dean, or an Associate Dean. Since nothing less than complete trustworthiness is acceptable in a physician, any act of dishonesty casts doubt upon a student's suitability to be a physician and is viewed as unprofessional behavior. Such acts are dealt with in the manner prescribed under "Promotions", and the possible penalties include expulsion.

Honor Code

The honor code, developed by the medical student body, introduced in September 1991, is as follows:

As a student at The Johns Hopkins School of Medicine, I pledge:

To do my own work and be honest in my interactions with peers, faculty, and staff. This applies to my work on examinations, assignments, and papers as well as work in the laboratory.

To uphold the high standard of conduct in patient care which has always been maintained by the Johns Hopkins medical community.

To base my interactions with other students on mutual respect and cooperation.

To act on infractions of the honor code, and to maintain the confidentiality of all parties involved.

To encourage my peers to uphold this honor code.

Upon matriculation every student is required to sign that they have read the Honor Code. It is the expectation that every student live by this Honor Code.

Special Students/ Visiting Students

Under special circumstances a limited number of properly qualified persons may be admitted as special students to courses offered by the School of Medicine. Special students will not ordinarily be accepted for enrollment in the required courses leading to the M.D. degree. Exceptions to this policy require the approval of the Vice Dean for Education. Credit will not be given for such work toward the M.D. degree in this school.

Students enrolled in other medical schools who desire clinical clerkships in the School of Medicine are advised that the School reserves the right to strictly evaluate the pre-clinical and clinical education provided by the applicant's own school. Moreover, since clerkship opportunities are necessarily limited, the School must give first consideration to placement of its own students. As a general rule, clerkships are limited to students in LCME approved schools. Visiting students are also accepted for research opportunities. Enrollment of visiting students is usually limited to one nine week period per academic year.

Information on application, fees and health insurance requirements may be obtained from the Office of the Registrar on the following website: <http://www.hopkinsmedicine.org/som/students/policies/visitors.html>

Enrollment

The School of Medicine enrolls full time students for the M.D., Ph.D., and Masters' degrees. Part time students are not accepted for the M.D. degree. Under special circumstances part time students may be accepted for graduate study. Tuition is assessed in relation to period of enrollment as specified in the Tuition and Fees section of this circular.

Students may interrupt their course of study to enroll in a combined degree program. Leave of absence status may be requested if a student wishes to temporarily withdraw from the course of study.

Student in-residence is a category of full time enrollment that recognizes the student who interrupts the usual sequence of study to do an additional year (or years) of research or clinical work at Johns Hopkins or another approved site. Students in-residence are assessed a minimal registration fee. The

Associate Dean for Student Affairs must approve all requests for leave of absence and student in-residence status.

Interdivisional Studies

Regularly matriculated students throughout the University are eligible to register for credit courses offered by the basic science departments and selected courses in clinical

departments providing prerequisites are met and space is available. Admission to the required courses of the medical curriculum require approval of the course director and the Associate Dean/Registrar.

A tutorial program designed for junior and senior undergraduates offers over 100 tutorials in clinical and basic science departments. Divisional registrars can provide additional information.





Graduate Programs

The School of Medicine supports a number of programs of graduate study in the biomedical sciences and related fields. These programs provide opportunities for advanced course work and research training leading to advanced degrees.

Under the direction of the university-wide Graduate Board, opportunities for study for the degree of Doctor of Philosophy are available in the School of Medicine in biological chemistry, biomedical engineering, molecular biophysics, cell biology, cellular and molecular medicine, functional anatomy and human evolutionary studies, history of science, medicine and technology, human genetics, immunology, molecular biology and genetics, neuroscience, pharmacology and molecular sciences, physiology and pathobiology. A Master of Arts degree is offered in medical and biological illustration and history of science, medicine and technology. The requirements for the various degrees are established by the Graduate Board of the University and by particular departments, committees, and schools.

A limited number of scholarships and grants are available for support of students in many of these programs.

OFFICE OF GRADUATE STUDENT AFFAIRS

The primary goal of the Office of Graduate Student Affairs (OGSA) is to address the concerns and needs of students enrolled in Doctor of Philosophy and Master of Arts programs in the School of Medicine. The Associate Dean for Graduate Student Affairs provides advice or counseling to students having personal or professional difficulties. The OGSA works with students to find whatever resources may be needed to deal with a broad range of problems that may arise during graduate training. The OGSA coordinates: disability services for Ph.D. students in the School of Medicine; recruitment efforts and year-round summer programs aimed at recruiting under-represented minority students, students from disadvantaged backgrounds, and students with disabilities into a basic research environment; the "Introduction to Research Ethics I and II" course designed specifically for research issues specific to PhD students.

DEGREE REQUIREMENTS

Requirements which must be met by all candidates:

For the Doctor of Philosophy degree:

1. A minimum of two consecutive semesters of registration as a full-time, resident graduate student.
2. A certification by a department or program committee that all departmental or committee requirements have been fulfilled.
3. A dissertation approved by at least two referees and certified by them to be a significant contribution to knowledge.
4. A Graduate Board Oral Examination.

Requirements for the various Master's degrees are listed with the individual programs.

Application for Admission: Requests for information and application materials should be directed to the Office of Graduate Student Affairs. Completed applications must be accompanied by a non-refundable fee of \$85 for on-line applications to one graduate program, \$100 for applications to two-three programs, and \$150 to apply to four or more programs. Paper applications are no longer accepted.

Dissertation Publication: An abstract is required for publication in Dissertation Abstracts.

DEPARTMENTAL REQUIREMENTS

Requirements of the individual graduate departments or programs are set forth in the following sections. Further information may be obtained by writing to the director of the department, The Johns Hopkins University School of Medicine, Baltimore, Maryland 21205.

BIOCHEMISTRY, CELLULAR AND MOLECULAR BIOLOGY

Fields of Study and Research

The Departments of Biological Chemistry, Biophysics and Biophysical Chemistry, Cell Biology, Molecular Biology and Genetics, Neuroscience, Pharmacology and Molecular Sciences, and Physiology jointly provide a program of study leading to the Ph.D. degree, as well as post-Ph.D. and post-M.D. programs. No can-

didates are accepted for the M.A. degree. The purpose of these programs is to train highly qualified persons for academic careers in biochemistry, biophysics, cell biology, neuroscience and molecular biology. Strong emphasis is placed on molecular and cellular approaches to fundamental problems in these areas. Following completion of basic formal course work, original research leading to a dissertation is the major feature of the training program. Students may elect dissertation problems from a broad spectrum of options offered by the faculty of the seven departments.

The joint training program involves approximately 100 faculty members and 145 graduate students. The director of the training program in Biochemistry, Cellular and Molecular Biology is Professor Carolyn Machamer.

The Faculty

A list of the faculty members participating in this program and their fields of specialization may be found on the BCMB website, <http://biolchem.bs.jhmi.edu/bcmb>.

Facilities

The lecture halls and the research laboratories are located in the Wood Basic Science Building and the adjoining Physiology, Biophysics, Hunterian, Preclinical Teaching, Ross Building, Broadway Research, and Rangos Buildings. Modern equipment for research is available to students. This includes electron microscopes, confocal microscopes, nuclear magnetic resonance spectrometers, mass spectrometers, HPLC and gas-liquid chromatographs, protein sequencers, peptide synthesizers, oligonucleotide synthesizers, X-ray diffraction equipment, and a molecular graphics display. Each department has a small library and all are located close to the Welch Medical Library.

Collaborative Facilities

All seven departments enjoy excellent working relationships with other departments in the medical school and with departments at the Homewood campus and the Bloomberg School of Public Health.

Requirements for Admission

Candidates for admission to graduate standing should present a bachelor's degree with undergraduate training in organic, analytical, inorganic, and physical chemistry, general biology, physics and calculus. Inquiries for admission should be directed to: Chairperson of Admissions, Graduate Program in Biochemistry, Cellular and Molecular Biology, The Johns Hopkins University School of Medicine, 1830 E. Monument Street, Room 2-102, Baltimore, MD 21205, or email to sroot@jhmi.edu.

Requirements for the Ph.D. Degree

During the course of graduate study the student must successfully complete the "Foundations of Modern Biology" course comprised of eight modules: Macromolecular Structure and Analysis, Biochemical and Biophysical Principles, Molecular Biology and Genomics, Genetics, Cell Structure and Dynamics, Organic Mechanisms in Biology, Pathways and Regulation, and Bioinformatics. These are completed in the first three quarters of year one. Four electives and BCMB Ethics and Career Issues in Science are completed in the fourth quarter of the first year and Method and Logic in Biology is a required second year course. Qualified students can test out of required courses. In addition, four elective courses are required in the advanced years of study.

An oral examination, conducted as prescribed by the Graduate Board of the University, must be completed before the end of the second year. Subsequently, the student is required to present an acceptable doctoral dissertation based on research undertaken during residency as a graduate student and must present a public seminar on his/her dissertation work. Postdoctoral research training is encouraged.

Courses

The first year required core course modules are as follows: Macromolecular Structure and Analysis (100.709), Biochemical and Biophysical Principles (100.710), Cell Structure and Dynamics (110.728), Molecular Biology and Genomics (260.709), Genetics (260.708), Organic Mechanisms in Biology (330.709), Pathways and Regulation (360.728), BCMB Ethics and Career Issues in Science (800.713), Bioinformatics (800.707), along with Core Discussion (800.708). The required second year course is Method and Logic in Biology (800.705). Courses are detailed under the course descriptions listed in the entries of the Departments of Biological Chemistry, Biophysics and Biophysical Chemistry, Cell Biology, Molecular Biology and Genetics, Neuroscience, Pharmacology and Molecular Sciences, and Physiology.

Financial Support

Financial Support covering normal living costs, medical insurance, and tuition is available for accepted candidates.

BIOLOGICAL CHEMISTRY

Program Overview

The graduate program in Biological Chemistry focuses on teaching a rigorous scientific approach to biomedical research. Research projects in the program focus on the discov-

ery of the biomedical, genetic, and molecular basis of a variety of disorders and diseases while probing the fundamental properties of molecules and cells. The Biological Chemistry faculty members investigate the biochemical mechanisms underlying a great variety of normal biological processes. Our interests span neurobiology, immunology, cellular and developmental biology, glycobiology, DNA replication, RNA processing, protein structure and folding, signal transduction, and proteomics. We also study pathologies arising from abnormalities in these processes, such as cancer, neurodegeneration, infectious disease, diabetes, and obesity. The Biological Chemistry (BC) program offers a highly flexible and personalized training environment in which there is significant personal interaction with the faculty. The program is currently home to 28 outstanding students.

Plan of Study

A curriculum of formal courses and informal tutorials characterizes the first year.

Current Topics in Biological Chemistry: First-year students will participate in a literature-based discussion course involving the entire BC faculty and covering important concepts and recent developments in biological research. Due to the small size of the course, it is similar to a tutorial and provides the students with a great deal of personal exposure to our faculty. BC students participate in the weekly departmental journal club and seminar series. The first year BC course requirements are listed below:

Foundations of Modern Biology Core Course:

Students take all of the eight following modules: Macromolecular Structure and Analysis; Biochemical and Biophysical Principles; Molecular Biology and Genomics; Genetics; Cell Structure and Dynamics; Organic Mechanisms in Biology; Computational Biology and Bioinformatics.

First year elective courses: Students choose four of the following courses: Developmental Biology; Mechanisms in Bioorganic Chemistry; Neurobiology; Epigenetics; Transcription Mechanisms; Virology; Post Transcriptional Events in Gene Regulation; Structure and Chemistry of Lipid Bilayers; The Nucleus; Fundamentals of Membrane Physiology; Introductory Molecular Immunology; HIV Biology; Single Molecule Biophysics; Cytoskeleton.

Research in Biological Chemistry: A major part of the first year program will be 2-3 research-oriented rotations performed in BC laboratories of the student's choice. At the conclusion of these rotations the student will commit to a particular laboratory for pursuing a

research project leading to a Ph.D. thesis. An oral qualifying examination will be administered after completion of the first year course curriculum. Two elective courses should be taken subsequent to the first year. Certain courses that are particularly demanding could be substituted for two courses. The objective of the Ph.D. program is to prepare young scientists for independent careers in biomedical research.

Admissions Information

Students are usually admitted for the fall semester. Applicants should have an undergraduate degree in any area of biology, chemistry, or biochemistry. Scores on the Graduate Record Examinations are required (GRE 5316). The application deadline is January 10.

To Request an Application

Contact the Office of Graduate Student Affairs, 1830 E. Monument Street, Room 2-107, Baltimore, MD 21205-2186; Email: grad_study@jhmi.edu. The program contacts are: Denise J. Montell (dmontell@jhmi.edu) & Michael J. Caterina (caterina@jhmi.edu), Co-Directors; and Wendy Serio (wserio1@jhmi.edu), Program Coordinator.

BIOMEDICAL ENGINEERING

There are two graduate programs in biomedical engineering. The masters program is supported by the Whiting School of Engineering and leads to a Masters of Science degree. The Ph.D. program is supported by the School of Medicine and leads to a Ph.D. in Biomedical Engineering.

Ph.D. Program in Biomedical Engineering Fields of Study and Research

The purpose of the Biomedical Engineering Program is to provide the fields of medicine and biology with a group of scientists having advanced training in the engineering sciences, physical sciences and mathematics coupled with a thorough understanding of the basic biological sciences. This is accomplished by a combined curriculum which includes courses in the Schools of Arts and Sciences and Engineering and in the School of Medicine. Students are accepted with a variety of educational backgrounds and research objectives. The primary emphasis of the program is the application of the basic analytical tools of engineering science to fundamental research problems in biology and medicine.

Emphasis is placed on original research leading to the doctoral dissertation. The research is usually experimental in nature, and students are expected to learn biological experimental techniques. However, experiment or theory can be emphasized in the

research as desired by the student. Many research opportunities are available within the department, located in the Schools of Medicine and Engineering, but to keep the available research opportunities broad and varied, students may work in the laboratories of biomedical investigators located throughout the School of Medicine, the School of Arts and Sciences, or Engineering. To emphasize the interdisciplinary nature of the program, it is supervised by a committee composed of faculty members from the School of Medicine and the G.W.C. Whiting School of Engineering.

The Faculty

For a list of faculty and their research interests, see the departmental statement on page 126.

In 1999 the Department of Biomedical Engineering became the cornerstone of the Whitaker Biomedical Engineering Institute. The center of gravity of the department remains in the Traylor and Ross Research Buildings on the medical school campus. Clark Hall, on the Homewood campus houses biomedical engineering faculty members both in the Department of Biomedical Engineering and in other engineering departments.

The general facilities of the Whitaker Institute comprise: teaching laboratories including tissue engineering, physiology, biomedical sensors and instrumentation, microfabrication and computing; seminar and conference rooms with state-of-the-art telecommunications and multimedia capabilities; tissue culture facilities; various optical imaging facilities; and electronic and machine shops. These general facilities are all available to graduate students as they may be useful in their research projects.

Each faculty member maintains a well-equipped laboratory for research in his or her field of interest. This equipment is available to students as their interests draw them into active participation in research. The research opportunities and related equipment resources span the range of biomedical engineering from molecular, cell and tissue engineering, to drug and gene delivery, to computational modeling of biological systems, to biomedical imaging, sensors and instrumentation, and to cardiovascular and neural systems analysis. Further, our close interactions with clinical departments allows our students to use some of the most advanced clinical systems, including magnetic resonance imaging, PET scanners, ultrasound systems, orthopaedic testing, robotic surgery systems and intensive care monitoring systems.

The profoundly interdivisional nature of the Whitaker Institute provides students with a wide range of general university facilities.

These include the Welch Medical Library at the School of Medicine, the Eisenhower Library on the Homewood Campus, the extensive animal services of the Department of Molecular and Comparative Pathobiology, and the advanced high technology facilities of the Applied Physics Laboratory in Howard County.

Prerequisites

Because many universities do not offer an undergraduate program in biomedical engineering, students planning graduate studies in this field should arrange a schedule to include courses beyond the elementary level in biology, mathematics and the engineering sciences. However, it is recognized that many students discover their interest in biomedical engineering too late in their undergraduate career to complete such a program. Therefore, inquiries are invited from interested students who are prepared in any of the fields of engineering, physical sciences or life sciences.

This program accepts candidates only for the degree of Doctor of Philosophy. At least one semester of organic chemistry, a full year of college-level biology, and mathematics through differential equations are firm prerequisites for the program.

Engineering students interested in Biomedical Engineering but who do not wish so great an emphasis on biological training and experimentation should note that the Departments of Materials Science, Chemical Engineering, and Electrical Engineering have such programs and should consult the appropriate sections of the graduate catalogue. Students from such departments with biomedical research interests are welcome to the seminars, courses, counseling and, when appropriate, the research facilities of the Department of Biomedical Engineering.

Requirements for the Degree of Doctor of Philosophy

There are no formal course requirements; but ordinarily two years of didactic course work are selected devoted to advanced study in engineering science and in biomedical science. Engineering, mathematics and other physical science courses to be taken are arranged between the student and his advisor. Each student is assigned a panel of three advisers during the first two years. No fixed semester hours are required, but at least one engineering or mathematics course of a year's duration at the 600 level must be taken. Life science course requirements include molecular and cellular biology, anatomy, neuroscience, and physiology. The program is flexible, and alterations in the course program may be made with the approval of

advisors. Summers are spent working in a biomedical laboratory to gain experience and to seek out a suitable thesis research area. In the third year the student should start upon original research leading to the dissertation. In addition to the major research commitment of the third year, the student's program will normally include at least one advanced course in an engineering subject and one in a field of biology, both related to the student's research interest. Students must fulfill a modest teaching requirement during one year of their program. The remaining time is spent in thesis research. The program is typically of five to six years extent.

The student must pass a preliminary oral examination which will be a Graduate Board examination. This is generally taken in the third year. The student must then conduct original research, describe it in a dissertation and pass a final oral examination which is essentially a defense of the dissertation. Primarily because of emphasis on original research, a minimum residency of two consecutive academic years is required.

Admission and Financial Aid

Fellowships for tuition and support stipends are available from the general funds of the University, from the National Institutes of Health, and from other sources. Application for admission and fellowships must be made by January 10th. Notification of awards is not later than April 1st, and recipients are expected to signify their acceptance within two weeks of acceptance by Johns Hopkins. Requests for applications or information should be addressed to the Office of Graduate Affairs, 700 N. Wolfe St., Hunterian G-1, Baltimore, Maryland 21205.

Integrated M.D.-Ph.D. Program

Candidates for the Ph.D. in Biomedical Engineering who wish to apply jointly for the M.D. degree must apply directly through the School of Medicine. Although the combined programs would normally require at least eight years to execute sequentially, the combined program can ordinarily be completed in seven years, with appropriate planning. Good preparation in biology and chemistry as well as mathematics and the physical sciences is essential. Life science graduate requirements are met by the First Year Program of the School of Medicine. This program is more arduous than the Ph.D. Program alone, but it may have marked advantages for students interested in clinical research and applications in hospital systems and in the delivering of health care. The catalogue for the School of Medicine should be consulted for admis-

sion requirements and procedures.

Courses

For a list of course offerings by the Department of Biomedical Engineering, see the departmental statement on page 126. For additional courses available to students, see the catalogue of the Schools of Arts and Sciences and Engineering.

M.S.E. PROGRAM IN BIOMEDICAL ENGINEERING

The master's degree program is designed for students who wish to pursue careers in a variety of settings. Graduates of the program work in the industrial sector, clinical or hospital engineering, and pursue graduate or professional school. The program, which is designed to be completed in two years, consists of core courses, elective courses, and a thesis project.

Admission and Financial Aid

Students with undergraduate degrees in engineering are eligible to apply. Exceptional students with degrees in basic sciences may also apply, but would normally have to take a number of prerequisite engineering courses in order to be able to achieve success in upper level engineering courses.

The M.S.E. program grants partial tuition fellowship awards on the basis of academic merit. Research assistantships are usually advertised by various laboratories in the institution to carry out specific research and development projects. A few named fellowships are also awarded to the top students in the program.

Application for admission must be received by January 10. Requests for applications or information should be addressed to the Director of the Biomedical Engineering Masters Program, 318 Clark Hall, 34th and Charles Streets, Baltimore, MD 21218. Applications can also be downloaded from the University's admissions homepage (<http://www.jhu.edu>).

Requirements for the M.S.E. Degree

All students must take a minimum of 24 credits of courses at the 400 level or higher and complete a thesis. Students fulfill the course requirements by taking 580.421-422 Physiological Foundations for Biomedical Engineering and other advanced engineering courses. They fulfill the second requirement in one of two ways: 1) by completing a thesis based on a research problem requiring application of quantitative or applied engineering principles to biomedical problems, or 2) by a clinical engineering internship structured around a practical project in the hospital.

BIOPHYSICS AND BIOPHYSICAL CHEMISTRY

In addition to its participation in the Program in Biochemistry, Cellular and Molecular Biology (BCMB) described earlier, the Department of Biophysics and Biophysical Chemistry provides training for outstanding students with interests in such quantitative areas as crystallography, enzymology, kinetics, protein design, and mathematical computer modeling, which fall outside the scope of the BCMB Program. Two separate training programs are available. The Program in Molecular Biophysics (PMB) is a large training program involving about 40 faculty members from both campuses of the University. The Biophysics and Biophysical Chemistry Program is a small program tightly centered around the Department of Biophysics and Biophysical Chemistry, and is appropriate to applicants with varied interests and diverse training backgrounds. Requirements for these two programs are given below. Applicants should feel free to discuss with the department which program is most appropriate for them.

Biophysics and Biophysical Chemistry Program

Requirements for Admission

Candidates for admission to graduate standing should present a Bachelor's degree or equivalent with some undergraduate training beyond the elementary level in at least two of the following areas: chemistry, biology, mathematics, physics and computer science. Undergraduate courses in physical chemistry, general college physics, differential and integral calculus and computer science are particularly important. However, deficiencies in some of these subjects can be made up during graduate residency.

Requirements for the Ph.D. Degree

During the course of graduate study the student must satisfactorily complete the following program of courses in the University or their equivalent at the intermediate or advanced level.

This list does not constitute an inflexible program; exceptions and modifications may be made at the discretion of the department to fit individual backgrounds, needs and interests.

Required Courses

The following eight, short courses are required:

100.709 Macromolecular Structure and Analysis (offered by the Department of Biophysics and Biophysical Chemistry)

100.710 Biochemical and Biophysical Principles (offered by the Department of Biophysics and Biophysical Chemistry)

260.708 Genetics (offered by the Department of Molecular Biology and Genetics)

260.709 Molecular Biology and Genomics (offered by the Department of Molecular Biology and Genetics)

340.703 Cell Structure and Dynamics (offered by the Department of Cell Biology)

330.709 Organic Mechanisms In Biology (offered by the Department of Pharmacology and Molecular Sciences)

360.728 Pathways and Regulation (offered by the Department of Physiology)

800.707 Computational Biology and Bioinformatics (offered by the Department of Biophysics and Biophysical Chemistry)

Additional requirements for the Ph.D. degree are as follows:

Examinations: Applicants must pass a qualifying oral examination as prescribed by the Graduate Board of the University. This examination will normally take place during the second year of residency. After the completion of the thesis, the student must satisfactorily complete a comprehensive oral examination administered by the Department of Biophysics and Biophysical Chemistry.

Dissertation: Completion of an original investigation and presentation of a dissertation is required. The dissertation must be accepted by the department and must be considered worthy of publication by referees nominated by the department.

Program in Molecular Biophysics

Overview

The Program in Molecular Biophysics (PMB) was established in 1990 and has evolved continuously over the years to provide its student participants with training in both the fundamental principles of biophysics and contemporary advances in the field. Over 40 faculty, members of 11 departments throughout the University, offer opportunities for learning in diverse and changing areas of research. The carefully designed set of courses and intensive laboratory work integrate various aspects of molecular biophysics into a dynamic curriculum.

Johns Hopkins has long been a leading research institution of world renown. The Hopkins biophysics community is known for its collaborative and congenial atmosphere. Students are encouraged to forge innovative paths by seeking the advice of other biophysicists and forming collaborations that enhance their research. PMB is committed to making the resources of experiment, theory,

and computation available to its scientists.

In keeping with an institution of its caliber, a large number of technology hubs and instrumentation facilities are available to Hopkins researchers.

The program offers training for outstanding students in such areas as X-ray crystallography, NMR and optical spectroscopies, statistical mechanics, thermodynamics, biophysical chemistry, molecular biology, and biochemistry. It emphasizes studies of macromolecules and their assemblies, for which combined approaches - molecular genetics and structural studies for example - may be necessary.

Major Research Areas

Protein Folding & Dynamics, Membranes & Membrane Proteins, DNA-Protein Interactions, Structural Biology & Prediction, RNA Biophysics, Enzymes & Metabolic Pathways, Computation & Theory, Protein Design & Evolution, Single Molecule Studies

Requirements for Admission

We encourage applications from students who have majored in biological sciences, biochemistry, chemistry, engineering, and physics; although more diverse backgrounds in related disciplines are welcomed as well.

The program derives its strength from participants with various interests and backgrounds. PMB students come from a range of undergraduate disciplines and, therefore, some may require additional courses or tutorials to round of their basic training. Individual needs can be interwoven into the required curriculum. Optimal background includes general chemistry, organic chemistry, physical chemistry, two semesters of college-level physics, biochemistry or molecular biology, and calculus or a high-level math course.

Financial Support

All PMB students who are U.S. citizens or permanent residents receive full financial support including tuition, health insurance, fees, and a 12-month stipend. Assuming satisfactory progress toward the Ph.D., students may expect continued support of tuition, health insurance, and stipend through the course of their graduate study.

Funding is provided by an NIH training grant that is restricted to U.S. citizens and permanent residents. Foreign students must have funding from their own governments or a formal agency.

Students are encouraged to apply for external sources of funding such as National Science Foundation Predoctoral Fellowships, NIH Predoctoral Fellowships to Promote Diversity in Health-Related Research,

and the Association for Women in Science Predoctoral Awards. Students accepted in the PMB have an excellent record of success in pursuing these opportunities.

Requirements for the Ph.D.

Degree Students must satisfactorily complete required and elective coursework. In addition, students must pass a Graduate Board Oral, a qualifying exam required university-wide, administered at the end of the second year. Students must continue to make satisfactory progress toward completion of their thesis research and meet annually with a thesis review committee starting in their fifth semester. Once thesis research is complete, students must defend their thesis before a final exam committee and present a final thesis seminar.

Required Courses

The methods and tools of biophysics are drawn from physics, chemistry, biology, mathematics and computer science. Consequently, our curriculum is correspondingly broad and rigorous. Five required one-semester courses form the core of the PMB curriculum: Physical Chemistry of Biological Macromolecules, Proteins & Nucleic Acids, Methods in Molecular Biophysics, Computer Modeling of Biological Macromolecules, and Organic Mechanisms in Biology. These courses provide a conceptual framework for understanding energetics, dynamics, structure and interactions at the molecular level, practical experience in computational analysis, and exposure to the current frontiers of biophysical research.

Additional Academic Requirements:

In addition to coursework, students attend weekly seminars and present one of their own in the second year. Proficiency in biochemistry, cell biology, and molecular biology is tested formally with an oral evaluation at the end of the first year. Students who have never taken courses in these areas are welcome, but not required, to take such courses during their first year. Tutorials and self-directed study provide alternative avenues for preparing for this evaluation.

The program aims to involve students in research projects from the start. First-year students complete three 10-week rotations in laboratories of their choosing. At the end of each rotation period, students present 10-minute talks with their rotation advisors, other faculty and students present. By summer of the first year, a student will have joined a research group and embarked on thesis research. Students are accepted to Ph.D. candidacy after successful completion of a

qualifying oral exam at the end of the second year. Beginning in the fifth semester, students meet annually with a faculty thesis review committee.

Dissertation

Completion of an original Investigation and presentation of a dissertation are required. The dissertation must be accepted by the program and considered worthy of publication by the referees.

How to Apply

Students are encouraged to complete applications online (www.hopkinsmedicine.org/graduateprograms). The GRE general test is required; a subject test is not required. All supplementary application materials including GRE scores, at least two letters of recommendation, undergraduate transcripts, and a statement of purpose should be sent to: Office of Graduate Admissions, Johns Hopkins University, 101 Whitehead Hall, 3400 N. Charles Street, Baltimore, MD 21218. Telephone: 410-516-5197, pmb@jhu.edu. The deadline for receipt of complete applications is January 4, 2010. Promising applicants will be invited to a Visiting Weekend to meet with faculty on both campuses, talk with students, and have a look around Baltimore.

Funding for the Program in Molecular Biophysics is provided by a training grant which is restricted to U.S. citizens and permanent residents. Unfortunately, the program cannot consider applications from foreign students unless the student has government aid or funding from a formal agency.

Visit our website at pmb.jhu.edu.

CELL BIOLOGY

The Department of Cell Biology offers two programs of study leading to the Ph.D. degree. Members of the department who work in the area of cell biology participate in the joint program in Biochemistry, Cellular and Molecular Biology described in detail on page 33; in addition to its participation in this program, the department also provides training in a separate Cell Biology Program within the department itself.

The Faculty

A list of the members of the staff and their research interests may be found in the departmental statement on page 136.

Cell Biology Program

Prerequisites

The department will admit well-qualified students to the program for work leading to the degree of Doctor of Philosophy. Applicants

should have thorough training in general biology, chemistry and physics, or to remove deficiencies in these areas by means of appropriate undergraduate courses during the first year in residence.

Requirements for the Ph.D. Degree

Requirements established by the Department of Cell Biology and the Graduate Board of the University which must be met by all candidates are as follows:

1. Complete a minimum of two consecutive semesters of registration as a full time, resident graduate student. Most candidates require five years.
2. Demonstrate evidence of achievement and promise in a comprehensive oral examination administered by the Graduate Board, usually at the end of the second year of residence.
3. Write a dissertation, embodying findings worthy of publication, and certified to be a significant contribution to knowledge by at least two referees.
4. Present a final departmental oral examination/seminar in the field of the dissertation research certified by from three to five examiners.
5. The department or program committee must certify in writing that all departmental or committee requirements have been fulfilled.

Core Courses

Students will generally fulfill the course requirements of the interdepartmental program in Biochemistry, Cellular and Molecular Biology, but alternative courses can be arranged to meet individual needs. Advanced courses are required according to the needs of individual students.

Elective Courses

At their discretion, faculty members reserve the right to require students to take elective courses.

Teaching

Training in teaching (Molecules and Cells and/or Organ Histology) is required for all graduate students.

CELLULAR AND MOLECULAR MEDICINE (CMM)

The Graduate Training Program in Cellular and Molecular Medicine prepares scientists for laboratory research at the cellular and molecular level with a direct impact on the understanding, diagnosis, treatment and prevention of human diseases. The Ph.D. graduates of the program obtain rigorous training in scientific research and develop a thorough knowledge of human biology and

human diseases.

This program grew out of a need for graduate training at the interface between medicine and the traditional basic science disciplines. Rapid progress in cellular and molecular biology has strongly impacted clinical medicine, offering insights about the fundamental causes of many diseases. Now, new discoveries in the laboratory can be applied rapidly to the diagnosis, treatment and prevention of disease. This has been made possible by new technology that allows scientists to identify genetic and molecular defects that cause or predispose to disease. The trainees in this program are working precisely at this interface between science and medicine to contribute to the long term well being of society.

Facilities

Students will work in well equipped laboratories of approximately 120 program faculty located throughout the medical school campus. These researchers are supported by many shared facilities including microscopy, molecular biology and protein chemistry.

Requirements for Admission

Applicants should have a bachelor degree with undergraduate training in biology, inorganic chemistry, organic chemistry, physics and calculus. Cell biology and/or biochemistry are recommended. The Graduate Board Record Examination is required. Inquiries regarding admissions should be referred to the Office of the Graduate Program in Cellular and Molecular Medicine, 1830 E. Monument Street, Room 2-103. Telephone: (410) 614-0391; Fax: (410) 614-7294; E-mail: cmm@jhmi.edu.

Requirements for the Ph.D. Degree

Students must complete successfully the following courses: Introduction to the Human Body: Anatomy, Histology & Physiology (800.702), Molecular Biology and Genomics (260.709), Genetics (260.708), Cell Structure and Dynamics (340.703), Pathways and Regulation (360.728), Graduate Immunology (250.703), Topics in Cellular and Molecular Medicine (250.706), Cellular and Molecular Core Discussion (800.703), Cellular and Molecular Basis of Disease (800.709), Graduate Pharmacology (330.707), Fundamental Virology (260.804) or Biochemical/Biophysical Principles (100.710), and Research in Cellular and Molecular Medicine (800.801). Additionally, four electives and an ethics course are also required. Elective courses are available on many topics including bioorganic chemistry, biophysical chemistry, human anatomy, immunology, pathobiology, pharmacology and neuroscience.

Each student will conduct research in at

least three different laboratories of CMM faculty during the first year. These laboratory rotations will be approximately ten weeks long. At the end of the first year, students will select a research advisor from the rotation laboratories and begin original research leading to their doctoral dissertation.

An oral examination must be completed by the end of the second year of study. Between the end of year two and the beginning of year three, a thesis committee must be selected; at the very least, annual meetings are held until such time as the thesis committee believes the student is ready to write their doctoral dissertation. The dissertation is based on the student's novel research; a public seminar is a graduation requirement.

Financial Aid

The program is supported by a combination of monies from the Lucille P. Markey Charitable Trust and an NIH training grant. Each student is provided a stipend, health and dental insurance and tuition throughout their years in the program. The program covers these benefits during the students' first year; in subsequent years the research advisor is responsible.

FUNCTIONAL ANATOMY AND EVOLUTION PROGRAM

Prerequisites

The Functional Anatomy and Evolution (FAE) Program will admit well-qualified students to the program for work leading to the degree of Doctor of Philosophy. Applicants should have thorough training in organismic biology, chemistry, physics, and mathematics.

Requirements for the Ph.D. Degree

Requirements established by the FAE Program which must be met by all candidates are as follows:

1. Complete a minimum of four years of registration as a full time, resident graduate student. Most candidates require five years.
2. Demonstrate evidence of achievement and promise in a comprehensive oral examination administered by the Graduate Board, usually at the end of the second year of residence.
3. Write a dissertation, embodying findings worthy of publication, and certified to be a significant contribution to knowledge by at least two referees from within the department and two referees from outside.
4. Present a final departmental seminar in the field of the dissertation research.
5. The department or program committee must certify in writing that all departmental or committee requirements have been fulfilled.

Core Courses

Students must achieve a B- or better in Human Anatomy, Organ Histology, Evolutionary Biology, Biomechanics of the Skeleton, Mammals: Diversity, Structure and Evolution, Primate Evolution, and Biostatistics.

Elective Courses

Students must also take at least four elective courses, to be determined through consultation with FAE faculty, chosen from among those offered by the FAE faculty (including Dinosaurs, Cladistics, Morphometrics, and Allometry), as well as elsewhere in the university (e.g., Sedimentary Environments, Climates of the Past, Behavioral Ecology).

Rotations

Students must complete a formal research rotation with the faculty during their first year. The rotation consists of a written formal prospectus/proposal of the research work, a write-up of the research by the student, and an oral presentation to the FAE group. Students are required to undertake pre-dissertation research in the second year.

Teaching

Training in teaching medical school Human Anatomy and undergraduate anatomy is provided for all graduate students.

Fellowships

Predocctoral fellowships covering normal living costs and tuition are available.

HISTORY OF SCIENCE, MEDICINE, AND TECHNOLOGY

This program is jointly run by the Department of the History of Medicine (SOM) and the Department of the History of Science and Technology (A&S).

The work of this program extends over all phases and dimensions of the development of medicine and related sciences, the history of disease, and the historical analysis of related conceptual, cultural, and social problems. Students acquire facility in the methods of historical research and gain a wide acquaintance with the available literature in the history of medicine, science, and related fields of history. Departmental offerings are particularly strong in the history of medicine and science for early modern Europe; medicine, science and technology in the United States; 19th and 20th centuries; history of disease and public health; health and society in China and Africa; and Russian and Soviet science.

Students come to The Johns Hopkins University with diverse backgrounds including medicine, science, and history. The Ph.D. program prepares students for scholarly careers in

teaching and research. For further information, see our website at: http://www.hopkinsmedicine.org/graduateprograms/history_of_science/. Students who wish to combine medical training with academic training in the history of medicine may inquire about the M.D.-Ph.D. program by writing The Director, M.D.-Ph.D. Program, School of Medicine, The Johns Hopkins University, 1830 E. Monument Street, Suite 2-300, Baltimore, MD 21205.

Requirements for Admission

Candidates must be at the post-baccalaureate level. Preference will be given to applicants with training in some aspect of the health field, sciences, or history. For further information applicants should write to Director of Graduate Studies, Program in the History of Science, Medicine, and Technology, 1900 East Monument Street, Baltimore, Maryland 21205.

Requirements for Degrees

The student must satisfy the requirements of the University, the School of Medicine, and the Program.

Doctor of Philosophy Degree: The principal requirement for the Ph.D. degree in the history of medicine or science is the writing of a dissertation based upon original research and of publishable quality. Prior to embarking on full-time dissertation research, candidates will prepare themselves by a variety of courses, seminars, and guided reading. During the first year of study, students receive a general introduction to historical research and complete a year-long survey in either the history of science or the history of medicine. In their second and third years, candidates prepare three fields of study: one in the Program of History of Science, Medicine, and Technology; one in the History Department; and a third field to be determined by the student and the advisor. The specific requirements for such fields are set by the faculty member directing the field, in consultation with the student. These fields entail both broad and intensive reading, and the passing of a comprehensive examination and/or preparation of several historiographic essays. Candidates must also demonstrate a reading knowledge of two foreign languages before being admitted to formal candidacy for the degree. The final requirement for the Ph.D. degree is completion of a dissertation that is an original contribution to historical knowledge, and of a standard suitable for publication.

Master of Arts Degree: The department also admits students who wish to complete the requirements for this degree. These include the demonstration of competence in the gen-

eral history of medicine by passing an examination at the end of the first year of study, completion of a satisfactory research essay, and demonstrated reading ability of one foreign language.

Financial Aid

The Owsei Temkin Fellowship, The Jerome J. Bylebyl Fellowship, The William Coleman Fellowship, The Harry Woolf Fellowship, and regular department fellowships are among those available. These awards include tuition, stipend, research allowance, and medical insurance.

HUMAN GENETICS AND MOLECULAR BIOLOGY

Ph.D. Program

The University-wide Committee on Human Genetics, under the aegis of the Institute of Genetic Medicine, offers an interdivisional program, based in the School of Medicine, to train Ph.D. candidates for research careers in human genetics and molecular biology.

The Predoctoral Training Program in Human Genetics and Molecular Biology has been designed as an alternative to the combined M.D./Ph.D. program for those, primarily interested in research, who want knowledge of study of human biology along with in-depth research training within a period of four to five years. This program is predicated on the belief that research progress is enhanced by detailed knowledge of the experimental organism. Therefore, the program offers a solid background in human biology as well as rigorous training in research strategies and techniques of molecular biology and genetics. Required courses include cell biology, biochemistry, immunology, human pathology and pathophysiology, which provide insight into the human phenotype, as well as comprehensive courses in human genetics and molecular biology.

The cornerstone of the program is the thesis project. Research training is initiated as the student enters the program by a series of laboratory rotations. The faculty (listed below) come from clinical as well as basic science departments, have a wide range of research interests pertinent to human genetics, and carry out well-supported research programs. Students choose among a variety of projects, ranging from studies of molecular mechanisms of disease, genetic control of cell differentiation and molecular cytogenetics to investigations into the pathogenesis of inborn errors of metabolism and genetic factors that predispose to disease. A wide choice of elective courses in diverse areas of genetics and molecular biology provides

the means to achieve individual career goals. Students gain valuable experience as teaching assistants in such undergraduate courses as genetics and molecular biology. Supporting activities include journal clubs, the short summer course in mammalian genetics at the Jackson Laboratory in Bar Harbor, Maine, faculty and student research conferences, and seminars by visiting scientists.

The combination of research training in molecular biology and genetics with knowledge of human biology uniquely qualifies graduates to carry out sophisticated genetic studies of important biological problems relevant to genetic disease and to teach human biology as well as human genetics and human genetic disease.

Combined M.D./Ph.D. Program

The faculty of the Human Genetics Program offers research training for medical students in the combined M.D./Ph.D. program. Students apply to the combined program at the time of application to the M.D. program. (See section entitled Medical Scientist Training Program).

The Faculty and Research Interests

DIMITRIOS AVRAMOPOULOS

Associate Professor of Psychiatry

Genetic basis of complex disorders, particularly psychiatric disorders.

JOEL BADER

Assistant Professor of Biomedical Engineering, School of Engineering

Computational biology and bioinformatics; statistical genetics.

STEPHEN B. BAYLIN

Professor of Oncology

Molecular determinants of endocrine differentiation in human cancer; DNA methylation changes in cancer; regulation of polyamine biosynthesis in human cells.

MICHAEL BEER

Assistant Professor of Biomedical Engineering

Computational molecular biology and genomics.

SETH BLACKSHAW

Assistant Professor of Neuroscience

Developmental neurobiology.

JEF D. BOEKE

Professor of Molecular Biology and Genetics

Transposition mechanism; reverse transcription in genome evolution; yeast molecular genetics.

ARAVINDA CHAKRAVARTI

Professor of Medicine

Genetics of common, multifactorial disease.

LINZHAO CHENG

Associate Professor of Gynecology and Obstetrics

Molecular genetics of human stem cells; stem cell-based genetic models for human diseases.

BARTON CHILDS

Professor Emeritus of Pediatrics

- Behavioral genetics; genetic analysis of common diseases.
- JANICE E. CLEMENTS**
Professor of Molecular and Comparative Pathobiology
Molecular biology of the lentiviruses, visna virus and simian immunodeficiency virus.
- RONALD COHN**
Assistant Professor of Pediatrics
Molecular Mechanisms of muscle regeneration; inherited myopathies.
- GARRY R. CUTTING**
Professor of Pediatrics
Molecular genetics of cystic fibrosis and ion channels; gene mapping by pulse field gel electrophoresis.
- CHI VAN DANG**
Professor of Medicine
Role of C-Myc oncoproteins in cell growth differentiation and neoplasia.
- HARRY C. DIETZ**
Professor of Pediatrics
Molecular biology of heart development and of heritable disorders affecting the heart; influence of premature termination codons on RNA splicing and processing.
- ANDREW P. FEINBERG**
Professor of Medicine
Genomic imprinting in normal development and diseases; genetics of childhood cancer; novel genomic technology.
- GREGORY GERMINO**
Adjunct Professor of Medicine
Molecular basis of renal cystic disease; renal tubular morphogenesis
- STEPHEN J. GOULD**
Professor of Biological Chemistry
Identification of genetic basis of peroxisome assembly disorders.
- CAROL GREIDER**
Professor of Molecular Biology and Genetics
Mechanisms and regulation of telomere length and telomerase normal and cancer cells.
- WILLIAM B. GUGGINO**
Professor of Physiology
Molecular biology of transport proteins; cystic fibrosis; gene therapy.
- KATHY HUDSON**
Associate Professor of Pediatrics
Scientific, legal, ethical, and social factors related to genetic issues.
- NICHOLAS KATSANIS**
Adjunct Associate Professor of Ophthalmology
Identification of responsible genes and interaction of the protein products to produce pleiotropic pathophysiology.
- SCOTT KERN**
Professor of Oncology
Genetic alterations in pancreatic carcinoma and colorectal dysplasia.
- KENNETH KINZLER**
Professor of Oncology
Genetic analysis of human cancers.
- SE-JIN LEE**
Professor of Molecular Biology and Genetics
Growth and differentiation factors in mammalian development.
- NICHOLAS MARSH-ARMSTRONG**
Assistant Professor of Neuroscience
Transgenic studies of CNS developmental gene regulation.
- DEBRA MATHEWS**
Assistant Professor of Pediatrics
Intersection of bench science, public policy, and society.
- ANDREW MCCALLION**
Associate Professor of Molecular and Comparative Pathobiology
Functional genomics; complex disease; gene regulation; non-coding variation in disease.
- JOSHUA MENDELL**
Associate Professor of Pediatrics
Post-translational expression of gene expression.
- SUSAN MICHAELIS**
Professor of Cell Biology
Molecular mechanisms of signal transduction; protein targeting and secretion; yeast molecular genetics.
- BARBARA R. MIGEON**
Professor of Pediatrics
Molecular basis of the X-chromosome inactivation and developmental regulation of X-linked genes; molecular cytogenetics; sex differentiation.
- AKHILESH PANDEY**
Associate Professor of Biological Chemistry
Identification of novel proteins involved in signal transduction; proteomics.
- JONATHAN PEVSNER**
Associate Professor of Neuroscience
Molecular neurobiology specializing in the area of synaptic vesicle function.
- RANDALL REED**
Professor of Molecular Biology and Genetics
Molecular genetics of olfaction.
- ROGER H. REEVES**
Professor of Physiology
Recombination, physical and somatic cell genetic mapping; developmental consequences of aneuploidy; manipulation and modification of yeast artificial chromosomes.
- ALAN F. SCOTT**
Associate Professor of Medicine
Molecular genetics of cellular transformation and metastasis; studies of a human transposon-like sequences; genome organization and evolution.
- GREGG L. SEMENZA**
Professor of Pediatrics
Identification of cis-acting DNA sequence elements and trans-acting proteins that regulate hypoxia-inducible expression of the human erythropoietic gene through analysis of transgenic mice, transfected tissue culture cells, and in vitro DNA-protein interactions.
- GERALDINE SEYDOUX**
Professor of Molecular Biology and Genetics

Molecular genetics of germ cell development.

KIRBY D. SMITH

Professor of Pediatrics

Chromosome DNA organization; genomic evolution; regulation of gene function during development.

HONGJUN SONG

Associate Professor of Neurology

Biology of neural stem cells and neurogenesis in the adult CNS.

FORREST SPENCER

Associate Professor of Medicine

Centromere function and cell cycle control in yeast; molecular genetics of chromosome segregation; yeast artificial chromosomes.

SARA SUKUMAR

Professor of Oncology

Breast cancer.

GEORGE H. THOMAS

Professor of Pediatrics

Biochemical and molecular basis of inborn errors of lysosomal enzymes, sialic acid in human disease; chromosome abnormalities.

DAVID L. VALLE

Professor of Pediatrics

Clinical, biochemical and molecular studies of human inborn errors.

VICTOR VELCULESCU

Associate Professor of Oncology

Molecular genetics of human cancer.

BERT VOGELSTEIN

Professor of Oncology

Molecular genetics of human cancer.

TAO WANG

Assistant Professor of Pediatrics

X-linked mental retardation.

DON ZACK

Professor of Ophthalmology

Molecular approaches to the study of retinal development and function.

Research Facilities

Research laboratories are well equipped to carry out sophisticated research in all areas of genetics. The proximity to renowned clinical facilities of the Johns Hopkins Hospital, including the Institute of Genetic Medicine, and Oncology Center provides faculty and students with access to a wealth of material for study. Computer and library facilities are excellent. Because the program in human genetics is a university-wide activity, supporting facilities are extensive.

Financial Aid

The program is supported by a limited number of teaching assistantships and predoctoral training funds from the National Institutes of Health. These fellowships, which are restricted to United States citizens and permanent United States residents, cover tuition and provide monthly stipends and are awarded to essen-

tially all students in the program. Students are encouraged, however, to apply for fellowships from outside sources (e.g., the National Science Foundation, Howard Hughes Medical Institute) before entering the program.

Courses

The courses include the required core courses: Macromolecular Structure, Molecular Biology and Genomics, Fundamentals of Genetics, Cell Structure Pathways and Regulation, Human Genetics, Bioinformatics, Histology, Molecules and Cells, Pathophysiology (lecture portion), and Pathology (lecture portion) listed in the entries of the departments of Cell Biology, Anatomy, Molecular Biology and Genetics, Biological Chemistry, Pathology, Medicine and Biology. Numerous elective courses are available and are listed under sponsoring departments.

The courses offered by the faculty of the program are listed below. All courses are open to graduate students from any university program as well as selected undergraduates. Prerequisite: Introductory course in genetics.

710.700 Human Genetics. R. Reeves, A. Feinberg and staff. Third quarter.

The course is a research oriented introduction to principles of human genetics with emphasis on research papers, techniques and strategies. Topics for discussion will include chromosome structure and function, gene mapping, mutation and karyotypic aberrations, sex determination, inborn errors of metabolism, genetical heterogeneity, genotype-environment interaction in health and disease, including cancer.

710.702 Molecular Mechanisms of Disease. J. Mendell, A. McCallion, and T. Wang. Fourth quarter.

Ten weekly meetings will be held to explore in depth the current biochemical knowledge of diseases such as diabetes, gout, megaloblastic anemias, inherited enzymopathies and disorders of blood clotting, lysosomal function and connective tissue.

710.709 History of Genetics. Drs. Childs and Valle. Second quarter.

710.722 Ethical and Policy Issues Related to New Genetic Technologies. Fourth quarter.

Readings on the seminal papers and major contributions in the history of genetics.

710.723 Molecular Genetic Dissection of Complex Diseases. A. Chakravarti

Discuss molecular and computational technologies that allow the large scale studies of genome variation in patients and their families.

710.724 Developmental Genetics. Drs. Semenza and Jabs

Roles of specific growth factors, transcription factors and intermediary signal transduction pathways in mammalian development.

710.730 High Performance Computing for the Biological Sciences.

This course covers the theory and usage of the three major methods of conducting high performance computing: queue based systems, message passing interfaces, and parallel virtual machines. Current programs and algorithms for all systems types will be given including examples of how to restructure problems in order to utilize grid computing methods. All examples are geared towards the biological sciences. Unix knowledge and some programming experience (perl, python, shell) recommended.

710.731 Advanced Perl for the Biological Sciences.

This course covers advanced topics in Perl such as complex regular expressions and parsing methods, intermediate data structures and algorithms, modules and packages including their creation. All examples are geared towards the biological sciences. Basic perl programming experience required.

710.733 Epigenetics Seminar for Graduate Students. Drs. Migeon, Feinberg, Mendell, Baylin, and Taverna.

Nine weekly discussions of papers about the nature of epigenetic factors in mammalian cells and their roles in conferring cell memory, imprinting in embryonic development, and regulating gene function. Also discussed are the chromatic diseases (somatic and germline.)

IMMUNOLOGY

The Graduate Program in Immunology under the aegis of the Department of Molecular Biology and Genetics offers a program of study leading to the Ph.D. degree. Within this program, the faculty offer training and research experience with a strong emphasis on fundamental problems in immune responses and immunological reactions.

The Faculty and Research Interests

MARIO AMZEL

Professor of Biophysics and Biophysical Chemistry

Recognition of flexible peptide; mimicry of antigen by antidiotypic antibodies; affinity maturation.

LIEPING CHEN

Professor of Oncology

T cell cosignaling molecules in immune response and cancer immunotherapy.

STEPHEN V. DESIDERIO

Professor of Molecular Biology and Genetics

Molecular mechanisms of lymphocyte differentiation and activation; immunoglobulin and T cell receptor gene assembly.

CHARLES DRAKE

Associate Professor of Oncology

Using a unique murine model to investigate the basic mechanisms involved in immune tolerance to prostate cancer and using these data to design innovative immunotherapy approaches

MICHAEL A. EDIDIN

Professor of Biology, School of Arts and Sciences

Cell-surface organization and function of H-2 and HLA gene products.

PATRICIA J. GEARHART

Adjunct Professor of Medicine

Molecular mechanism of somatic mutation in antibody variable genes.

DIANE GRIFFIN

Professor of Molecular Microbiology and Immunology, School of Public Health

The role of the immune response in the pathogenesis of viral diseases.

ALLAN D. HESS

Professor of Oncology

Immunology of bone marrow transplantation and graft vs. host disease.

JAMES E. HILDRETH

Adjunct Professor of Pharmacology

Molecular cloning of leukocyte adhesion receptors; characterization of the role of adhesion molecules in the pathogenicity and cell-cell transmission of HIV.

ELIZABETH M. JAFFEE

Professor of Oncology

Analysis of antitumor immune responses against human tumors; identification of the targets of tumor-specific cytotoxic T cells.

DANIEL J. LEAHY

Professor of Biophysics and Biophysical Chemistry

Three-dimensional structure of proteins involved in cell-cell and cell-matrix interaction and signaling.

HYAM I. LEVITSKY

Professor of Oncology

Vaccine development; mechanisms of antigen-specific tolerance; identification of tumor antigens.

LI LIN

Adjunct Assistant Professor of Medicine

Biogenesis and assembly of NF-kappaB transcription factors; proteasome-mediated protein degradation

CHARLES J. LOWENSTEIN

Adjunct Professor of Medicine

Innate immunity; antiviral role of nitric oxide; endothelial inflammation

DREW M. PARDOLL

Professor of Oncology

Function of alpha-beta and gamma-delta T-cells in the immune response; T cell development; mechanisms of antitumor immunity.

GARY R. PASTERNAK

Adjunct Associate Professor of Pathology

Lymphocyte nuclear proteins; molecular determinants of prognosis in neoplasia.

JOEL POMERANTZ

Assistant Professor of Biological Chemistry

Functional specificity and design of signal transduction pathways in the immune response.

STUART RAY

Associate Professor of Medicine

Immune response to hepatitis C virus (HCV); HCV sequence variation; mechanisms of HCV persistence; rational vaccine design; biomarkers.

NOEL ROSE

Professor of Pathology

Self/non-self discrimination; autoimmunity; autoimmune disease.

ANTONY ROSEN

Professor of Medicine,

Cellular and molecular mechanisms of apoptosis; relevance to autoimmunity.

SCHEHERAZADE SADEGH-NASSERI

Associate Professor of Pathology

Molecular mechanisms of antigen presentation; structure and function of MHC proteins, regulation of T-cell function.

JONATHAN SCHNECK

Professor of Pathology

Design of novel compounds that regulate T-cell responses and structural analysis of proteins central in the generation of immune response.

HYUN S. SHIN

Professor of Molecular Biology and Genetics

Regulation of the genes activated by lipopolysaccharide in macrophages; detection of T cell receptor interaction with peptide-MHC complex.

ROBERT F. SILICIANO

Professor of Medicine

Mechanisms of antigen recognition by human T lymphocytes; pathogenic mechanisms in HIV infection and AIDS vaccine development.

MARK J. SOLOSKI

Professor of Medicine

Structure and function of lymphocyte membrane proteins; growth and development of T lymphocytes; molecular biology of MHC genes.

TZYY-CHOU WU

Professor of Pathology

Vaccine development and immunotherapeutic strategies for human papillomavirus (HPV)-related cervical cancers. Development of molecular diagnostic tests for the detection of HPV infections.

Requirements for Admission

Candidates for admission should hold a Bachelor's degree with undergraduate training in organic and inorganic chemistry, general biology, physics and calculus. Courses in immunology, biochemistry and molecular biology are recommended but not required. Candidates should take the GRE (including subjects in biology, chemistry, or biochemistry and molecular biology).

Requirements for the Ph.D.

Students in the Immunology program are asked to successfully complete the following courses: 1) Biochemical and Biophysical Principles; 2) Macromolecular Structure and Analysis; 3) Immunology Core Course; 4) Molecular Biology and Genomics; 5)

Genetics; 6) Computational Biology and Bioinformatics; 7) Pathways and Regulation; 8) Cell Structure and Dynamics; 9) Graduate Immunology; and 10) Special Studies and Research. Students also take advanced elective courses selected from those offered by this program. Students are normally concerned with course work during their first year and will initiate dissertation research during the second year, while completing more specialized courses relevant to their developing interests.

During the second year of study, subsequent to the satisfactory completion of a substantial amount of required courses, candidates will be required to pass a comprehensive written examination evaluating the student's knowledge in biochemistry, cellular and molecular biology and immunology. If the student successfully passes this exam, he or she is permitted to take the Graduate Board Oral Examination.

The candidate is required to present a written dissertation based on original research undertaken during residency as a graduate student. Upon completion of the dissertation work, he/she is required to present a thesis seminar.

Courses

The programs of instruction and training in the Graduate Program in Immunology are designed to meet the needs of: a) students of medicine, b) candidates for doctoral degrees, and c) post-doctoral students wishing to prepare for careers in teaching and research.

250.603 Principles of Immunology. Dr. Schneck. October - November.

Offered for first year medical students. The general content is similar to Graduate Immunology, but is oriented more toward human diseases involving the immune system. Lectures, small discussion groups, clinical correlation, and laboratory exercises involving PCR and flow cytometry are included. Some graduate students with special permission are allowed to take this course.

250.702 Advanced Topics in Molecular Immunology. Drs. Siliciano and Ray. Sept-Dec.

This course is offered as an advanced course dealing with a selected topic in molecular immunology immunity and will combine student run presentations and guest lectures. The course will focus on a specific topic related to immune recognition, development, activation, and effector function. The topic will change annually.

250.703 Graduate Immunology. Dr. Sadegh-Nasseri. Jan-May.

This course is offered as the major course for graduate students in the third and fourth quarter to provide a comprehensive survey of modern cellular and molecular immunology. It consists predominantly of lectures given by faculty from the Hopkins community, but also includes some guest lecturers

from outside Hopkins. This course is open to all graduate students and postdoctoral fellows.

250.708 Physical and Biochemical Basis of Immune Activation. Drs. Desiderio and Sadegh-Nasser. Jan - May.

A graduate seminar that will examine current topics in immunologic recognition and lymphocyte activation, with an emphasis on molecular interactions. Discussion of each topic, to be led by individual students, will center on two to three critical papers that will be suggested by the instructors and read in advance by the group. Performance will be evaluated on the basis of individual presentations, participation in class discussion, and a four to five page paper in the form of a research proposal addressing an unresolved issue in the field.

260.712 Introductory Molecular Immunology. Dr. Soloski. April-May.

A brief overview of the molecular and biochemical principles of immune recognition. This course does not replace the more in depth Graduate Immunology (ME250.703) which will be given concurrently.

250.709 Immunology Core Course. Dr. Ray.

This is a year long course that meets on a weekly basis. It is intended to provide a small group setting that will allow first year students a deeper understanding of their didactic lectures. The course largely uses student lead discussions of relevant journal articles but problem sets and demonstrations are also incorporated. Each session is moderated by an Immunology faculty member. Enrollment is open only to students enrolled in the Immunology Graduate Program.

250.713 Tumor Tolerance and Transplantation. Dr. Pardoll. Mar-Apr.

Immune tolerance is central to the pathobiology of cancer and is a critical element in transplantation medicine. As basic mechanisms of immune tolerance become elucidated, it is now possible to determine which of these are operative for specific cancer types and for transplantation of specific organs. In addition, bone marrow transplantation, a critical approach in the therapy of cancer immune deficiency diseases and potentially autoimmune diseases, has its own set of associated tolerance mechanisms. Novel therapeutic approaches designed to manipulate immune tolerance are being developed and clinically tested. This course will review both classic and recent cutting edge papers relevant to these subjects. The goal will be to integrate basic mechanistic discoveries with disease pathobiology in a fashion that elucidates translational pathways to the therapy of immune mediated diseases.

250.804 Introduction to Immunology Research. Dr. Soloski.

This is a weekly course that will provide an introduction to the diverse research problems addressed by immunologists. The course will involve presentations by immunology faculty, research conferences, and seminars. This course is only open to Immunology graduate students.

Fellowships

Everyone admitted to the program is offered full tuition, stipend, and health insurance. A

modest travel award is also given to attend one scientific meeting per year.

MEDICAL AND BIOLOGICAL ILLUSTRATION

A graduate program leading to the degree of Master of Arts in Medical and Biological Illustration is offered to students preparing for a career in medical communications. The program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in cooperation with the Accreditation Review Committee for the Medical Illustrator (ARC-MI) which is sponsored by the Association of Medical Illustrators. Applicants must hold a bachelor degree with courses in premedical sciences and be able to demonstrate art skills and experience which they obtained through instruction in the fine and applied arts.

Basic medical science courses will be offered by the School of Medicine. Illustration and communications curriculum will be provided by the Department of Art as Applied to Medicine. Students may individualize their study depending on previous training, professional interests, and career objectives. All degree candidates must satisfy the requirements of the University, the School of Medicine, and the Department of Art as Applied to Medicine.

Art as Applied to Medicine

GARY P. LEES

Associate Professor of Art as Applied to Medicine, Director of the Department of Art as Applied to Medicine

NORMAN J. BARKER

Associate Professor of Pathology, Associate Professor of Art as Applied to Medicine

HOWARD C. BARTNER, Associate Professor

TIMOTHY H. PHELPS, Associate Professor

SARAH LOUISE POYNTON

Associate Professor of Molecular and Comparative Pathobiology, Associate Professor of Art as Applied to Medicine

DAVID A. RINI, Associate Professor

CORINNE SANDONE, Associate Professor

IAN SUK

Associate Professor of Neurological Surgery, Associate Professor of Art as Applied to Medicine

ANNE REED ALTEMUS, Assistant Professor

OSCAR R. BAEZA, Assistant Professor

DONALD F. BLISS, II, Assistant Professor

JENNIFER E. FAIRMAN, Assistant Professor

JUAN R. GARCIA, Assistant Professor

KENNETH HEYMAN, Adjunct Assistant Professor

DALE R. LEVITZ, Adjunct Assistant Professor

MIGUEL ANTONIO SCHOEN, Assistant Professor

BRENT R. WHITAKER, Assistant Professor

BANG THOAI WONG, Adjunct Assistant Professor
VIRGINIA MAC VEAGH FERRANTE, Instructor
JOAN AUDREY FREEDMAN, Instructor
CAROLYN V. JONES, Instructor
JOSEPH M. DIETER, JR., Lecturer
CATHERINE E. KIEFE, Lecturer

Faculty associated with the Department of Art as Applied to Medicine holding a primary appointment in:

The School of Medicine:
GROVER M. HUTCHINS
Professor of Pathology

Requirements for Admission

The applicant must have a bachelor degree demonstrating a high level of scholarship. Courses in chemistry, anatomy and physiology; molecular biology, cell biology, embryology, or histology; and one course in writing at the college level are required. A portfolio of non-scientific art, including still life drawing and painting (watercolor preferred), figure studies, graphic design, and digital media is submitted for review.

Equipment and Fees

Each student is required to own a digital camera and a USB flash memory stick.

A separate deposit fee of \$50.00 is required for first year students.

Requirements for Master of Arts Degree

1. Each candidate must successfully complete all courses offered, and must submit a thesis on a subject approved by the department director. The completed thesis must be approved by a university qualified preceptor as worthy of acceptance in partial fulfillment of requirements for the M.A. degree. The candidate's standing will be reviewed by the Committee on M.A. and Ph.D. Programs before he or she is recommended for degree. Students who receive three unsatisfactory grades may be dropped from the program.

Students who receive more than six credits with grades of C or lower are placed on academic probation.

2. The student must satisfactorily complete courses in Human Anatomy offered by Functional Anatomy and Evolution; Introduction to the Human Body offered in the Cellular and Molecular Medicine graduate program; and Principles of Animal Pathology offered in the Department of Molecular and Comparative Pathobiology. Students may elect additional science courses with approval of the director.

3. Students must outline their thesis research and consult with their preceptor by the first quarter of the second year. The thesis will include original investigation with expository

illustrations or sculpture (3D modeling, animation, web interface or equivalents).

4. A candidate's period of attendance in the program will be no less than 18 months. Transfer graduate students must register a minimum of two consecutive semesters as full time residents.

Departmental Courses

Courses are directly related to technical, biological, or medical subject matter. Student assignments require problem solving and individual research topics. Complete understanding of the topic is required. Expertise in all media communication utilized by clinicians, research scientists, health science personnel, students, patients, and the public is stressed.

Students may be assigned in-house illustrating for experience, when appropriate. The director must be notified of and approve all such assignments.

First Year

The academic calendar for first year students begins the first weekday in August.

120.703 Color Illustration. Rendering of scientific subject matter with emphasis on form, texture, and tissue color matching methods. Rini and Sandone. One quarter.

120.704 Principles of Anatomical Sketching and Dissection. An introduction to human anatomy through a series of regional dissections. Augmented by autopsy. Details recorded through sketching with emphasis on form, surface detail and anatomical accuracy. Rini and Schoen. One quarter.

120.708 Media Reproduction. Introduction to reproduction methodology, specifications for copy, and art preparation for print and non-print media. Lees and Dieter.

120.709 Continuous Tone Illustration. Continuous tone rendering of medical and biological subjects. Assignments in a variety of media with individually researched topics. Rini and faculty. One quarter.

120.710 Pen and Ink Illustration. Pen and ink rendering developed by sequential exercises and projects. Phelps and Suk. One quarter.

120.711 Illustration for Visual Presentations. Standards, techniques, and color media used for preparing effective digital presentation visuals. Lees and Weaver. One quarter.

120.712 Visual Concepts. Conceptualization of scientific information and application to problem solving assignments. Lees. One quarter.

120.714 Editorial and Conceptual Illustration. Conceptual approach to illustration utilizing brainstorming and problem solving skills to effectively interpret and illustrate manuscripts and clinical or anatomical concepts. Phelps. One quarter.

120.715 Biological Illustration. Application of illustration techniques to biological, botanical, and natural science topics. Phelps and Whitaker. One quarter.

120.716 Medical Sculpture. Materials and techniques used in producing instructive three-dimensional medical sculpture and rehabilitative facial prostheses. Garcia. One quarter.

120.717 Communications Media. Skills laboratory providing hands-on experience in:

Photography. Camera and lighting techniques, reproducing art in color and black and white with both analogue and digital media. Hands-on working in a photo lab environment. Barker.

Graphic Design. Design, layout, typography, and desktop publishing. Jones.

120.718 Digital Lab Essentials. An overview of the essential hardware, software, and peripheral devices for the production of digital images. Concepts of: system-level operations, digital resolution, and modalities of remote communication. Phillippi and Fairman.

120.719 Illustrating Anatomy. Sketching from the cadaver and application of illustration techniques, coordinated with gross anatomy dissection schedule. Emphasis on relationships and accuracy in surgical and radiological approaches. Augmented by autopsy, specimens, and text references. Lees. One quarter.

120.720 Digital Imaging I. Technical aspects of digital art production using both vector and raster-based digital imaging applications. Fairman. Two quarters.

120.721 Digital Imaging II. Creating digital artwork for print and projection media: two-dimensional color still images. Fairman and Suk. One quarter.

120.722 Digital Imaging III. Theory and techniques for creating 3D models and animations for distribution as electronic files and videos. Bliss and Blum. One quarter.

120.723 Digital Imaging IV. Theory and techniques for creation of dynamic animation optimized for electronic presentation media. Fairman. One quarter.

120.724 Digital Imaging V. Theory and techniques for creating vector animation and implementing interactivity for distribution on the web. Fairman. One quarter.

120.807 Design of Instructional Programs.

Instructional design process, project planning and development. Hands-on experience as instructional designer, project manager, programmer, illustrator, animator, user-interface designer and end user. Altemus, Freedman. One quarter.

Second Year

120.750 Surgical Illustration. Illustration of surgical procedures from operating room sketches for medical education. Lees, Phelps, Rini, Sandone. One semester.

120.751 Ophthalmological Illustration. Intensive review of gross and microscopic anatomy of the orbit. Survey of ophthalmological surgical procedures. Special illustration techniques presented. Introduction to the use of patient examining instruments. Bartner, Garcia, Lees. One quarter.

120.752 Illustrating with Digital Images. Team-based approach to producing teaching visuals using medical imaging science and visualization techniques. Department faculty and staff. One quarter.

120.754 Research and Thesis. Original investigation under preceptor and department advisor. Lees, Phelps, Rini, Sandone. One semester.

120.755 Business Policy for the Medical Illustrator. Design and management of functional illustration production units. Practice in analyzing problems of the visual artist and formulating practical solutions. Ferrante and guest faculty. One quarter.

120.756 Operating Room Sketching. Introduction to operating room protocol, observation and recording of surgical procedures. Lees, Phelps, Rini, and Sandone. One quarter.

120.757 Scientific Communication. Principles of effective oral and written presentation. Exercises include a grant proposal, oral presentations and review of publications. Poynton and Kane. Six sessions.

120.758 Portfolio. Professional portfolio and exhibition preparation and presentation, includes effective negotiation in a professional environment. Sandone, Fairman and guest faculty. One quarter.

Elective Studies

Students may select from the following courses with the approval of the director. Hours and course content to be arranged with the instructor.

120.707 Medical Video. Production methods for a medical video. Levitz. One quarter.

120.801 Advanced Projects in Illustration. Special projects in editorial and conceptual illustration. Department faculty.

120.813 Independent Studies. Students may arrange independent study with a faculty member with the approval of the Director. Scheduled during any quarter of the second year as an overload.

Seminars are offered throughout the year introducing topics pertinent to the profession. Sample topics: illustration ethics, electronic publishing, web-based learning, e-commerce, intellectual property, artist rights, art pricing, and virtual reality. Department faculty and guest lecturers. Rini coordinator.

Scholarships

The W. B. Saunders Company Fellowship in Art as Applied to Medicine This fellowship was established in 1964 in honor of Lawrence Saunders upon his retirement after 50 years of distinguished leadership in medical publishing.

The William P. Didusch Scholarship and Loan Fund An endowment for student tuition support in the Department of Art as Applied to Medicine was established in 1973 with a generous gift from Mr. Didusch. A significant contribution was added to this Fund from the

estate of Bertha M. Trott whose death in 1973 ended a life filled with dedication and service to urologists at Johns Hopkins and elsewhere. Memorial contributions from friends and colleagues have been added to this Fund since the death of William P. Didusch in 1981.

The Kathleen Mackay Powell Memorial Fund An endowment to assist and benefit students in the field of medical illustration given in memory of Kathleen Mackay Powell who studied in the department (1930-31) under Max Brödel.

The Elinor Widmont Bodian Scholarship in Medical Art This scholarship fund was established in 2000 by Mrs. Bodian and her family to provide financial assistance to students in Medical Illustration.

The Leon Schlossberg Scholarship Fund This scholarship was established in 1999 in memory of Leon Schlossberg's lifetime association as a medical illustrator for the Department of Surgery and faculty member in Art as Applied to Medicine.

The Chester Reather Scholarship in Art as Applied to Medicine An endowment established in Art as Applied to Medicine in honor of Chester Reather's distinguished career as a medical photographer and research associate at The Johns Hopkins University School of Medicine. This fund is used to reward a graduate student with a scholarship for innovative research and creative use of new imaging technology.

The Frank H. Netter, M.D. Memorial Scholarship in Medical Art Frank. H. Netter, M.D. is known world-wide as a medical illustrator who could distill complex medical subject matter into clear, effective teaching images. Dr. Netter was not only a skilled draftsman, but knowledgeable in anatomy, physiology, and pathology through his medical training. Family and friends established this scholarship to recognize a student in Art as Applied to Medicine who displays a similar balance of medical and scientific knowledge with the artistic skills that he exhibited throughout his career. Winners of this award have excelled in their academic courses; displayed exceptional art expression; and most importantly utilized both resources to create well designed and effective didactic illustrations.

The Gwynne M. Gloege Scholarship Fund in Medical Art This scholarship fund was established in 2004 by Gwynne Gloege (JHU '56) to provide financial assistance to medical art students.

Financial aid and scholarships are awarded to students within the program based on financial need and academic performance.

Awards, Lectureship, and Support

The Annette S. Burgess Award The alumni of the Department of Art as Applied to Medicine contribute funds each year which provide for an annual award given to the student whose ophthalmological illustration is outstanding.

The Ranice W. Crosby Distinguished Achievement Award Through the generosity of alumni, colleagues, and friends, a medalion honoring Ranice W. Crosby, Director of Art as Applied to Medicine from 1943 to 1983, is awarded for scholarly contributions to the advancement of art as applied to the medical sciences. The recipient is selected by a committee at intervals of from one to three years.

The Samson Feldman Visiting Scholar in Art as Applied to Medicine Rossetta A. and Sadie B. Feldman, sisters of Samson Feldman, established a visiting lectureship to honor his life as an artist and lifelong patron of the arts. Lecturers are selected from distinguished scholars in visual communications with the purpose of presenting contemporary views pertaining to medical art. The selection of lecturers are made by a committee representing the Department of Art as Applied to Medicine.

The James M. and Carolyn H. Phelps Fund Support for the preservation and care of the Max Brödel Archives. This fund was established in memory of their parents by the Phelps family.

MOLECULAR GENETICS

The Department of Molecular Biology and Genetics offers programs of study in molecular genetics of prokaryotic and eukarotic cells, leading to the Ph.D. degree, as part of the School of Medicine's interdepartmental program in Biochemistry, Cellular and Molecular Biology, which is described in detail on page 33. Candidates must meet the course requirements of the interdepartmental program, including elective courses in their special area of interest, and must carry out original research under a departmental preceptor. Inquiries should be directed to the Chairman of Admissions of the Graduate Program in Biochemistry, Cellular and Molecular Biology.

The Faculty

A list of the members of the Molecular Biology and Genetics staff and their research interests may be found in the departmental statement on page 194.

Postdoctoral Training

Students who have already been awarded the Ph.D. or M.D. degree may be accepted

for postdoctoral research work with members of the faculty.

NEUROSCIENCE

The Department of Neuroscience offers an interdisciplinary program designed to train doctoral students for independent research and teaching in neuroscience. It is the goal of the program to ensure that candidates for the Ph.D. and M.D./Ph.D. degrees obtain a background covering molecular, cellular, systems and cognitive approaches to neuroscience, as well as receive training that brings them to the forefront of research in their particular area of interest. A series of core courses in neuroscience, along with advanced electives, seminar series, laboratory rotations and original independent dissertation research, form the Neuroscience Graduate Training Program.

Students enter the program from different backgrounds and the laboratories in which they elect to work cover different disciplines; therefore the program is tailored to fit the needs of individual students. The academic year at the Johns Hopkins University School of Medicine is divided into four quarters plus a summer semester. Courses are designed so that students have ample time to become involved in laboratory rotations. These laboratory rotations expose the student to a variety of current research techniques in neuroscience and provide an opportunity for the student to select a laboratory in which to conduct dissertation research. Scheduling of the three rotations is adjusted to make the most convenient schedule for each student. The rotations are usually completed by the end of the first full year in the program. Most students begin their thesis research at the beginning of their second year.

Courses

A year long core course provides an integrated overview of molecular and cellular neuroscience, neuroanatomy and systems and cognitive neuroscience. This course is aimed at providing Neuroscience graduate students with a foundation for posing meaningful questions in their area of interest. In addition to the core course, each student selects advanced electives offered by members of the Neuroscience Training Program or other departments at the Medical School. A list of Neuroscience courses can be found in the department statement on page 203.

Seminar Program

The Neuroscience Training Program conducts several seminar series to ensure that students are exposed to recent work by researchers from across the country and the world as well as by Hopkins faculty and fel-

lows. Graduate trainees participate actively in these series throughout their training, including inviting and hosting three speakers each year. A weekly lecture is given by an outstanding researcher in some field of neuroscience. Seminars are selected so that an overall balance of subject matter is covered yearly. Students are given an opportunity to meet with each speaker for questions and discussion. Weekly lunchtime talks are presented on current literature by graduate students, and postdoctoral fellows. Since an ability to communicate scientific work clearly is essential, graduate students receive close guidance in preparing and evaluating their journal club presentations. Once a month the faculty, postdoctoral fellows and students from one laboratory present and discuss the ongoing research in that laboratory. This provides an informal setting to discuss research being conducted in the laboratories of the Neuroscience Training Program and gives advanced graduate students and postdoctoral fellows a forum for presenting their work.

The Faculty

The Neuroscience Training Program at the Johns Hopkins University School of Medicine includes over ninety faculty members in the Departments of Neuroscience, Molecular Biology and Genetics, Biology, Behavioral Biology, Biological Chemistry, Physiology, Biomedical Engineering, Pharmacology and Molecular Sciences, Ophthalmology, Neurology, Neurological Surgery, Orthopaedic Surgery, Psychiatry and Behavioral Sciences, Medicine, Otolaryngology, Pathology, Psychology and Cognitive Science. The faculty of the Neuroscience Training Program has trained about 300 Ph.D. and M.D./Ph.D. students and 550 postdoctoral fellows over the past ten years. A list of members of the staff and their fields of specialization may be found in the department statement on page 203.

Requirements for the PhD Degree

A minimum residency of two academic years is required. During the course of graduate study, the student must successfully complete the required course requirements. An oral examination, conducted as prescribed by the Graduate Board, must be completed by the end of the second year. The student must then conduct original research and describe this research in a written thesis dissertation, which must be approved by the students Thesis Committee and the Graduate Board.

Training Facilities

The Training Program is centered in the Department of Neuroscience. The Training Program utilizes laboratory facilities located in

the Department of Neuroscience plus several other basic and clinical departments closely associated with the Neuroscience Department. All of these laboratories are within a short distance of each other. Modern state of the art facilities for research in molecular biology, neurophysiology, pharmacology, biochemistry, cell biology, and morphology are available. The Mind/Brain Institute, located on the Homewood Campus of the University, is a group of laboratories devoted to the investigation of the neural mechanisms of higher mental function and particularly to the mechanisms of perception. All of the disciplines required to address these questions are represented in the institute. These include neurophysiology, psychology, theoretical neurobiology, neuroanatomy, and cognitive science. All of the faculty in the Mind/Brain Institute are members of the Neuroscience Graduate Program.

Application and Admissions

Applicants should have a B.S. or B.A. with a major in any of the biological or physical sciences. Recommended course requirements for entry into the program are mathematics through calculus, general physics, general biology, general chemistry, and organic chemistry; laboratory research experience is desirable but not required. Students with deficiencies in one or more of these areas may be admitted provided they remedy the deficiency within their first year of graduate training.

Applications for admission are available online at <http://www.neuroscienc.jhu.edu>. Applicants are required to take the Graduate Record Examination or Medical College Admission Test, and are encouraged to take the examinations in November or earlier. Two letters of recommendation, transcripts of undergraduate grades, and a statement on interest are required. December 8 is the deadline for receipt of the application form and all application materials.

Combined M.D./Ph.D. Program

About one quarter of the current predoctoral trainees in the Neuroscience Program are candidates for both Ph.D. and M.D. degrees. Applications for admission to the combined program are considered by the M.D./Ph.D. Committee of the School of Medicine. Application forms for the School of Medicine contain a section requesting information relevant to graduate study. Applicants interested in the combined M.D./Ph.D. program should complete this section also and indicate specifically their interest in the "Neuroscience Training Program". If application to the combined M.D./Ph.D. program proves unsuccessful and the applicant wishes to be considered for

graduate studies, they must notify the Admissions Office of the Neuroscience Training Program by separate letter.

Financial Aid

The program provides tuition remission plus a stipend at or above the National Institutes of Health Predoctoral level for all students. All entering and first-year students are encouraged to apply for individual fellowships such as those sponsored by the National Science Foundation and the Howard Hughes Medical Institute.

PATHOBIOLOGY

Fields of Study and Research

The Graduate Program in Pathobiology provides students with opportunities to probe the mechanisms and origins of human disease through an integrative approach emphasizing systemic processes and their molecular and cellular pathologic underpinnings. Students are prepared for academic research, teaching, and biotechnology careers in one of seven programmatic areas: Cellular & Molecular Pathology; Immunopathology; Microbiology & Infectious Disease; Neoplasia; Neuropathology; and Cardiovascular Disease.

The Faculty

Faculty of the program have diverse interests united by a focus upon human disease.

RICHARD AMBINDER

Professor of Oncology

Lymphoma; viral carcinogenesis.

ROBERT ANDERS

Assistant Professor of Pathology

Liver Biology; growth control and immunology.

DAVID BERMAN

Associate Professor of Pathology

Tumor biology and development.

WILLIAM BISHAI

Professor of Medicine

Microbiology; mycobacteria.

CAROL L. BUREK

Associate Professor of Pathology

Clinical immunology and autoimmunity.

PATRIZIO CATUREGLI

Associate Professor of Pathology

Immunopathology; autoimmunity; thyroiditis.

DOUGLAS CLARK

Professor of Pathology

Biotechnology; Cancer.

JANICE CLEMENTS

Professor of Molecular and Comparative

Pathobiology

Virology; SIV/HIV.

ISABELLE COPPENS

Assistant Professor of Molecular Microbiology

and Immunology, School of Public Health

- Intracellular parasitism; apicomplexa-mammalian cell interactions.
- CHI V. DANG**
Professor of Medicine
Cancer biology; MYC and signaling pathways.
- ANGELO DE MARZO**
Professor of Pathology
Cancer biology; prostate cancer.
- STEPHEN DESIDERIO**
Professor of Molecular Biology and Genetics
Immune development; DNA recombination and repair; lymphoid malignancies
- STEPHEN DUMLER**
Professor of Pathology
Microbiology; rickettsial diseases
- CHARLES EBERHART**
Associate Professor of Pathology
Neuropathology; medulloblastoma.
- LEISHA EMENS**
Associate Professor of Oncology
Breast cancer/immunology and cancer vaccines; clinical trials
- JAMES ESHLEMAN**
Associate Professor of Pathology
Pancreatic cancer; early detection; familial predisposition; novel molecular tools.
- SUSAN ESHLEMAN**
Professor of Pathology
Virology; HIV
- ALAN FRIEDMAN**
Professor of Oncology
Transcriptional control of hematopoiesis; stem cells; leukemic transformation.
- EDWARD GABRIELSON**
Professor of Pathology, Pathbiology Co-Director
Cancer biology; genomics.
- KATHLEEN GABRIELSON**
Assistant Professor of Molecular and Comparative Pathobiology
Cancer therapy; signal transduction.
- ROBERT GETZENBERG**
Professor of Urology
Cancer biomarkers; proteomic analysis of nuclear structure; field effects in cancer; heat synergism with cancer therapy.
- MICHAEL GOGGINS**
Professor of Pathology
Biology and genetics of pancreatic cancer.
- MARC HALUSHKA**
Assistant Professor of Pathology
Diabetic vascular disease.
- ABDEL RAHIM HAMAD**
Assistant Professor of Pathology
Immunology; T cell activation.
- GARY HAYWARD**
Professor of Oncology
Virology; CMV; herpes viruses.
- JAMES HERMAN**
Professor of Oncology
Cancer epigenetics.
- CHRISTINE IACOBUIZIO-DONAHUE**
Associate Professor of Pathology
Cancer metastasis
- J. BROOKS JACKSON**
Professor of Pathology
Virology; HIV.
- RICHARD JONES**
Professor of Oncology
Cancer lymphoma; bone marrow transplantation.
- PETROS KARAKOUSIS**
Assistant Professor of Medicine
Mycobacterium tuberculosis persistence and pathogenesis; TB chemotherapy and diagnosis.
- DAVID KASS**
Professor of Medicine
Molecular pathophysiology of heart failure; new treatment modalities; cardiac muscle mechanics.
- SCOTT KERN**
Professor of Oncology
Cancer; pancreatic cancer genetics.
- KWANG SIK KIM**
Professor of Pediatrics
Microbiology; genetics of bacterial pathogenesis blood-brain barrier.
- VASSILIS KOLIATSOS**
Associate Professor of Pathology
Neuropathology; neurodegenerative disease; stroke.
- FRANCIS KUHAJDA**
Professor of Pathology
Cancer-role of fatty acid synthase.
- ABRAHAM KUPFER**
Professor of Cell Biology
Immunology; CD4 T Cell activation and tolerance; imaging cellular immune interactions.
- MARIKKI LAIHO**
Professor of Radiation Oncology
DNA damage response; cancer biology
- JOHN LATERRA**
Professor of Neurology
Neuropathology; CNS neoplasia.
- HYAM LEVITSKY**
Professor of Oncology
Immunology; cancer vaccines; tolerance.
- VICTOR LEVITSKY**
Associate Professor of Oncology
Immune response to Epstein-Barr virus; biology of cytotoxic T-lymphocytes.
- ANIRBAN MAITRA**
Associate Professor of Pathology
Pancreatic cancer.
- JOSEPH MANKOWSKI**
Associate Professor of Molecular and Comparative Pathobiology
Virology; HIV; pathogenesis of CNS lesions.
- LEE MARTIN**
Professor of Pathology
Neuropathology; stroke.

WILLIAM MATSUI
Associate Professor of Oncology
Stem cells; leukemia; lymphoma.

ALAN MEEKER
Assistant Professor of Pathology
Cancer biology; telomeres.

JOSHUA MENDELL
Associate Professor of Pediatrics
MicroRNAs in normal biology and disease.
Thrombosis and vascular inflammation.

AVINDRA NATH
Professor of Neurology
Neuroscience; multiple sclerosis.

BEN HO PARK
Associate Professor of Oncology
Breast cancer genetics.

JONATHAN PEVSNER
Associate Professor of Neuroscience
Bioinformatics; neuropathology.

DONALD PRICE
Professor of Pathology
Neuropathology; neurodegenerative disease.

JEFFREY RADE
Associate Professor of Medicine
Cardiology; vascular biology; thrombosis;
neointimal hyperplasia.

LINDA RESAR
Associate Professor of Medicine
Cancer biology; leukemia, and lymphoid
malignancy.

GREGORY RIGGINS
Professor of Neurological Surgery
Neuro-oncology; molecular targets; genomics.

RICHARD RODEN
Associate Professor of Pathology
Cancer/virology; HPV in cervical cancer.

NOEL ROSE
Professor of Pathology; Pathobiology Program
Director
Immunology; autoimmune disease;
immunotoxicology.

SCHEHEREZADE SADEGH-NASSERI
Associate Professor of Pathology
Immunology.

JONATHAN SCHNECK
Professor of Pathology
Immunology; T cell activation.

CYNTHIA SEARS
Professor of Medicine
Enteric pathogens; colon cancer; bacteroides
fragilis.

IE MING SHIH
Professor of Pathology
Ovarian cancer.

CHARLES STEENBERGEN
Professor of Pathology
Cardiac pathology; ischemia reperfusion injury;
cardioprotective signaling mechanisms

SARASWATI SUKUMAR
Professor of Oncology
Cancer; role of Hox genes in breast cancer.

JUAN TRONCOSO
Professor of Pathology
Neuropathology; stroke.

CHRISTOPHER UMBRICH
Assistant Professor of Surgery
Breast cancer; thyroid cancer; early cancer
progression; genome-wide analyses;
bioinformatics.

RAPHAEL VISCIDI
Professor of Pediatrics
Virology.

BARBARA WASOWSKA
Assistant Professor of Pathology
Immunopathology; transplantation pathobiology.

PHILIP WONG
Professor of Pathology
Neuropathology; neurodegenerative disease

TZYY-CHOUU WU
Professor of Pathology
Immunology of cancer; cervical cancer
vaccines; HPV

M. CHRISTINE ZINK
Professor of Molecular and Comparative
Pathobiology
Virology; SIV/HIV

Facilities

Classroom instruction is conducted in the lecture, seminar, and conference rooms of the School of Medicine. Student research is conducted in the state-of-the-art research facilities of program faculty. These fully equipped laboratories support studies ranging from molecular, cellular and physico-chemical analyses through whole animal and informatics-based techniques. The program takes special advantage of its clinical service laboratories and clinical activities to familiarize students with and provide resources for translational research.

Requirements for Admission

Students normally matriculate in July. The program requires: [1] a bachelor's degree from a qualified college or university; [2] coursework with laboratory in inorganic & organic chemistry, general biology, and calculus; [3] scores from the Graduate Record Examination; [4] official transcripts of undergraduate grades; [5] a minimum of two letters of recommendation; and [6] a one-to-two page description of any prior research experience (not required if no prior research experience); and [7] a one-to-two page description of personal career goals. Underrepresented minority students are strongly encouraged to apply and to contact the program directors for guidance. Personal interviews at Johns Hopkins are normally required. Inquiries should be directed to: Ms. Wilhelmina Braswell, Program Coordinator, Graduate Program in Pathobiology, 720 Rutland Avenue, Ross 660, Baltimore, MD 21205.

Tel: (443) 287-3163, Fax: (410) 614-3548,
E-mail: pathobio@jhmi.edu, <http://pathology.jhu.edu/pathobio>

Coursework and Requirements for the Ph.D. Degree

Students must successfully complete formal coursework in the first year of the program including courses in cell structure and dynamics, molecular biology, genetics, informatics, immunology, macromolecular structures and analysis, molecular biology and genomics, genetics, pathways and regulation, and pathology. Starting at the beginning of the first year, students experience a minimum of three three-month research rotations with program faculty before selecting a thesis mentor. At the end of the first year, students must pass a comprehensive oral examination given by the Graduate Board of the Johns Hopkins University. Under supervision of their thesis mentor and committee, students then select dissertation topics in the broad range of areas that relate to the pathobiology of disease. Beginning in the first year and continuing throughout the program, students attend journal clubs and seminars by distinguished speakers from Johns Hopkins and from other institutions. All students must complete a course in the responsible conduct of research, and two translation research rotations.

Student research is supervised by the mentor with oversight by a thesis committee comprised of University faculty with relevant expertise. The thesis committee evaluates and guides student progress; it also decides when writing of the dissertation may commence. Upon completion of research, students must write a dissertation acceptable to two faculty readers and give a public seminar. Students are expected to complete their studies in four to six years.

Financial Aid

Candidates accepted into the program are normally offered support that provides payment of tuition, medical insurance, and a stipend.

PHARMACOLOGY AND MOLECULAR SCIENCES

The Department of Pharmacology and Molecular Sciences hosts the Pharmacology Graduate Program, which offers a program of study and research leading to the Ph.D. degree. Research training opportunities within the program cover a broad spectrum of biomedical sciences including chemical biology, immunology, virology, cancer, and neuroscience. The mission of departmental research is to understand the molecular processes underly-

ing physiology and pathology, and to apply this knowledge to discovering new drug targets and developing novel therapeutics. Within the program, students may choose to focus their efforts in any of a large number of specific research areas including signal transduction, structural biology and drug design, NMR spectroscopy, molecular genetics, cancer chemoprevention, viral immunosuppression, cancer immunology, cell-mediated immunity, mechanisms of HIV infection, vaccine development, glycobiology, biomedical mass spectrometry, clinical pharmacology, drug delivery, anti-parasite drug development, histone acetylation and gene regulation, melatonin and circadian rhythm, drug metabolism, Vitamin D pharmacology, natural product biosynthesis, telomerase and chromosome stability, T cell activation and tolerance, DNA repair, DNA topoisomerases, molecular imaging, and the clinical pharmacology of cardiovascular agents. The department is also pleased to host students and award doctoral degrees to M.D./Ph.D. degree candidates and students in other Ph.D. graduate programs in which Pharmacology faculty participate (Biochemistry, Cellular and Molecular Biology, Cellular and Molecular Medicine, Immunology, Neuroscience, and Pathobiology)

The Faculty

A list of the members of the staff and their fields of specialization may be found in the departmental statement on page 251.

Requirements for Admission

Applicants should have a B.A. or B.S. degree with a major in any of the biological or physical sciences. Entering students are expected to have completed college-level courses in chemistry (inorganic, organic, and physical), calculus, and physics; a strong background in biochemistry is particularly desirable. A completed application form, scores on the Graduate Record Examination (although the GRE subject test is not required, applicants are encouraged to submit scores), at least three letters of recommendation, undergraduate transcripts and a statement of interest must be received by January 10.

Requirements for the Ph.D.

Students in the Pharmacology program are able to select a course of studies uniquely suited to their own career goals. It is usually required that students successfully complete the following courses: Foundations of Modern Biology (including modules on Macromolecular Structure and Analysis, Biochemical and Biophysical Principles, Molecular Biology and Genomics, Cell Structure and Dynamics, Organic Mechanisms in Biology, Pathways

and Regulation, and Bioinformatics), Mechanisms in Bioorganic Chemistry, and Graduate Pharmacology. Students must also take three advanced elective courses selected from those offered by this or other departments.

During their first year of study, students will complete 2-3 three-month research rotations in addition to their coursework. They will initiate dissertation research by the end of their first year and complete elective courses relevant to their developing interests in subsequent years of training.

During the second year of study, candidates will be required to pass a qualifying examination conducted as prescribed by the Graduate Board of the University. This examination will probe the depth and breadth of the student's knowledge of the biomedical subjects taught in the core courses.

The candidate is required to present a written dissertation based on original research undertaken while in residence as a graduate student and to present a departmental seminar describing the thesis research.

Combined M.D.-Ph.D. Degrees

Students seeking admission to or who are already participating in the M.D. program in the School of Medicine may participate in a program leading to both the M.D. and the Ph.D. degrees.

Financial Support

Financial support covering normal living costs, individual medical insurance, and tuition is usually provided.

PHYSIOLOGY

Physiology is an integrative science, bringing together diverse disciplines in an effort to understand the functioning of living organisms. It seeks to identify the mechanisms by which an organism maintains the processes we regard as characteristic of life. Physiological investigations of these mechanisms range from the molecular level to studies of intact animals and human subjects. More and more, departments of physiology are using the latest tools of cellular and molecular biology to study these problems. Our own department is particularly interested in seeking answers to questions in certain broad categories:

- * What are the functions of cell membranes, and how are these functions controlled?
- * How are messages sent from the outside to the interior of a cell, from one cell to another?
- * How do groups of different cells coordinate their separate activities to develop and function as an integrated tissue organ?
- * How is a process as complicated as the

development of the mammalian embryo regulated and integrated?

The Department of Physiology accepts students for graduate study leading to the degree of Doctor of Philosophy. Applicants must satisfy the requirements of the department before admission. Candidates for the degree of Master of Arts in Physiology are not accepted.

Requirements for Admission

At the time of entry into the program, you must have completed a bachelor's or higher degree. Ordinarily this degree will be in biology, physics, chemistry, mathematics, or engineering, or some combination of these, but exceptions will be made. Scientific research experience is not required but is now common among applicants to our program. Such experience is to your advantage and is widely available to undergraduates willing to take the initiative. If you are planning ahead, consider searching out an experience of this kind.

Regardless of the degree major, the following are entrance requirements: Physics: one year college level course is required; two years of study are recommended. Chemistry: two years are required, and three recommended, of college level courses with laboratory, including inorganic, organic, and physical chemistry. Biology: two years of college level courses, with laboratory. Mathematics: through differential and integral calculus.

Examinations: Students are required to take the Aptitude (general) section of the Graduate Record Exam. The Advanced (subject) test is not required, but is encouraged and viewed favorably by the Admissions Committee. Foreign applicants must take the Test of English as a Foreign Language Exam (TOEFL).

In addition to the above, official transcripts or certified records from all university (undergraduate and graduate) study and three letters of recommendation from at least two faculty members who are acquainted with the applicants academic work are required to complete the application for admission. While these requirements will apply for the large majority of applicants, exceptions will be made for unusually well-qualified candidates.

Applications are due by January 10 for September admission. This is the main application deadline and we encourage all applicants to meet his date. Most or all students will be selected from those meeting this deadline. A full application should be completed online. ETS Institutional code: 5316 for GRE/TOEFL scores.

Course Requirements for the Ph.D. Degree in Physiology

In general, students must complete success-

fully the following basic science courses, given by the School of Medicine:

First Year: Courses: Biochemical and Biophysical Principles, Macromolecular Structure and Analysis, Current Physiology, Molecular Biology and Genomics, Genetics, Bioinformatics, Pathways and Regulation, Cell Structure and Dynamics, Physiology, Research, Primary Source Readings and Analysis.

Rotations: Three laboratory rotations of ten weeks each (on average)

Second Year: In the second academic year, the only required course is Research. In addition, students have the opportunity to begin taking elective courses. Students must complete four credits of elective courses other than "Research". These additional courses are selected in accordance with the student's particular needs. However, we strongly encourage one or more of the following electives: Bio-organic Mechanisms (Second Quarter), Immunology and Microbiology (Second Quarter), Neuroscience (Third Quarter), and Organ Histology (Fourth Quarter).

Examinations

Aside from regular course examinations, candidates are required to take and pass the following:

Graduate Board Oral Examination: Given by a committee appointed by the University, this examination will aim at testing the candidate's knowledge of physiology and related sciences, critical sense, and ability to formulate an original, interesting, and appropriate research problem.

Final Examination and Defense of Thesis: This examination will be given by faculty inside and outside the department, appointed by the director of the graduate program of the department. Following this exam, students will be invited to present their thesis work at an open seminar.

The Faculty

A list of the members of the staff and their fields of specialization may be found in the departmental statement on page 258.

Postdoctoral Training

Students who have already been awarded the Ph.D. or M.D. degree may be accepted for postdoctoral research work with members of the faculty.

THE JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH

Courses in the Johns Hopkins Bloomberg School of Public Health are open to students

of the School of Medicine without payment of additional fees if consent is obtained from the course instructor and the administrative officers of the School of Medicine. Interdivisional registration forms must be used to enroll in Bloomberg School courses.

Medical students may elect to pursue the **Master of Public Health (MPH) program** in the Bloomberg School in conjunction with the medical curriculum. The program will consist of eleven months of required and elective courses in the Bloomberg School. This is exactly the same program followed by other individuals pursuing the MPH degree, as described in the catalog of that School. The specific elective course program will vary according to the special interests of the individual student.

Medical students integrate this special program into their medical curriculum by taking a year's leave of absence on completion of the second or third year. During that year the student is enrolled full time in the MPH program in the Bloomberg School. Upon completion of the MPH degree program, the student will return to the School of Medicine. The MPH degree is awarded independently upon completion of all MPH degree requirements.

Tuition support for this program may be applied for through the Bloomberg School.

All applications are subject to the approval of the Admissions Committee of the MPH program in the Bloomberg School. School of Medicine approval for all programs must be obtained from the Associate Dean for Student Affairs. Comparable study arrangements are possible also for medical students in other U.S. medical schools.

Opportunities are available for further training within the departments of the School and in numerous graduate degree programs. For those interested, information concerning these programs may be obtained from Admissions Services in the Bloomberg School.

INTERDIVISIONAL PROGRAM: Ph.D./Sc.M./M.H.S. IN CLINICAL INVESTIGATION

An interdivisional program leading to a Doctor of Philosophy, Master of Health Science, or Master of Science in Clinical Investigation has been developed jointly by the Schools of Public Health and Medicine. A special Clinical Investigator track is an option within existing clinical post-doctoral fellowship programs in the School of Medicine. Other potential students may also be considered for this program. Following one year of clinical fellowship, an instructional year composed of courses from the Schools of Medicine and Public Health

are undertaken. Subsequently, the final two or three years of fellowship are undertaken in conjunction with a faculty mentor from the home clinical department or division. Upon successful completion of didactic instruction and demonstration of substantial achievement in clinical investigation in the form of an acceptable thesis, the degree of Doctor of Philosophy, Master of Health Science, or Master of Science from the Bloomberg School of Public Health is awarded, depending on the course of study undertaken by the student. The program is jointly administered by the Schools of Public Health and Medicine.

Courses

PH 390.631 Principles of Drug Development. (3 units) First term. Dr. Flexner. Jointly offered with the School of Public Health.

Prerequisite: Consent of instructor.

Presents principles underlying preclinical and clinical development of new therapeutic drugs and procedures. Describes and evaluates specific examples, and discusses legal and ethical regulations that apply to drug development. Student evaluation based on homework assignments.

PH 390.673 Ethical and Regulatory Issues in Clinical Research. Formerly 390.616 (3 units) First term. Drs. Adkinson and Fost. Enrollment minimum of 10, maximum of 30.

Prerequisite: Consent of instructor.

Explores ethical issues central to clinical research, reviews clinical investigation regulations and their application to common clinical research scenarios, examines the role of IRBs and the impact of good clinical practices for clinical trials. Student evaluation based on homework assignments.

PH 390.675 Outcomes and Effectiveness Research. Dr. John Robinson. Fourth term evening course.

Prerequisite: Epidemiology and statistics from the science of clinical investigation.

Students will explore the applications of methods for assessing patient outcomes of care in inpatient and managed care settings, and the methods used to assess the contributions of treatment, patient characteristics, access arrangements, and other factors on disease outcomes. The range of outcomes to be examined includes clinical/disease outcomes, functional status, quality of life, satisfaction, and cost outcomes. The course will explore conceptual modeling of treatment/outcomes relationships including decision analysis, the range of data sources, data collection strategies, statistical modeling, and application of the information including the use of systematic reviews. The course will be graded based on class participation in discussions, a discussion on an article, and a final project where students will develop an outcomes or effectiveness proposal.

PH 390.701-702 Research Planning and Grant Preparation I and II. (2 units third term/4 units fourth term) Third and fourth terms. Drs. Adkinson and Levine. These courses must be taken in sequence.

Prerequisite: Restricted to thesis students in Graduate Training Program in Clinical Investigation.

Students consider the principles of research strategy, the requirements of funding agencies, and choosing a research area of interest together with a suitable mentor. With mutual review and criticism, each student develops a research plan in the format of an NIH RO1 application, which forms the basis for clinical research activity in the subsequent two years. Student evaluation is based on written assignments and the final research plan.

PH 390.703 Presentation Skills. (1 unit) Fourth term. Dr. Adkinson

Prerequisite: Restricted to students in Graduate Training Program in Clinical Investigation enrolled in 390.701-702.

Prepares students to organize and deliver an effective scientific presentation. Focuses on designing a scientific talk, including preparing effective visual aids. Complements 390.701-702, at the end of which students are required to present their work. Student evaluation based on presentation.

PH 390.710-711 Biomedical Writing I and II. (2 units each for first and second term) First and second terms. Dr. McClellan. Enrollment maximum of 12. Students must register for both courses.

Prerequisite: Restricted to students in the Graduate Training Program in Clinical Investigation.

Concentrates on writing the research paper and on the effective presentation of scientific information in text, tables, and figures. It emphasizes a reader-oriented approach to writing tables, abstracts, introductions, methods, results, and discussions. Students learn about the writing process by drafting and revising a manuscript based on their own research. Each section of the manuscript-in-progress is also read and discussed by the instructor and the other members of the class. Student evaluations based on written material.

PH 390.721-722 Planning and Funding Clinical Research I and II. Drs. Punjabi and Gillison. Third and fourth terms.

Considers the principles of successful clinical research strategies and the requirements of funding agencies. Students identify a defined research project together with a suitable team of mentors and collaborators. With mutual review and criticism, each student develops a written research proposal in the format of a grant application which integrates the scientific principles of the GTPCI curriculum. Designed as a capstone project for GTPCI MHS candidates. Student evaluation is based on the final written grant application and associated materials.

PH 390.751 Seminars in Clinical Investigation I and II. (2 units per term) Second term. Drs. Flexner and Adkinson.

Prerequisite: Restricted to students in the Graduate Training Program in Clinical Investigation.

Presents issues in clinical research, exemplified by readings from classical papers and contemporary literature. Student evaluation is based on a presentation.

PH 390.801 Professional Goals and Objectives. (1 unit) Second term. Drs. Flexner and Adkinson. Pass/fail only.

Prerequisite: Restricted to students in the Graduate Training Program in Clinical Investigation.

Consists of didactic sessions focused on career development and mentoring, meetings between students and their academic advisors and/or potential research mentors to identify a single area or research focus, and discussing short- and long-term career goals. Student evaluation based on a precis of proposed research plans.

PH 390.855 Research Forum in Clinical Investigation. Drs. Adkinson and Leitman. Fourth term.

A monthly research forum, lasting 90 minutes, in which advanced fellows will present interim research findings and plans for discussion with colleagues and faculty. Pass/fail based on attendance and presentation participation.

550.711 Clinical Research Methods. Drs. Flexner, Goodman, and Louis. Fourth term.

Presents fundamental concepts and methods used specifically in clinical research. The two-course sequence covers three overarching topics: measurement, design, and diagnosis/prediction. This first course covers measurement and design. The measurement module covers basic concepts of measurement, with specific application to measurement technologies used in clinical research, from the lab to surveys. The design component covers commonly used designs in clinical research, such as early phase, crossover, and factorial designs, as well as the issues of surrogate endpoints and problems of multiplicity. Student evaluation based on in class mid-term and take-home final.

INTER-DEPARTMENTAL COUNCILS

Immunology Council

A University-wide Immunology Council has been established as a cooperative enterprise among the School of Arts and Sciences, the School of Public Health and the School of Medicine. Its purpose is to sponsor a collegial environment for research, training, and teaching in immunology within the University. An annual seminar series and honorary lecture are among the activities.

Research interests of the members of the Council: the mechanisms of antigen recognition by T-cells; the pathogenesis of AIDS and AIDS vaccine development; the structure and function of major histocompatibility complex encoded proteins; the biochemistry of lymphocyte signaling; T-cell development and T-cell activation; anti tumor immunity; immunoglobulin gene rearrangement and mutation; B-lymphocyte development; immunologic approaches to the treatment of cancer; dendritic cell function; mechanisms of transplant rejection; autoimmune disease mechanisms; antigen processing; innate immunity;

the adaptive response to infectious agents; viral immunology; and mechanisms of immunologic tolerance.

A series of courses in basic and advanced immunology are given by members of the council in various departments of the University and degree programs are available in some of these departments. The principal degree programs are in the Graduate Program in Immunology at the School of Medicine and in the Department of Molecular Microbiology and Immunology at the School of Public Health.

Please consult Dr. Mark Soloski, Johns Hopkins University School of Medicine for program details.

GRADUATE STUDENT HONOR CODE

The graduate students have written an honor code to reinforce the existing honor system among students and to underscore the importance of ethics in their development as scientists. The honor code outlines the School of Medicine's expectations regarding the manner in which students should conduct themselves and requires that each student acknowledge these expectations in a formal declaration of personal honor. The code is as follows:

As a student at the Johns Hopkins University School of Medicine, I pledge to be honest in:

- course work including examinations and all assignments;
- the reporting and presentation of research data with proper attribution and citation;
- professional interactions with all members of the scientific community.

Upon matriculation every student is required to sign that they have read the honor code. It is the expectation that every student live by this honor code.

GRADUATE STUDENT POLICY STATEMENTS

Student Outside Employment

Although the institution does not encourage it, students may work for compensation outside of the laboratory on a limited, part-time basis. Permission must be obtained from the program director and faculty mentor. This work must be apart from or beyond the normal research training activities. Under no circumstances may the conditions of stipend supplementation or the services provided for compensation interfere with, detract from, or prolong the trainee's approved training program.

Vacation Policy

Beyond the official University holidays and

breaks, students may take two weeks of vacation during the first year and three weeks vacation during years two through seven. Additional time off may be granted by mentor.

Leave of Absence

Students may take 15 calendar days of sick leave per year which can be applied to pregnancy/childbirth. Under special circumstances, this period may be extended by the training program director or the sponsor. Sick

leave is not accrued. For medical leave of absence, health insurance will be paid for by the program or sponsor for up to one year, if requested by the student.

Parental leave of 30 calendar days per year can be used for the adoption or birth of a child. Parental leave is not accrued.

A period of terminal leave is not permitted and payment may not be made from grant funds for leave not taken.





The Training of Medical Scientists: MD-PhD Programs

The Johns Hopkins School of Medicine offers a variety of opportunities for the training of medical scientists. A combined curriculum leading to both MD and PhD degrees enables students who aspire to careers in academic medicine to obtain intensive training in specialized areas of the medical sciences while completing their medical studies. The traditional diversity and flexibility of the educational opportunities at Johns Hopkins permit the design of individualized programs to meet the needs of students with a variety of interests, educational backgrounds and career goals.

The curricula for students in the combined MD-PhD Program vary widely depending on the individual's previous education, on the area of scientific study, and personal interests. Course work leading to one degree is usually acceptable as partial credit toward the formal requirements of the other degree. A properly coordinated joint program may afford a significant economy of time in completing studies toward both MD and PhD degrees.

The MD-PhD Program sponsors special seminars and lectures and maintains the Paul Talalay MD-PhD Library to enrich the educational opportunities of all MD-PhD students. Efforts are made to acquaint MD-PhD candidates with the major advances and problems in contemporary medicine, to expose them to specialized techniques and aspects of medical science, and to promote a more intimate personal contact with successful medical scientists in this institution.

Students admitted to the combined degree program after four years of college take, on average, seven-to-eight years to satisfy the requirements of both degrees. Students complete two years of the basic science aspect of the medical curriculum before becoming fully involved with the research component of their studies, which may then be coordinated with clinical work in a number of ways.

Formal graduate programs in the School of Medicine encompass the following areas: Biochemistry; Cellular and Molecular Biology; Biological Chemistry; Biomedical Engineering; Molecular Biophysics; Functional Anatomy and Human Evolutionary Studies; Cell Biology; Cellular and Molecular Medicine; History of Medicine; Human Genetics;

Immunology; Neuroscience; Pathobiology; Pharmacology, and Physiology. A combined MD-PhD Program is also available in the 11 graduate programs at the Bloomberg School of Public Health as well as the graduate programs supervised by the School of Arts and Sciences.

Admission Procedures. All individuals requesting applications for admission to the medical program of the School of Medicine through AMCAS will automatically receive an additional form on which they may indicate their desire to pursue joint studies leading to the MD and PhD degrees. A separate application to the graduate programs is not required. These applications will be reviewed by the directors of individual graduate programs and by the MD-PhD Committee. In general, an applicant invited to interview for the combined MD-PhD Program is not considered for the traditional MD Program. Under certain circumstances, MD-PhD applicants will be advised to interview for the traditional MD Program only.

A number of our medical students do not develop a clearly defined interest in the MD-PhD Program until some time after they have begun their medical school studies. A candidate for the MD degree may apply at any time for admission to a PhD program. A candidate for the PhD degree is also eligible to apply to the MD-PhD Committee for admission to the program during the first or second year of medical school. It should be noted that all applicants are evaluated in competition with the total pool of those seeking entry into each program.

Financial Support. The Johns Hopkins School of Medicine Medical Scientist Training Program (MSTP) is supported by a training grant from the National Institutes of Health. A number of exceptional students with unusual accomplishments and commitment to a career in the medical sciences will be selected for traineeships under this program. Such fellowships provide stipend and tuition support for combined medical and graduate study. All students who are admitted to the MD-PhD Program will be considered for these awards. Properly qualified students who do not receive such awards are eligible for fellowship support from the graduate pro-

grams during the PhD phase of the joint MD-PhD Program, and for financial support for their medical studies on the basis of financial need. Minority students accepted into the MD-PhD Program, who do not receive MSTP funding, are eligible to apply for an Individual National Research Service Award (NRSA).

The MSTP is supervised by the MD-PhD Committee which is made up of faculty from

the School of Medicine.

Graduates of The Johns Hopkins University School of Medicine MD-PhD Program have gone on to become leaders in many areas of academic medicine.

Advice on the scope and opportunities offered by these programs may be obtained from the Director of the MD-PhD Program.



Postdoctoral Education

Most doctoral recipients spend three to six years following receipt of degree in postdoctoral training. The Johns Hopkins University School of Medicine has an active program of postdoctoral study. Currently there are 2341 postdoctoral students enrolled, of whom 239 are in the basic medical science departments, 1258 in clinical science departments, 728 are house officers of the Johns Hopkins Hospital and 116 are house officers of hospitals whose programs are affiliated. By actions of the Advisory Board of the Medical Faculty and of the Medical Board of the Hospital, primary responsibility for postdoctoral medical education is placed upon the Medical Faculty. Postdoctoral students, including house officers of the Johns Hopkins Hospital and affiliated hospitals, must register in the School of Medicine and are designated by the title of Fellow of the School of Medicine.

The following sections outline briefly some of the opportunities for postdoctoral education in the Johns Hopkins University School of Medicine.

For specific information, applicants should communicate with the director of the department in which they desire to study, the Associate Dean for Postdoctoral Programs, or the Associate Dean for Graduate Medical Education, The Johns Hopkins University School of Medicine, 733 N. Broadway, BRB 147, Baltimore, MD 21205.

POSTGRADUATE STUDY AND FELLOWSHIPS

The School of Medicine offers opportunities for study to a limited number of individuals holding the M.D., Ph.D., or other equivalent doctoral degrees from accredited institutions. All departments and divisions have facilities for postdoctoral students. Candidates desiring to avail themselves of these opportunities for instruction and study must be acceptable to the head of the department in which they wish to work.

It is the policy of the Johns Hopkins University School of Medicine to require criminal background investigations on accepted students in any professional or graduate program at the School of Medicine, interns, residents, and clinical fellows in any Graduate Medical Education program sponsored by Johns Hopkins, and other clinical and research postdoc-

toral fellows at the School of Medicine.

Residency and fellowship programs are approved by the Maryland Higher Education Commission for veterans' educational benefits.

Postdoctoral/GME Offices

The Offices of Graduate Medical Education and Postdoctoral Programs, within the Dean's Office of the School of Medicine, are directed by Associate Deans. The offices deal with all house staff of the Johns Hopkins Hospital and all postdoctoral fellows in the School of Medicine. The offices recommend and implement institutional policies covering house staff, in conjunction with the Office of the Vice President for Medical Affairs of the Johns Hopkins Hospital, and for non-house staff postdoctoral fellows. In addition, the Associate Deans and staff are available to all house officers and postdoctoral fellows for personal and career counseling. Additional information regarding the Postdoctoral/GME offices can be found at www.hopkinsmedicine.org/som/gme.

Health and Dental Insurance

All postdoctoral students, their spouses, and dependent children must be covered by hospitalization insurance. It is required that postdoctoral students subscribe to the School of Medicine student insurance plan. Spouses and dependent children may be covered under equivalent insurance but all equivalent insurance plans must be reviewed and approved by the School of Medicine Registrar's Office. Foreign insurance is not accepted. In addition to health insurance, house officers and their families are covered under a separate ambulatory care program. The dental plan for postdoctoral students covers only the student. The dental plan for the house officer also covers dependents. The house staff health insurance plans are fully subsidized by the Hospital and School of Medicine. The cost of individual health and dental insurance is provided for all non-house staff postdoctoral fellows.

Other Benefits

All house staff and fellows with full time, primary appointments in the School of Medicine are covered under a long-term disability insurance program and a \$100,000 term life insurance policy. These benefits are provided without cost to the trainees. In addition,

trainees have the opportunity to purchase a \$1,000 monthly supplemental disability benefit at guaranteed rates. A 403(b) retirement plan allows house staff and fellows to voluntarily tax-shelter a portion of their taxable income received as compensation for services. Income received in the form of fellowships (stipends) is excluded from 403(b) eligibility.

Fellowships and Fees

Postdoctoral students are usually supported by stipends which accompany the awarding of fellowships. Some sources of the stipend offered to holders of these fellowships lie in the School of Medicine, others in agencies outside the school. Fellowship awards are usually made for one academic year and can be extended for those who wish additional training. Preceptors are expected to abide by the NIH minimum stipend guidelines for years of relevant experience for non-housestaff fellows paid through the Johns Hopkins University payroll system. Postdoctoral students who are not members of the house staff will be assessed tuition at the rate established by the University Board of Trustees for non-M.D. candidates, pro-rated in relation to period of enrollment (see Tuition Policies, page 97).

INTERNSHIPS AND RESIDENCIES

Graduate physicians who are applicants for internship and residency positions at the Johns Hopkins Hospital may direct their inquiries to the director of the department in which they desire to serve, care of the Johns Hopkins Hospital, 600 N. Wolfe St., Baltimore, MD 21287.

POSTDOCTORAL COURSES— CONTINUING MEDICAL EDUCATION

Intensive brief courses are offered annually by various clinical departments. During the 2009-2010 academic year, the following courses will be offered:

ANESTHESIOLOGY AND CRITICAL CARE MEDICINE

Perioperative Management. (Marco Island Marriott Hotel, Marco Island, FL) March 14-17, 2010.

Neurocritical Care for the Medical and Surgical Intensivist: The Comprehensive Cerebrovascular Center. (Ritz-Carlton, Tysons Corner, VA) March 19-20, 2010.

GYNECOLOGY AND OBSTETRICS

24th Houston Everett Memorial Course in Urogynecology. March 5-6, 2010.

MEDICINE

12th Annual Internal Medicine Board Review Course. July 12-17, 2009.

Update in Pulmonary and Critical Care Medicine: 2009. (Harbor Regency, Bar Harbor, ME) August 1-5, 2009.

Genes to Society: Genetic Medicine for the Healthcare Provider. September 10-11, 2009.

Fourth Infectious Diseases Update for the Primary Care Practitioner. October 8-9, 2009.

GI Evening with the Experts Educational Series. October 14, 2009; March 10, 2010.

Interstitial Lung Disease: A Multidisciplinary Approach to Diagnosis and Treatment. October 17, 2009.

18th Annual Lipid Disorders Training Center Program: Basic Course. October 22-23, 2009.

18th Annual Lipid Disorders Training Center Program: Advanced Update. October 24, 2009.

35th Annual Topics in Gastroenterology Hepato-Biliary Update. November 11-15, 2009.

27th Annual Medical & Surgical Gastroenterology Update: A Multidisciplinary Approach. (Manor Vail Lodge, Vail, CO) January 31-February 4, 2010.

37th Annual Current Topics in Geriatrics. (Sheraton Inner Harbor Hotel, Baltimore, MD) February 4-6, 2010.

Cardiovascular Topics at Johns Hopkins. February 18-20, 2010.

10th Annual Gastroenterology and Hepatology: Viva la Vida. (The Ritz-Carlton Hotel, Isla Verde, Carolina, PR) March 17-20, 2010.

55th Annual Philip A. Tumulty Topics in Clinical Medicine. May 3-7, 2010.

20th Annual Clinical Care of the Patient with HIV Infection. (Renaissance Harborplace Hotel, Baltimore, MD) May 17-18, 2010.

Sixth Annual Advances in the Diagnosis and Treatment of Rheumatic Diseases. (Tremont Grand Conference Center, Baltimore, MD) June 4-5, 2010.

Ninth Annual Gastroenterology Symposium for Nurses, Nurse Practitioners, and Physician Assistants. (Caesars Palace Hotel, Las Vegas, NV) June 25-26, 2010.

22nd Annual Update: Frontiers in Research and Clinical Management of Asthma and Allergy. June 4-5, 2010.

NEUROLOGY/NEUROSURGERY

Second Annual Multidisciplinary Perspectives in Brain Tumor Management. (Hotel Melia, Cancun, Mexico) July 20, 2009.

20th Annual Practical Update in Outpatient Neurology. (Asthma & Allergy Center, Bayview Medical Center, Baltimore, MD) October 23, 2009.

Spine Surgery: Past, Present, and Future. April 17, 2010.

Second Annual Update in Neuromuscular Diseases. June 11, 2010.

ONCOLOGY

Fifth Bi-Annual Breast Cancer Conference: Controversies in Management- a Multidisciplinary Prospective (Hyatt Regency Hotel, Baltimore, MD) March 26-27, 2010.

OPHTHALMOLOGY

What's New in Diabetic Retinopathy and Venous Occlusive Disease. November 20, 2009.

22nd Annual Current Concepts in Ophthalmology. December 3-5, 2009.

Macula 2010. January 23, 2010

27th Annual Current Concepts in Ophthalmology. (Vail Marriott Mountain Resort, Vail, CO) March 15-19, 2010.

The 69th Wilmer Residents Association Clinical Meeting. May 14, 2010.

27th Annual Wilmer Nursing Conference . May 14, 2010.

OTOLARYNGOLOGY

Third Annual Advances in Thyroid and Parathyroid Surgery. July 17-18, 2009.

PATHOLOGY

Ninth Annual Current Topics in Gastrointestinal and Liver Pathology. November 7-8, 2009.

11th Annual Hopkins Cytopathology: a Team Approach. April 15-17, 2010.

PEDIATRICS

24th Annual Pediatrics for the Practitioner Update 2009. September 24-25, 2009.

Advances in Pediatric Nutrition. (Loews Annapolis Hotel, Annapolis, MD) November 2-3, 2009.

Spectrum of Developmental Disabilities XXXII: The Injured Brain. March 22-24, 2010.

38th Annual Pediatric Trends. April 12-16, 2010.

11th Annual Pediatric Endocrinology for the Primary Care Clinician. June 18, 2010.

PSYCHIATRY

International College of Geriatric Psychoneuropharmacology. November 4-7, 2009.

Buprenorphine Certification Training. November 13, 2009.

16th Annual Update on the Treatment of Alzheimer's Disease and other Related Disorders. April 10, 2010.

24th Annual Mood Disorders Research/Education Symposium. April 20, 2010.

RADIOLOGY

Advanced Topics in Multidetector CT Scanning. (A Cruise to Alaska) July 31 - August 7, 2009.

Johns Hopkins Neuroradiology Review. October 14-18, 2009.

CT Angiography and 3D Imaging: Current State-of-the-Art. (Baltimore Marriott Waterfront Hotel, Baltimore, MD) October 23-25, 2009.

10th Annual Hot Topics in MR Imaging for the Technologist. January 30-31, 2010.

26th Annual Computed Body Tomography: The Cutting Edge. (Disney Yacht and Beach Club Hotel, Orlando, FL) February 11-14, 2010.

Cardiac PET/CT and SPECT/CT: New Technology for Improved Patient Care. March 12-13, 2010.

CT Angiography and 3D Imaging: Current State-of-the-Art. (Caesars Palace Hotel, Las Vegas, NV) April 15-18, 2010.

GENERAL

Data and Safety Monitoring Boards: Skills Building Workshop. October 22, 2009.

Course on Research Ethics. August 6, 2009; October 28, 2009; January 13, 2010; March 17, 2010; May 24, 2010.

The Business of Medicine Executive Graduate Certificate Program. Sessions begin in Fall and Spring.

Cardiac CT Practicum. Various dates from July 1, 2009-June 30, 2010.

Johns Hopkins Faculty Development Program: Longitudinal Program in Curriculum Development. September 2, 2009-June 30, 2010.

Johns Hopkins Faculty Development Program: Longitudinal Program in Teaching Skills Parts 1 and 2. September 3, 2009-April 15, 2010.

Johns Hopkins Faculty Development Program: Limited Longitudinal Program in Curriculum Development Parts 1 and 2. October 1, 2009-June 30, 2010.

Johns Hopkins Faculty Development Program: Introduction to Curriculum Development Workshop. October 7, 2009-April 30, 2010.

Regularly Scheduled Conferences. (Johns Hopkins, Johns Hopkins Bayview Medical Center, and Good Samaritan Hospital).

For additional information on Continuing Medical Education activities for 2009-2010 write to: Office of Continuing Medical Education, Johns Hopkins Medicine, Turner 20, 720 Rutland Avenue, Baltimore, Maryland 21205-2195. Telephone: 410-502-9634; Fax: 866-510-7088; cmenet@jhmi.edu.; www.hopkinscme.edu.



General Information

STUDENT ADVISING

The College Advisory/Clinical Skills Program provides medical students with a dedicated and longitudinal advisor/mentor. The program offers students a unique opportunity to learn the fundamental skills of medicine and lessons in professionalism and humanism from a trusted advisor, as well as build valued student-faculty connections.

The program goals are as follows:

- To foster a welcoming learning community for students honoring diversity and unique interests
- To promote faculty advising and mentoring relationships with all students throughout medical school
- To foster social and supportive connections between students, particularly across levels of training
- To foster scientific inquiry, innovation, and leadership among students
- To assist students in building networks of connections within the Hopkins medical community to meet their emerging goals
- To provide clinician role models to foster excellence in humanism, professionalism, and the clinical skills of medicine

Students and faculty are organized into four colleges. Each college is currently populated by 120 students (30 from each class) and 6 core faculty. Incoming students meet their core faculty advisors at Orientation. Advisors help students become familiar with the Baltimore community and many will invite students to their homes. Academic counseling will be offered to assist students in learning “the roadmap” of medical education.

When students are in their second year, the core advisors become the students’ Clinical Skills instructors and see them on a weekly basis. In the third and fourth years, faculty may assist in career counseling, finding additional mentors to satisfy emerging interests, and writing recommendation letters for students.

Students within each college organize social activities and participate in a student mentorship program, where Year 3 and Year 4 students form connections with the students in Years 1 and 2. Social events are held for each college several times per year so students get to know fellow students, including those more senior.

OFFICE OF STUDENT AFFAIRS

The principal objective of the Office of Student Affairs is to serve the needs of the students in the many aspects of life in the School of Medicine. A student who has a question about the experience here and who is uncertain as to an appropriate resource for an answer should check at the office. Anyone needing assistance in adapting to this environment, or advice about personal or professional matters, should visit the Associate or Assistant Deans for Student Affairs. The range of issues that may be addressed is broad, and additional resources will be found when needed.

The Office plays a major role in the application process for research experiences, extramural rotations, additional courses of study and residency positions. It also assists in arrangements for special funding of student projects and works in liaison with the Johns Hopkins Medical Student Society and other student groups and services. Notices containing new or more current information on a variety of topics are sent to each student at frequent intervals.

POLICY STATEMENTS

The University does not guarantee the award of a degree or a certificate of satisfactory completion of any course of study or training program to students enrolled in any instructional or training program. The award of degrees and certificates of satisfactory completion is conditioned upon satisfaction of all current degree and instructional requirements at the time of such award, compliance with the University and divisional regulations, as well as performance and conduct meeting bona fide expectations of faculty. No member of the faculty is obliged to provide students or graduates with an evaluation or letter of recommendation which does not accurately reflect that faculty member’s true opinion and evaluation of academic performance and conduct.

Equal Opportunity Policy

The Johns Hopkins University admits students of any race, color, gender, religion, age, national or ethnic origin, disability, marital status or veteran status to all of the rights, privileges, programs, benefits and activities generally accorded or made available to students

at the University. It does not discriminate on the basis of race, color, gender, marital status, pregnancy, ethnicity, national origin, age, disability, religion, sexual orientation, gender identity or expression, veteran status, or other legally protected characteristic in any student program or activity administered by the University, including the administration of its educational policies, admission policies, scholarship and loan programs, and athletic or other University-administered programs or in employment.

Questions regarding Title VI, Title IX, and Section 504 should be referred to the Office of Institutional Equity 130 Garland hall, Homewood Campus, 410-516-8075, TTY 410-516-6225.

Policy on the Reserve Officer Training Corps

Present Department of Defense policy governing participation in University-based ROTC programs discriminates on the basis of sexual orientation. Such discrimination is inconsistent with the Johns Hopkins University non-discrimination policy. Because the ROTC is a valuable component of the University that provides an opportunity for many students to afford a Hopkins education, to train for a career, and to become positive forces in the military, the University, after careful study, has decided to continue the ROTC program and to encourage a change in federal policy that brings it into conformity with the University's policy.

Statement Regarding the Privacy Rights of Students

Notice is hereby given that the School of Medicine of the Johns Hopkins University complies with the provisions of the Family Educational Rights and Privacy Act of 1974 (P.L. 93-380), as amended, and regulations promulgated thereunder. Eligible students, as defined in the regulations, have the right 1) to inspect and review their education records, as defined in the regulations; 2) to request the amendment of their education records if they are inaccurate, misleading or otherwise in violation of the student's rights; 3) to consent to the disclosures of personally identifiable information in their education records except to the extent permitted by law, regulation or University policy; 4) to file a complaint with the United States Department of Education if the University allegedly fails to comply with the requirements of law or regulation. The University's policy on Family Educational Rights and Privacy can be found on the internet at www.jhu.edu/news_info/policy/ferpa.html and copies of the policy are available from the School

of Medicine Registrar's Office.

Students with Disabilities

The School is prepared to furnish reasonable accommodations to students with disabilities. Students in need of reasonable accommodations should bring their circumstances to the attention of the Associate Dean for Student Affairs with responsibilities for the program in which the student is enrolled. The University's Disability Services Coordinator also is available for consultation and assistance and may be reached at 410-516-8075. The School retains the right to refer a student for an independent evaluation of disability.

Annual Security Report

In accordance with the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics (20 USC 1092) as amended, and the regulations promulgated thereunder, the University issues its Annual Security Report which describes the security services at each of the University's divisions and reports crime statistics for each of the campuses. The report is published in the University Gazette, and copies of the report are available from the University's Security Department, 14 Shriver Hall, 3400 North Charles Street, Baltimore, Maryland 21218-2689 Tel. (410) 516-4600.

University Alcohol and Drug Policy for Students

The University, in keeping with its basic mission, recognizes that its primary response to issues of alcohol and drug abuse must be through educational programs, as well as through intervention and treatment efforts.

In addition to providing appropriate educational programs throughout the year, each division of the University will include such programs as part of its orientation for new students.

The University further recognizes that alcoholism and drug addiction are illnesses that are not easily resolvable by personal effort and may require professional assistance and/or treatment.

Participation in such programs may be required of a student as a "condition of continued enrollment."

The University will adhere to strict policies of confidentiality for all participants in drug/alcohol abuse rehabilitation programs as described in University and Federal Regulations covering confidentiality of student health records.

Maryland and the District of Columbia laws prohibit the possession or consumption of

alcoholic beverages by persons under the age of 21. The possession, use, or distribution of illegal drugs and controlled substances, as defined by federal, state, and local statutes, is prohibited.

Students are expected to obey the law. Individuals who violate the law, in addition to being subject to criminal penalties, may be subject to University disciplinary measures. The distribution, possession and unprescribed use of narcotics and other controlled dangerous substances by students is unlawful and strictly forbidden on University premises. When information reaches the University indicating that a student has been engaged in the distribution of controlled dangerous substances, whether on or off University premises, disciplinary proceedings which may lead to expulsion will be commenced immediately. Students are also advised that the University may decline to furnish and may withdraw letters of recommendation for those who have engaged in the illegal distribution, possession and use of controlled dangerous substances.

The University will not excuse acts of misconduct committed by students whose judgment is impaired due to alcohol or drug abuse.

Anti-Harassment Policy

Preamble

The Johns Hopkins University is committed to providing its staff, faculty and students the opportunity to pursue excellence in their academic and professional endeavors. This opportunity can exist only when each member of our community is assured an atmosphere of mutual respect. The free and open exchange of ideas is fundamental to the University's purpose. It is not the University's intent in promulgating this policy to inhibit free speech or the free communication of ideas by members of the academic community.

Policy Against Discriminatory Harassment

1) The University is committed to maintaining learning and working environments that are free from all forms of harassment and discrimination. Accordingly, harassment based on an individual's gender, marital status, pregnancy, race, color, ethnicity, national origin, age, disability, religion, sexual orientation, gender identity or expression, veteran status, or other legally protected characteristic is prohibited. The University will not tolerate harassment, sexual harassment or retaliation in the workplace or educational environment whether committed by faculty, staff, or students, or by visitors to Hopkins

while they are on campus. Each member of the community is responsible for fostering civility, for being familiar with this policy, and for refraining from conduct that violates this policy.

- 2) For purposes of this policy, harassment is defined as:
 - a) any type of behavior which is based on gender, marital status, pregnancy, race, color, ethnicity, national origin, age, disability, religion, sexual orientation, gender identity or expression, veteran status, that
 - b) is so severe or pervasive that it interferes with an individual's work or academic performance or creates an intimidating, hostile or offensive working or academic environment.
- 3) Harassment when directed at an individual because of his/her gender, marital status, pregnancy, race, color, ethnicity, national origin, age, disability, religion, sexual orientation, gender identity or expression, personal appearance, veteran status, or any other legally protected characteristic may include, but is not limited to: unwanted physical contact; use of epithets, inappropriate jokes, comments or innuendos; obscene or harassing telephone calls, e-mails, letters, notes or other forms of communication; and, any conduct that may create a hostile working or academic environment.
- 4) Sexual harassment, whether between people of different sexes or the same sex, is defined to include, but is not limited to, unwelcome sexual advances, requests for sexual favors, and other behavior of a sexual nature when:
 - a) submission to such conduct is made implicitly or explicitly a term or condition of an individual's employment or participation in an education program;
 - b) submission to or rejection of such conduct by an individual is used as the basis for personnel decisions or for academic evaluation or advancement; or
 - c) such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creates an intimidating, hostile or offensive working or educational environment.Sexual harassment may include, but is not limited to: unwelcome sexual advances; demands/threats for sexual favors or actions; posting, distributing, or displaying sexual pictures or objects; suggestive gestures, sounds or stares; unwelcome physical contact; sending/forwarding inappropriate e-mails of a sexual or offensive nature; inappropriate jokes, comments or

innuendos of a sexual nature; obscene or harassing telephone calls, e-mails, letters, notes or other forms of communication; and any conduct of a sexual nature that may create a hostile working or educational environment.

- 5) Retaliation against an individual who complains of discriminatory harassment under this policy, is strictly prohibited. Intentionally making a false accusation of harassment is also prohibited.

Responsibilities Under this Policy

The University is committed to enforcement of this policy. Individuals who are found to have violated this policy will be subject to the full range of sanctions, up to and including termination of his/her University affiliation.

- 1) All individuals are expected to conduct themselves in a manner consistent with this Policy.
- 2) Staff, faculty and/or students who believe that they have been subject to discriminatory harassment are encouraged to report, as soon as possible, their concerns to the Office of Institutional Equity, their supervisors, divisional human resources or the Office of the Dean of their School.
- 3) Individuals who witness what they believe may be discriminatory harassment of another are encouraged to report their concerns as soon as possible to the Office of Institutional Equity, their supervisors, divisional human resources or the Office of the Dean of their School.
- 4) Complainants are assured that reports of harassment will be treated in a confidential manner, within the bounds of the University's legal obligation to respond appropriately to any and all allegations of harassment.
- 5) Managers, including faculty managers, who receive reports of harassment should contact human resources or the Office of Institutional Equity for assistance in investigating and resolving the issue.
- 6) Managers, including faculty managers, are required to implement corrective action where, after completing the investigation, it is determined corrective action is indicated.
- 7) The University administration is responsible for ensuring the consistent application of this policy. Procedures for Discrimination Complaints Brought Within Hopkins

Inquiries regarding procedures on discrimination complaints may be directed to the Vice Provost for Institutional Equity, or the Director for Equity Compliance & Education, Garland

Hall, 130, Homewood Campus, 410-516-8075, 410-516-6225 (TTY).

University Policy on Sexual Assault

The Johns Hopkins University is committed to providing a safe educational and working environment for its faculty, staff and students. The University is particularly concerned about the increase in reports of sexual offenses occurring on the nation's campuses. The University has adopted a policy addressing sexual assaults and offenses involving sexual violence in order to inform faculty, staff and students of their rights in the event they are involved in an assault, and of the services available to victims of such offenses.

Members of the University community who are victims of, or who have knowledge of, a sexual assault occurring on University property, or occurring in the course of a University sponsored activity, or perpetrated by a member of the University community, are urged to report the incident to campus authorities promptly.

Persons who are victims of sexual assault will be advised by campus security of their option to file criminal charges with local police of the jurisdiction where the sexual assault occurred. Campus security and the Office of General Counsel will provide assistance to a complainant to reach law enforcement authorities.

A victim of an assault on University property should immediately notify campus security who will arrange for transportation to the nearest hospital. Persons who have been sexually assaulted will be taken to one of the three hospitals in Baltimore City designated as rape treatment centers. They are Mercy Hospital, 301 St. Paul Place (410-332-9000); University of Maryland Hospital, 22 South Greene Street (410-328-8667); Johns Hopkins Bayview Medical Center, 4940 Eastern Avenue (410-550-0100). These hospitals are equipped with the State Police Sexual Assault Evidence Collection Kit.

The University will provide counseling to any member of the Hopkins community who is a victim of a sexual assault, and also will provide information about other victim services. Students can seek the assistance of counseling through their divisional counseling offices, and members of the faculty and staff can seek assistance through the Faculty and Staff Assistance Program (FASAP).

A student who is a victim of sexual assault may request a transfer to alternative classes or housing if necessary to allay concerns about security. The University will try to

accommodate the request if such classes and housing are reasonably available.

Persons who are the victims of sexual assault also may pursue internal University disciplinary action against a perpetrator with a University affiliation. The University's disciplinary process may be initiated by bringing a complaint of sexual assault to the attention of a Dean, department chairman or director, supervisor, divisional personnel office, security office. The University's Vice Provost for Institutional Equity is also available to render assistance to any complainant. Allegations of sexual assault will be investigated by the appropriate security offices and any other offices whose assistance may be valuable for gathering evidence.

The University reserves the right to independently discipline any member of the student body, staff or faculty who has committed a sexual or other assault whether or not the victim is a member of the University community and whether or not criminal charges are pending. Disciplinary actions against students accused of sexual assaults will be processed by the appropriate student affairs office of the School or campus attended by the accused student in accordance with established disciplinary procedures pertaining to the School in which the student is enrolled. Disciplinary actions against staff members will be governed by the procedures set out in the University's personnel policies. Disciplinary actions against members of the faculty will be processed by the offices of the Dean of the appropriate academic division according to the procedures established by that division.

Both a complainant and the person accused of a sexual assault will be afforded the same opportunity to have others present during a University disciplinary proceeding. Attorneys, however, will not be permitted to personally participate in University disciplinary proceedings. Both the complainant and the accused will be informed of the resolution of any University disciplinary proceeding arising from a charge that a sexual assault has been committed.

The disciplinary measures which may be imposed for sexual assault will vary according to the severity of the conduct, and may include expulsion of a student from the University and termination of the employment of a member of the staff or faculty.

Policy Addressing Campus Violence

The Johns Hopkins University is committed to providing a learning and working environment that is safe to all members of the Uni-

versity community. The University will not tolerate violent acts on its campuses, at off-campus locations administered by the University, or in its programs. This policy of "zero tolerance" extends not only to actual violent conduct but also to verbal threats and intimidation, whether by students, faculty, staff, or visitors to the University.

The University urges individuals who have experienced or witnessed incidents of violence to report them to Campus Security. Alternatively, students are urged to report concerns about violence to the divisional office responsible for student matters, faculty to the divisional office responsible for faculty matters, and staff to the applicable human resources offices. The University will not permit retaliation against anyone who, in good faith, brings a complaint of campus violence or serves as a witness in the investigation of a complaint of campus violence.

Enforcement

Information regarding incidents of violent conduct and threats of violence will be investigated, and, if warranted, disciplinary action will be taken in accordance with applicable procedures. The University will notify law enforcement authorities of criminal conduct. In addition, the University may refer individuals accused of violations of this policy for an assessment of the likelihood that they will carry out violent acts. If the continued presence of an individual on campus threatens or disrupts the conduct of University business, the individual may be suspended from participation in University programs or activities pending the outcome of the assessment.

When advised of circumstances warranting intervention, the University will render assistance by contacting local or federal law enforcement agencies as appropriate. Individual members of the University community who receive threats of bodily harm or who are the targets of harassing or stalking behaviors are urged to contact Campus Security and to avail themselves of the services offered by student counseling offices and the Faculty and Staff Assistance Program.

Every effort will be made to respect the privacy of all individuals involved in the matter. However, the necessity to investigate the matter and to cooperate with law enforcement authorities may require the disclosure of otherwise confidential information.

Individuals accused of engaging in incidents of campus violence may seek legal counsel at their own expense. Individuals and their attorneys are reminded that attorneys do not participate in any internal University hearing.

Campus vendors are reminded that their

employees who conduct business on University premises must conform their conduct to the requirements of this policy. The University reserves the right to remove from campus vendor employees who engage in acts prohibited by this policy.

Photography and Film Rights Policy

The Johns Hopkins University reserves the right from time to time to film or take photographs of faculty, staff, and students engaged in teaching, research, clinical practices, and other activities, as well as casual and portrait photography or film. These photographs and films will be used in such publications as catalogs, posters, advertisements, recruitment and development materials, as well as on the university's Web site, for various videos, or for distribution to local, state, or national media for promotional purposes. Classes will be photographed only with the permission of the faculty member.

Such photographs and film – including digital media-which will be kept in the files and archive of the Johns Hopkins University, will remain available for use by the university without time limitations or restrictions. Faculty, students, and staff are made aware by virtue of this policy that the university reserves the right to alter photography and film for creative purposes. Faculty, students, and staff who do not want their photographs used in the manner(s) described in this policy statement should contact the Office of Communications and Public Affairs.

Faculty and students are advised that persons in public places are deemed by law to have no expectation of privacy and are subject to being photographed by third parties. The University campus and those areas of University buildings generally accessible to faculty, students, and staff are considered public places for the purpose of this policy. The Johns Hopkins University has no control over the use of photographs or film taken by third parties, including without limitation the news media covering university activities

Use of Animals in Required Medical Student Teaching

The rules established by the Animal Care and Use Committee will be observed in all courses using animals for teaching. The use of animals in teaching is appropriate, however, students will not be required to participate in the use of animals in teaching exercises against their will. When possible, alternatives to the use of live animals will be explored.

Statement on HIV Infection

The views of the School of Medicine of the Johns Hopkins University regarding HIV infection are consistent with the statements prepared by the Association of American Medical Colleges, "Policy Guidelines for Addressing Infection in the Academic Community: A Report of the AAMC Committee on AIDS and the Academic Medical Center" (October, 1988), and "The HIV Epidemic and Medical Education: A Report of the AAMC Committee on Aids and the Academic Medical Center" (February, 1989).

Policy on Firearms

The possession, wearing, carrying, transporting, or use of a firearm or pellet weapon is strictly forbidden on University premises. This prohibition also extends to any person who may have acquired a government issued permit or license. Violation of this regulation will result in a disciplinary action and sanctions up to and including expulsion, in the case of students, or termination of employment, in the case of faculty and staff. Disciplinary action for violations of this regulation will be the responsibility of the divisional student affairs officer, Dean or Director, or the Vice President of Human Resources, as may be appropriate, in accordance with applicable procedures. Any questions regarding this policy, including the granting of exceptions for law enforcement officers and for persons acting under the supervision of authorized University personnel, should be addressed to the appropriate chief campus security office.

WOMEN'S ADVISORY COMMITTEE

The Women's Advisory Committee is available for consultation by women medical students. The purpose and composition of this Committee are presented in the appendix to this catalogue in connection with information on the important gift to the University by Miss Mary Elizabeth Garrett.

MEDICAL CARE FOR STUDENTS

Comprehensive medical care is available to students and dependents through the University Health Center. Adult primary care services are provided by internists and nurse practitioners for students and dependents enrolled in the Student Health Program. The Center also provides specialty care including gynecological services and referrals to other specialties. Mental health services are provided by faculty and staff of the Department of Psychiatry. Pediatric care is provided by a pediatrician of your choice. The University Health Service

Center is located at 401 N. Caroline Street, adjacent to the Cancer Research Building II. Information concerning clinic hours, referrals to specialty clinics and other arrangements is contained in a brochure distributed at the time of registration. Additional information is available at www.hopkinsmedicine.org/uhs.

STUDENT SERVICES

The Department of Student and Housestaff Services is designed to serve all students, housestaff, and post-doctoral fellows in the areas of housing (on and off campus), orientation to the institution and to the Baltimore area, student activities, recreational programs, and international student services.

The Housing Office coordinates all housing applications for on-campus housing and maintains an off-campus-housing database to advise students of other available housing options in the Baltimore area.

The Office of Cultural Affairs

The JHMI Office of Cultural Affairs (OCA) exists to cultivate and raise awareness of the rich humanistic tradition of the Johns Hopkins Medical Institutions. Programs and events sponsored by the OCA provide a basis for student/faculty interaction in non-academic areas and serve as a reminder of our humanistic roots.

The OCA is part of the Institute of the History of Medicine and is co-chaired by Randall Packard, Ph.D. and Richard Macksey, Ph.D.

Seminars, lectures, panel discussions, and films are offered throughout the academic year. Local artists, students, faculty and staff offer professional-quality presentations to inform, encourage and inspire members of the JHMI community. In addition to performance presentations, OCA sponsors several groups, including the Choral Society, Chamber Music Society, and the student literary magazine, *meme*.

All of these events are free and open to the student body, faculty, and employees. Student representation on the governing committee is welcome.

The Office of Cultural Affairs is located at 2024 E. Monument Street, Ste. 1-100, Baltimore, MD 21205. Call 410-955-3363 or visit www.JHOCA.org for information and current schedules of events.

International Services

International students may receive assistance with visas and other documents in the Office of International Student and Faculty Services located in the Lowell J. Reed Medical Residence Hall. The International Society, open to

all members of the medical community plans trips and social events during the year of particular interest to international students.

STUDENT ORGANIZATIONS

The Johns Hopkins Medical Student Society. Membership is composed of all students actively seeking the M.D. degree. Each medical school class annually elects at least three representatives to the Society's Executive Council. The 2009-2010 Council is composed of: Mark Bicket and Staish Misra representing the Class of 2010; Nancy Cheng, Yuval Patel, Nathan Skelly, and Ross McMillan representing the Class of 2011; Marisa Matthys, Craig Monsen, John Nichols, and John Zampella representing the Class of 2012; and Hale McMichael, Jake Ruzevick, Richard Gupta, and Euphemia Mu representing the Class of 2013;

The Society strives through its numerous committees and activities to further the common interests of medical students, to contribute the students' perspective toward the improvement of medical education, and to promote communication between students and administration. There is student representation on several working committees of the School, including the Admissions Committee and the Medical School Council. All students are urged to participate actively in the work of the Society.

Student National Medical Association - Johns Hopkins Chapter. Edmond Fomunung (President). As the oldest organization of minority students in the United States, the Student National Medical Association (SNMA) serves the needs of African-American, Latino, and Native American students through monthly meetings, faculty forums, community activities, and recruitment of prospective students.

The Johns Hopkins Graduate Student Association. Membership is composed of all students enrolled in graduate programs. A seminar and lecture program is sponsored by the Association. Prominent scientists who have shown an interdisciplinary approach to research in the biomedical sciences are invited to the Hopkins community for lectures and informal seminars. The Association has student representation on several committees of the School.

American Medical Student Association, Johns Hopkins Chapter. The American Medical Student Association, known as AMSA, is a nationwide organization, run autonomously by and for medical students. AMSA offers a wide variety of services: it publishes *The New Physician*, a monthly magazine with articles relevant to the medical student; it sponsors several

externship programs for students interested in community medicine and family practice; and it plays an active political role in recommending changes in the course of medical education and the delivery of health care before the AMA and Congressional subcommittees.

At Johns Hopkins, membership is available to medical students from all four classes. Two students are elected from the second year class to serve as representatives at the AMSA national convention and to coordinate activities at Johns Hopkins. Such activities include the publicizing of AMSA's summer programs and the organization of seminars focusing on national issues in medical education and health care.

Alpha Omega Alpha (honor medical society). Peter Dans, M.D., Faculty Councillor. The Alpha Chapter of Maryland was established at the Johns Hopkins University School of Medicine in 1906. Medical students with exceptional records of clinical and preclinical academic performance as well as outstanding humanistic qualities are elected to membership in their senior year. The chapter can also elect three housestaff members, two faculty members, and two alumni annually. Activities include seminars, lectureships, and Visiting Professorships.

RECREATIONAL AND CULTURAL OPPORTUNITIES

Baltimore, nationally commended as an All-American City, is a city you can live in and play in year round. Baltimore consists of neighborhoods representing all ethnic and racial backgrounds, a patch-work quilt of row houses with white marble stairs and inner city mansions reminiscent of Baltimore's wealthy history. From the paved streets of the downtown area to the rolling estates on the edges of the City, Baltimore is truly a city for all people, all backgrounds, all interests.

The Johns Hopkins Medical Institutions are located one mile from the Inner Harbor at the head of the Chesapeake Bay, the nation's largest tidewater bay. Baltimore is one of the busiest shipping ports in the nation. The Baltimore-Washington area is the fourth largest metropolitan region in the country.

Baltimore has emerged as the most exciting of the revitalized older cities in the United States. Everywhere you look, you will see new buildings and renovated row houses — progress in motion. The most spectacular contribution to the old city's new magic was the opening of Harborplace, situated at the crux of the Inner Harbor. This year-round attraction is composed of two glasslike pavilions with some 135 shops and restaurants. Retail shops carry clothing, sporting goods,

housewares, kites, books, perfumes, and a wide selection of other items. You can choose from French cuisine to a bowl of freshly made soup, from Maryland crabs to the good ole American hamburger. Also at the Harbor: The Maryland Science Center, Pier 6 Concert Pavilion and the National Aquarium where you can spend an entire day enjoying exhibits of exotic fish, as well as a tropical rain forest.

Directly outside Harborplace are paddle and sail boats which can be rented. Across the harbor some 150 slips accommodate motor and sailing vessels, in case you own your own. A few hundred feet beyond the docking area is Federal Hill, from which one can experience much of the city with one view. From this vantage point, you will see why the Inner Harbor is the heartbeat of Baltimore.

Throughout the summer and early fall, ethnic fairs are held downtown and in various ethnic neighborhoods. Week-ends can be spent savoring the food and drink of other countries while listening to folk music and watching the people.

If you are an indoor person, theater, music and art are in abundance. The Hippodrome Theatre is a major attraction for the city, and is a stopping-off point for shows going to and coming from Broadway. Center Stage and Everyman Theatre present the traditional and the avant-garde, or you may just choose to have dinner and watch a play in one of many dinner theaters.

The Baltimore Symphony Orchestra plays in the Meyerhoff Symphony Hall designed by Pietro Belluschi, while the Baltimore Opera Company lilts the evening away in the Lyric Theatre. The Peabody Conservatory of Music, now affiliated with the Johns Hopkins University, has concerts throughout the year. The city's Baltimore Arena provides the latest in "pop" performances ranging from the big band sound to hard rock.

Besides many private galleries, Baltimore boasts the Baltimore Museum of Art and the Walters Art Museum, which have notable collections of oriental art, ancient and modern statuary, American masters, and European Renaissance and impressionist oils. A fine addition to the art scene is the American Visionary Arts Museum.

Baltimore is close to sandy beaches and year-round sports activities. If you like to participate, there is horseback riding, skiing, tennis, swimming, and sailing. If you are more of a spectator, try the traditional hunt racing in the spring, lacrosse, Baltimore baseball at Oriole Park at Camden Yards, or football with the NFL's Baltimore Ravens. Or, place your bet at Pimlico Racetrack, which traditionally hosts the Preakness, the second race in the Triple Crown series.

If you want to get away from the City, historic Annapolis, the home of the United States Naval Academy, is 45 minutes away and annually presents the largest sailing and motorboat show on the East coast. Walking along the historic streets of renovated homes provides a restful afternoon.

Sunshine and fun are an easy three hour ride away at Maryland's Ocean City, which offers luxurious high-rise apartment buildings on the one hand, small summer cottages on the other. Beautiful beaches are everywhere.

A good home base for travelers, Baltimore provides easy access to Washington, D.C., to the south, historic Philadelphia and bustling New York to the north. To the west, the hills and mountains of Maryland, Virginia and West Virginia welcome hikers and campers.

If you enjoy eating out, Baltimore has it all: from the many ethnic restaurants in the old neighborhoods, to new French restaurants. Because of its location on the Chesapeake Bay, Baltimore is a fish city, and Maryland crab is a treat not to be described, but to be eaten. Fells Point, the area where Baltimore City was started, can provide an entire evening's entertainment for plain fare and some liquid refreshment in one of its one hundred plus pubs. This is the area of the city where mariners from around the world like to spend their hard-earned money, and it's only a short drive from Hopkins.

For your living accommodations, the choice is varied. Many first-year students prefer to live in Reed Hall, across from the Johns Hopkins Hospital, where they can get to know their classmates. A favorite location in subsequent years is Charles Village, the area adjacent to the Johns Hopkins University's Homewood Campus. Smart apartments are located in the suburbs, but can also be found downtown and within walking distance of the Hospital. If you want a home, you can look at properties with pleasant lawns and trees, or you may choose to be in a city row house. You can choose to be close to the water or nearer the countryside. Wherever you select to live, you will have chosen one of America's most exciting cities.

THE DENTON A. COOLEY CENTER

A recreational center is adjacent to Reed Medical Residence Hall. Membership to the Denton A. Cooley Center is free to all full-time medical students and medical graduate students. Registration is required.

A satellite center is also located on the ninth floor of the School of Public Health. The use of the secondary facility is included with registration.

Faculty, staff, housestaff, fellows, and part-time students of the medical institutions may join for an annual membership fee.

The recreation complex includes a full size gymnasium, indoor running track, racquetball courts, weight room, exercise areas and locker rooms. An outdoor swimming pool is also available during the summer months, with a paid membership.

Programs and activities offered through the Cooley Center include intramurals, tournaments, and fitness challenges. Group exercise classes and personal training are offered at an additional cost.

LIVING ACCOMMODATIONS

The Johns Hopkins Medical Institutions provide residence hall living accommodations in the Lowell J. Reed Medical Residence Hall for single students or married students not accompanied by their spouses. This facility is located within easy walking distance of the School of Medicine.

Reed Hall consists of two air-conditioned wings with a connecting lobby. The West Wing offers single rooms with large community bath and shower on each floor. Building codes prohibit cooking in the West Wing rooms. However, there is a small kitchenette with a microwave and table for students to use. A wash sink is adjacent to this room so students can wash their dishes. The East Wing consists of 4-person and 8-person suites of rooms arranged with common living/dining room, kitchenette and bathroom areas with adjacent private bedrooms.

In both wings room furnishings include bed, chest of drawers, desk and desk lamp, chair, bookshelves, and closet. The residents of both wings must provide their own bed linen and towels. In addition, residents of the East Wing must provide dishes, silverware, and utensils.

Other facilities in Reed Hall include a T.V. lounge, game room, library/conference room, study lounge, room with vending concession, self-service laundry, music room, and on-site computer room. The Housing Office also provides DVDs and games for students to borrow during their stay in Reed Hall.

Students may rent a single room for the entire academic year on a contract basis. Rentals are \$475, \$515, and \$550 per month for single rooms in the West. Rentals for suites in the East Wing range from \$560 to \$625 per month per person.

Applications for housing and a descriptive brochure may be obtained from the Housing Office, Reed Medical Residence Hall, 1620 McElderry Street, Room 1132, Baltimore, Maryland 21205. For information regarding

both on and off campus housing see www.hopkinsmedicine.org/housing.

LIBRARIES

Reference has already been made to the William H. Welch Library of the School of Medicine. The University collections of over 2 million volumes are housed in the Milton S. Eisenhower Library on the Homewood campus. This library acquires in excess of 9,000 current journals and is a depository for United States Government documents as well as for United Nations, Atomic Energy Commission and other official publications. Students have direct access to all library reading rooms and stack areas.

The library of the Medical and Chirurgical Faculty of Maryland, 1211 Cathedral Street, contains 94,500 volumes and is operated in affiliation with the University facilities. Other libraries of Baltimore are the Peabody and the Enoch Pratt, with 250,000 and 1,700,000 volumes, respectively. These libraries are open to students of the School of Medicine without charge.

Washington, D.C. is so near that its libraries and museums may be easily utilized. Among the chief institutions of interest to students are the Smithsonian Institution and National Museum, the Library of Congress, the National Library of Medicine, and the libraries of the various departments and bureaus.

MEDICAL SOCIETIES

Journal Clubs: Regular meetings of journal clubs are held by members of each department to survey current medical and scientific literature.

The Johns Hopkins Medical and Surgical Association: H. Franklin Herlong, President; William A. Crawley, First Vice-President; Eileen P.G. Vining, Secretary-Treasurer; Ralph H. Hruban, Associate Secretary-Treasurer. The association is composed of graduates of the School of Medicine, past and present members of the School faculty, and past and present members of the housestaff of the Johns Hopkins Hospital. Scientific papers by staff members and alumni are presented at the biennial meetings.

The Johns Hopkins Women's Medical Alumnae Association. Carol M. Ziminski, President. A women's organization in various forms has existed at the Medical School since 1904. The present association was incorporated in 1957 to provide professional support for women students and physicians. It maintains the Mary Elizabeth Garrett Room on the first floor of the hospital near the Doctor's Lounge.

The activities of the association include seminars with guest speakers, informal lunches in the Garrett Room, potluck dinners at faculty homes, and a fall reception to introduce students to house staff, postdoctoral fellows and faculty.

A calendar of events is mailed to women students and physicians in the early fall.

The Medical and Chirurgical Faculty: The Medical and Chirurgical Faculty of the State of Maryland is located at 1211 Cathedral Street, Baltimore. This organization constitutes the state medical society. It conducts a scientific session each year in April and maintains a library.

The Baltimore City Medical Society: The Baltimore City Medical Society is an independent society of Baltimore physicians. Located at 1211 Cathedral Street, Baltimore. Their meetings are open to medical students.

PUBLICATIONS OF THE MEDICAL INSTITUTIONS

The Bulletin of the History of Medicine: Gert H. Brieger, Randall Packard Editors. The Bulletin is published quarterly by the Institute of the History of Medicine. It is the organ of the Institute and of the American Association for the History of Medicine.

The Johns Hopkins Magazine: Catherine Pierre, Editor. The Magazine serves the Medical Institutions, as it does other divisions of the University, by informing friends of the University concerning current developments within its branches.

The Dome: Patrick Gilbert, Editor. The Dome is the monthly house organ for all students, faculty members and other employees of the Johns Hopkins Hospital, the School of Medicine and the School of Public Health. It contains feature stories on people and activities in the Medical Institutions. News about significant research, promotions, honors and award presentations also is included.

Hopkins Medicine: Sue DePasquale, Editor. This publication is sent to graduates of the medical school, former faculty and staff, and current medical school students and their families. Hopkins Medicine serves to inform these audiences about current news emanating from the School of Medicine and the Johns Hopkins Hospital. Over 13,000 individuals receive the publication which has a world-wide distribution. It is published quarterly and is jointly sponsored by the School of Medicine, the Hospital, and the Medical and Surgical Association, and is the alumni newsletter for the School of Medicine.

TEACHING AWARDS

The W. Barry Wood Award for Excellence in Teaching is awarded annually to the teachers voted by the students in the preclinical years to have been most inspirational and/or effective. The recipients of the 2009 award were Dr. Khalil G. Ghanem of the Department of Medicine and Dr. Jon R. Lorsch of the Department of Biophysics and Biophysical Chemistry.

The Housestaff Teaching Award, established by the Johns Hopkins Medical Student Society, is awarded annually for excellence in clinical teaching by a member of the housestaff. Its purpose is to recognize an individual's contributions, but also to emphasize the importance which the students attach to the concept of house officers as teachers, and to reinforce this concept in the public mind. The recipient of the 2009 award was Dr. Daniel Munoz of the Department of Medicine.

The Stuart Award was established in 1969 following the bequest of a grateful patient, George J. Stuart of Washington, D.C. Dr. Stuart stipulated that the income from his bequest be presented to an outstanding clinical teacher in the School of Medicine. The selection is made by the senior students. The 2009 recipient was Dr. Roy C. Ziegelstein of the Department of Medicine.

The Professors' Award for Excellence in Teaching was established in 1981 by the Advisory Board of the Medical Faculty and is intended to honor each year members of the faculty whose teaching is judged to have had a profound effect on students in the School of Medicine. All full time and part time members of the faculty are eligible for the award. Selection of the awardees is made by the Professors' Award Committee. The recipients of the 2009 awards were: Dr. Janet R. Serwint of the Department of Pediatrics for teaching in the clinical sciences, Dr. Rajini Rao of the Department of Physiology for teaching in the basic sciences, and Dr. Peter Pronovost of the Departments of Anesthesiology, Surgery, and the Division of Health Sciences Informatics for teaching in the basic and clinical sciences.

The Johns Hopkins University Alumni Association Excellence in Teaching Award was established in 1992 by the Johns Hopkins University Alumni Association to recognize the critical importance of teaching at Johns Hopkins. The 2009 recipient was Dr. Sarah L. Clever of the Department of Medicine.

The Graduate Student Association Award for Excellence in Teaching was established in 1986 by the Graduate Student Association to recognize faculty members demonstrating

excellence in teaching at the graduate level. The 2009 recipient was Dr. Rajini Rao of the Department of Physiology.

OTHER AWARDS

The Dean's Special Recognition Award was established in 1983 to recognize exceptional service to the institution by members of the Johns Hopkins family.

FACULTY TRAVELING FELLOWSHIP AND VISITING SCHOLAR FELLOWSHIP

The Tilghman Traveling Fellowship: In 1976 Dr. and Mrs. R. Carmichael Tilghman established the Tilghman Traveling Fellowship in the Johns Hopkins University School of Medicine.

The Tilghman Traveling Fellowship will be awarded periodically to young members of the medical faculty, who are native-born citizens of the United States, to assist them during a sabbatical leave of up to one year to travel outside the Baltimore area to pursue new theories, methods and techniques in their chosen discipline.

The recipients are to be selected by a committee composed of the Dean of the Medical Faculty, the Vice Dean for Faculty, the Vice Dean for Research, the Vice Dean for Clinical Investigation, the Associate Dean for Research Administration, and the Directors of the Departments of Medicine and Pediatrics. Both full and part-time members of all departments in the School of Medicine shall be eligible for consideration. Those whose proposed work during the sabbatical year looks toward clinical application will be given the strongest consideration.

Guidelines are available at <http://www.hopkinsmedicine.org/research/funding/tilghman.html>. Applications may be submitted at any time, but should be submitted at least 60 days prior to the proposed travel.

The Shing Yuk Yau Memorial Fund: The fund was established in 1984 in memory of Shing Yuk Yau by his family and friends. Its purpose is to help defray traveling expenses for visiting Chinese scholars studying medicine at Hopkins. Preference is given to students and faculty studying subjects relating to the brain. The Fund fosters continuing exchanges between the School of Medicine and the Chinese Academy of Sciences.

NAMED PROFESSORSHIPS

The creation of a Professorship in the School of Medicine indicates that a sum of money has been added to the University endowment to generate income which supports a profes-

sor in a particular department.

John Jacob Abel Distinguished Service Professor of Pharmacology and Experimental Therapeutics [1962]: *Paul Talalay, M.D.*

Funded by a bequest in the will of Mrs. Ann Hamilton of Columbus, OH. Dr. Abel was the first Professor of Pharmacology (1893-1937) and a member of the original faculty of the School of Medicine.

Martin D. Abeloff Professorship [2007]: *Drew M. Pardoll, M.D., Ph.D.*

Funding provided by the Seraph Foundation (Henry and Linda Spires, Trustees) for a professorship in the Department of Oncology for the purpose of advancing outstanding cancer research and treatment. The Director of the Department of Oncology, Dean of the School of Medicine, and Seraph Trustees have the discretion of appointment over current and future faculty to this professorship.

Leonard & Madlyn Abramson Professorship in Neurodegenerative Diseases [2004]: *Ted M. Dawson, M.D., Ph.D.*

Funding provided by Abramson Family Foundation.

Aetna U.S. Health Care Professorship in Medicine Genetics [1996]: *Garry Cutting, M.D.*

Funding provided by U.S. Healthcare Corporation.

Aegon Professorship in Prostate Cancer Research [2009]: *Michael Carducci, M.D.*

The income from the principal will be used for prostate cancer research and held in the Sidney Kimmel Comprehensive Cancer Center, Department of Oncology.

Elizabeth Plank Althouse Professor for Alzheimer's Research in Psychiatry and Behavioral Sciences [2006]: *Constantine Lyketsos, M.D., M.H.S.*

Funding provided for researching the cause, prevention, treatment, and cure of Alzheimer's Disease.

American Cancer Society Distinguished Research Professor Emeritus of Molecular Biology and Genetics [1980]: *Hamilton O. Smith, M.D.*

Endowment for this Professorship was provided by the American Cancer Society. Dr. Smith was awarded the Nobel Prize in Physiology and Medicine in 1978, along with Dr. Daniel Nathans of this faculty, for the discovery of restriction enzymes. These enzymes made it possible to break the DNA molecule in predictable ways and study its composition.

Andelot Professor of Laryngology and Otology [1962]: *Unoccupied.*

This Professorship was funded by a grant from Mr. Lamont DuPont Copeland of Wilmington, DE, a grateful patient of Dr. John Bordley. The Andelot name was selected

by Mr. Copeland. Previous occupants: Drs. John E. Bordley, George Nager, Michael M. E. Johns, and Charles W. Cummings.

E. Cowles Andrus Distinguished Professorship in Cardiology [2001]: *Edward K. Kasper, M.D.*

Funding provided by Miriam Andrus, in memory of her husband, E. Cowles Andrus, M.D.

C. Michael Armstrong Professorship [2000]: *Gregg L. Semenza, M.D., Ph.D.*

Funding provided by Trustee, C. Michael Armstrong, to support medical research, with initial focus on stem cell research.

Dr. Frances Watt Baker and Dr. Lenox D. Baker, Jr. Deanship of the School of Medicine [1997]: *Edward D. Miller, M.D.*

Dr. Frances Watt Baker and Dr. Lenox D. Baker, Jr. are 1966 graduates of the Johns Hopkins School of Medicine. Dr. Frances Baker is a pediatrician and Dr. Lenox Baker is a cardiothoracic surgeon and a member of the Johns Hopkins University Board of Trustees and the Board of Johns Hopkins Medicine.

Edmund F. and Virginia Ball Professorship in Ophthalmology [2005]: *Unoccupied.*

Funding provided by Mr. Edmund F. Ball. This gift will be used to support research in macular degeneration and other disorders.

Freida Derdeyn Bambus Professorship in Ophthalmology [2005]: *Unoccupied.*

Funding provided by Dr. Freida Derdeyn, a retired teacher who became acquainted with the work of the Wilmer Institute through a local group focusing on macular degeneration.

Theodore and Ingrid Baramki Professorship in Reproductive Endocrinology [1994]: *Howard A. Zaccur, M.D., Ph.D.*

Funding provided by Dr. Theodore Baramki, a member of the faculty of the Department of Gynecology and Obstetrics and the estate of Clarice Reiss. This gift will be used to fund a professorship in reproductive endocrinology.

Philip Bard Directorship in the Department of Physiology [1999]: *Unoccupied.*

Established through commitments made in 1999 by Roger Greif, Philip Davies, Elizabeth B. O'Connor, Vernon Mountcastle, Timothy Harrison, and various donors in honor of Philip Bard, Professor of Physiology, 1933 to 1964.

Baxley Professor of Pathology [1901]: *J. Brooks Jackson, M.D.*

A bequest in the will of Dr. Henry Willis Baxley (1824-1876) provided funding for the first endowed chair in the School of Medicine. Dr. Baxley was a graduate of the University of Maryland in 1859, was a southern sympathizer during the Civil War, and following the war practiced his profession in Baltimore and

later in Virginia. Previous occupants: Drs. Arnold Rice Rich, Ivan L. Bennett, Robert H. Heptinstall, and John H. Yardley.

Stanhope Bayne-Jones Professorship in Medicine [1974]: *David L. Thomas, M.D.*

Mrs. Stanhope Bayne-Jones provided the funding for this Professorship. Stanhope Bayne-Jones received his M.D. degree from Johns Hopkins in 1914. As an expert in infectious diseases, he served on the faculty of the University of Rochester and Yale Medical Schools, and he also served as Dean at Yale. In 1942 he was made a brigadier general in the Army Medical Corps and served in many government posts during and following World War II.

Bendann-Iliff Professorship in Ophthalmology [1995]: *Nicholas T. Iliff, M.D.*

Funding provided by Constance, Maurice, and Violet Bendann.

Dr. Bertram M. Bernheim Research Professorship in Surgery [1968]: *G. Melville Williams, M.D.*

Funding for this Professorship was provided by members of the Bernheim family to honor Bertram M. Bernheim, a 1905 graduate of the Johns Hopkins Medical School. As a member of the faculty of the Department of Surgery, he was responsible for pioneering research which resulted in significant advancements in vascular surgery and blood transfusion.

Alfred Blalock Chair in Surgery [1992]: *John L. Cameron, M.D.*

Funding for this Chair was by contributions from Dr. Blalock's residents. Dr. Alfred Blalock was Director of the Department of Surgery (1941-1964) and is credited with establishing the field of cardiac surgery. He is best known for the creation of the Blalock-Taussig operation for the treatment of cyanotic congenital heart disease.

John E. Bordley Chair in Otolaryngology/Head and Neck Surgery [1990]: *Paul Fuchs, M.D.*

Funding for this Chair was provided by the McCarthy-Cooper Estate, patients, and residents of Dr. John E. Bordley, who was Director of the Department of Otolaryngology for 17 years (1952-1969). Previous occupant: Dr. William J. Richtsmeier.

Boury Professorship in Molecular Biology and Genetics [1962]: *Unoccupied.*

This Professorship was funded by a bequest in the will of Mr. Louis J. Boury. Mr. Boury was a native of Baltimore who moved to New York where he became a successful grain merchant. Previous occupants: Drs. W. Barry Wood and Daniel Nathans.

Breast Cancer Research Chair in Oncology [1992]: *Unoccupied.*

Funds were provided by Mr. and Mrs. Jeffrey

Legum, Mrs. Naomi Legum, grateful patients and friends.

Dana and Albert "Cubby" Broccoli Professorship in Oncology [2001]: *Elizabeth M. Jaffee, M.D.*

Funded by a gift from the Dana and Albert "Cubby" Broccoli Charitable Foundation to be used to endow a Professorship in Oncology, having an initial focus on research and treatment of breast cancer.

William R. Brody Professorship in Radiology [1992]: *Unoccupied.*

Funding for this Professorship was provided by Dr. William R. Brody who was the Director of the Department of Radiology from 1987-1994. In 1996 Dr. Brody was appointed President of the Johns Hopkins University.

Thomas M. Brushart, M.D. Professorship in the Division of Hand Surgery [2000]: *Thomas M. Brushart, M.D.*

Funding provided by Arthur H. and Dorothy M. Thornhill to provide faculty support in the Division of Hand Surgery, Department of Orthopaedic Surgery.

John L. Cameron, M.D. Professorship for Alimentary Tract Diseases in the Department of Surgery [2002] *Richard D. Schulick, M.D.*

Benjamin S. Carson, Sr., M.D. and Dr. Evelyn Spiro, R.N. Professorship in Pediatric Neurosurgery [2007]: *Benjamin Carson, M.D.*

Funding for this professorship was provided by Mr. and Mrs. Donald Spiro.

David J. Carver Professorship in Medicine [1974]: *Henry R. Halperin, M.D.*

Created by Dr. and Mrs. Samuel P. Asper in honor of Mrs. Asper's father, Dr. Asper was a 1940 graduate of the School of Medicine and a member of the faculty. Previous occupants: Drs. Philip A. Tumulty and William Hazzard.

Tom Clancy Professorship in Ophthalmology [2005]: *Roy Chuck, M.D., Ph.D.*

Funding for this professorship was provided by Tom Clancy, a friend of Johns Hopkins Medicine and Johns Hopkins Board of Visitors member.

Clayton Professorship in Oncology [1984]: *Bert Vogelstein, M.D.*

In 1947 Dr. and Mrs. William L. Clayton of Houston, Texas created the Clayton Fund which was used to support projects in cardiovascular disease under the direction of Dr. Benjamin M. Baker, class of 1927. In 1984 the direction was shifted to studies of colon cancer in the Oncology Center.

Professorship in the Clinical Care and Research of Pediatric Endocrinology [2001]: *Leslie Plotnick, M.D.*

Funds provided to fund a professorship in the

clinical care and research of Pediatric Endocrinology in the Department of Pediatrics. At the time of Dr. Plotnick's retirement, the name of the endowed professorship will become the Leslie Plotnick, M.D. Professorship in the Clinical Care and Research of Pediatric Endocrinology.

Donald S. Coffey Professorship of Urology [2004]: *Robert H. Getzenberg, Ph.D.*

Funding provided from the bequest of Mrs. Catherine Lola Michael and of the Mr. J. Smith Michael Unitrust.

V. Robert Colton Chair in Gastroenterology [1999]: *Unoccupied.*

Established by a commitment made in 1999 by V. Robert Colton, a dentist from Michigan.

Rear Admiral Ray R. Conner and Laura H. Conner Professorship in Pediatrics in the School of Medicine [1997]: *Occupied by Janet R. Serwint, M.D.*

Funding provided by the estate of Admiral Conner. The estate stipulates the holder of the chair shall be the Director of the Harriet Lane Clinic.

Michael J. Cudahy Professorship in Cardiology [1994]: *James L. Weiss, M.D.*

Funding provided by Michael J. Cudahy, the founder of Marquette Electronics, which produces medical, diagnostic, monitoring and clinical information systems.

Charles Cummings, M.D. Professorship in Otolaryngology - Head and Neck Surgery [2005]: *Paul W. Flint, M.D.*

Funding provided by various donors.

Harvey Cushing Professorship in Neurosurgery [1981]: *Henry Brem, M.D.*

Funding provided by Mr. and Mrs. John H. Whitney of New York in honor of Mrs. Whitney's father. Dr. Harvey Cushing, founder of the specialty of neurosurgery, was a member of the Johns Hopkins Department of Surgery from 1897-1912.

Walter E. Dandy Professorship in Neurosurgery [2004]: *Rafael J. Tamargo, M.D.*

Funds provided by Walter E. Dandy, Jr.

Richard Bennett Darnall Chair in Surgery [1964]: *Unoccupied.*

Funding provided by a bequest in the will of Mrs. Eugenia B. Darnall whose husband, Richard Bennett Darnall, was an attorney in Annapolis, Maryland.

Richard Bennett Darnall Professor Emeritus of Cardiac Surgery [1964]: *Vincent L. Gott, M.D.*

See above.

DeLamar Professorship in Biological Chemistry [1919]: *Gerald W. Hart, Ph.D.*

Funding provided by a bequest in the will of Capt. Joseph R. DeLamar, who was born in

Holland in 1843 and came to America after the Civil War and engaged in the marine salvage business. In 1878 he moved west, entered the mining business and became the owner of the Utah Mine and Smelting Co. On the advice of his attorney, he divided his \$30 million estate between the "three best medical schools of the day - Johns Hopkins, Harvard and Columbia". Previous occupants: Drs. Walter J. Jones, W. Mansfield Clark, Albert L. Lehninger, and M. Daniel Lane.

Eugene DeJuan Sr. Professorship in Ophthalmic Education [2006]: *James P. Dunn, M.D.*

Funds provided by Eugene DeJuan, Sr. to help support the residency program at the Wilmer Institute.

Martin W. Donner Professorship in Radiology [1988]: *Jonathan S. Lewin, M.D.*

Funding provided by contributions of current and former faculty, fellows, and house staff of the Department of Radiology. Dr. Martin W. Donner was Director of the Department of Radiology from 1972-1987.

Clarence Doodeman Professorship in Cardiology [2005]: *Robert G. Weiss, M.D.*

Funding provided by Edward and Loretta Downey to honor Mrs. Downey's father, Mr. Clarence Doodeman.

James T. Dresher, Sr., Professorship in Cardiac Surgery [2001]: *Duke E. Cameron, M.D.*

Funding provided by The Dresher Foundation, Inc., to establish an endowed professorship to honor James Dresher, Sr.

G. Edward and G. Britton Durell Professorship in Ophthalmology [1998]: *Gerard A. Luty, Ph.D.*

Funding provided by the Altscheler-Durell Foundation, Inc. to establish a full professorship at the School of Medicine which will support a leading specialist in retinal diseases, and in particular, age related macular degeneration and/or low vision.

George S. and Delores D. Eccles Professorship in Ophthalmology [1998]: *Peter A. Campochiaro, M.D.*

Funding provided by the Eccles Foundation and by Mrs. Eccles for a professorship in Ophthalmology.

Doctor Dorothy Edwards Professorship in Gynecology and Obstetrics [1986]: *Harold E. Fox, M.D.*

Funding provided by a bequest of Dr. Dorothy Edwards, who attended the Johns Hopkins School of Medicine from 1917-1921. She was a successful gynecologist in Chicago. She specified that the Professorship be known by her title, first name, and last name.

Akef El Maghraby Professorship in Preven-

tive Ophthalmology [1991]: *Sheila K. West, Ph.D.*

Funding provided by Dr. Akef El Maghraby.

Eudowood Professorship in Pediatric Immunology [1986]: *Jerry A. Winkelstein, M.D.*

Funding provided by the Eudowood endowment. Eudowood was the name of a tuberculosis hospital officially known as The Hospital for Consumptives of Maryland, which joined with other institutions to form the Children's Medical and Surgical Center. The Eudowood endowment is managed by a Board of Directors which provides funding for this and other professorships.

Yvonne Jan and Edith M. Ewald Professorship in Neurology [1994]: *Unoccupied.*

Established by commitment made by Edith M. Ewald in memory of her daughter.

King Fahd Chair in Pediatric Oncology [1993]: *Robert J. Arceci M.D., Ph.D.*

Funding provided by the Kingdom of Saudi Arabia. The King Fahd Professorships in the School of Medicine represent "an indication of the mutual human interest and mutual support and friendship between the Kingdom of Saudi Arabia and the United States of America."

King Fahd Chair in Molecular Medicine [1993]: *Andrew P. Feinberg, M.D., M.P.H.*

See above.

Robert and Maureen Feduniak Professorship in Ophthalmology [2009]: *Unoccupied.*

Established by Robert and Maureen Feduniak to support patient care and research related to amblyopia, strabismus, and eye diseases of children.

Warfield M. Firor Chair in Surgery [1969]: *R. Robinson Baker, M.D.*

Funding provided by a bequest of Alice Larsen Fink reflecting her "deep regard for Dr. Firor as a fine surgeon, teacher, and humanitarian." Dr. Warfield M. Firor was a distinguished practicing surgeon in the Department of Surgery. Previous occupants: Drs. John Cameron and R. Robinson Baker

Jonas Friedenwald Professorship in Ophthalmology [2004]: *Unoccupied.*

Named for father of experimental ophthalmic pathology.

James F. Fries Professorship in Medicine [2006]: *Neil R. Powe, M.D., M.P.H.*

Funding provided by James F. Fries, M.D. and Sarah Tilton Fries, M.P.H. to support a faculty member engaged in health outcomes research, clinical epidemiology, and/or health policy research.

Robert Garrett Professorship in Pediatric Surgery [1964]: *Paul M. Colombani, M.D.*

Funding provided by the Garrett Fund for the surgical treatment of children founded by

Mary F. Jacobs. Previous occupant: Dr. J. Alex Haller.

William Thomas Gerrard, Mario Anthony Duhon and Jennifer and John Chalsty Professorship in Urology [1998]: *William B. Isaacs, Ph.D.*

Funding provided by Mr. William Thomas Gerrard and Mr. and Mrs. John Chalsty for the Department of Urology.

James P. Gills Professorship in Ophthalmology [1999]: *Neil Bressler, M.D.*

Funding by James P. Gills who trained at Johns Hopkins Hospital.

Given Foundation Professorship in Pediatrics [1962]: *George J. Dover, M.D.*

Funding provided by the Irene Heinz Given and John LaPoute Given Foundation of New York for the purposes of medical research and teaching. Previous occupants: Drs. Robert E. Cooke, John W. Littlefield, and Frank A. Oski.

Morton F. Goldberg Professorship in Ophthalmology [1999]: *Ran Zeimer, M.D.*

Funding provided by a number of unrestricted bequests to the Wilmer Institute.

Vincent L. Gott, M.D. Professorship [2000]: *William Baumgartner, M.D.*

Funding provided by various residents, patients and friends of Vincent L. Gott.

Katherine Graham Professorship in Ophthalmology [2002]: *Sharon Solomon, M.D.*

Funded by a major bequest from the Katherine Graham estate.

Alex Grass Professorship in Oncology [2003]: *David S. Ettinger, M.D.*

Funding provided by Mr. Alex Grass of Wormsleyburg, PA.

Joseph E. Green Professorship in Macular Degeneration and Other Retinal Diseases [1998]: *Morton F. Goldberg, M.D.*

Funding provided by a bequest from Joseph E. Green to the Department of Ophthalmology which will support research activities by a faculty member in macular degeneration.

W. Richard Green Professorship of Ophthalmology [2007]: *Richard D. Semba, M.D., M.P.H.*

Funding provided by various donors to support a faculty member in Ophthalmology.

Burton E. Grossman Professorship in Ophthalmology [1998]: *Occupied by Oliver Schein, M.D.*

Funding for this professorship was provided by Dr. and Mrs. Burton Grossman to ensure the integration of the progression of specific ophthalmologic diseases and to develop techniques for preventing these diseases.

Guerrieri Family Professorship in Ophthalmology [1998]: *Donald Zack, M.D.*

Funded by the Guerrieri Family Founda-

tion for the Center for Genetic Engineering and Molecular Ophthalmology at the Wilmer Institute.

Willard and Lillian Hackerman Professorship in Oncology [1981]: *Moody D. Wharam, Jr., M.D.*

Funding provided by Mr. and Mrs. Willard Hackerman. Mr. Hackerman is a graduate of the Johns Hopkins University School of Engineering and was a long time trustee of the University. He is the CEO of Whiting-Turner Construction Co. and founded the Whiting School of Engineering. Previous occupant: Dr. Stanley E. Order.

Karl H. Hagen Professorship in Ophthalmology [1998]: *Andrew P. Schachat, M.D.*

Funding provided by Mr. Karl H. Hagen to provide faculty support in the Department of Ophthalmology.

Haller Professorship in Pediatric Neurologic Diseases [1996]: *Harvey S. Singer, M.D.*

Funding provided by a bequest from Miss Virginia Doriot Haller of Salem, VA, whose purpose is to support research with a primary focus on genetic, developmental and environmental factors in the neurologic diseases of children.

Bayard Halsted Professorship in Cell Biology and Anatomy [1943]: *Unoccupied.*

Funding provided by a bequest in the will of Mr. Edward Bayard Halsted, a retired stock broker in New York City. "The income thereof shall be forever devoted to research work for the advancement of knowledge as to the nature, causes, means of prevention, and cure of such maladies...in need of further study and investigation." Previous occupants: Drs. David Bodian and Thomas D. Pollard.

William Stewart Halsted Professorship in Surgery [2000]: *Julie A. Freischlag, M.D.*

Funding provided by Department of Surgery's Unit Executive Fund.

Jacob Handelsman Professorship in Surgery [2004]: *Michael A. Choti, M.D.*

Funding provided by grateful patient of Dr. Handelsman

Elizabeth Treide and A. McGehee Harvey Chair in the History of Medicine [1992]: *Occupied by Harry M. Marks, Ph.D.*

Funding provided by Dr. and Mrs. Harvey, Dr. Harvey's colleagues in the Department of Medicine, and many friends and relatives of the Harveys. This Professorship was placed in the Department of the History of Medicine to recognize Dr. Harvey's (class of 1934) second interest in history after 27 years as Director of the Johns Hopkins Department of Medicine. Mrs. Harvey (class of 1943) was named to recognize her and other faculty wives for their contributions to this Institution.

Isaac Morris and Lucille Elizabeth Hay Professorship in Embryology [1996]: *Peter Devreotes, Ph.D.*

Funding provided by a commitment made in 1996 by Elizabeth D. Hay in memory of her parents.

Kyle Haydock Professorship in Oncology [2003]: *Donald Small, M.D., Ph.D.*

Endowed by author Tom Clancy memorializing a young friend who lost his life to cancer. To be used in perpetuity by a distinguished faculty member in Oncology for the purpose of advancing outstanding childhood cancer research and patient care.

Sherlock Hibbs/Eugene VanDyke Professorship for Research [2004]: *Theodore M. Bayless, M.D.*

Dean's Office Professorship

The Charles J. Homcy, M.D. Professorship in Neurosciences and Kennedy Krieger School of Arts and Sciences [2009]:

Unoccupied.

Funding provided by Charles J. Homcy, M.D. to provide direct salary support for the Homey Professor for research and teaching in the Department of Neurosciences in the School of Medicine and the teaching of undergraduates and graduate neuroscience at the Krieger School of Arts and Sciences as well as in the sponsorship of undergraduate research at the Krieger School of Arts and Sciences.

Johns Hopkins Family Professorship in Oncology Research [2004]: *Chi V. Dang, M.D., Ph.D.*

Funds provided by the descendants of the parents of Johns Hopkins.

John Eager Howard Chair in Endocrinology and Metabolism [1990]: *Paul W. Ladenson, M.D.*

Funding provided by family, friends, colleagues, and grateful patients of Dr. John Eager Howard (class of 1928), who was a long time member of the Johns Hopkins faculty and Chief of the Division of Endocrinology. He was a superb internist, as well as investigator. His research contributions include the elucidation of the relationship between unilateral renal disease and high blood pressure, and the role of a protein factor in urine in preventing the formation of kidney stones.

R. Dale Hughes Professorship in Oncology [2000]: *Mario A. Eisenberger, M.D.*

Established through commitments made in 1999 by R. Dale Hughes and Frances M. Hughes and other donors. Mr. Hughes is a grateful patient of the Oncology Center and made this commitment because of the care he has received since 1987.

David S. Hungerford, M.D. Chair in Orthopaedic Surgery (Good Samaritan Hospital)

[2001]: *David S. Hungerford, M.D.*
Established through a commitment made in 1997 by Good Samaritan Hospital and patients of Dr. David S. Hungerford.

Charles E. Iliff III, M.D. Professorship in Ophthalmology [2007]: *Nicholas T. Iliff, M.D.*

Funding for this professorship provided by Dr. Helen Ossofsky-Iliff to honor Dr. Charles Iliff and to provide support for research which will improve the outcome of ophthalmic surgery.

Julius H. Jacobson, II, M.D. Professorship in Vascular Surgery [1998]: *Bruce Perler, M.D.*

Funded by Julius H. Jacobson, II, M.D. to establish a chair in vascular surgery in the Department of Surgery.

Janssen/Strauss-Halbreich Professorship [1998]: *Unoccupied.*

Funding provided by Janssen Pharmaceutica, Inc., Jeremy and Nancy Halbreich, Theodore H. Strauss, Janie Strauss McGarr and various donors to create a professorship at the Marvin M. Schuster Center for Digestive and Motility Disorders at the Johns Hopkins Bayview Medical Center.

Richard T. Johnson Professorship in Neurology [1997]: *Unoccupied.*

To be established by commitments made in 1997 by colleagues of Richard T. Johnson and residents in the Department of Neurology. Dr. Johnson was a member of the Department of Neurology when it was created in 1969 and served for many years as director of the department.

Henry J. Knott Directorship of the McKusick/Nathans Center for Medical Genetics and Professorship in Medical Genetics [1999]: *David Valle, Ph.D.*

Funding provided by Marion I. Knott in honor of her late husband who served as a Trustee of the Hospital and, with his wife, was an extremely generous supporter of Hopkins.

Marion I. Knott Directorship of the Oncology Center and Professor in Oncology [1999]: *William Nelson, M.D.*

Funding provided by Marion I. Knott in honor of her late husband who served as a Trustee of the Hospital and, with his wife, was an extremely generous supporter of Johns Hopkins.

Arlene and Robert Kogod Professorship in Mood Disorders in the Department of Psychiatry [2008]: *James Potash, M.D., Ph.D.*

Funding will be provided by Arlene and Robert Kogod to provide the financial support and stability for research, education, and clinical activities of individual faculty members in the Department of Psychiatry.

Everett and Margorie Kovler Professor-

ship in Pancreas Cancer Research [2009]: *Unoccupied.*

Funding provided by Everett and Margorie Kovler to provide support of pancreatic cancer research. The endowment will be held in the Sidney Kimmel Comprehensive Cancer Center at the School of Medicine.

Zanvyl Krieger Professorship in Pediatric Ophthalmology [1991]: *David L. Guyton, M.D.*

Funded by a contribution from Mr. Zanvyl Krieger, a 1928 graduate of the Johns Hopkins University, a successful business man and philanthropist. He is a benefactor of many components of the Johns Hopkins University.

Lapides Professorship in Otolaryngology [1997]: *Unoccupied.*

Funding provided by Linda S. and Julian L. Lapides.

George LeBoff Professorship for Research in Digestive Diseases [1999]: *Mark Donowitz, M.D.*

Funding provided by the estate of George LeBoff for support in the Division of Gastroenterology.

Lederer Professorship of Pediatric Epilepsy [1920]: *Eileen P.G. Vining, M.D.*

Funded by a gift for research in the care and cure of pediatric epilepsy.

Legum Professorship in Acute Neurological Medicine [1999]: *Daniel Hanley, M.D.*

Funding provided by Mr. and Mrs. Jeffrey Legum. Appointment to the Professorship will be made by the Dean on the recommendation of the Chairman of the Department of Neurology. The recipient will be a leader in research of severe brain injury and disease.

Doris Lescher and John G. Bauernschmidt II Professorship in Ophthalmology [2004]: *Unoccupied.*

Both donors stipulated that funds were to be used for research into retinal disease.

David Levine Professorship [2004]: *Daniel E. Ford, M.D., M.P.H.*

Established to be occupied by the Vice-Dean for Clinical Research.

Julia L. Levy Ph.D. Professorship in Ophthalmology [2004]: *Susan Bressler, M.D.*

Funding provided by QLT, Inc. of Vancouver, BC.

Robert L. Levy Chair in Cardiology [1975]: *Lewis C. Becker, M.D.*

Funding provided by a bequest of Dr. Robert L. Levy, a graduate of the School of Medicine in 1913 and a highly respected practicing cardiologist in New York City. Previous occupants: Drs. J. O'Neal Humphries, Myron L. Weisfeldt, and Eduardo Marban.

Wayne Lewis Professorship in Orthopae-

dic and Shoulder Surgery [2006]: *Edward McFarland, M.D.*

Funding provided by Dextra Bank and Trust Co., Ltd. to create a professorship in orthopaedics and shoulder surgery.

Donlin M. Long Chair in Neurosurgery [1999]: *Ziya L. Gokaslan, M.D.*

Established in 1999 by patients, colleagues and friends in honor of Donlin Long who served as Director of the Department of Neurosurgery from 1973 to 2000.

Mason F. Lord Chair in Geriatric Medicine [1976]: *Unoccupied.*

Funding provided by an anonymous gift to honor Dr. Mason F. Lord a 1954 graduate of the School of Medicine, member of the faculty of the Department of Medicine and Director of the Geriatrics Program at the Baltimore City Hospitals, now the Johns Hopkins Bayview Medical Center.

The Raymond and Anna Lublin Professorship in Medicine [1989]: *Richard G. Bennett, M.D.*

Funding provided by Dr. and Mrs. Raymond Lublin to support the leader of the Division of Geriatrics in the Department of Medicine. Dr. Lublin was a 1929 graduate of the Johns Hopkins School of Medicine and practiced general surgery in East Hartford, CT. Previous occupant: Jesse Roth, M.D.

Edythe Harris Lucas and Clara Lucas Lynn Chair in Hematology [1992]: *Robert A. Brodsky, M.D.*

Funding provided by Clara Lucas Lynn, a grateful patient of Dr. William R. Bell.

Virginia and Daniel K. Ludwig Chair in Cancer Research [1996]: *Stephen Baylin, M.D.*

Funding provided by Daniel K. Ludwig, one of the world's great ship owners, who dedicated his fortune to medical research on an international scale for the understanding and eradication of cancer.

Virginia and Daniel K. Ludwig Chair in Clinical Investigation of Cancer [1999]: *Ross C. Donehower, M.D.*

Funding provided by Daniel K. Ludwig, one of the world's great ship owners, who dedicated his fortune to medical research on an international scale for the understanding and eradication of cancer.

James and Debra Lustig Professorship [2000]: *Unoccupied.*

Funding provided by James and Debra Lustig to support research in corneal disease and microbiology at the Wilmer Institute.

MacMillan Family Professorship in Clinical Pancreatic Cancer Research [2008]: *Unoccupied.*

David Marine Professorship of Medicine:

[1985]: *Unoccupied.*

Funding provided by the estate of Dr. David N. Marine, a 1947 graduate of the Johns Hopkins School of Medicine. He specialized in the study of pulmonary disease and tuberculosis.

E. K. Marshall and Thomas H. Maren Professorship in Pharmacology [1997]: *Philip A. Cole, M.D., Ph.D.*

Funding provided by Dr. Thomas H. Maren, class of 1951, who was a faculty member in the Department of Pharmacology directed by Dr. Marshall.

Eli Kennerly Marshall, Jr. Professorship in Oncology [1978]: *Unoccupied.*

E. K. Marshall succeeded Abel as Professor of Pharmacology. This Professorship was initially in the Oncology Division of the Department of Medicine, but moved to Oncology when Oncology became a department. Previous occupant: Dr. Albert H. Owens.

Bessie Darling Massey Chair in Biomedical Engineering [1958]: *Elliot McVeigh, Ph.D.*

Funding provided by Mr. and Mrs. Massey, grateful patients of John Bordley. Previous occupant: Richard J. Johns, M.D.

The A. Edward Maumenee Professorship in Ophthalmology [1993]: *Harry A. Quigley, M.D.*

Funding provided by Mrs. Margaret Mosher and other friends, colleagues, and grateful patients of Dr. Maumenee who was Director of the Wilmer Eye Institute and Director of the Department of Ophthalmology from 1955-1979.

David Hall McConnell Professorship of Urology [1973]: *Alan W. Partin, M.D., Ph.D.*

Funding provided by Admiral H. P. John Duberg, a grateful patient of Dr. W. W. Scott. Adm. Duberg was married to Dorys McConnell Duberg, a daughter of David Hall McConnell who was the founder of the Avon Corporation. Previous occupant: Dr. W. W. Scott.

The Hugh P. McCormick Family Professorship in Endocrinology and Metabolism [2003]: *Christopher Saudek, M.D.*

Funding provided by Hugh P. McCormick of McCormick Spice.

The Paul R. McHugh Chair in Motivated Behaviors [1998]: *Timothy H. Moran, Ph.D.*

Funding provided by Mr. William F. Scandling and various donors in honor of Dr. Paul McHugh, Director of the Department of Psychiatry and Behavioral Sciences.

Victor A. McKusick Professorship in Medicine and Genetics [2004]: *Harry C. Dietz, III, M.D.*

Funding provided by anonymous donor & friends of Dr. McKusick.

Eugene Meyer III Professorship in Psychi-

etry and Medicine [1982]: *Phillip R. Slavney, M.D.*

Funding provided by Dr. Eugene Meyer, family and friends. Dr. Meyer, a 1941 graduate of the School of Medicine, trained in both Medicine and Psychiatry and the Professorship supports joint activities in these two departments.

Harry and Betty Meyerberg/Thomas R. Hendrix Professorship in Gastroenterology [2006]: *Steven Meltzer, M.D.*

Funding for this professorship provides faculty support in the Division of Gastroenterology in the Department of Medicine.

Harvey M. Meyerhoff Professorship in Bioethics [1999]: *Jeremy Sugarman, M.D.*

Established by commitment made in 1999 by Harvey M. Meyerhoff, a long time University and Hospital Trustee and the founding Chairman of the Hopkins Health System Board.

Robert E. Meyerhoff Professorships [2007]: *Unoccupied.*

Funding provided to enable Johns Hopkins Medicine to recruit junior faculty members with exceptional promise

Catherine Iola and J. Smith Michael Distinguished Professor in Urology [1988]: *Donald S. Coffey, M.D.*

Funding provided by Mrs. Catherine Iola Michael and Mr. Smith Michael. Mr. Michael was president and board chairman of the First National Bank of Aberdeen, which was later acquired by Equitable Trust Company. Both Mr. Michael and Mrs. Iola Michael grew up in Harford County, Maryland. Mr. Michael died in 1978. This Professorship was established in memory of Mr. J. Smith Michael.

Edward D. Miller Professorship in Anesthesiology Research [2007]: *Unoccupied.*

Funding provided from the Johns Hopkins Hospital Endowment Fund, Inc. Funds will be used to support research activities and research infrastructure in the Department of Anesthesiology and Critical Care Medicine.

Michel Mirowski, M.D. Professorship in Cardiology [1998]: *Gordon F. Tomaselli, M.D.*

Funding provided by the Mirowski Family Foundation, Inc., to provide faculty support in the Division of Cardiology in the School of Medicine. The Chair memorializes Dr. Mirowski, a cardiologist at Johns Hopkins who played a key role in the development of the implanted defibrillator.

Arthur B. and Patricia B. Modell Professorship in Thoracic Surgery [2007]: *Stephen C. Yang, M.D.*

Funding provided by Mr. and Mrs. Arthur B. Modell to honor a faculty member in the Department of Surgery. This gift will allow the Department of Surgery to have a profound

impact on the field of thoracic surgery.

Russell H. Morgan Professorship in Radiology [1994]: *Paul Bottomley, M.D.*

Funding provided by friends and colleagues of Dr. Russell H. Morgan, Director of the Department of Radiology from 1946-1971.

Richard and Kate Morton Chair in Genetic Research [2003]: *Unoccupied.*

Funding provided by Richard F. Morton and Kathleen C. Morton to provide faculty support in the Institute for Genetic Medicine. Dr. Richard Morton completed an Ob/Gyn internship at Johns Hopkins and also serves on the Public Health faculty. Dr. Kathleen Morton is a pediatrician who served on the School of Medicine faculty and became the first woman named a dean there.

Margaret C. Mosher Professorship in Ophthalmology [2002]: *John D. Gottsch, M.D.*

Established in 2002 by a one-life gift annuity from the estate of Margaret C. Mosher of Santa Barbara, California.

James B. Murphy Professorship in Oncology [2000]: *Richard F. Ambinder, M.D., Ph.D.*

Established in 2000 by an anonymous donor in memory of James B. Murphy, Class of 1909.

George T. Nager Professorship in Otolaryngology/Head and Neck Surgery [2001] *John K. Niparko, M.D.*

Funding provided by numerous friends, patients, and colleagues of Dr. Nager.

Daniel Nathans Directorship of the Department of Molecular Biology and Genetics and Professorship in Molecular Biology and Genetics [1999]: *Carol Greider, Ph.D.*

Funds provided by several anonymous donors in honor of Daniel Nathans. Dr. Nathans joined the faculty in 1962 and went on to direct the Department of Microbiology and Molecular Biology and Genetics. He served as interim president of the University from 1995 to 1996. He won the Nobel Prize in medicine in 1978 for his discovery and use of a restriction enzyme as "biochemical scissors" to cut and analyze DNA. In 1993 he received the nation's highest scientific award, the National Medal of Science. Dr. Nathans died in 1999.

Paul K. Neumann Professorship in Pancreatic Surgery [1998]: *Steven Leach, M.D.*

Funding provided by Mark D. and Robin Neumann in memory of Mr. Mark Neumann's father to support a prominent surgeon in determining the causes, prevention and management options for pancreatic cancer research.

Noxell Chair in Dermatology [1995]: *Sewon Kang, M.D.*

Funding provided by the Noxell Foundation. The Noxell Company was a cosmetics com-

pany founded and based in Maryland which became a part of the Proctor and Gamble Co. Previous occupant: Thomas T. Provost, M.D.

Odd Fellows Professorship in Ophthalmology [1963]: *Henry D. Jampel, M.D., M.H.S.* Funding provided by a grant for research in eye disease and eye pathology. Previous occupant: Dr. Arthur M. Silverstein.

Lewis J. Ortt Professorship in Ophthalmology [1989]: *Irene E. H. Maumenee, M.D.* Funded by a gift from the Lewis J. Ort family for the support of diagnosis and management of hereditary eye diseases.

William Osler Professorship in Medicine [1978]: *Myron L. Weisfeldt, M.D.* Funding provided by a bequest in the will of Dr. J. Earle Moore, a prominent Baltimore internist and pioneer in the chemotherapy of syphilis. He was director of the Syphilis Clinic at Johns Hopkins. The Professorship is named for the first Director of the Department of Medicine, Dr. William Osler, and has been occupied by Directors of the Department. Previous occupants: Drs. Victor A. McKusick and John D. Stobo.

Arnall Patz Distinguished Professorship in Ophthalmology [1993]: *Ruben Adler, M.D.* Funded by gifts from family, friends, colleagues, and grateful patients of Dr. Arnall Patz, who was Director of the Wilmer Eye Institute and Director of the Department of Ophthalmology from 1979-1989.

Helen Golden Paulson Professorship in Gastroenterology [1982]: *Anthony Kalloo, M.D.*

Funding provided by the estate of Helen G. Paulson in honor of Dr. Moses Paulson who was a practitioner of internal medicine and gastroenterology in Baltimore. He was a member of the part-time faculty of the Department of Medicine. Previous occupant: Drs. Thomas R. Hendrix, Mark Donowitz, and Francis Giardello.

Virginia M. Percy and William Algernon Percy Chair in Orthopaedic Surgery [1979]: *Kristen Weber, M.D.*

Mrs. Percy was a grateful patient of Dr. Lee H. Riley, Jr. Previous occupant: Dr. A. Hari Reddi.

Aliki Perroti Chair in the Department of Medicine [2006]: *David B. Hellmann, M.D.* Funding provided by Mrs. Aliki Perroti. The recipient is to be a superior clinician committed to meeting the medical challenges of the twenty-first century and beyond.

Henry Phipps Professorship in Psychiatry [1908]: *J. Raymond DePaulo, Jr., M.D.* Created by a gift from Mr. and Mrs. Henry Phipps of Philadelphia for whom the Phipps Psychiatric Clinic is named. Previous occu-

pants: Drs. Adolf Meyer, John C. Whitehorn, Seymour S. Kety, and Joel Elkes.

Boone Pickens Professorship in Ophthalmology [2005]: *Walter Stark, M.D.*

Funding provided by Mr. Boone Pickens of Dallas, Texas out of his respect and admiration of Dr. Stark.

Rainey Professorship in Pediatric Hematology [1992]: *James F. Casella, M.D.*

Funding provided by Dr. and Mrs. Rainey, family and friends. Dr. Rainey was a 1933 graduate of the Johns Hopkins School of Medicine and practiced internal medicine in Greenville, SC. A family member was a patient of Dr. William Zinkham. Its purpose is to provide stable support for the Division of Pediatric Hematology. Previous occupant: George J. Dover, M.D.

John G. Rangos, Sr. Professorship in Adult Medicine [2001]: *Francis M Giardiello, M.D.*

Funding provided by the John G. Rangos, Sr. Charitable Foundation to be designated for terms of at least five years, to a physician-scientist pursuing promising areas of research in gastrointestinal medicine and demonstrating exceptional promise in advancing new discoveries and treatments in the area of colon cancer.

Mark M. Ravitch Endowed Professorship in Surgery [1985]: *Martin A. Makary, M.D., M.P.H.*

Funding provided by friends, patients, and colleagues of Dr. Mark M. Ravitch to promote surgical scholarship. Dr. Ravitch, a 1934 graduate of the Johns Hopkins School of Medicine, trained in surgery with Dr. Alfred Blalock. He held numerous posts in American academic surgery and finished his career as Professor of Surgery at the University of Pittsburgh. He was a general, thoracic, and pediatric surgeon best known for the introduction of surgical stapling and the surgical repair of pectus excavatum.

Rose-Lee & Keith Reinhard Professorship in Urologic Pathology [2001]: *Jonathan I. Epstein, M.D.*

Funding provided by Rose-Lee and Keith Reinhard to honor Patrick Walsh, M.D. and to further prostate cancer research by establishing an endowed professorship in the Brady Urological Institute. Dr. Walsh is the Director of the Department of Urology.

Richman Family Professor for Alzheimer's and Related Diseases [2008]: *Peter V. Rabins, M.D., M.P.H.*

Funding provided by the Richman Family for the Department of Psychiatry and Behavioral Sciences for Alzheimer's and related disorders.

Lee H. Riley, Jr., M.D., Chair in Orthopaedic

Surgery [1994]: *Edmund Y. S. Chao, Ph.D.*

Funding provided by the family, friends, colleagues, and patients of Dr. Riley to provide support for a clinical scholar in Orthopaedic Surgery. Dr. Riley was Director of the Department of Orthopaedic Surgery from 1979-1991.

Alfredo Riviere and Norma Rodriguez de Riviere Professorship in Endocrinology [1997]: *Gary S. Wand, M.D.*

Funding provided by Alfredo Riviere and Norma Rodriguez de Riviere for thyroid related research.

Robert A. Robinson Chair in Orthopaedic Surgery [1972]: *Frank J. Frassica, M.D.*

Established by contributions from grateful patients and colleagues of Dr. Robert A. Robinson, who was Director of the Department of Orthopaedic Surgery from 1953-1979. Previous occupants: Drs. Lee H. Riley, Jr. and Richard N. Stauffer.

Mark C. Rogers Chair in Anesthesiology and Critical Care Medicine [1992]: *John A. Ulatowski, M.D., Ph.D.*

Funding provided by the Unit Executive Fund of the Department of Anesthesiology and Critical Care Medicine. Dr. Mark C. Rogers was Director of the Department of Anesthesiology and Critical Care Medicine from 1980-1993.

Barbara B. Rubenstein Professorship in Oncology [2002]: *Saraswati Sukumar, Ph.D.*

Funding provided by Trustee Mark Rubenstein and his children, David, Jonathan, and Hilary in memory of their wife and mother.

Salisbury Family Professorship in Neurosurgery [2008]: *Daniel Rigamote, M.D.*

Funding provided by the Salisbury family.

Samsung Professorship in Medicine [1997]: *David M. Levine, M.D., Sc.D.*

Funding provided by the Samsung Corporation to endow a chair in the Department of Medicine, Division of Internal Medicine.

Herman and Walter Samuelson Foundation Professorship in Oncology [1999]: *Unoccupied.*

Funding provided by The Herman and Walter Samuelson Foundation for the purpose of advancing outstanding cancer research

D. William Schlott Professorship in Medicine [2001]: *John A. Flynn, M.D.*

Funding provided by friends, patients and colleagues of Dr. D. William Schlott.

Bernard L. Schwartz Distinguished Professorship in Urological Oncology [1997]: *Mark P. Schoenberg, M.D.*

Funding provided by Dr. and Mrs. Bernard Schwartz. Dr. Schwartz is the CEO of Loral Space and Communications, Ltd. and a grateful patient of Johns Hopkins. Previous

occupant: Dr. Fray F. Marshall.

Lawrence Cardinal Shehan Chair in Physical Medicine and Rehabilitation [1993]: *Jeffrey B. Palmer, M.D.*

Funding provided by the Good Samaritan Hospital to support the Director of Physical Medicine and Rehabilitation.

Irving J. Sherman M.D. Professorship in Immunology [2003]: *Gregory J. Riggins, M.D.*

Funds provided by Mr. and Mrs. Irving Sherman for the Department of Neurosurgery.

Raj and Neerah Singh Professorship in Biomedical Engineering [2008]: *Unoccupied.*

Funding provided by the Raj and Neerah Singh Charitable Foundation and will be used by the Department of Biomedical Engineering to recruit, retain, or support a distinguished faculty member specializing in computational medicine.

W.W. Smith Charitable Trust Professorship in Immunology [2002]: *Daniel Drachman, M.D.*

Established by a grant from the W.W. Smith Charitable Trust as a refection of Bill Smith's exceptional vision and his desire to enhance medical excellence.

Alfred Sommer Professorship in Ophthalmology [2004]: *David S. Friedman, M.D., Ph.D.*

Funds set aside by the Department of Ophthalmology for retinal research.

Lewis Cass Spencer Chair of Orthopaedic Surgery [1997]: *Nancy Hadley Miller, M.D.*

Funding provided by Dr. Rowena Spencer, a member of the class of 1947, in honor of her father, the late Lewis Cass Spencer, M.D., an alumnus of the class of 1911 and the first orthopaedic surgical resident at Johns Hopkins.

Paul D. Sponseller, M.D. Professorship in Pediatric Orthopaedic Surgery [1997]: *Unoccupied.*

Theodore and Vada Stanley Distinguished Chair in Neurovirology in Pediatrics [1998]: *Robert H. Yolken, M.D.*

Funding provided by the Stanley Foundation. The endowment will support research in brain disorders, especially schizophrenia and bipolar disorders, which may be caused by infections in infancy and childhood.

Mary Wallace Stanton Professorship for Education [2004]: *David Nichols, M.D.*

Funds provided by donor to endow Professorships in the School of Medicine.

Mary Wallace Stanton Professorship for Faculty Affairs [2004]: *Janice Clements, Ph.D.*

Funds provided by donor to endow Professorships in the School of Medicine.

Walter J. Stark Chair in Ophthalmology [1992]: *Walter J. Stark, Jr., M.D.*

Funding provided by grateful patients of Dr. Stark: Mrs. Margaret Mosher, Ralph S. O'Connor, Ray Stark, and Mr. and Mrs. Albert Broccoli.

Stermer Family Professorship in Pediatric Inflammatory Bowel Disease [2001]: *Maria Oliva-Hemker, M.D.*

Funding provided by the Stermer Family for the Director of the IBD Center in the Department of Pediatrics.

Dr. Mary Betty Stevens Professorship in Rheumatology [1989]: *Antony Rosen, M.D.*

Funding provided by colleagues, friends and former patients of Dr. Mary Betty Stevens to support a clinical scholar in the Division of Rheumatology. Dr. Stevens, a 1955 graduate of the Johns Hopkins School of Medicine, specialized in clinical rheumatology and directed the division within the Department of Medicine.

Sunshine Natural Wellbeing Foundation Professorship in Chronic Fatigue Syndrome and Related Disorders in Pediatrics [2006]: *Peter C. Rowe, M.D.*

Funding provided to support a deserving faculty member.

Dr. Frank V. Sutland Chair in Pediatric Genetics [1991]: *Ethylin W. Jabs, M.D.*

Funding provided by Mrs. Frank V. Sutland and family. Previous occupant: Dr. Haig H. Kazazian, Jr.

Helen B. Taussig Professorship [1987]: *Jean S. Kan, M.D.*

Funding provided by the sale of Dr. Taussig's property on Cape Cod to provide support for the Division of Pediatric Cardiology. Dr. Helen B. Taussig, a 1927 graduate of the Johns Hopkins School of Medicine, founded the specialty of pediatric cardiology. In association with Dr. Alfred Blalock, she developed the first surgical procedure for treatment of cyanotic congenital heart disease (blue baby operation). Previous occupants: Drs. Richard Rowe and Langford Kidd.

Richard W. TeLinde Distinguished Professorship of Gynecological Pathology [1989]: *Robert J. Kurman, M.D.*

Funding provided by the estate of Dr. Richard W. TeLinde, Director of the Department of Gynecology and Obstetrics from 1939-1960. He was an advocate of a close relationship between pathology and gynecology and insisted that there be a pathology unit within the Department of Gynecology and Obstetrics. Previous occupant: Dr. J. Donald Woodruff.

Therapeutic Cognitive Neuroscience Professorship [2000]: *Barry Gordon, M.D., Ph.D.*

Funding by an anonymous donor to support wide ranging efforts to improve mental functions in people with brain disorders (The Department of Neurology).

Richard J. Traystman Professorship in Anesthesiology and Critical Care Medicine [2003]: *Myron Yaster, M.D.*

Endowed Chair of Pediatric Anesthesia and Intensive Care Medicine was renamed to honor Dr. Traystman.

Philip A. Tumulty Associate Professorship in Medicine [1994]: *D. William Schlott, M.D.*

Established in 1994 by various donors including Helena Hendrickson, a patient of Dr. Schlott.

Hans and Ilza Veith Professorship in the History of Medicine [1998]: *Unoccupied.*

Funded by Ilza Veith, Ph.D. to endow the Hans & Ilza Veith Professorship in the History of Medicine at the School of Medicine in memory of Professor Henry A. Siegerist.

Philip Franklin Wagley Chair in Biomedical Ethics [1995]: *Ruth Faden, Ph.D.*

Funding is provided by Dr. and Mrs. Wagley, family, friends, colleagues, and grateful patients. Dr. Philip F. Wagley, a 1943 graduate of the Johns Hopkins School of Medicine, practiced internal medicine in Baltimore. As a member of the faculty, he directed the course in medical ethics for medical students.

Henry N. Wagner, Jr., M.D. Professorship in Nuclear Medicine [2001]: *Richard L. Wahl, M.D.*

Funding provided by two anonymous donors and departmental funds to provide faculty support in the Division of Nuclear Medicine in the Department of Radiology.

A. Earl Walker, M.D. Professorship in Functional Neurosurgery [2008]: *Frederick A. Lenz, M.D.*

Frank B. Walsh Professor of Neuro-ophthalmology [1981]: *Neil R. Miller, M.D.*

Funding provided by friends and trainees. Dr. Frank B. Walsh was the founder of the subspecialty of neuro-ophthalmology.

Patrick C. Walsh Professorship in Urology [1998]: *Arthur L. Burnett, M.D.*

Dr. Patrick C. Walsh has been the Director of the Department of Urology since 1974. Funding was provided by an anonymous donor.

Abraham & Virginia Weiss Professorship in Cardiology [2004]: *David A. Kass, M.D.*

Funded by the Abraham & Virginia Weiss Trust.

Robert Bond Welch Professorship in Ophthalmology [2005]: *James T. Handa, M.D.*

A group of donors expressed their interest in making their donations in recognition of their respect and admiration for Dr. Robert B. Welch. Dr. Welch obtained his M.D. degree

from Johns Hopkins in 1953. He completed his internship and residency at the Wilmer Eye Institute.

William H. Welch Professorship in the History of Medicine: [1934]: *Randall M. Packard, Ph.D.*

This Professorship honors Dr. William H. Welch, the first Dean of the Johns Hopkins School of Medicine. Previous occupants: Henry E. Sigerist, M.D., Richard H. Shryock, Ph.D., Oswei Temkin, M.D., and Lloyd G. Stevenson, M.D.

Wellcome Professorship in Clinical Pharmacology [1971]: *Theresa A. Shapiro, M.D., Ph.D.*

Funds were provided by the Burroughs-Wellcome Fund. Previous occupants: Drs. Pedro Cuatrecasas and Paul Lietman.

Lawson Wilkens Professorship in Pediatric Endocrinology [2005]: *Sally Radovick, M.D.*

Funds will be used to support faculty and to honor Dr. Lawson Wilkins, the father of Pediatric Endocrinology.

William Holland Wilmer Professorship in Ophthalmology [1925]: *Peter J. McDonnell, III, M.D.*

Funding provided by charitable contributions of Col. and Mrs. Henry Breckenridge and the Wilmer Foundation. Dr. Wilmer was the first Director of the Wilmer Eye Institute and the first Director of the Department of Ophthalmology from 1925-1934. Previous occupants: Drs. William H. Wilmer, Alan C. Woods, A. Edward Maumenee, and Arnall Patz.

J. Donald Woodruff Chair in Gynecology and Obstetrics [1993] *Edward W. Wallach, M.D.*

Funding provided by colleagues and friends of Dr. J. Donald Woodruff, a 1937 graduate of the Johns Hopkins School of Medicine. Dr. Woodruff was a distinguished teacher and clinician in the Department of Gynecology and Obstetrics from 1942-1996.

Alan C. Woods Professorship in Ophthalmology [2002] *Douglas Jabs, M.D.*

Funding provided by the Department of Ophthalmology Unit Executive Funds to support this professorship.

¹ A date in brackets indicates year the named professorship was established.

LECTURESHIPS AND VISITING PROFESSORSHIPS

The Herter Lectureship: In November, 1902 Dr. and Mrs. Christian A. Herter of New York offered to the Medical Department of the Johns Hopkins University the sum of \$25,000 "for the formation of a memorial lectureship

designed to promote a more intimate knowledge of the researches of foreign investigators in the realm of medical science." This gift was accepted by the Trustees of the University on November 3, 1902. According to the present terms of the gift, some eminent worker in the medical sciences is to be asked each year to deliver lectures at the Johns Hopkins University upon a subject with which he/or she has been identified. The selection of a lecturer is to be left to a committee representing the departments of pathology, physiological chemistry, and clinical medicine, and if "in the judgment of the committee it should ultimately appear desirable to open the proposed lectureship to leaders in medical research in this country there should be no bar to so doing."

William Sydney Thayer and Susan Read Thayer Lectureship in Clinical Medicine: On May 16, 1927 "a group of admirers of Dr. William Sydney Thayer" donated a fund to the Johns Hopkins University to endow a lectureship to be known as "The William Sydney Thayer and Susan Read Thayer Lectureship in Clinical Medicine".

According to the terms of the gift, the income of this fund is to be used to defray the expenses of one or more annual lecturers on subjects "in Clinical Medicine, Pediatrics, Neurology or border line branches." The selection of the lecturer or lecturers is to be made by a "Committee composed of those who are from time to time occupying the chairs of Professor of Medicine, Pathology, Pediatrics and Neurology at the Johns Hopkins Medical School."

Hideyo Noguchi Lectureship: In 1929 Dr. Emanuel Libman of New York generously gave the University \$10,000 for the establishment of a lectureship in the History of Medicine. In accordance with Dr. Libman's desires, the lectureship was named after the distinguished investigator, Hideyo Noguchi.

The Dohme Lectureship: In June, 1916 Mrs. Charles E. Dohme of Baltimore generously offered to pay annually the sum of \$1,000 to the Trustees of the Johns Hopkins University to make it possible to offer each year a course of lectures in memory of her deceased husband, Charles E. Dohme, a well-known pharmaceutical chemist of Baltimore. The purpose of these lectures was to promote the development of a more intimate relationship between chemistry, pharmacy, and medicine.

The donations made by Mrs. Dohme for this purpose up to the time of her death in December, 1937, made it possible to offer prior to 1938 thirteen courses of lectures by distinguished scientists either from this coun-

try or abroad. Upon her death the University received from her estate a legacy amounting to the sum of \$18,500 after the payment of inheritance taxes to be used as an endowment fund, the income of which is to be devoted to the continuation of these lectures.

The lectureship is open to scientists from any part of the world, and the selection of the lecturer is made by a committee representing the departments of pharmacology, chemistry, and medicine.

The Daniel Coit Gilman Lectureship: Through a generous gift from the Avalon Foundation, the School of Medicine has been able to establish a distinguished lectureship designed to further understanding between medical science and the humanities. The lectureship has been named in honor of the first president of The Johns Hopkins University, Daniel Coit Gilman, who was so influential in establishing the graduate character of the School of Medicine. This lectureship was inaugurated in the academic year 1960-61 with the first Gilman Lecture being appropriately given by Dr. Milton Stover Eisenhower, eighth president of the Johns Hopkins University.

The David M. Gould Lectureship in Radiology: In 1962 friends and former associates of Dr. David M. Gould generously created a lectureship in his memory in the field of Radiology. Dr. Gould was a member of the Johns Hopkins faculty from 1947 to 1955. During this time, he left a lasting impression on student and physician alike for his warm understanding of their daily problems. His unusual skill as a clinical radiologist, teacher and investigator was admired and respected by all who knew him. At the time of his early death, Dr. Gould was Professor of Radiology at the University of Colorado. The lecturers are selected from scholars distinguished in clinical radiology or related disciplines in accordance with the action of a committee headed by the Chairman of the Department of Radiology.

The Lawson Wilkins Lectureship: Through generous gifts from the colleagues, the students and the friends of Dr. Lawson Wilkins, it has been possible to establish a distinguished lectureship designed to commemorate his great contribution to pediatric endocrinology.

The Stanhope Bayne-Jones Memorial Lectureship: An anonymous donor has established an annual lectureship to honor Dr. Stanhope Bayne-Jones, a distinguished alumnus of the Johns Hopkins University School of Medicine.

In view of his long interest in infectious diseases, microbiology, epidemiology, and preventive medicine, it has been decided to orient the Bayne-Jones Memorial Lectureship to problems in these fields of medical science.

The Alfred Blalock Lectureship: The Section of Surgical Sciences in 1982 established a commemorative lectureship to honor Dr. Alfred Blalock. Lecturers are selected from individuals who have made important contributions in clinical or investigative surgery and the selection is made by a committee representing the Section of Surgical Sciences.

The David Barap Brin Visiting Professorship in Medical Ethics: This visiting professorship, established by his family and friends, honors the memory and reflects the interests of David Barap Brin (1957-1980). The purpose of this visiting professorship is to foster the appreciation and understanding of ethical issues in basic and clinical research and patient care.

The Samuel Novey Lectureship in Psychological Medicine: The family, friends and colleagues of Dr. Samuel Novey wished to establish a lectureship to honor his contributions as practicing physician, and as a teacher of psychiatry and psychoanalysis.

At the time of his death, Dr. Novey was director of training at the Sheppard and Enoch Pratt Hospital. He had also for many years been actively engaged in teaching and research at the Johns Hopkins University School of Medicine. Because he held joint appointments in the Departments of Psychiatry and Medicine, it seemed especially appropriate to designate the broad field of psychological medicine as the topic to which the lectures would be addressed.

The Willard Sears Simpkins Lectureship Fund An annual lectureship has been established in memory of Willard Sears Simpkins, a former trustee of the John F. Kennedy Institute. Dr. Frederick L. Richardson, former director of the Institute, was instrumental in assuring this memorial. The lecturers are to be selected from scholars distinguished in clinical or scientific aspects of child development or the related medical sciences. The selection of the lecturers will be left to a committee representing the Department of Pediatrics, Physiology, Neurology, and the Behavioral Sciences.

The Sir Henry Hallett Dale Memorial Lectureship: In 1971 the Burroughs Wellcome Fund generously provided an endowment to the Johns Hopkins University School of Medicine for the establishment of an annual Visiting Professorship of Clinical Pharmacology in honor of the distinguished pharmacologist. The purpose of the lectureship is the promotion of a wider appreciation of the importance of clinical pharmacology and its scientific base.

William F. Rienhoff, Jr. Lectureship: In 1971 a grateful patient announced her inten-

tion to endow a lectureship in clinical surgery in honor of Dr. William F. Rienhoff, Jr. Through her generous gifts to the University, the Lectureship was formally established in 1973. The lecturers are to be selected from scholars distinguished in clinical or investigative surgery, and the selection will be made by a committee representing the Section of Surgical Sciences.

The Paul Ehrlich Lectureship: In 1957 Dr. Emanuel Libman of New York generously gave to the School of Medicine a sum of \$10,000 for the establishment of a lectureship in honor of Dr. Paul Ehrlich. The lectures under this endowment are given each year by the recipients of the Paul Ehrlich Awards and are presented on Young Investigators' Day.

The Alan Coopersmith Visiting Professorship: The family, colleagues, and friends of Dr. Alan Coopersmith have established a lectureship (or in special circumstances, a visiting professorship) in his memory in the field of Pediatric Hematology-Oncology. Dr. Coopersmith was a member of the Pediatric House Staff (1971-1973) and a Fellow in Pediatric Hematology from 1973 until the time of his death on December 5, 1974. His concern for patients and their problems and his incisive approach to complex clinical situations demonstrated his excellence as a clinician. Also evident was his desire to explore the unknowns of medicine by developing investigative skills in the laboratory. Lecturers will be chosen from distinguished scholars in clinical and/or research Pediatric Hematology-Oncology.

The William M. Shelley Visiting Professorship: Following the accidental death of Dr. William M. Shelley in 1974, his colleagues, friends and former students generously created a Visiting Professorship in his memory, formally established in 1977. A graduate of the Johns Hopkins School of Medicine and former member of the Pathology house staff, Dr. Shelley served on the Pathology faculty from 1960 to 1970. In recognition of Dr. Shelley's commitment and contributions to teaching and residency training, the Visiting Professor spends several days with the residents and staff of the Department of Pathology in addition to delivering a formal lecture. The Visiting Professor is chosen from scholars distinguished in diagnostic pathology by a committee representing Pathology, Surgery and Oncology.

The Philip Bard Lectureship: In 1978 the friends, colleagues, and family of Philip Bard donated funds to the Johns Hopkins University to endow a lectureship to be known as the Philip Bard Lecture in Medical Physiology.

According to the terms of this endowment, the income from the fund is to be used to

defray the expenses of one or more annual lectures in Physiology, particularly as related to Medical Science. The selection of the lecturer or lecturers is to be made by a committee of those who are from time to time occupying the chairs of Physiology, Biological Chemistry, Pediatrics, and Medicine.

The John Howland Visiting Professorship: During the 1930's the Harriet Lane Board of Managers set aside funds toward a tribute to Dr. John Howland, who, in 1911, succeeded Dr. Clemens Von Pirquet as Professor of Pediatrics at the Johns Hopkins University. He is widely credited with establishing academic pediatrics as it is known today, and with creating the first successful full-time university clinical department in this country. He was a superb clinician, teacher, and clinical investigator, for example, concerning acidosis and diarrhea, and calcium metabolism in tetany and in rickets. The Visiting Professor is to be selected from leading pediatric clinician investigators, recommended by the Academic Affairs Committee of the Department of Pediatrics.

The Henry G. Kunkel Lectureship: The family, friends and former students of Henry G. Kunkel have endowed a lectureship in immunology commemorating this outstanding immunologist and clinical investigator. Dr. Kunkel, a graduate of the Johns Hopkins University School of Medicine, was Professor and Senior Physician at the Rockefeller University. During the course of his career he made outstanding contributions to immunology, genetics, and clinical medicine. His demonstration that myeloma proteins closely resemble normal immunoglobulins laid the foundation upon which the present knowledge of immunoglobulin structure and led to the recognition of IgM and IgA as separate antibody classes. Dr. Kunkel's pioneering work in systemic lupus erythematosus and rheumatoid arthritis contributed in a seminal manner to knowledge of the underlying pathogenesis of these autoimmune diseases.

The Leslie Helleman Lectureship: The Leslie Helleman Lectureship was established in 1983 by the Department of Physiological Chemistry (now Department of Biological Chemistry) of the Johns Hopkins University School of Medicine, and by the family, friends, and former students of Professor Helleman (1896-1981) to honor his memory. In 1927 he joined the Department of Physiological Chemistry and formally retired from his productive career in 1961. His pioneering work related to the structure of enzymes, metallo-enzyme function and the application of mechanistic organic chemistry to explain enzymatic processes.

The Walter E. Dandy Visiting Professorship: Established in 1985, the Walter E. Dandy Visiting Professorship enables outstanding persons to be invited to spend a short period of time at Johns Hopkins reviewing research, meeting with students and faculty, and delivering the Dandy lecture. Among the goals of the professorship is to increase communication between basic and clinical neuroscientists.

Walter E. Dandy was a Hopkins neurosurgeon, whose outstanding research and neurosurgical abilities were summarized by his colleague Warfield Longcope, Professor of Medicine, who wrote that Dandy “had the genius of Lister combined with the brilliant technique of Horsley. He commanded respect and admiration from everyone who came in contact with him, and for those of us who saw him often, these were combined with great affection.”

The Ray A. Kroc and Robert L. Kroc Lectureship: In 1985 The Kroc Foundation endowed a visiting scientist and lectureship. The funds are intended for the advancement of multiple sclerosis and other neurological disease research at Johns Hopkins University. Each year an eminent neuroscientist is invited for a visit of several days to meet informally with colleagues and to present a lecture. The selection of the lecturer is made by a committee chaired by the Director of the Department of Neurology.

The Nicholson J. Eastman Professorship and Lecture: Dr. Nicholson J. Eastman, one of the most influential and important American obstetricians, served for more than 20 years as Obstetrician-in-Chief at The Johns Hopkins Hospital and Director of the Department of Obstetrics in The Johns Hopkins University School of Medicine. Dr. Eastman was responsible in large part for the scientific development of obstetrics and his numerous publications probably represent the first efforts to scientifically delineate what we now recognize as maternal fetal medicine. On behalf of his former students, residents and friends, the Johns Hopkins University School of Medicine is happy to perpetuate his contributions to obstetrics and gynecology through the Nicholson J. Eastman Professorship and Lecture.

The Israel Zeligman Lectureship in Dermatology: The Israel Zeligman Lectureship in Dermatology was established in 1983 to honor the contributions of Israel Zeligman, M.D., who had been on the faculty of The Johns Hopkins University School of Medicine since 1946. He had been responsible for the teaching of all the residents that had passed through the Department of Dermatology Residency Program at that time. Dr.

Zeligman was highly respected in the private practice of Dermatology and one who gave freely of his time to promote the clinical training program at The Johns Hopkins University School of Medicine. The Lectureship is supported by revenues generated by donations from former residents and friends.

The Vernon B. Mountcastle Lectureship: Upon the retirement of Vernon Mountcastle from the Hopkins' faculty in 1992, his friends and colleagues contributed funds to establish a lectureship in his name. The lectureship honors the major contributions of Dr. Mountcastle to neuroscience and to Johns Hopkins University. Each year a world class researcher is invited to the Medical School to lecture on an area relevant to the neurosciences.

The Albert Lester Lehninger Memorial Lectureship: In 1989 family, friends and former associates of Dr. Albert L. Lehninger established a lectureship in his memory in the field of biochemistry. Dr. Lehninger served as Professor and DeLamar Professor of the Department of Biological Chemistry from 1952 to 1978. He was then appointed University Professor of Medical Science, a position created to honor his distinguished service to the University, his scientific discoveries, and his teaching and writing achievements. He served in this position until his death in 1986. This Lectureship was inaugurated in 1990.

The Dean's Lecture Series: This series of lectures is designed to bring the work of senior members of the faculty to the attention of the Hopkins community.

The Mary Elizabeth Garrett Lectureship: In 1996, the Women's Leadership Council in cooperation with the Dean's Office inaugurated the Mary Elizabeth Garrett Lectureship. The lectureship honors Ms. Garrett who in 1890 provided the final funding necessary to open The Johns Hopkins University School of Medicine with the provision that women be admitted under the same terms as prescribed for men.

The Ira and Jean Belfer Lectureship: The Belfer Lectureship was established in 1992 by Dr. and Mrs. Myron Belfer in honor of his parents, Ira and Jean Belfer. Dr. and Mrs. Belfer created the Ira and Jean Belfer Lectureship to allow leaders in the field of pediatric and adult cardiology to come to Johns Hopkins to share their most recent discoveries.

Ira and Jean Belfer established the Peter Belfer Laboratories at the Johns Hopkins Medical Institutions in 1973 in memory of their youngest son, Peter, who was a patient at Hopkins from the age of 6 months until his death from heart disease in 1991 at the age of 25. Since that time, the Belfer family and their friends have displayed unflagging inter-

est and continued generosity in the support of Belfer Laboratories.

The Professor Carol J. Johns Memorial Lecture in Lung Health and Disease: This lecture was established within the Division of Pulmonary and Critical Care Medicine at the Johns Hopkins School of Medicine following the death of Dr. Johns on February 24, 2000.

This lectureship attests to the esteem in which she was held by the division as well as her commitment to excellence, the humanistic missions of the clinicians, and the contribution of women to medicine.

LECTURERS 2008-2009

THE ALFRED BLALOCK LECTURESHIP

D. Craig Miller, M.D.
Thelma and Henry Doelger Professor of
Cardiovascular Surgery
Stanford University of Medicine
Stanford, California
*Valve-Sparing Aortic Root Replacement- Where
are We Heading and What About BAV and
the Arch?*

THE DEAN'S LECTURE SERIES

Lecture I

Jeremy Nathans, M.D., Ph.D.
Professor of Molecular Biology and Genetics,
Neuroscience, and Ophthalmology
Johns Hopkins University School of Medicine
The Evolution of Trichromatic Color Vision

Lecture II

Scott Wright, M.D.
Professor of Medicine
Johns Hopkins University School of Medicine
*Studying the Right Side of the Triangle:
Scholarship in Medical Education*

Lecture III

Susan Michaelis, Ph.D.
Professor of Cell Biology
Johns Hopkins University School of Medicine
*From Yeast Cell Biology to the Premature
Aging Disorder Hutchinson-Gilford Progeria
Syndrome*

Lecture IV

Marilyn S. Albert, Ph.D.
Professor of Neurology
Director, Division of Cognitive Neuroscience
Johns Hopkins University School of Medicine
*Prodromal Alzheimer's Disease: Prospects for
Early Diagnosis and Treatment*

THE DANIEL NATHANS LECTURE

Judith Kimble, Ph.D.
Vilas Professor
HHMI Investigator
Department of Biochemistry
University of Wisconsin-Madison
*Molecular Regulation of Self-Renewal and
Differentiation: Lessons from the C. elegans
Germline*

THE WILLIAM M. SHELLEY MEMORIAL LECTURESHIP

Daivd E. Elder, M.B.ch.B., F.R.C.P.A.
Professor of Pathology and Laboratory Medicine
Vice Chair for Anatomic Pathology
University of Pennsylvania School of Medicine
*Melanoma Progression, Diagnosis and
Prognosis*

THE WILLIAM SYDNEY THAYER AND SUSAN READ THAYER LECTURESHIP IN CLINICAL MEDICINE

William J. Bremmer, M.D., Ph.D.
The Robert G. Petersdorf Endowed Chair in
Medicine
Chair, Department of Medicine
University of Washington School of Medicine
*Population Growth, the Environment, and
the Prospects for Male Contraceptive
Development*

THE ALBERT L. LEHNINGER MEMORIAL LECTURE

Ernesto Carafoli, M.D.
Professor and Director of the Venetian Institute
in Padua, Italy
*The Calcium Signaling Saga in Health and
Disease: A Tale for all Seasons*



Tuition, Fees, Financial Aid, Scholarships, and Awards

TUITION AND OTHER FEES

Medical students matriculating in September 2009 will be charged tuition at the rate of \$39,500 per year. The 2009-2010 tuition for graduate students registered in the School of Medicine is \$38,300. These tuitions cover all normal charges. The tuition fee is payable in two equal installments, one at the opening of the academic year, and one at the beginning of the second half of the year. Living expenses, health insurance, a \$200 imaging fee for first and second year students, and a \$740 matriculation fee are in addition to the tuition charge. The matriculation fee is a general University assessment and is collected once only from new students at the time of their initial enrollment as full-time students and/or as degree candidates in the University. Special schedules for payment of fees can be arranged with the Office of Financial Affairs.

Students will not be admitted to the regular courses until they have registered at the Office of the Registrar of the School of Medicine and arranged for payment of their fees for the first half of the academic year. Registration is not required for the second half but arrangements must be made for the payment of second half tuition before students can be admitted to classes.

A late charge may be imposed in connection with all tuition and fees due to the School of Medicine as follows: Tuition, imaging and matriculation fees are due and payable at the beginning of each term. The late charge will be 1-1/2% per month of the unpaid balance, and will be added to each unpaid account on the first of each month. For insurance and parking fees, the 1-1/2% late charge will be assessed thirty days after billing and on the monthly anniversary thereafter. When late payments result from delayed receipt of loans for which timely application has been made, the late charge may be waived by the Associate Dean for Student Affairs. All fees and charges must be paid in full in order for a student to be approved for graduation.

TUITION POLICIES

M.D. Candidates

Tuition rates are determined annually by the Board of Trustees. Annual tuition covers studies carried out during the entire 12

month period between enrollments (ordinarily September-August).

All M.D. candidates will be charged at the M.D. rate for a total of four years. Irrespective of the actual scheduling of the medical and graduate portions of their education students in M.D.-Ph.D. programs will ordinarily be required to pay M.D. rate tuition for the first four years in such programs. Tuition for the remaining years will be assessed annually at the M.D. rate or at the established University Ph.D. rate, whichever is lower. Alternative schedules for payments at the M.D. rate by students in M.D.-Ph.D. programs must be approved by the Vice Dean for Education.

Students who repeat a portion of the M.D. program will be assessed tuition at the annually established rate. Tuition is prorated to period of enrollment.

There is a \$25 annual fee for Student in Residence status.

Graduate Students-Ph.D. and M.A. Candidates

Tuition for each 12 month period (September-August) of enrollment will be at the rate established by the University for Ph.D. candidates.

Visiting Medical Students

Visiting medical students registered for clinical or research electives will be assessed a \$250 registration fee per quarter or fraction thereof. Enrollment of visiting medical students is usually limited to one quarter per academic year. Some surgical departments/divisions provide partial registration fee support.

Part-Time Degree Candidates

These students will be assessed tuition at the part-time rate established for the degree for which they are a candidate.

Special Students (Non-Degree Candidates)

Tuition will be assessed at the part-time rates established by the University for Ph.D. candidates.

Postdoctoral Students (Fellows)

Tuition for postdoctoral students who are not members of the Johns Hopkins Hospital house staff is \$800 per annum, pro-rated in relation to period of enrollment. Tuition may be remitted as specified by the Executive Committee of the Board of Trustees.*

* The policy concerning tuition for fellows and post-doctoral students is based upon action of the Executive Committee of the Board of Trustees on January 19, 1966, as follows: "where special circumstances do not make payment of such fees feasible, it will be remitted!"

REFUND POLICY

Full Time Students

Full time students are billed on a semester basis. A total refund of tuition payments will be made for a full time student withdrawing before completion of four weeks of a semester. Students withdrawing after completion of four weeks will receive a pro-rated refund up to 60 percent calculated from day one of the semester. Students withdrawing after completion of 60 percent of a semester will receive no refund of tuition.

The date of withdrawal will be calculated from the date the student's written statement of withdrawal is submitted to the Office of the Associate Dean for Student Affairs. Exceptions to this policy must be approved by the Vice Dean for Education.

Part Time Students

Part time students are billed on a per course basis. Students withdrawing after the start of a course will receive a pro-rated refund up to 60 percent calculated from day one of the course. Students withdrawing after completion of 60 percent of a course will receive no refund of tuition.

HEALTH FEES AND INSURANCES

Health Insurance

All students, their spouses, and dependent children must be covered by hospitalization insurance. It is required that students subscribe through the School of Medicine group plan. Spouses and dependent children must be covered by hospitalization insurance either through the School of Medicine group plan or equivalent coverage. The annual cost to the student is as follows: single-\$3,012, husband/wife-\$6,720, parent/child-\$6,720, family-\$8,640. These rates are subject to annual change. All bills are payable in the Office of Financial Affairs.

Dental Insurance

All students are required to subscribe to the Student Dental Insurance Plan. The annual cost to the student is \$168.

Life Insurance

In January of the second year the School of Medicine purchases a \$100,000 term life

insurance policy for each second year medical student. This policy remains in effect until the M.D. degree is awarded or until the student withdraws from the M.D. program. This insurance is provided at no cost to the student.

Disability Insurance

The School of Medicine provides a disability plan for all students enrolled as M.D. candidates. This coverage will provide benefits should a student develop a disability while enrolled as a student.

STUDENT RESEARCH SCHOLARSHIPS AND AWARDS

Most students at the School of Medicine engage in research projects at some time during their period of residence. Many students continue their investigative studies for three consecutive years during summer vacations and elective time of the regular medical curriculum. The results of original research are often published in leading scientific journals and presented at national meetings of scientific societies. Major contributions have been made by medical students participating in the research program at Johns Hopkins and other institutions. Research fellowships are frequently available to them in support of such studies. The stipends of these scholarships vary from \$500 to \$2,000.

Predocctoral Research Program for Medical Students The Predocctoral Research Program provides an opportunity for candidates for the M.D. degree at this institution to spend one year in an intensive research experience with a faculty member of the School of Medicine. Medical students participating in the program may elect to either: 1) interrupt their regular medical curriculum to take an additional year devoted to research, thereby delaying their date of graduation by one year, or 2) aggregate their elective quarters into one consecutive 12 month period in order to graduate with their class. Four stipends equivalent to that of a graduate student plus the individual health insurance premium will be available each year. All participants in the program will be responsible for only four years of tuition. Additional information and application requirements are available from the Associate Dean for Student Affairs.

Class of 1964 Physician of Letters Scholarship To provide scholarship support to students in the School of Medicine on a merit basis, recognizing students with the potential to excel as especially well-rounded physicians.

Harold Lamport Biomedical Research Prize The memory of Dr. Harold Lamport, a distin-

guished investigator, is honored by this prize established in 1976 by the Lamport Foundation. It is offered in the hope of stimulating interest in research in those students who had not made previous efforts in the laboratory. The Committee on Student Awards will determine the winner after careful study of essays and papers submitted by the students. The work must be original and must have been performed during a period in which the student was a matriculated student in the medical school pursuing the regular curriculum.

Dr. Harold Lamport Research Fund Mrs. Golden S. Lamport established the Dr. Harold Lamport Research Fund in honor of her husband, a Distinguished Service Professor of Physiology and Biophysics. The Lamport Fund will support the effort of medical students interested in research in the basic science areas of medicine.

A renowned investigator and educator, Dr. Lamport contributed to research in physiology, biophysics and circulation. He was first recognized internationally when he published a series of incisive studies of hemodynamics, including the first comprehensive analysis of the renal afferent and efferent arteriolar resistances in relation to kidney function in health and disease.

The Lamport Fund is available on a competitive basis to medical students at the Johns Hopkins University School of Medicine. The awards are to be used in support of a research effort which involves the summer or at least one quarter of the academic year at Johns Hopkins or in other settings which will provide similar opportunity.

W. Barry Wood Student Research Fund The W. Barry Wood Student Research Fund was established in 1971 by the family and friends of Dr. W. Barry Wood, Jr. Dr. Wood had a long association with the School of Medicine as student, house officer, Vice President of the University in charge of medical affairs, and Director of the Department of Microbiology. The fund commemorates Dr. Wood's deep commitment to medical research and teaching. Income from this fund is to be used to support a student in the School of Medicine who is undertaking biomedical research at the Johns Hopkins University or at another appropriate institution. Each Wood Fellow is selected by the Committee on Student Awards on the basis of present commitment and future promise in research.

Brantigan Clinical Research Fund. The fund was established in 1998 by a gift from John W. Brantigan, M.D. The purpose of the fund is to provide financial support for students to conduct research and/or present their findings at professional meetings.

Henry Strong Denison Fund for Medical Research By agreement dated September 23, 1937, the Johns Hopkins University received from the Henry Strong Denison Medical Foundation, Incorporated, an endowment fund of \$100,000, to be known as The Henry Strong Denison Fund for Medical Research in memory of Henry Strong Denison, M.D., 1908. While the gift is made broadly for the support of medical research, the income will be used for the specific purpose of aiding in the training for research of young people deemed by the medical faculty to be especially gifted for a career in medical investigation.

To fulfill the provisions of this gift, the income each year may be allocated for scholarships to students of the School of Medicine considered by the committee to give promise of achievement in research. These scholarships will be awarded on recommendation of the directors of departments and not upon application from the student.

William L. Straus, Jr., Scholar in Anatomy Award This fund was established in 1982 by an alumnus to honor Dr. Straus, former associate professor of anatomy and Acting Director of the Department of Anatomy. The donor specified that the award be made to a student with strong interests in basic research, people and the history of medicine at the Johns Hopkins University School of Medicine and Hospital.

Franklin Paine Mall Prize in Anatomy The income from an endowment account established by Dr. Miley B. Wesson, an alumnus of the School, is used as an award for a deserving student particularly interested in anatomy. The grant is given in the name of Franklin Paine Mall, the first professor of anatomy in the School of Medicine, as a token of appreciation. Selection is made by the First Year Committee on Student Promotions.

Alan P. Trimakas Award in Cardiovascular Research This award was established by contributions from the Class of 1979 to honor the memory of their classmate who died on January 15, 1979. In keeping with Dr. Trimakas' intentions to pursue a career in academic cardiology, for which he had shown exceptional ability, this award will be given to a medical student who has demonstrated unusual promise in the area of cardiovascular research. The award will be made during the third year for a student planning an extended commitment to a research project to be completed during the final year of the curriculum. The recipient of this award will be selected by a committee representing the Cardiovascular Division of the Department of Medicine. Applications should be admitted to the director of the division.

Helen and Harold Harrison Award for Outstanding Proficiency in Pediatrics

This award was established by the Alumni/ae of Dr. Harold Harrison's Residency Program in Pediatrics at the Francis Scott Key Medical Center. It is intended to give honor to the outstanding contributions made by the Harrisons over the many years of their tenure at the Johns Hopkins Hospital and the Francis Scott Key Medical Center, and it will, in addition, recognize each year senior students whose efforts in pediatrics have been distinguished.

Sylvan Shane Prize in Anesthesiology and Critical Care Medicine

Dr. Sylvan Shane, a member of the Department of Anesthesiology and Critical Care Medicine at Johns Hopkins from 1980 to 1984, has created an endowment to recognize an outstanding medical student making a career choice in anesthesiology. Dr. Shane's lifetime was devoted toward the search for ways to prevent pain and suffering in patients undergoing surgical procedures. His generous gift is designed to give support and encouragement to graduating medical students who are committed to the same efforts.

William R. McAlpin Research Fund The purpose of this fund, made possible by a cash award to Dr. Jerome D. Frank from the National Mental Health Association, is to encourage research by students in the Johns Hopkins University School of Medicine and the Johns Hopkins University School of Public Health into any aspect of mental illness and mental health, but with preference given to studies relevant to clinical care, psychotherapy, or public health.

Recipients will be selected by a committee composed of the Chairman of the Department of Psychiatry and Behavioral Sciences of the Johns Hopkins School of Medicine, The Chairman of the Department of Mental Hygiene of the Johns Hopkins School of Public Health, or persons they designate, and Dr. Frank. To apply for a grant, the student must submit a letter to the chairman of either department stating the amount requested and the reasons for the request, with a supporting letter from a faculty member. Requests will be received and reviewed at any time. The amount of any single grant, or the total multiple grants to any one person, shall not exceed \$500.

Leo Kanner Student Research Fund The Leo Kanner Student Research Fund was established in 1982 by Mrs. June Kanner to encourage medical student research in child psychiatry. Dr. Kanner, the first professor of child psychiatry at Johns Hopkins, was division director from 1930 to 1959 and is often

called *the Father of Child Psychiatry*. Income from the fund is used to provide a student in the School of Medicine the opportunity to participate in a summer research project with a Child Psychiatry faculty member.

Harry C. Saltzstein Prize for Medical Writing

This prize was established in 1990 through an endowment provided by the family of Dr. Saltzstein, a graduate of the Johns Hopkins University School of Medicine, Class of 1914. Dr. Saltzstein was the founder of Sinai Hospital of Detroit as well as its first Chief of Staff. He founded the *Bulletin*, Sinai Hospital of Detroit and ultimately became its editor. He maintained a life long interest in medical writing. His nephew, Dr. Sidney Saltzstein, graduated from the Johns Hopkins University School of Medicine in 1954. This annual prize will recognize excellence in medical writing by a student of the Johns Hopkins University School of Medicine.

Summer Research Stipends for Medical Students

Summer research stipends are awarded each year if funds are available. Funds are at times available from special training and research grants awarded to faculty members of individual departments and from the General Research Support Grant. These stipends may be given to students who are interested in participating in research projects under the supervision of faculty members of the School of Medicine and of certain departments of the School of Public Health and the Homewood Schools. The Johns Hopkins University School of Medicine does not offer stipends for summer research at other institutions, but many medical students are assisted in obtaining support for summer programs of research and study at other institutions in this country and abroad. Updated information is available in the Office of Student Affairs.

YOUNG INVESTIGATORS' DAY

The Young Investigators' Day was established in 1978 to recognize student investigators in the School of Medicine and to provide them with a forum for presentation of their work. All degree candidates and postdoctoral fellows in the School of Medicine are invited to submit abstracts for the following awards:

The Johns Hopkins Medical and Surgical Association Awards for Postdoctoral Investigation were established in 1981 by the School of Medicine to recognize excellence in research by clinical or research fellows in the School of Medicine. These awards are designated for clinical research, laboratory research with direct clinical relevance, and basic laboratory research. The awards for the 2008-2009 academic year were:

The A. McGehee Harvey Research Award.

The 2008-2009 recipient was Akishi Onishi, Ph.D.

The Helen B. Taussig Research Award is awarded for clinical research with active or historical patient involvement. The 2008-2009 recipient was Joelle Hillion, Ph.D.

The Alfred Blalock Research Award The 2008-2009 recipient was Sian Jones, Ph.D.

The W. Barry Wood, Jr. Research Award is awarded for laboratory research with direct clinical relevance. The 2008-2009 recipient was Michael Tri Hoang Do, Ph.D.

The Albert L. Lehninger Research Award is awarded for laboratory research without direct clinical relevance. The 2008-2009 recipient was Ye Yan, Ph.D.

The Daniel Nathans Research Award The 2008-2009 recipient was Kartik Venkatachalam, Ph.D.

The Michael A. Shanoff Research Award The award, consisting of an honorarium and a certificate, is made annually to a candidate in the M.D., Ph.D., or M.D.-Ph.D. program in the Johns Hopkins University School of Medicine who, among all similarly eligible students, is considered to have made the most significant research contribution.

The award will be given in recognition of a substantial and sustained contribution to research, preferably undertaken over more than one elective quarter. Thoroughness and originality of research are to be primary considerations in the selection of awardees. Most of the research must have been undertaken during the candidates' studies at the Johns Hopkins Medical Institutions. The award may be shared by two or more students who have collaborated on a research project. If the award committee finds no meaningful way to distinguish between the relative merit of the contribution and achievement of candidates who have worked on different research projects, then the award may be divided equally between such candidates. The awardee(s) will be selected by a committee comprised of members of the Basic Science and Clinical faculties. The recipient for the 2008-2009 academic year was Michael R. Tadross.

The David Israel Macht Research Award

This award was established in 1983 through an endowment provided by the family of Dr. Macht to commemorate the centenary of his birth. Dr. Macht was a graduate of the Johns Hopkins School of Medicine, Class of 1906 and was a member of the faculty of the Departments of Pharmacology and Medicine from 1910 to the middle 1930's. He was a versatile and pioneering investigator and had a special

interest in opiate alkaloids, the absorption of drugs, and a number of other areas.

The award is intended to recognize excellence in investigation by a student in the School of Medicine, registered in M.D., Ph.D. or combined M.D.-Ph.D. programs. The award will consist of an honorarium and an inscribed plaque.

The selection of the awardee will be made by a Committee composed of Basic Science and Clinical Faculty members on the basis of an essay in medical science submitted in competition for the award. The award will be awarded annually to a single individual. If in the opinion of the Committee, no meaningful distinction between the qualities of two essays can be made, the award may be divided among not more than two individuals. The recipient for the 2008-2009 academic year was Yu-yi Lin.

The Martin and Carol Macht Research Award

This award was established in 1993 to recognize outstanding investigation by an M.D. or Ph.D., or M.D.-Ph.D. student in the School of Medicine. Dr. Martin B. Macht, who received both M.D. and Ph.D. degrees from Johns Hopkins, has been a Trustee of the University since 1975. Dr. Macht is an internist who has been affiliated with the University of Cincinnati as Professor of Medicine and Psychiatry. Dr. Carol Macht received M.A. and Ph.D. degrees from Johns Hopkins in the History of Art and Archeology. The award was established through an endowment gift from the Macht family.

The selection of the awardee will be made by a committee composed of basic science and clinical faculty members on the basis of an essay in medical science submitted in competition for the award. The award will be awarded annually to a single individual. If in the opinion of the Committee, no meaningful distinction between the qualities of two essays can be made, the award may be divided among not more than two individuals. The award consists of an honorarium and certificate. The recipient for 2008-2009 academic year was Sasrutha Rasika Wickramasinghe.

The Paul Ehrlich Research Awards

These awards are made annually to candidates in the Ph.D., M.D., or Masters programs in the Johns Hopkins University School of Medicine. They are given in recognition of contributions to research undertaken during the candidate's studies at this institution. The recipients for the 2008-2009 academic year were Andrew Kim, William Hawse, Ning Cheng, and Eric N. Momin.

The Alicia Showalter Reynolds Research Award This award was created by the School of Medicine Dean's Office in 1997, to honor

the memory of Alicia Showalter Reynolds, a Ph.D. student in the Department of Pharmacology and Molecular Sciences from 1992 until her untimely death in 1996. It is given in recognition of outstanding research by a Ph.D. candidate in the School of Medicine. The recipient for the 2008-2009 academic year was Ivy E. Dick.

The Mette Strand Research Award

This award was established in 1998 by Dr. Strand's colleagues and friends as a tribute to Dr. Strand, a Professor of Pharmacology and Molecular Sciences from 1977 to her untimely death in 1997. This award honors Dr. Strand's contributions to humanity, her unyielding devotion to science, and her role in training a generation of graduate students. Preference is given to a Ph.D. student. The award was awarded at Young Investigators' Day in April 2009 to Christine Ladd-Acosta.

The Hans Joaquim Prochaska Research Award

This award was established in 1998 by his mentor and friend Paul Talalay to honor the excellence that Dr. Prochaska exemplified, and the distinction he brought to the Hopkins M.D.-Ph.D. program. This award is awarded annually to a student in the School of Medicine who has made an outstanding discovery with preference given to an M.D.-Ph.D. candidate. It was awarded at Young Investigators' Day in April 2009 to Yuchen Jiao.

The Bae Gyua Jung Research Award.

This award was established by an endowment in 2007 by friends and family and awarded for the first time in 2009 to Dengke Ma.

The Nuper Dinesh Thekdi Research Award

This award was established in 2002 in memory of Nupur Dinesh Thekdi, M.D.-Ph.D. student at Johns Hopkins. The 2008-2009 recipient was Yun Liu.

STUDENT FINANCIAL ASSISTANCE

Financial aid for students at the Johns Hopkins University School of Medicine is awarded solely on the basis of demonstrated financial need. The aid program consists of loans from the federal government and University funds, as well as scholarship funds made available through the generosity of many donors. Students who require aid are first awarded a Unit Loan before they are considered for scholarship support, which is reserved for those students with greatest need. The Financial Aid Office is responsible for certifying the eligibility of students for educational loans with deferred interest and long-term payback provisions. The Federal Government is the larg-

est source of educational loans. Financial aid applications will be provided to all admitted students. Financial considerations do not in any way influence admission decisions. Applicants will receive a financial aid award notice shortly after they have submitted a complete aid application. Foreign applicants who do not hold a permanent resident visa or an immigrant visa are not eligible for the financial aid program from the Johns Hopkins University School of Medicine. Qualified foreign students will be issued conditional acceptances into the School of Medicine under the following terms: on or before July 1 of the year of matriculation the accepted student must deposit in an escrow account to be established in the state of Maryland under terms acceptable to the School funds sufficient to meet all tuition, mandatory fees and living expenses for the anticipated period of enrollment. Details of financial requirements will be included in letters of acceptance.

Scholarships

Recognizing the pressing need for financial assistance to students in the School of Medicine, many individuals and organizations have established funds for this purpose. Over the years many students now prominent in the field of medicine have been aided by one or another of these scholarships funds. In each instance the student is informed of the source of this scholarship aid.

Vivian B. Allen Scholarship Fund Mrs. Vivian B. Allen (Mrs. Beaumont Allen) established an endowment fund in 1955 to provide tuition aid to medical students with financial need.

Warde B. Allan Fund Established in 1968 by an anonymous gift to honor Warde B. Allan, M.D. for his eminent record at the School of Medicine and among his private patients. The fund is perpetuated by gifts from his widow, Mrs. Warde B. Allan.

Alumni Class Scholarships Through the auspices of the Medical Annual Fund (Roll Call), alumni support medical students through class scholarship funds.

American Medical Association Education and Research Foundation (A.M.A.-E.R.F.) Scholarships The A.M.A.-E.R.F. annually makes grants to medical schools, which at the Johns Hopkins University School of Medicine have been used to support student low interest loans.

Marcia Anderson Memorial Fund An endowed fund established in 1989 by the husband, R. David Anderson, M.D., Class of 1990 and her family in memory of Marcia Anderson. The income is to provide scholarships to students with special needs.

E. Cowles Andrus Fund This endowed fund was established by Mrs. E. Cowles Andrus in memory of her husband, Dr. E. Cowles Andrus, a distinguished Johns Hopkins physician, teacher and pioneer in the treatment of cardiovascular disease. In recognition of his devotion to Johns Hopkins, this fund provides financial assistance to needy medical students, with preference given to those who are planning a career in cardiovascular medicine.

Ralph and Ellen Anthony Medical Scholarship Fund Ralph and Ellen Anthony, good friends of the School of Medicine, established the Anthony Medical Scholarship Fund in January of 1984 for the purpose of providing scholarship aid to financially needy students in the School of Medicine.

Richard Westcott Appleton Scholarship Fund An endowment fund was established in 1973 in honor of Dr. Richard Westcott Appleton, the income of which is to be awarded to "a medical student of moral worth and intellectual promise."

Dr. and Mrs. Fred B. Aurin Scholarship Fund Established in 1998 by Fred B. Aurin, M.D. and his wife, this fund will provide scholarship support for medical students, with preference to those from the University of Oklahoma or Texas.

Charles R. Austrian Fund for Medical Education An endowment fund was established in 1956 by friends and colleagues of the late Dr. Austrian, with income allocated to medical education and training of young physicians.

Robert I. Avery, M.D. Endowed Scholarship Fund This endowment fund was established in 2003 to provide financial assistance to medical students.

David Graham Baird and Mildred Batchelder Baird Memorial Scholarship Fund The endowed fund was established by the Winfield Baird Foundation to perpetuate the memories of David and Mildred Baird. The income from this fund is to be used to support the needs of students in the School of Medicine.

Frances Ward Banks Memorial Scholarship Fund The Frances Ward Banks Memorial Fund was established by Elizabeth B. Banks in memory of her mother. The income from this fund is to be used to support meritorious students in the School of Medicine.

Dr. John W. Barnaby Scholarship Fund This fund was established in 1997 through the estate of Dr. John Barnaby to provide scholarships to deserving medical students.

Jeremiah A. Barondess Scholarship Fund This fund was established in 1999 by Jeremiah A. Barondess, M.D., in honor of his 50th graduation anniversary from the School of Medicine. Recipients should be M.D. candi-

dates who also pursue a degree in the history of medicine.

Jennie Lee Batson, M.D., Memorial Scholarship Fund This fund was established in 1999 by members of the class of 1984 upon their 15th Reunion. Dr. Batson was a member of the class of 1984 who died of cancer. The fund provides assistance to needy students.

Dudley Beaumont Memorial Scholarship In 1945 the Trustees of The Louis D. Beaumont Trust contributed to the Johns Hopkins Hospital a fund in memory of a son, Dudley. The Hospital makes an annual contribution from this fund to the School of Medicine for scholarship support.

Thomas Allen Beetham and Ida Covert Beetham Memorial Scholarship Fund The Thomas Allen Beetham and Ida Covert Beetham Memorial Scholarship Fund was established by Miss Martha E. Beetham to perpetuate the memories of Thomas and Ida Beetham. Miss Beetham specifically requested that the monies in this endowment fund be used for supporting the scholarship needs of students in the School of Medicine.

Elston L. Belknap Family Scholarship Fund The Elston L. Belknap Family Scholarship was established in July of 1981 by a bequest from Dr. Elston L. Belknap, a graduate of the School of Medicine in the Class of 1923. Its purpose is to provide assistance to deserving students in the School of Medicine, either in the form of loans or as scholarship aid.

Fredericka Benton, M.D. Memorial Scholarship Fund Established in 1995 by John J. Benton, M.D., this fund is to be used to provide scholarship aid to medical students with demonstrated financial need.

Barnett Berman, M.D. Scholarship Fund Established in 1999 anonymously by a former student, in recognition of Dr. Berman's long-time service and commitment to Johns Hopkins. Dr. Berman was an associate professor of medicine at Hopkins.

Isidor S. L. Bermann Memorial Fellowship Established in honor of her husband by the bequest of Mrs. Lillian Hunt Bermann to support fellowships for scientific and medical research for students in the School of Medicine.

Laurence H. and Ida Lea Blackburn Endowed Scholarship for Medical Education Established in 2000 by Laurence H. Blackburn, Jr., M.D., and his wife, Rose, in honor of his parents. Dr. Blackburn, Jr. is a 1955 School of Medicine graduate.

Dr. Alfred Blalock Scholarship Fund This scholarship, established by Dr. and Mrs. Thomas Harrold, commemorates the great

service to human kind and the many contributions of one of Johns Hopkins' most distinguished surgeons, Alfred Blalock, who developed the blue baby operation designed to correct congenital abnormalities of the heart.

Joseph N. and Elisa Bongiovanni Medical Student Aid Fund This endowed fund was established in 1987 by the estate of Dr. Alfred M. Bongiovanni in honor of his parents. Dr. Bongiovanni was a member of the faculty in the Department of Pediatrics from 1952 to 1955. The income from the fund is to provide financial aid to needy students in the School of Medicine.

Samuel H. Brethwaite, M.D. Scholarship Fund. Dr. Brethwaite was a member of the Class of 1935. The fund was established by his estate in 1998.

William and Wendyce Brody Fund This fund was established in 1992 to fund medical students pursuing a degree in one of the engineering disciplines.

Dr. Patrick and Mrs. Judith Brookhouser Scholarship Fund Established in 1999 by Dr. & Mrs. Brookhouser to provide scholarships to needy medical students.

Grafton Rayner Browne and Edna Spriggs Browne Scholarship Fund Dr. Grafton Brown died in 1973, leaving a Trust to provide scholarships for Hopkins medical students.

Art Buchwald Scholarship Fund Established by Mr. Art Buchwald in 1989 in honor of the Centennial of Johns Hopkins Medicine. The income from this fund will provide scholarships for students in the School of Medicine who demonstrate financial need.

Harlan P. Burbage Fund Established in 1989 by the Ernest E. Burbage, Jr. Trust Fund. The income from this trust is to provide scholarships to pre-medical and medical students who, due to financial need, could not otherwise attend The Johns Hopkins University.

Alden H. and Mary K. Burkholder Scholarship in Medical Education This fund was established in 1996 by Dr. and Mrs. John A. Burkholder to provide scholarships for qualified medical students.

Laura L. and Kenneth I. Berns, M.D., Ph.D. Scholarship Established in 1999 to commemorate Dr. Berns' 35th reunion and his lifelong devotion to medicine.

Douglas G. Carroll, Jr. Student Aid Fund Established in 1976 by Dr. Douglas G. Carroll, Jr. to provide financial aid to deserving students in the School of Medicine.

David J. Carver Scholarship Fund An endowed scholarship was established in 1957 by Dr. David J. Carver for students in the School of Medicine. Chinese students

are to have preference insofar as there may be qualified applicants; second preference is for students of other Asian nationalities; third preference is for American students.

Centennial Scholarship and Loan Fund Established in 1989 by the Johns Hopkins Medical and Surgical Association to commemorate the Johns Hopkins Medical Centennial. The fund is to be used to aid deserving students in the School of Medicine.

Jerry and Ruth Chang Scholarship Fund This fund was established in 2003 by Helena Chang Chui, M.D. to honor her parents, Jerry and Ruth Chang. Income from principal will be used to provide scholarship assistance to medical students. Special consideration is given to students that are pursuing an Master's in Public Health.

Dean Alan M. Chesney and Dean Thomas B. Turner Scholarship Fund Established by friends and admirers of Dr. Alan M. Chesney and Dr. Thomas B. Turner to be used for scholarships for deserving medical students.

Class of 1915 Memorial Fund A fund established through gifts and bequests from and as a tribute to the Class of 1915 for the purpose of awarding scholarship aid to a deserving student or students at the Johns Hopkins University School of Medicine.

Class of 1926 and Charles O'Donovan Scholarship Fund This fund was established in 1950 by members of the School of Medicine Class of 1926 to provide income for a scholarship.

Class of 1936 Fund Established in 1987 by the Class of 1936, this endowed fund is to provide scholarships for students in the School of Medicine.

Class of 1937 Philip Bard Scholarship Established as an endowed fund by the Class of 1937 in 1987 in honor of their 50th Reunion. The income is to provide scholarships to needy medical students in the School of Medicine.

Class of 1956 Memorial Fund Endowed in 1971 by members of the Class of 1956, the income to be used to provide scholarships to medical students with financial need.

Class of 1965 Scholarship Fund Endowed by the members of the Class of 1965 in honor of their 25th Reunion, the income to provide scholarships to needy medical students.

Class of 1966 Scholarship Fund Endowed in 1989 by the members of the Class of 1966 in honor of their 25th Reunion, the income to provide scholarships for needy medical students.

Class of 1976 Scholarship Fund Endowed by the members of the Class of 1976 in honor

of their 25th Reunion, the income to provide scholarships to medical students exhibiting financial need.

Class of 1978 Scholarship Fund Endowed by the Class of 1978 to commemorate their 25th Reunion; the income will provide scholarships to needy medical students in the School of Medicine.

Class of 1980 Scholarship Fund Dr. John T. Thompson and other Class of 1980 School of Medicine alumni established the Class of 1980 Scholarship Fund in 1995 to provide scholarship aid to financially needy medical students.

Class of 1983 Scholarship Fund This fund was created by members of the Class of 1983 upon their 15th Reunion to provide assistance to needy medical students.

Class of 1986 Scholarship Fund Endowed by the members of the Class of 1986 to commemorate their 15th Reunion, the income to provide scholarship assistance to needy medical students in the School of Medicine.

William A. Crawley, M.D., D.D.S., M'79 Endowed Scholarship Fund Established in 2004; the income is to be used to provide financial assistance to worthy students in the School of Medicine.

Richard S. D'Agostino, M.D. Endowed Scholarship Fund This fund was created by Dr. D'Agostino, Class of 1978, to honor his devotion to medicine and his lifetime affiliation with the School of Medicine. Income from this fund will provide financial assistance to medical students at the School of Medicine.

Virginia Wells Davies Fund The Virginia Wells Davies Fund was established by Virginia Wells Davies in November of 1981. Its purpose is to provide scholarship assistance to financially needy students pursuing the degree of Doctor of Medicine.

Marguerite T. Doane Scholarship Fund Mrs. Marguerite T. Doane established an endowment fund in 1952 to provide tuition aid to certain students with financial need.

The Oscar and Victoria Dorsch Scholarship for Medical Education This fund was established in June 2003. Income from the principal will be used to provide financial support for medical students in the School of Medicine.

Victoria S. Doust, M.D. Scholarship Fund Established in 1999 by Brewster C. Doust, M.D., Class of 1951. The fund is a tribute to his wife, Victoria.

Denise Dufer, M.D. Memorial Fund Established in 1990 by the family, friends, and colleagues of Dr. Denise Dufer, Class of 1988.

This endowed fund is to provide scholarships to needy medical students.

Marcia Thomas Duncan Memorial Scholarship This scholarship, established in 1980 in memory of Marcia Thomas Duncan, is awarded annually to a first year medical student. In addition to a four-year scholarship covering tuition and fees, the Duncan Scholar receives a small monthly stipend to offset living expenses while in medical school.

Joseph C. Eggleston Memorial Fund An endowed fund established in 1989 by family, friends and colleagues of Dr. Joseph Eggleston, Class of 1962. Dr. Eggleston served on the medical staff in pathology from 1962 to 1989. The income is to provide scholarship assistance to needy medical students in the School of Medicine.

Robert Biggs Ehrman Scholarship Fund Established in 1970 at the death of Mr. Ehrman to provide scholarships for medical students.

Ralph Engle Memorial Scholarship Established in 2000 by friends and family in memory of Dr. Engle, Class of 1945. Dr. Engle previously served as his class representative.

Epps Family Fund Established in 1999 by Charles H. Epps, Jr., M.D., and Roselyn Payne Epps, M.D., M.P.H., M.A. The Epps family has extensive connections to Johns Hopkins and wishes to acknowledge the importance of the University in their lives. The fund was established in honor and memory of various family members.

Jean Epstein Memorial Fund This endowment fund was established in 1985 by Mr. and Mrs. Alvin Epstein and the Alvin and Louella Epstein Foundation. The income from this fund provides a scholarship to deserving women who have an interest in neurology.

Mrs. Richard P. Ettinger Scholarship Fund Established by Mrs. Ettinger to provide scholarship assistance for students in the School of Medicine.

Dorothy A. Evans Graduate Research Fellowship Fund The fund was established to endow graduate fellowships for research in any field.

Larry Evans Student Aid Fund Scholarship Fund This fund is in memory of Larry Evans to assist students with special interest in the area of drug addiction.

Eugenio Fernandez-Cerra, M.D. Scholarship Fund This fund was established in 1999 by Dr. Eugenio Fernandez-Cerra, a 1943 alumnus of the School of Medicine. Preference is given to students from Puerto Rico.

Dr. Edward M. Finesilver Memorial Scholarship Fund This fund was established in

1999 by Mrs. Frances Blumenthal in memory of her father, an alumnus of the Class of 1924.

Warfield M. Firor Fund An endowed scholarship established in 1989 by the estate of Mrs. Thomasena Allen. The income is to provide financial aid to needy medical students.

Fischer Family Scholarship for Medical Education This scholarship fund recognizes the Hopkins family legacy of Janet Fischer, M.D., Class of 1948; Newton Fischer, M.D., former faculty in Otolaryngology; and Anne Crowe Fischer, M.D., Ph.D., Class of 1991. The purpose of this endowed fund is to provide financial assistance to medical students.

Waldo Emerson Floyd III Scholarship Fund The income from this endowment account is to be used for scholarship support for needy students. Students from the state of Georgia are to have preference insofar as there may be qualified applicants: second preference will be given to students from the southeastern part of the United States.

Eric W. Fonkalsrud, M.D. and Margaret Z. Fonkalsrud Endowed Scholarship Fund This fund was established in 2002 by Eric W. Fonkalsrud, Class of 1957, and his wife, Margaret Fonkalsrud. The couple has a life-long affiliation with the Johns Hopkins School of Medicine. Dr. Fonkalsrud served on the faculty in the School of Medicine's Department of Surgery and as a surgeon at the Johns Hopkins Hospital. The income from this fund will provide financial support to medical students who have demonstrated financial need.

Sharon Fox Scholarship Fund in Memory of Henrietta B. Fox An endowment fund established in 1967 under the will of Mr. Sharon Fox in memory of Henrietta B. Fox, the income from which is to be used for student aid in the School of Medicine.

Bernard S. French Scholarship Fund Established as a bequest from the estate of Sallye Lipscomb French as a memorial to her husband, Bernard S. French, to provide scholarship support at the School of Medicine.

Dr. Gottlieb C. Friesinger II Endowed Scholarship This fund was endowed in 1996 by Dr. Gottlieb C. Friesinger II to fund a scholarship for students at the School of Medicine.

I. Phillips Frohman, M.D. Scholarship Established in 2000 by a gift from Dr. Frohman.

Bernice and Joseph Fuld Memorial Scholarship Fund This fund was established in 1998 by Stuart L. Fuld, M.D., Class of 1963, and Ulrike L. Fuld. The income is to be used for financial assistance to medical students.

Dr. J. Alex and M. Arlene Gardner Scholarship Fund This fund was established in 1996 by Dr. and Mrs. J. Alex Gardner to provide

scholarship support to students in the School of Medicine, preferably to any acceptable candidate applying for admission to the Johns Hopkins University School of Medicine, from southwestern Michigan.

Dr. and Mrs. Abraham Genecin Memorial Fund This fund was established in 1999 by Mrs. Rita Genecin and other donors to provide assistance to needy medical students.

Gilliam Family Scholarship Fund This endowed fund, established in 2001 by the Gilliam Foundation and Mr. James H. Gilliam, Jr., is to provide financial assistance to Morgan State University graduates enrolled at the Johns Hopkins University School of Medicine who have demonstrated need.

The Anita Desch Gipe Memorial Scholarship Established in 1999 by the estate of R. Norman Gipe of Heathsville, Virginia, in memory of his wife.

Maurice H. Givens-David E. Rogers Scholarship Fund Established by a gift from the estate of Dr. Maurice H. Givens to provide scholarships for students in the School of Medicine.

Emil Goetsch Fund for Medical Students The income from this endowment, established in 1963, is used for scholarships for medical students.

Morton F. Goldberg, M.D. Scholarship Fund Established to honor Dr. Goldberg's (Class of 1975) leadership at the Wilmer Eye Institute. Income from this fund will be used to provide assistance to deserving medical students.

David Goldfarb Family Endowment Established in 1995 by David Goldfarb, M.D., this fund is to be used to provide scholarship assistance to medical students with financial need.

Lillian Ruth Goldman Scholarship Fund Established in 1986 as a bequest from the estate of Lillian Ruth Goldman to provide scholarship assistance to needy and deserving medical students.

Gerald L. Gordon and Florence J. Gordon Memorial Fund The fund was established in 1998 by the estate of Florence Gordon. It is to be used for the education of medical students specializing in the study of arthritic diseases, or for research in that field.

Scholarship Fund in Memory of Leonard L. Greif This fund was established in 1957 as an endowment, with income to be allocated to aid deserving students in the School of Medicine.

Norman M. and Eleanor H. Gross Scholarship Fund This fund was established in 2002 by the Norman M and Eleanor H. Gross Trust. Mr. and Mrs. Gross were well known for their

care and compassion for others. The Norman M. and Eleanor H. Gross Scholarship Fund provides financially needy students the opportunity to pursue their education at the Johns Hopkins Medical School.

Gorham Family Scholarship for Medical Education Established in 2000 by George W. Gorham, M.D., class of 1954. It recognizes the legacy of George E. Gorham and L. W. Gorham both medical graduates of the Class of 1910.

Helen L. and William D. Guynn Memorial Scholarship Fund Established in 1995 by Dr. Robert W. Guynn, the income from this fund will be used to provide scholarship assistance to needy medical students.

Richard D. Hahn Scholarship Fund This endowment fund was established in 1980 by the Myers Family of Baltimore to recognize the competence and compassion with which Dr. Hahn, a member of the Class of 1936, serves his patients. The income from this fund provides a scholarship to a third year medical student who intends to specialize in internal medicine.

Rowena Sidbury Hall, M.D., Scholarship This fund was established in 2002 by Rowena Sidbury Hall, Class of 1943 (February), of Silver Spring, Maryland. She served as a member of the faculty in the School of Medicine's Department of Pediatrics and as a pediatrician at the Johns Hopkins Hospital. Preference in award of the scholarship is given to women interested in pediatrics.

Louis Hamman Memorial Scholarship This is an endowed scholarship in memory of the late Dr. Louis Hamman, a graduate of the School of Medicine and for many years a devoted member of the medical faculty. It was established in 1950 through gifts from many of Dr. Hamman's friends. The income is available for a scholarship for a medical student whose financial need and developmental promise justify such an award.

Isabella Harrison, M.D. Scholarship Fund for Medical Education This fund was established in 1999 by Dr. Harrison, a 1938 graduate of the School of Medicine. It is to be awarded to female students interested in surgery.

Charles L. Hartsock Memorial Scholarship Fund This scholarship was established in 1961 in memory of Dr. Charles L. Hartsock, Class of 1920, by members of his family and friends to provide aid to needy and worthy medical students.

Morrison Leroy Haviland Scholarship Fund Established in 1988 by Dr. James W. Haviland and his brother Morrison C. Haviland in honor of their father, Morrison Leroy Haviland, a member of the Medical School Class

of 1902. This income is to be used for needy medical students.

Dr. George and Catherine Hayes Scholarship Fund This fund was established in 1994 by Dr. and Mrs. George J. Hayes to provide scholarship assistance to needy medical students.

Edward C. Held, M.D., Scholarship Fund This fund was established in 1996 by Mrs. Helen Duryea to provide support to students in the School of Medicine who have demonstrated financial need.

John Helfman Scholarship Fund Established as a bequest from the estate of John Helfman to be used for loans or gifts to needy students in the School of Medicine.

Margaret A. Hicks Medical Research Scholarship Fund A fund was established in 1972 to be used for scholarships for students who are preparing for work in medical research.

Frank Norman Hillis, Jr. Memorial Scholarship in Medical Education This endowment fund was established in 2002 by Panamerican Consulting International, Ltd. This gift is in memory of Frank N. Hillis, Jr. (d '99), who was founder of Panamerican Consulting Ltd. Preference is given to students from either Florida or Maryland who wish to specialize in the field of cardiology.

Dorothy D. Hoelzer Scholarship Fund This fund was established in 2002 by the estate of Dorothy D. Hoelzer (d '02) to be used for scholarships for students who would not be able to attend Johns Hopkins Medical School without financial assistance.

Jesse W. and Emma Dieringer Hubbard Memorial Scholarship Fund Established in 1992 by Dr. Jesse Donald Hubbard and his brother Dr. John Stanley Hubbard in memory of their parents. This income is used for scholarship aid to needy medical students in the School of Medicine.

George Skaife and Fredericka Louise Hughes Family Scholarship This scholarship was established in 1998 by Mr. William Hughes and Ms. Gail Hughes Deets. It provides scholarship support for students with an interest in geriatrics.

Evelyn H. Hurlburt and Irene H. Sluckis Scholarship Fund This fund was established in 1997 by Mr. Charles O. Banks and Ms. Irene Sluckis to provide scholarship assistance in the School of Medicine.

Waddie Pennington Jackson Scholarship Fund This scholarship fund was established in 1963 by Dr. W. P. Jackson, Class of 1917, in memory of his wife, Bessie Gills Jackson, income from which is to provide scholarship support for needy students in the School of Medicine.

Edwin Bosley and Dorothy Duncan Jarrett Memorial Fund for Medical Scholarships Established in 1977 by a gift from Mr. and Mrs. Edward Foss Wilson in honor of Dr. Edwin B. Jarrett, a distinguished graduate, to provide endowed scholarships to worthy students in the School of Medicine.

William H. Jarrett II Scholarship Fund This fund was established in 1993 by Dr. William H. Jarrett II, a graduate of the Johns Hopkins University School of Medicine 1958, in honor of his 35th anniversary class. The scholarship monies will be made available to financially needy medical students to help defray their costs of medical education.

Dr. Nancy Jenison Scholarship Fund Through a generous bequest from Dr. Nancy Blanche Jenison, a member of the Class of 1911, a scholarship fund was established in 1963 to provide financial assistance for deserving women medical students.

The Johns Hopkins Hospital Women's Board Scholarship Fund The Women's Board of the Johns Hopkins Hospital makes an annual contribution to the School of Medicine to provide financial assistance to deserving students.

The Johns Hopkins Medical and Surgical Association Scholarships These scholarships are provided annually by The Johns Hopkins Medical and Surgical Association. Each year the Association designates for honor distinguished former members of the Johns Hopkins medical community.

Morris Joseph Medical Residence Fund Dr. Morris Joseph has created a scholarship fund to defray the cost of a room in Reed Hall for a deserving medical student.

Dr. Thomas J. Kennedy, Jr. Scholarship Fund In honor of Dr. Kennedy's 50th Class Reunion, this fund was established in 1993 to provide scholarship assistance to financially needy students in the School of Medicine.

Dr. John T. King, Jr. Scholarship Fund Established in 1978 by a gift from Dr. John T. King, Jr., one of Johns Hopkins' most distinguished physicians for more than six decades, to provide endowed scholarships for medical students.

Herbert Koteen, M.D. Scholarship Fund This fund was established in honor of Dr. Koteen upon his eightieth birthday by his family. The income is to be used for scholarship aid to financially needy students in the School of Medicine.

Milton B. Kress Scholarship Fund Established in 1987 by a bequest from the estate of Milton Kress. The income from this endowed gift is to be used as scholarships for needy students in the School of Medicine. The stu-

dents and amounts of each scholarship is to be selected by the Dean of the School of Medicine.

Louis F. Krumrein, M.D. Scholarship Fund Established as a bequest from Dr. Louis F. Krumrein, Class of 1918, for the benefit of deserving students who could not otherwise afford a medical education.

Oliver and Elizabeth Laster Scholarship for Medical Education This fund was established in 2001 by Oliver and Elizabeth Laster of Hewlett, New York. This fund honors their children, Andrew J. Laster, A&S 1975, Med. 1979; Steven Laster, Med. 1986; and Geraldine Laster Macomber; and memorializes their parents, Alan and Caroline Laster and Dr. Bernard and Hannah Aschner. Drs. Andrew and Steven Laster served as members of the Johns Hopkins Hospital staff in the Department of Medicine. The income is to be used to help medical students finance their education.

Dr. Maurice Lenarsky Scholarship Fund This fund was established in 1991 by Jane Lenarsky in honor of her father Dr. Maurice Lenarsky upon his eightieth birthday. The income is to be used for scholarship aid to financially needy medical students with preference given to fourth year students with an interest in pediatrics.

Eleanor I. Leslie Fund Established to provide aid to graduate students in the School of Medicine.

Dr. Martin Macht and Dr. Joseph Spaulding Scholarship This scholarship was established by Mrs. Ruth Spaulding in memory of her son, Joseph Spaulding, Jr. and in honor of Dr. Martin Macht, an alumnus of the School of Medicine. This fund is to provide a financial needy student in the School of Medicine through the four years of study.

John I. Mandler, M.D. and Marilyn S. Mandler, R.N. Scholarship for Medical Education This scholarship fund will be used to support a medical student with financial need.

Rex R. Martin, M.D. and Ann Y. Martin Scholarship Fund Established in 2000. Dr. Martin is a 1950 graduate of the School of Medicine. This fund is in honor of his 50th graduation anniversary.

Bessie Darling Massey Scholarship Fund for Medical Students Established in 1967 at the death of Mrs. Bessie Darling Black Massey; the income is to be used for scholarships in the School of Medicine.

Keith D. Maxwell, M.D., Memorial Scholarship Fund This fund was established in 1999 by members of the Maxwell family and other members of the Class of 1973 in honor of their 25th Reunion. Funds provide scholar-

ship support to needy medical students.

Manfred Mayer Scholarship Fund Established in 1985 by the colleagues and friends of Dr. Manfred Mayer to provide scholarships to support needy medical students with special consideration given to displaced persons or refugees.

John Scott McFarland Scholarship Fund An endowment fund established in 1965 under the will of Dr. John S. McFarland, a member of the Class of 1902. The income from the fund is to be used to assist worthy students in the School of Medicine.

Robert S. McGraw Scholarship Fund This scholarship was established by The McGraw Foundation in April 1983 with the purpose of providing assistance to financially needy students in the School of Medicine. It honors Dr. Robert S. McGraw, who was a member of the Class of 1954.

Dr. Victor A. McKusick Scholarship Fund This fund was established in 1974 by an anonymous donation to honor Dr. Victor A. McKusick. The income is to be used to support financially needy students in the School of Medicine.

Dr. Edwin Leonard McQuade Scholarship Fund The income from this endowment, established in 1954, is used for scholarships for medical students.

Dorothy Reed Mendenhall Scholarship Fund An endowment fund, to provide an annual scholarship to a deserving woman medical student, was established in 1957 by members of the family of Dr. Dorothy Reed Mendenhall.

Rose Meinhardt Fund An endowed scholarship established by the estate of Rose Meinhardt to provide assistance to needy, deserving and outstanding students who wish to pursue a career in medical research.

H. Houston Merritt Scholarship Fund Established in 1990 with a gift from the estate of H. Houston Merritt, this fund provides scholarship aid to students in the School of Medicine. Preference is given, whenever possible, to students from the state of North Carolina.

Adolf Meyer Scholarship Established by a former student of Dr. Adolf Meyer, to be used for scholarship aid for students of the School of Medicine.

Mildvan Alumni Endowed Scholarship Fund This fund was established in 2003 by the Mildvan family to honor their devotion to medicine and help needy M.D. or M.D./Ph.D. students in good standing at the School of Medicine.

Orville and Kathryn Miller Scholarship Fund An endowment fund established in 1965 by Mrs. Orville R. Miller and her son,

Mr. Orville Miller, of Portland, Oregon. The income from this fund is to be used to assist students in the Five Year Program with preference to be given to students from the state of Oregon.

Daniel L. Moore, M.D. Scholarship Fund The scholarship was established in honor of Dr. Moore's 35th School of Medicine Reunion, with income to be used to provide scholarship assistance to financially needy medical students.

Dr. L. F. Morawetz Scholarship Endowed Scholarships in memory of the late Dr. L. F. Morawetz are available to students in the School of Medicine who are in need of financial support.

William W. More Memorial Scholarship Fund Established in 1995 by Dr. Thomas H. Powell to provide scholarship support to needy students in the School of Medicine.

M. Sandra Morse Scholarship Fund This fund was established in 1993 by M. Sandra Morse to show gratitude for the joy the medical school students had given her during her 29 year tenure as Director of Financial Aid. The endowment income is to be used to provide assistance to financially needy students in the School of Medicine.

Morris J. Moskowitz, M.D. Scholarship Established in 2000 by the estate of Morris J. Moskowitz, M.D., who was a member of the School of Medicine Class of 1922.

Dr. Donald G. and Barbara Mulder Scholarship Fund In 1995, Dr. and Mrs. Donald Mulder established this endowment fund to provide scholarships for needy medical students.

Leslie E. Myatt, M.D. and Marion D. Myatt Memorial Scholarship Established by the estate of Mrs. Myatt, in memory of her and her spouse, Leslie, School of Medicine Class of 1921.

Jesse Myers Scholarship Fund Established in 1971 in memory of Jesse Myers, who was killed in an automobile accident while he was a First Year student in the School of Medicine. The fund is to be used to assist minority students at the School of Medicine.

James F. Nabwangu, M.D., Scholarship Fund Established in 1996 by James F. Nabwangu, M.D., to fund a scholarship for students at the School of Medicine.

Russell A. Nelson Scholarship Fund This fund was established in 2002 by Russell A. Nelson, Med. 1937, of Naples, Florida and his wife, Ruth J. Nelson, Nurs. 1937, through the Russell A. and Ruth J. Nelson Trust and the Ruth J. Nelson Trust. Dr. Nelson served as a hospital trustee, a faculty member in the Department of Medicine at the School

of Medicine, and as president of the Johns Hopkins Hospital. Dr. and Mrs. Nelson both died in 2001. This fund provides scholarship assistance to deserving medical students in the School of Medicine.

Nu Sigma Nu Medical Student Scholarship Fund was established in 1985 at the direction of Dr. William Hillis, an alumnus of the School of Medicine and a former member of our faculty. The income is to be used for scholarships to students in the School of Medicine, and it gives recognition to the past contributions of the Nu Sigma Fraternity to the community of the School of Medicine.

Peter D. Olch, M.D. Memorial Scholarship Fund Established in 1995 by Oliver N. Mas-sengale, M.D., this fund is to be used to provide scholarship assistance to medical students with demonstrated financial need.

Dr. E. Paul O'Sullivan Scholarship Fund This fund was established in 1993 by Dr. E. Paul O'Sullivan, a graduate of the School of Medicine in 1943, to provide scholarships to financially needy medical students.

Parents Fund for Medical Students Endowed in 1990 by parents of medical students with financial need.

Sheila S. and Dr. Lawrence C. Pakula Scholarship for Medical Education This scholarship was established in 1999 through a gift from Dr. Lawrence C. Pakula and Mrs. Sheila S. Pakula.

The Emanuel and Patricia M. Papper Scholarship This fund was established to provide tuition scholarships to medical students.

Gertrude Wills Parker and Edward Milton Parker Endowed Scholarship Fund Established in 1996 by Ronald E. Parker, M.D., to provide scholarship support to students in the School of Medicine.

Edwards A. Park Scholarship Fund An endowment fund, established by friends, former students, and professional colleagues of Dr. Park at the time of his eightieth birthday, December 30, 1957, with income allocated to student scholarships in the School of Medicine.

Dr. John W. and Isabella Hunner Parsons Scholarship Fund An endowment fund was established in 1969 to provide financial assistance to needy and worthy students in the School of Medicine. The fund was established by Mrs. Roger G. Walker in memory of her late parents, Dr. John W. and Isabella Hunner Parsons and their devotion to and lifelong involvement with the Johns Hopkins University. Dr. Parsons, the recipient of B.A. and M.D. degrees from the John Hopkins University, was an internist, allergist and member of the School of Medicine faculty.

Mrs. Parsons was a Baltimore portrait painter whose paintings hang in the Johns Hopkins University and Hospital.

Samuel H. Payne Scholarship Fund This endowment fund was established by Mr. Mosby H. Payne to honor the memory of Samuel Payne and to provide scholarships for deserving students from the state of Virginia.

Willis C. Penney Memorial Scholarship Fund An endowment fund was established in 1986 by Della N. Penney and Susan E. Penney to provide financial assistance to needy and worthy students in the School of Medicine.

Virginia Romberger Reber Pettijohn Scholarship Fund Established in 1995 by the Estate of Virginia R. R. Pettijohn, this fund is to be used to provide scholarship assistance to medical students with financial need.

Giacomo and Jan Pirzio-Biroli Scholarship Fund This fund was endowed in 2001 by the estate of Giacomo Pirzio-Biroli, Class of 1951, and his wife, Jan M. Pirzio-Biroli of Mercer Island, Washington. Prior to his death in 1998, Dr. Pirzio-Biroli often expressed his gratitude for the medical education he received after World War II from the Johns Hopkins University School of Medicine. The establishment of this fund, in his memory, will assist future generations of medical students to experience similarly enlightened medical education in the tradition of Johns Hopkins.

Gregory L. Plock Memorial Scholarship Fund Family, friends, and former classmates established this endowed fund in 2002 in memory of Gregory L. Plock, M.D. 1987, to create a lasting legacy of their friend and classmate. The fund provides financial assistance to deserving students in the School of Medicine.

Warner M. and Lora Kays Pomerene Fund Established in 1980 with a gift from the estate of Warner M. Pomerene, this fund provides scholarship aid to students in the School of Medicine. Preference is given to the extent possible, to students who plan to become general practitioners in the field of family medicine.

Jeanette B. and Loring W. Pratt Scholarship Fund The income from this endowment, established in 1993, is used to provide scholarships for students in the School of Medicine.

Radiology Fund for Medical Students Scholarship The Russell H. Morgan Department of Radiology and Radiological Science has established a scholarship fund for medical students which is enhanced from time to time by donations deriving from the earnings of the department.

Harry A. Raider Scholarship Fund Established by Mr. Raider to pay the tuition and/or

other expenses of worthy students enrolled in the School of Medicine.

Rita Meena Raju Memorial Scholarship for Medical Education Established in 1999, Rita Meena Raju entered Johns Hopkins Medical School in 1993, and died suddenly after a brief illness in 1995. The purpose of this fund is to provide scholarship support to students who exemplify the highest ideals in the medical profession. Donors to the fund include her family and friends.

Randall Scholarships The scholarship fund was endowed in 1961 by an alumnus of the School of Medicine who wished to remain anonymous. The purpose of the Randall Scholarships is to assist able and deserving medical students in a low income bracket. To qualify for renewal of these scholarships, students must maintain academic standing in the highest third of the class.

Rosemarie Hope Reid, M.D. Memorial Fund This fund was established in 1994 in memory of the School of Medicine 1992 graduate Rosemarie Hope Reid by her family, friends, and former classmates. The income is to be used to help medical students finance their educations.

Ferdinand O. Reinhard Medical Scholarship These are endowed scholarships made possible in 1951 by a bequest from the late Dr. Ferdinand O. Reinhard, a graduate of the School of Medicine.

Herbert Remmer Memorial Scholarship Fund This endowment fund was established by Hilda Remmer in 1986. The income from this fund provides scholarships for medical students with preference given to Jewish students.

Dr. Maurice L. Richardson Fund Established as a bequest from the estate of Dr. Maurice L. Richardson. The income from this fund is to be used for scholarships for worthy students in the School of Medicine.

C. Alvin Riebling Scholarship Fund A gift from Dr. Jean Riebling Sherman, in memory of her father, to provide partial tuition for a student in the School of Medicine.

Louis M. Rosenfeld Scholarship Fund Established in 1990 by the Estate of Madalyn Schwentker Rosenfeld, this fund in memory of Louis M. Rosenfeld's father, Jesse Rosenfeld, his mother, Rose R. Rosenfeld, and his sister, Carolyn Rosenfeld, is to be used to provide students residing in the state of Maryland with scholarship support.

Florence Rena Sabin Scholarship Fund The Johns Hopkins Women's Medical Alumnae Association, Incorporated established this fund in 1959 in memory of an eminent graduate of the School of Medicine, Class

of 1900. The income is available for scholarships for deserving women medical students of academic distinction and promise, preferably a student entering the first year.

Arun B. Sapre, M.D. Memorial Scholarship Fund An endowed fund established in 1996 by Mrs. Arun B. Sapre, family, friends, and colleagues of Dr. Arun B. Sapre. The income is to provide scholarship assistance to needy medical students in the School of Medicine.

Morris Schapiro Scholarship Fund An endowment was established by the Morris Schapiro and Family Foundation in February, 1954, to aid needy, promising students. This gift was in commemoration of Mr. Morris Schapiro's seventieth birthday.

Oscar B. Schier Fund for Medical Student Aid This endowment was established with a gift from the estate of Ida F. Schier in memory of her brother, a Baltimore dairyman and national authority on the handling of milk. The income from this fund provides scholarship aid for financially needy medical students.

Ottillie Schillig Scholarship Fund The monies for the Schillig Scholarship Fund were dedicated during her lifetime by Ottillie Schillig. She asked that this fund be used to provide scholarships for deserving young students and to assist them in obtaining an education as doctors of medicine.

School of Medicine Alumni Scholarship Fund Income from an endowment provided by graduates of the School.

School of Medicine Scholarship Fund By action of the Board of Trustees of the Johns Hopkins University, a capital sum of \$400,000 has been set aside, the income from which is to provide financial assistance to needy and deserving students.

Henry M. Seidel, M.D., Scholarship Fund was established by the Class of 1984 and endowed by gifts from the Classes of 1978-1990 to honor Dr. Henry M. Seidel, Associate Dean for Student Affairs. An alumnus of the Class of 1946, Dr. Seidel is recognized for his outstanding service to the students in their career development. The fund will provide scholarships to needy students in the School of Medicine.

Ezra S. Shaya Fund An endowed fund established by Dr. Ezra S. Shaya, Class of 1954. The income is to provide scholarships to needy medical students.

Daniel Marsh Shrewbrooks, M.D. Memorial Loan Fund was established to commemorate the life of Dr. Daniel Marsh Shrewbrooks, a member of the Class of 1915. Its purpose is to provide a loan resource for "deserving and needy students of the Johns Hopkins School of Medicine."

Andrew Watson Sellards Graduate Traveling Research Fellowship Fund Established for the purpose of providing traveling scholarships or fellowships for clinical study and observation or for investigation in Latin America or perhaps at times in the Orient, especially the Philippines.

Dr. Barnard E. Simon and Bitten H. Simon, R.N. Scholarship Fund Established in 2000 through the estate of Dr. Bernard E. Simon to provide scholarships for medical students. Dr. Simon, Class of 1937, was a plastic surgeon whose work with the Hiroshima Maidens, after World War II, won him international acclaim.

J. Morris Slemmons Scholarship Fund Established by a bequest from Anne G. Slemmons to be used for scholarships for medical students.

Elizabeth A. Small Endowment Fund The fund was established by Elizabeth Anne Small, M.D., to provide scholarship support for women who are interested in dermatology.

Herbert Sloan, M.D. and Doris Edwards Sloan Scholarship for Medical Education This scholarship fund was established in 2003. Income from this fund will provide financial support for deserving medical students.

Wladimir Solowiej, M.D. Scholarship Fund This endowment fund was established with a gift from the estate of Dr. Wladimir Solowiej, a Baltimore physician who emigrated from Poland. Although he was never on the staff, Dr. Solowiej nevertheless had high regard for Johns Hopkins. The income from this fund provides two scholarships, one in his name and one in the name of his sister, Augenia Zebrowska.

Alberta Speaks Scholarship Fund Established in 1986 as a bequest from the estate of Alberta Speaks to provide scholarship assistance for needy black students.

Lisa Marie Sprague Memorial Scholarship Established in 1998 by Arthur Sprague, Class of 1960, and Mrs. Sprague in memory of their daughter.

Paul Luther Stine Memorial Scholarship Fund Established in 1996 from the Estate of Mildred C. Stine, to provide scholarship support to students in the School of Medicine, preference to be given to otherwise eligible applicants who are graduates of Brunswick High School, Frederick County, Maryland, residents of Frederick County, Maryland, or residents of the State of Maryland.

Barry and Evelyn Strauch Scholarship Fund Barry S. Strauch, A&S 1962, Med. 1965, and his wife Evelyn M Strauch established this fund to commemorate his 35th class reunion. Their gift reflects the couple's

devotion to medical excellence and their lifelong affiliation with the Johns Hopkins University School of Medicine. The income is to be used to provide financial assistance to worthy students in the School of Medicine.

Josephine S. Sutland Scholarship for Medical Education This scholarship was established in 1999 to provide assistance for needy medical students.

Helen B. Taussig Fund Established in 1986 by the Life Income Gift Annuity of Dr. Helen B. Taussig. The income of this fund is to provide scholarships to needy medical students.

Owsei Temkin Scholarship Fund In 1993 Dr. Barbara P. Wasserman and Dr. Martin P. Wasserman established this fund in honor of Dr. Owsei Temkin. This fund provides financial assistance to needy medical students, with preference given to those who have a special interest in the humanities.

Vander Salm Family Scholarship Fund The Johns Hopkins University gratefully acknowledges the receipt of a gift from Thomas J. Vander Salm, M.D. to establish a permanent named endowed scholarship fund. Dr. Vander Salm graduated from the School of Medicine in 1966. The fund will provide assistance to medical students.

Roger L., M.D. and Mary J. von Heimburg Scholarship Fund Established in 2000. Dr. von Heimburg a graduate of the School of Medicine in 1955, passed away in September 1999. He lived for a long time in Green Bay, Wisconsin and asked that preference be given to students from the midwest.

William D., M.D., and Selma S.Voorhees Scholarship for Medical Education Established in 2000. Mrs. Selma Voorhees opened the fund in honor of her husband, William, a graduate of the medical class of 1945.

Elmer Wakefield, M.D. Scholarship Fund This fund was established in 1998 by the estate of Dr. Wakefield to provide scholarships for students in need of additional funds to continue their education.

Dr. Arthur Nathan Wang Memorial Scholarship Fund This fund was created in 1988 in honor and in memory of Dr. Arthur Nathan Wang, an alumnus of the School of Medicine. Dr. Wang's promising career as a neurosurgeon was tragically ended early in his life by a fatal accident. The income from the fund each year will provide a scholarship to a needy and deserving student who intends to pursue a career in clinical neurosurgery. In establishing the fund, the family and friends of Dr. Wang hope to help others to complete the contribution to medicine and society begun by him.

James Johnston Waring Memorial Scholarship Fund Through a generous gift from Mrs. James J. Waring, an endowment in memory of her husband has been established in the School of Medicine, the income from which is to be used as a scholarship fund for needy and worthy students. Although a member of the class of 1908, Dr. Waring subsequently received his degree from another school, having found it necessary to withdraw from the Medical School at the end of his junior year. Nevertheless, Dr. Waring was active in Hopkins' alumni affairs until his death in June, 1962.

Frederick and Gladys C. Warring Memorial Scholarship This fund was established in 1996 from the Gladys C. Warring estate to provide scholarships for students in the School of Medicine.

Watt/Hansell Endowment This fund was established in 1994 by James Watt, and Dr. Myron E. Wegman to provide and opportunity for medical students to pursue public health training, and vice versa. The fund is managed jointly by the Deans of the School of Medicine and Public Health.

David R. Weakley, M.D. Scholarship Fund An endowment fund established in 1995 by Dr. David R. Weakley, to provide scholarship support to medical students in the School of Medicine.

Margaret Morris Weiss, M.D., and Robert A. Weiss, M.D. Endowed Scholarship Fund This fund was established by Dr. Margaret Morris Weiss, and Dr. Robert A. Weiss to honor their devotion to medicine and lifetime affiliation with the School of Medicine. Income from this fund will provide financial assistance to medical students.

Doris and Harry Wexler Award This endowed fund was established by Mrs. Doris P. Wexler in 1995 to provide an annual award for a graduating student with an interest in multiple sclerosis, heart disease, blindness/diseases of the eye, cancer/oncology-hematology, or diabetes.

Frances Turner White Fund This fund, established with a gift from the estate of Frances Turner White, provides scholarships for needy and deserving medical students.

Dr. Raymond Wing Memorial Scholarship Fund This fund was established in 1981 by Mrs. Raymond Wing to honor the memory of her husband, a member of the School of Medicine Class of 1927. It will provide support for students in their first year of study at the School of Medicine.

Winslow Foundation Scholarship Fund Gifts have been received annually since 1974

to fund scholarships for medical students, with preference for residents of Maryland, the District of Columbia, or North Carolina.

Charles Marion Wolfe Scholarship Fund The Fund was established in 1997 through the estate of Doris L. Wolfe in memory of her husband, Charles Marion Wolfe, to be used for a worthy medical student.

Ruth P. Young and Joseph M. Young, M.D. Endowed Scholarship Fund Established in 2004; the income is to be used to provide financial assistance to worthy students in the School of Medicine.

Evers P. and Adeline E. Zepp Scholarship Fund A fund was established as a bequest from the estate of Adeline E. Zepp to be used in support of the education of medical students.

Lionel J. Zheutlin, M.D. Scholarship Fund This fund was established in 1998 in memory of Dr. Zheutlin, a graduate of the Class of 1947. It provides assistance to needy students with preference to those planning careers in pediatrics.

Loan Funds

Harold L. Amoss Loan Fund In 1956, Mrs. Harold L. Amoss and friends of the late Dr. Amoss established an endowment fund with income to be used for loans to aid deserving medical students.

Katharine K. Barton Memorial Fund A group of friends of the late Miss Katharine K. Barton have contributed a memorial fund in her name. In view of Miss Barton's interest in young people, the fund is used to assist medical students who are not in a position to meet all of their own expenses.

J. G. Boswell Loan Fund This fund provides loans for medical students.

Dr. Charles M. Cargille Student Loan Fund The Dr. Charles M. Cargille Student Loan Fund was established in recognition of Dr. Cargille's great interest in the Johns Hopkins University School of Medicine.

Class of 1932 Student Loan Fund The Class of 1932 established a long term fund for medical students in January of 1983, recognizing thereby the growing need for financial assistance of this kind.

Class of 1934 Revolving Loan Fund Established in 1985 by a 50th Reunion Class to provide long term loans to needy medical students.

Class of 1935 Revolving Loan Fund Established in 1985 by a 50th Reunion Class to provide long term loans to needy medical students.

Class of 1949 Student Loan Fund Established in 1985 by the 35th Reunion Class of 1949 to provide loans to needy medical students.

Class of 1952 Revolving Loan Fund Established in 1987 by the 35th Reunion Classes of 1952 to provide loans to needy medical students.

Class of 1959 Loan Fund Established in 1985 by the Class of 1959 for the 50th Reunion to provide loans to needy medical students.

Daniels Memorial Loan Fund This fund was established in 1980 by Josephine J. Daniels, M.D., Class of 1924, in memory of her husband and medical school classmate, Worth B. Daniels, Sr., an internist who practiced and taught in Washington, D.C. for 50 years. Following Josephine Daniels' death in 1990, their sons requested that her name be added to the Fund, which provides loans for financially needy medical students.

Lydia B. Edwards, M.D. Revolving Loan Fund This fund was established in 1999 to provide Loans to students in their 2nd, 3rd, or 4th year of medical school. Dr. Edwards is a 1932 graduate of the School of Medicine.

Filbert Foundation, Inc. Medical Student Loan Fund A \$10,000 revolving loan fund established by the Filbert Company Foundation of Baltimore.

Warfield Firor Loan Fund This fund was established in 1962 to provide loans for medical students.

J. Theron Hunter Loan Fund Established by Dr. J. Theron Hunter, of the Class of 1925, to be used for aid in the form of loans to deserving students in the third and/or fourth year classes of the School of Medicine.

The Johns Hopkins Women's Medical Alumnae Association Student Loan Fund Established in 1971 by The Johns Hopkins Women's Medical Alumnae Association to provide financial assistance to medical students, preferably women.

Robert Wood Johnson Foundation Loan Fund Established to provide aid to needy medical students who are female, members of designated racial minority groups and/or from rural areas.

W. K. Kellogg Loan Fund Established in 1942 to provide financial assistance to students in the School of Medicine.

Halford B. and Lillian S. Kneale Loan Fund Dr. Kneale was a member of the Class of 1920 who pursued a distinguished career in Urology. He and Mrs. Kneale planned the Fund which was established after Dr.

Kneale's death in July 1983. It is a source of loans to medical students who, as one of the requirements for a loan, must be in the upper third of their class.

Pearl Konttas, M.D. Loan Fund This Loan Fund was established by Dr. Konttas in 1982. She was a member of the Class of 1923 and, during her professional career, served as a pediatrician.

Gertrude D. Maengwyn-Davies Loan Fund This is an endowed loan fund established in 1986. The income from the fund is to provide loans to deserving graduate and medical students interested in research in the basic health sciences.

George C. McKinstry Medical Loan Fund This fund was established to be used for individuals of character who are in need of assistance to complete their medical education.

The Nannie J. (Mrs. Ashby) Monroe Memorial Loan Fund This fund was established by James Monroe, M.D., JHUSOM '34, in memory of his mother, Nannie J. (Mrs. Ashby) Monroe. It provides loans for needy students in the School of Medicine.

Morris Morgenstern Student Loan Fund This fund was established in 1971 to provide loans for medical students in need of financial assistance.

Wiley H. Norton Loan Fund The Wiley H. Norton Loan Fund was established in July 1983 upon the receipt of a bequest from the estate of Dr. Wiley H. Norton. Its purpose is to make loan monies available to financially needy students in the School of Medicine. Dr. Norton was a member of the Class of 1910 who pursued a distinguished career in obstetrics and gynecology.

Revolving Fund for Loans to Medical Students This fund was established in 1952 by donations from Mrs. Elbert Dent and the late Dr. Joseph Earle Moore for students in the School of Medicine.

School of Medicine Loan Fund In 1962 the Trustees of the University set aside \$100,000 to be used as revolving loan funds for medical students.

Arnold A. Schwartz Fund A loan fund for students in the School of Medicine established in 1964 under the will of the late Arnold A. Schwartz.

Surdna Foundation Loan Fund This fund was established in 1971 to provide loans for medical students.

Jimmie Swartz Foundation Loan Fund The friends of Jimmie Swartz, who lived his life to help others, established this memorial loan

fund in order to assist needy medical students who have demonstrated their intention to give more to their patients and their profession than they take from them.

Miley B. Wesson Memorial Loan Fund The fund was established in 1999, and provides

low interest loans to medical students.

Dr. Lawrence R. Wharton Loan Fund Gifts from a grateful patient of Dr. Wharton have established a loan fund for students in the School of Medicine.





Departments, Divisions, Institutes, Centers, and Subjects of Instruction¹

Anesthesiology and Critical Care Medicine

JOHN A. ULATOWSKI

Mark C. Rogers Professor and Director of the Department of Anesthesiology and Critical Care Medicine, Professor of Neurological Surgery, Professor of Neurology

DAN E. BERKOWITZ

Professor of Anesthesiology and Critical Care Medicine, Professor of Biomedical Engineering

ROBERT H. BROWN

Professor of Anesthesiology and Critical Care Medicine, Joint Appointment in Medicine, Joint Appointment in Radiology

TODD DORMAN

Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Surgery, Joint Appointment in Medicine

NICHOLAS A. FLAVAHAN

Edward D. Miller, M.D. Professor of Anesthesiology Research

CLARA FRONTICELLI, Professor Emerita

DANIEL F. HANLEY

Jeffrey and Harriet Legum Professor of Acute Neurological Medicine in the Department of Neurology, Professor of Anesthesiology and Critical Care Medicine, Professor of Neurological Surgery

MEREL H. HARMEL, Visiting Professor

ROGER ANTHONY JOHNS

Professor of Anesthesiology and Critical Care Medicine, Professor of Medicine

RAYMOND C. KOEHLER, Professor

JACKIE L. MARTIN, Professor

EDWARD D. MILLER

Professor of Anesthesiology and Critical Care Medicine, Dr. Frances Watt Baker and Dr. Lennox D. Baker, Jr. Dean of the School of Medicine

MAREK A. Z. MIRSKI

Professor of Anesthesiology and Critical Care Medicine, Professor of Neurological Surgery, Professor of Neurology

DAVID G. NICHOLS

Professor of Anesthesiology and Critical Care Medicine, Professor of Pediatrics, Mary Wallace Stanton Professor of Education

DANIEL NYHAN

Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Surgery

PETER J. PRONOVOST

Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Surgery, Joint Appointment in Health Sciences Informatics

SRINIVASA NAGA RAJA

Professor of Anesthesiology and Critical Care Medicine, Professor of Neurology

MARK CHARLES ROGERS, Adjunct Professor

ARTIN A. SHOUKAS

Professor of Biomedical Engineering, Professor of Anesthesiology and Critical Care Medicine, Joint Appointment in Physiology

THOMAS J.K. TOUNG

Professor of Anesthesiology and Critical Care Medicine, Joint Appointment in Neurological Surgery

CHRISTOPHER L. WU, Professor

MYRON YASTER

Richard J. Traytsman Professor of Anesthesiology and Critical Care Medicine, Professor of Pediatrics

SEAN MICHAEL BERENHOLTZ

Associate Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Surgery

IVOR D. BERKOWITZ

Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Pediatrics

STEVEN P. COHEN, Associate Professor

JEFFREY M. DODD-O

Associate Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Surgery

ROBERT T. DONHAM, Associate Professor

SYLVAIN DORE

Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Pharmacology and Molecular Sciences

JAMES COURTNEY FACKLER, Associate Professor

NAUDER FARADAY

Associate Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Surgery

¹ Corrected to 7/1/09. Primary appointments listed first.

ROMERGRYKO G. GEOCADIN

Associate Professor of Neurology, Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Neurological Surgery

ALLAN GOTTSCHALK, Associate Professor

ROBERT S. GREENBERG, Associate Professor

ANDREW P. HARRIS

Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Gynecology and Obstetrics

EUGENIE S. HEITMILLER

Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Pediatrics

CHARLES W. HOGUE, JR., Associate Professor

KAREN S. LINDEMAN, Associate Professor

GEOFFREY SHIU FEI LING

Adjunct Associate Professor of Neurology, Adjunct Associate Professor of Anesthesiology and Critical Care Medicine

LYNETTE J. MARK

Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Otolaryngology-Head and Neck Surgery

ELIZABETH A. MARTINEZ

Associate Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Surgery

WILLIAM T. MERRITT

Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Surgery

DOLORES B. NJOKU

Associate Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Pathology, Assistant Professor of Pediatrics

EDWARD J. NORRIS, Associate Professor

L. REUVEN PASTERNAK

Adjunct Associate Professor of Anesthesiology and Critical Care Medicine

RICHARD J. RIVERS, Associate Professor

LEWIS HARTLEY ROMER

Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Biomedical Engineering, Associate Professor of Cell Biology, Associate Professor of Pediatrics

ADAM SAPIRSTEIN

Associate Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Surgery

JAMES F. SCHAUBLE, Associate Professor

J. BRYAN SEXTON, Associate Professor (to 08/28/09)

DONALD H. SHAFFNER, JR.

Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Pediatrics

FREDERICK E. SIEBER, Associate Professor

PETER S. STAATS, Associate Professor

ROBERT DAVID STEVENS

Associate Professor of Anesthesiology and Critical Care Medicine (from 10/01/09), Assistant Professor of Anesthesiology and Critical Care Medicine (to 09/30/09), Assistant Professor of Neurological Surgery, Assistant Professor of Neurology

JUDITH L. STIFF, Associate Professor Emerita

YUAN-XIANG TAO, Associate Professor

PETER B. TERRY

Professor of Medicine, Associate Professor of Anesthesiology and Critical Care Medicine

DAVID E. TUNKEL

Associate Professor of Otolaryngology-Head and Neck Surgery, Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Pediatrics

REBECCA ASLAKSON, Assistant Professor

VIACHASLAU M. BARODKA, Assistant Professor

MELANIA MARIA BEMBEA

Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Pediatrics

LAUREN CLAIRE BERKOW

Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Otolaryngology-Head and Neck Surgery

MARIA M. BIRZESCU, Assistant Professor

SALLY BITZER, Assistant Professor

RENEE J. BLANDING, Assistant Professor

CRAIG WILLIAM BOWEN, Assistant Professor

KENNETH BRADY

Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Pediatrics

MARY BETH BRADY, Assistant Professor

E. DAVID BRAVOS, Assistant Professor

CHRISTOPHER D. BREDER, Assistant Professor

MATTHEW J. BRENNAN, Assistant Professor

JUAN RICARDO CARHUAPOMA

Assistant Professor of Neurology, Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Neurological Surgery

ZENOBI A. CASEY, Assistant Professor

KRISTIN CHEUNG, Assistant Professor

PAUL J. CHRISTO, Assistant Professor

ELIZABETH COLANTUONI, Assistant Professor

ROBERT A. CORDES, Assistant Professor

WALTER E. DANDY, JR., Assistant Professor Emeritus

SHARAD M. DESAI, Assistant Professor

R. BLAINE EASLEY

Assistant Professor of Anesthesiology and Critical Care Medicine, Joint Appointment in Pediatrics

DAVID THOMAS EFRON

Assistant Professor of Surgery, Assistant Professor of Anesthesiology and Critical Care Medicine

LAWRENCE D. EGBERT, Visiting Assistant Professor

RICHARD A. ELLIOTT, Assistant Professor
LILLY D. ENGINEER, Assistant Professor
MICHAEL A. ERDEK
Assistant Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Oncology
RALPH J. FUCHS, Assistant Professor
SAMUEL M. GALVAGNO, JR., Assistant Professor
(from 07/14/09)
WEI DONG GAO, Assistant Professor
PEDRO GARCIA, Assistant Professor
KEVIN B. GEROLD
Assistant Professor of Anesthesiology and
Critical Care Medicine, Joint Appointment in
Emergency Medicine
HAROLD M. GOLL, Assistant Professor
KELLY GROGAN, Assistant Professor
YUN GUAN, Assistant Professor
AYSE P. GURSES, Assistant Professor
ADIL H. HAIDER
Assistant Professor of Surgery, Assistant
Professor of Anesthesiology and Critical Care
Medicine
MARIE N. HANNA, Assistant Professor
THERESA LYNN HARTSELL, Assistant Professor
ELLIOTT RICHARD HAUT
Assistant Professor of Surgery, Assistant
Professor of Anesthesiology and Critical Care
Medicine
ELIZABETH ANNE HUNT
Assistant Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Pediatrics
GILLIAN RAEMI ISAAC, Assistant Professor
MAHMOOD JABERI, Assistant Professor
ERIC V. JACKSON, JR., Assistant Professor
MICHAEL J. JAMES, Assistant Professor
AMBALLUR DAVID JOHN, Assistant Professor
DAVID W. KACZKA
Assistant Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Biomedical Engineering
SABINE KOST-BYERLY, Assistant Professor
KANUPRIYA A. KUMAR, Assistant Professor (from
08/10/09)
AARON LACKAMP, Assistant Professor
GREGORY LATHAM, Assistant Professor (to
08/16/09)
ASAD LATIF
Assistant Professor of Anesthesiology and
Critical Care Medicine
BENJAMIN H. LEE, Assistant Professor
JAI SUNG LEE, Assistant Professor
JOHN LEWIN, III, Adjunct Assistant Professor
PAMELA A. LIPSETT
Professor of Surgery, Assistant Professor of
Anesthesiology and Critical Care Medicine
LISA H. LUBOMSKI, Assistant Professor
CHRISTINE LAN MAI, Assistant Professor (from
08/01/09)
VINEESH MATHUR, Assistant Professor

PEDRO ALEJANDRO MENDEZ-TELLEZ
Assistant Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Surgery
NANHI R. MITTER, Assistant Professor
SCOTT H. MITTMAN, Assistant Professor
CONSTANCE L. MONITTO, Assistant Professor
ATHIR MORAD, Assistant Professor
JAMIE D. MURPHY, Assistant Professor
KRISTEN L. NELSON
Assistant Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Pediatrics
THAI TRAN NGUYEN, Assistant Professor
PAUL NYQUIST
Assistant Professor of Neurology, Assistant
Professor of Anesthesiology and Critical Care
Medicine
LALE E. ODEKON, Assistant Professor
LOUIS M. PANLILIO, Assistant Professor
ALEXANDER PAPANGELOU, Assistant Professor
MICHELLE A. PETROVIC, Assistant Professor
JULIUS CUONG PHAM
Assistant Professor of Emergency Medicine,
Assistant Professor of Anesthesiology and
Critical Care Medicine
ALIAKSEI PUSTAVOITAU, Assistant Professor
HANS ADRIAN PUTTGEN
Assistant Professor of Neurology, Assistant
Professor of Anesthesiology and Critical Care
Medicine
LAURI E. REAMER, Assistant Professor
RAFAEL MAYO RICHARDS
Assistant Professor of Anesthesiology and
Critical Care Medicine
JOSE M. RODRIGUEZ-PAZ, Assistant Professor
MARK I. ROSSBERG, Assistant Professor
NEAL T. SAKIMA, Assistant Professor
JOHN B. SAMPSON, Assistant Professor
DEVIN DOUGLAS SANDERS, Assistant Professor
ADAM J. SCHIAVI, Assistant Professor
JAMIE MCEL RATH SCHWARTZ, Assistant
Professor
STEVEN J. SCHWARTZ
Assistant Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Surgery
DEBORAH A. SCHWENGEL, Assistant Professor
JANEL D. SEXTON, Assistant Professor
PUNITA T. SHARMA, Assistant Professor
JOANNE E. SHAY, Assistant Professor
NICOLE ANN SHILKOFSKI
Assistant Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Pediatrics
MARTIN KONRAD SLODZINSKI, Assistant
Professor
TRACEY L. SMITH-STIERER, Assistant Professor
JOSEPH WILLIAM STAUFFER, Assistant
Professor
JOSHUA DANIEL STEARNS, Assistant Professor

FENG TAO

Assistant Professor of Anesthesiology and Critical Care Medicine (from 09/01/09), Instructor in Anesthesiology and Critical Care Medicine (to 08/31/09)

DAVID A. THOMPSON, Assistant Professor

ROBERT WILLIAM THOMSEN

Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Surgery

CRISTIANNA VALLERA, Assistant Professor

A. TERRY WALMAN, Assistant Professor

JIAN WANG, Assistant Professor

WEILI WENG, Assistant Professor

KAYODE AYODELE WILLIAMS, Assistant Professor

BRADFORD D. WINTERS

Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Neurological Surgery, Assistant Professor of Neurology, Assistant Professor of Surgery

KHWAJA JAVOID ZAKRIYA, Assistant Professor

WENDY C. ZIAI

Assistant Professor of Neurology, Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Neurological Surgery

RHONDA L. ZUCKERMAN

Assistant Professor of Anesthesiology and Critical Care Medicine, Joint Appointment in Gynecology and Obstetrics

ABDULLAH SHAFIQUE AHMAD, Instructor

HASSAN M. AHMAD, Instructor

ARUN K. BHASIN, Instructor

ALEXIS BILBOW, Instructor (to 07/31/09)

BRIAN M. BLOCK, Instructor

JASENKA BORZAN, Instructor

WANGSEN CAO, Instructor

CALVIN ENG, Instructor (from 08/01/09)

LEO HSIAO, Instructor (to 07/31/09)

ANN E. JONES-COLE, Instructor

MARTHA M. KENNEDY, Instructor

CHARLES M. LEVE, Instructor

XIAOLING LI, Instructor

KIEU X. LUU, Instructor

KATHLEEN GAGE PARR, Instructor

MICHAEL A. PHELPS, Instructor

MARK ROMIG, Instructor

LAKSHMI SANTHANAM, Instructor

RICHARD MORRIS SHAPIRO, Instructor

BAOGEN Y. SU, Instructor (to 08/10/09)

QINGNING SU, Instructor

TINA PHAM TRAN, Instructor

ZENG-JIN YANG, Instructor

ANIL THOMAS ABRAHAM, Assistant

RYAN DAVID KATZ, Assistant

DANIEL JOHN ANGELINI, Research Associate

ANIL BHUNIA, Research Associate

SUYI CAO, Research Associate

FUMIN CHANG, Research Associate

IRINA A. KOLOSOVA, Research Associate

HERMAN E. A. KWANSA, Research Associate

XIAO GUANG LIU, Research Associate

SOFIYAN SALEEM, Research Associate

KAZUYO YAMAJI-KEGAN, Research Associate

EMIL ZEYNALOV, Research Associate (to 11/09/09)

HOCHEOL KIM, Visiting Scientist (to 07/31/09)

FACULTY ASSOCIATED WITH THE DEPARTMENT OF ANESTHESIOLOGY AND CRITICAL CARE MEDICINE HOLDING A PRIMARY APPOINTMENT IN:

The School of Medicine:

NASIR ISLAM BHATTI

Associate Professor of Otolaryngology-Head and Neck Surgery

JIMMIE T. SYLVESTER

Professor of Medicine

The Bloomberg School of Public Health:

WAYNE MITZNER

Professor of Environmental Health Sciences

MACHIKO SHIRAHATA

Professor of Environmental Health Sciences

The School of Nursing

MARGUERITE KEARNEY

Associate Professor of Nursing

ELECTIVE OPPORTUNITIES—*Curriculum Consultant: Dr. Brad Winters. Elective courses must be approved by the preceptor; any member of the department may act as preceptor.*

Clinical Electives

E 3. Advanced Clinical Clerkship in Anesthesiology. Dr. Winters. 2-4 weeks.

This course is intended for medical students who have done four weeks of the basic anesthesia clerkship, and wish to pursue further training in the field of anesthesiology and critical care. Students will participate actively in the pre-operative, intra-operative and post-operative care of critically ill patients. Students may elect to rotate through several areas of our department, or can choose to concentrate their time in one of several subspecialties as outlined below (neuroanesthesia, cardiac anesthesia, pediatric anesthesia, vascular and thoracic anesthesia, acute or chronic pain, etc.) An excellent opportunity to learn advanced physiology and pharmacology, this course is intended for students planning a career in ICU medicine or anesthesiology.

Students must have completed the basic anesthesia clerkship plus internal medicine or surgery prior to this elective.

Students taking this course are expected to attend all of the didactic sessions and in-depth case discussions of the department. Limited to four students.

E 6. In-depth Case Discussion. Monday 4:00-5:00 p.m. CMSC 706.

Selected cases illustrating common and uncommon clinical problems in anesthesiology are presented and discussed in a structured conference setting.

Participation is required for students taking other anesthesia electives and highly recommended to students on all surgery electives.

E 7. Introduction to Pediatric Intensive Care. Drs. Fackler, Shaffner, Berkowitz, and staff. Four weeks.

The course is designed for students planning a career in either pediatrics or a pediatric surgery specialty and encourages students to become familiar with problems of critically sick infants and children. Both basic pathophysiology and pharmacology will be stressed. Students will be expected to have completed their pediatric rotation and to be prepared to help contribute to the care of these patients and function in a sub-internship role.

Students taking this course are expected to attend all of the didactic sessions and in-depth case discussions of the department. Limited to two students.

E 8. Grand Rounds. Staff and visiting professors. Thursday 7:00-8:30 a.m.

Didactic lecture on a topic in anesthesiology or an anesthesiology related subject such as intensive care, clinical pharmacology, emergency medicine, respiratory care or pain is presented on a regular basis. This lecture series often features distinguished visiting professors from other universities and provides an opportunity to hear specialists in their particular fields.

E 10. Basic Science Lecture Series. Tuesday 4:15-5:30 p.m. Garrett Room.

Each quarter, a continuing lecture series on topics such as neuroscience, cardiac physiology, and renal disease will be discussed by visiting experts. A two-hour lecture will be given each week so that a total of 12 such lectures (24 hours) will be devoted to each area covered.

E 11. Clerkship in Anesthesiology. Dr. Winters. 2, 3, or 4 weeks.

Prerequisites: Pharmacology and Physiology. Internal Medicine or Surgery recommended prior to rotation, but not necessary.

This basic clerkship is intended for those students who wish to increase their understanding of physiology and pharmacology in a clinical setting. Topics emphasized during the course include pathophysiology of cardiac and pulmonary disease, pharmacology of vasoactive drugs and anesthetic agents, airway management, and peri-operative management of the critically ill patient. Students will participate actively in the pre-operative evaluation, intra-operative management, and post-operative care of patients undergoing a wide variety of surgeries. A didactic series for students will emphasize the above medical topics. Students are also expected to attend all departmental didactic sessions.

This course is a necessary prerequisite for most of the advanced anesthesiology electives.

E 12. Advanced Clinical Clerkship in Cardiac Anesthesia. Drs. Winters, Nyhan and staff. 4-6 weeks; available as arranged; limited to five students.

Prerequisite: Basic Clerkship in Anesthesiology.

Students participate with an attending staff anesthesiologist in the discipline relating to evaluation and care of the challenging spectrum of patients

presenting for cardiac surgery. Emphasis will be placed on incorporation of physiologic measurement in the decisions of patient care.

E 13. Preceptorship in Neuroanesthesia. Dr. Mirski, 4-6 weeks; one student per rotation; available as arranged.

Prerequisites: Basic Clerkship in Anesthesiology, plus a strong interest and background in physiology and pharmacology.

The student will participate in the pre-op evaluation and intraoperative management of patients undergoing neurological or neurosurgical procedures. The student will become familiar with anesthetic and operative effects on cerebral physiology as well as developing expertise in non-invasive and invasive cardiovascular monitoring required for neurosurgical procedures.

E 14. Introduction to Obstetrical Anesthesia. Drs. Winters and Harris. Half quarter or full quarter; by special arrangement.

Prerequisites: Basic Clerkship in Anesthesiology and Basic Clerkship in Obstetrics.

Strong emphasis is placed on the special pharmacology and physiology peculiar to pregnancy and labor. Daily clinical activities will consist of the evaluation and implementation of pain relief for parturients in active labor through the use of regional and intravenous anesthetic techniques.

E 16. Regional Anesthesia Practice. Dr. Winters and staff. Half quarter; by special arrangement.

Prerequisite: Basic Clerkship in Anesthesiology.

Students will have the opportunity to participate in nerve blocks used for surgical procedures and control of cancer pain. Emphasis will be given to minor nerve blocks that might be used in the emergency room or in office practice. The majority of this rotation is conducted at Union Memorial Hospital.

E 17. Management of Pain and Suffering. Drs. Winters, Raja, and staff. 4-6 weeks; by special arrangement.

Prerequisite: Basic Clerkship in Anesthesiology.

Time will be spent in the operating room and recovery room participating in the management of acute pain. Balanced with this will be time spent on the ward assessing and participating in the management of chronic pain and human suffering.

E 18. Anesthesiology Research. Dr. Koehler and staff. Minimum of one full quarter; available all year; as arranged.

Prerequisites: Physiology, Pharmacology, and Basic Clerkship in Anesthesiology.

E 20. Clinical Clerkship in Neurological Critical Care. Dr. Mirski. One student; 4 weeks.

Exposure to critically ill neurosurgical, neurological and neuromuscular patients is offered. Students will participate in all management aspects for these patients, including intracranial pressure monitoring, advanced electrodiagnostics, ventilatory support, cardiovascular monitoring, infection surveillance, and nutritional management.

E 22. Advanced Research in Neuro Anesthesia. Dr. Mirski. Minimum of one full quarter; available all year; as arranged.

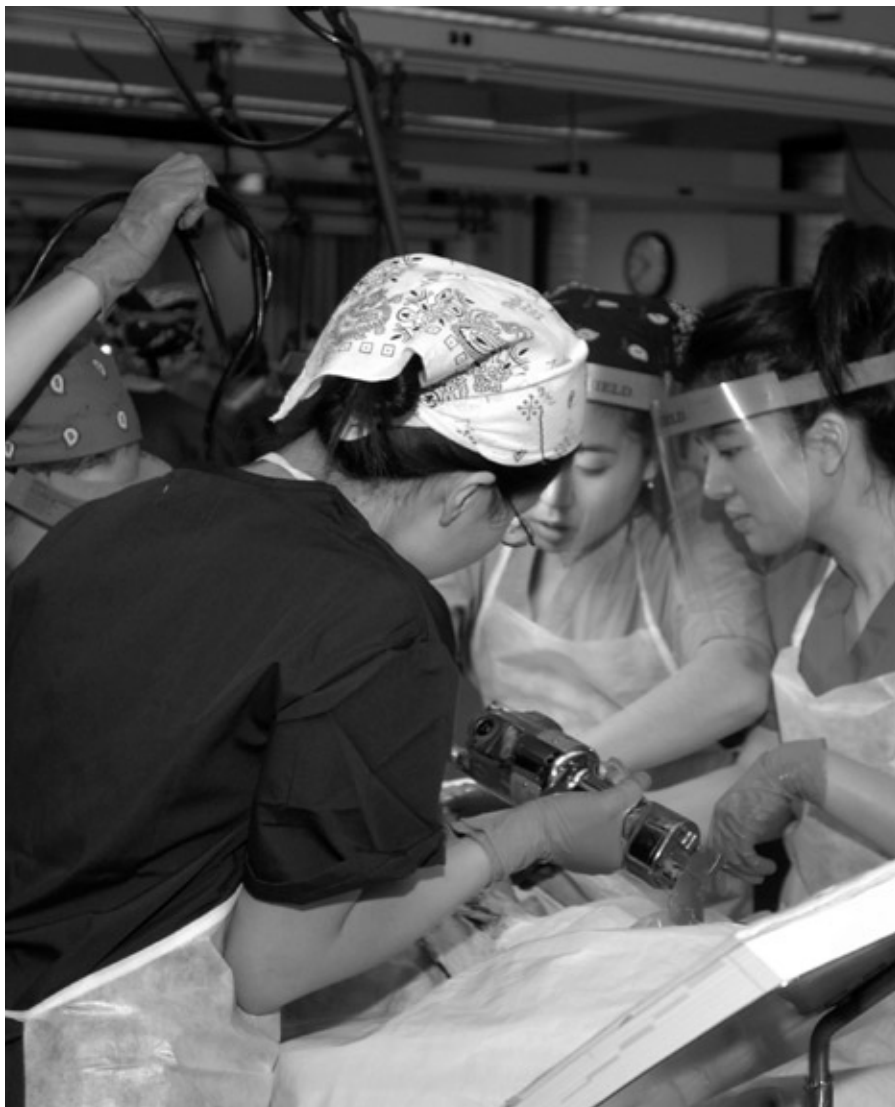
Prerequisite: Physiology, Pharmacology, and Basic Clerkship in Anesthesiology.

Time will be spent in the research laboratories of the Department of Anesthesiology and Critical Care Medicine participating on ongoing research projects conducted by members of the neuroanesthesia group. Projects include autoregulation of cerebral blood flow, effects of increased intracranial pressure on brain function and effects of anesthetic agents on cerebral blood flow. The student will be involved in laboratory experiments, data collection and data evaluation. Emphasis will be placed on cerebral physiology and pharmacology as related to patients undergoing anesthesia.

E 28. Preceptorship in Pediatric Anesthesia. Dr. Deborah Schwengel and staff. 4 weeks; available as arranged.

Prerequisites: Basic Clerkship in Anesthesiology and/or Pediatrics

Students participate with attending staff and fellows in pediatric anesthesiology. Students will participate in the preoperative evaluation, intraoperative management and postoperative follow-up of children undergoing surgery. This clerkship is designed for students who plan careers in pediatrics, anesthesiology or pediatric surgery. Emphasis will be placed on the physiologic and psychologic aspects of children undergoing surgery.



Biological Chemistry

GERALD WARREN HART

DeLamar Professor of Biological Chemistry,
Director of the Department of Biological
Chemistry

SUSAN W. CRAIG

Professor of Biological Chemistry, Professor of
Pathology

PETER N. DEVREOTES

Isaac Morris Hay and Lucille Elizabeth Hay
Professor of Embryology in the Department of
Cell Biology, Professor of Biological Chemistry

PAUL T. ENGLUND, Professor

STEPHEN J. GOULD, Professor

M. DANIEL LANE

University Distinguished Service Professor
Emeritus of Biological Chemistry

SIMEON MARGOLIS

Professor Emeritus of Medicine, Professor
Emeritus of Biological Chemistry

ALBERT S. MILDVAN, Professor Emeritus

CRAIG MONTELL

Professor of Biological Chemistry, Professor of
Neuroscience

DENISE J. MONTELL, Professor

PETER L. PEDERSEN, Professor

DANIEL M. RABEN

Professor of Biological Chemistry, Professor of
Oncology, Professor of Physiology

GREGG L. SEMENZA

C. Michael Armstrong Professor of Pediatrics
in Genetic Medicine, Professor of Biological
Chemistry, Professor of Medicine, Professor of
Oncology, Professor of Radiation Oncology and
Molecular Radiation Sciences

DAVID R. SHORTLE

Professor of Biological Chemistry, Professor of
Biophysics and Biophysical Chemistry

BARBARA T. SOLLNER-WEBB, Professor

JENNIFER EILEEN VAN EYK

Professor of Medicine, Professor of Biological
Chemistry, Professor of Biomedical Engineering

MICHAEL J. CATERINA

Associate Professor of Biological Chemistry,
Associate Professor of Neuroscience

MEHBOOB ALI HUSSAIN

Associate Professor of Pediatrics, Associate
Professor of Biological Chemistry, Associate
Professor of Medicine

LANDON STUART KING

Associate Professor of Medicine, Associate
Professor of Biological Chemistry

AKHILESH PANDEY

Associate Professor of Biological Chemistry
in Genetic Medicine, Associate Professor of
Oncology, Associate Professor of Pathology

GEORGE H. SACK, JR.

Associate Professor of Medicine, Associate
Professor of Biological Chemistry

SRIRAM SUBRAMANIAM, Visiting Associate
Professor

YOLANDA M. FORTENBERRY

Assistant Professor of Pediatrics, Assistant
Professor of Biological Chemistry

MOLLIE K. MEFFERT

Assistant Professor of Biological Chemistry,
Assistant Professor of Neuroscience

JOEL L. POMERANTZ, Assistant Professor

KAREN L. REDDY, Assistant Professor

BALTAZAR REYNAFARJE, Visiting Assistant
Professor

MICHAEL J. WOLFGANG, Assistant Professor

NATASHA E. ZACHARA, Assistant Professor

ROBERT NORMAN COLE, Instructor

XINYAN WU, Instructor

SEUNG HUN CHA, Research Associate

JODIE G. FRANKLIN, Research Associate

CHUEN-CHUEN JANG, Research Associate

MICHAEL KOTTGEN, Research Associate (to
08/31/09)

CHAD SLAWSON, Research Associate

WILLIAM P. TEW, Research Associate

KARTIK VENKATACHALAM, Research Associate

MOHAMMED ABDUL MAJID, Visiting Scientist

FACULTY ASSOCIATED WITH THE
DEPARTMENT OF BIOLOGICAL CHEMISTRY
HOLDING A PRIMARY APPOINTMENT IN:

The School of Medicine:

RICHARD L. HUGANIR

Professor of Neuroscience

FRANCIS KUHAJDA

Professor of Pathology

PAUL A. WATKINS

Professor of Neurology

The Bloomberg School of Public Health:

PETER C. AGRE

Professor of Molecular Microbiology and
Immunology

PIERRE A. COULOMBE

E.V. McCollum Professor and Chair of the
Department of Biochemistry and Molecular
Biology

The Department of Biological Chemistry has two major instructional functions. It provides required and elective instruction in biochemistry for medical students and also offers organized programs of graduate study in biochemistry and molecular biology toward the degree of Doctor of Philosophy. Two graduate programs are available: the departmental graduate program in Biological Chemistry and the joint graduate program in Biochemistry, Cellular and Molecular Biology (BCMB). The BCMB graduate program is a joint effort of the Departments of Biological Chemistry, Molecular Biology and Genetics, Biophysics and Biophysical Chemistry, Pharmacology and Molecular Sciences, Cell Biology, Neuroscience, and Physiology (see Graduate Program Section: Biochemistry,

Cellular and Molecular Biology, and Biological Chemistry).

The staff and the facilities of all seven departments provide opportunities to medical students, graduate students, and postdoctoral fellows for carrying out research projects in many different areas of biochemistry and molecular biology.

REQUIRED COURSE WORK FOR M.D. PROGRAM

Biological Chemistry—First Year

340.600 Scientific Foundations of Medicine. Drs. Pedersen, Raben and staff. First eight weeks of medical school; one week in November, M.-F., 8:00-2:00; Clinical Correlations, schedule varies.

Biochemistry, Cell Biology, Genetics, and Pharmacology are fully integrated into a combined course of study presented by the basic science departments. The course provides a comprehensive, fully integrated coverage of the molecular basis of cellular metabolism and function. The course will emphasize small group learning and problem solving. The student will participate in "Journal Club", in which important papers in the front-line biomedical literature will be discussed. Clinical Correlations related to basic science concepts will be held at various days and times. Enrollment of non-medical students requires approval from the course director.

Prerequisites: Elementary courses in inorganic chemistry, organic chemistry, general biology, and general physics. At least one upper-level course in Biochemistry or Cell Biology is strongly recommended.

OTHER COURSES AND ELECTIVE OPPORTUNITIES—*The courses described below are required for Ph.D. candidates but are available to medical students as elective opportunities.*

Curricular Consultants: Drs. Pedersen and Raben. Elective courses for medical students must be approved by the preceptor; any member of the department may act as preceptor.

Biological Chemistry

800.708 BCMB Core Discussion. Meets Fridays, first three quarters.

This course, which is limited to BCMB students, is required for all first year BCMB students. Critical discussion of current research articles in biochemistry, molecular and cell biology.

340.801 Advanced Topics in Biochemistry and Molecular Biology. 2-3 hours per week. Time to be arranged.

Prerequisite: Scientific Foundations of Medicine 340.600; enrollment limited to approximately eight students.

Systematic study and discussion of the current literature pertaining to the particular topics under consideration that quarter; topics will vary from year to year.

340.808 Research Seminar.

Reports on current research by the staff, visiting scientists, and advanced students form the basis of this seminar which meets weekly throughout the year.

340.805 Research in Biochemistry and Molecular Biology. Staff.

Properly qualified individuals are accepted for graduate and postdoctoral research training. Medical students are also accepted for research training in elective quarters and summers. By arrangement with staff members.

Research areas represented in the department are as follows:

1. DNA replication and topology.
2. Transcription and the control of gene expression.
3. Cellular differentiation.
4. Protein folding and mechanism of enzyme action.
5. Cytoskeletal, contractile, and cell surface proteins.
6. Membranes, receptors, and intra- and inter-cellular communication.
7. Bioenergetics.
8. Signal transduction.

340.699 Developmental Biology. Dr. Deborah Andrew.

Prerequisite: Molecular biology, cell biology, and genetics.

A graduate-level course covering the basis of embryology in multicellular organisms.

340.702 Current Topics in Biological Chemistry.

This course allows first-year Biological Chemistry students to explore areas relevant to the Biological Chemistry curriculum at a level of depth greater than that available in the core courses. Students meet every one to two weeks as a group with individual faculty members to discuss current or classic papers from the literature related to the faculty member's broad range of interests. Emphasis is placed not only on the scientific questions being explored, but also on a critical approach to papers from the primary literature. The small group size allows for an extremely interactive forum in which students can scrutinize both the theoretical and practical aspects of a given study and evaluate the study's relevance to the greater biological picture.

340.806 Research Projects in Biochemistry, Biophysics and Molecular Biology.

Brief, open-ended research projects of about two months duration. Graduate students participate in three projects during four quarters in laboratories of various faculty members in Biological Chemistry, Molecular Biology and Genetics, Biophysics and Biophysical Chemistry, Pharmacology and Molecular Sciences, and Cell Biology.

Research interests of individual staff members in the Department of Biological Chemistry are as follows:

DR. CATERINA

Molecular mechanisms of pain-, temperature-, and mechanosensation; roles of transient receptor potential ion channels in immunity

DR. CRAIG

Cell adhesion and cytoskeleton.

DR. ENGLUND

Biochemistry and molecular biology of protozoan parasites.

DR. GOULD

HIV/AIDS; retrovirology; exosome biogenesis; alloimmunity.

DR. HART

Dynamic glycosylation of nuclear and cytoskeletal proteins in transcription, signal transduction, cancer, diabetes, and Alzheimer's disease.

DR. LANE

Stem cell commitment and differentiation-induced gene expression; hypothalamic control of energy metabolism and obesity.

DR. MEFFERT

The regulation of neuronal gene expression in health and disease.

DR. MILDVAN

Mechanism of enzyme action; role of metals in enzymes; nuclear magnetic resonance; solution structures of enzymes and enzyme-substrate complexes.

DR. C. MONTELL

Molecular genetics of sensory signaling and TRP channels.

DR. D. MONTELL

Cellular, molecular, and genetic studies of invasive cell behavior.

DR. PANDEY

Global analysis of signal transduction pathways using mass spectrometry; bioinformatics; protein-protein interactions; databases; cancer biomarkers.

DR. PEDERSEN

Mitochondria; metabolism; motors & medicine with emphasis on understanding and treating/curing cancer and heart disease.

DR. POMERANTZ

Functional specificity and design of signal transduction pathways.

DR. RABEN

Biochemistry and chemistry of lipids and lipid metabolizing enzymes involved in signaling cascades.

DR. REDDY

Understanding how the nuclear periphery and other subcompartments contribute to general nuclear architecture and to specific gene regulation.

DR. SACK

Structure of human amyloid A proteins and their role in inflammation.

DR. SHORTLE

Experimental and computational strategies for solving the protein folding problem. NMR spectroscopy of unfolded proteins.

DR. SOLLNER-WEBB

Analysis of forces that organize the DNA in the cell nucleus: an in vivo self-association of DNA sequences directs sub-nuclear localization in mammalian cells.

DR. WOLFGANG

CNS control of metabolism; neuronal metabolism; neurochemistry.

DR. ZACHARA

The role of intracellular glycosylation, O-GlcNAc, in mediating life and death decisions in response to cellular injury.

GRADUATE PROGRAM—Students are accepted for graduate work leading to the degree of Doctor of Philosophy (see Graduate Programs).



Biomedical Engineering

ELLIOT R. MCVEIGH

Bessie Darling Massey Professor of Biomedical Engineering, Professor of Radiology and Radiological Science, Director of the Department of Biomedical Engineering

RONALD D. BERGER

Professor of Medicine, Professor of Biomedical Engineering

DAN E. BERKOWITZ

Professor of Anesthesiology and Critical Care Medicine, Professor of Biomedical Engineering

PAUL A. BOTTOMLEY

Russell H. Morgan Professor of Radiology, Professor of Biomedical Engineering, Professor of Medicine

JEFF W.M. BULTE

Professor of Radiology, Professor of Biomedical Engineering

PAUL ALBERT FUCHS

John E. Bordley Professor of Otolaryngology-Head and Neck Surgery, Professor of Biomedical Engineering, Professor of Neuroscience

HENRY R. HALPERIN

Professor of Medicine, Professor of Biomedical Engineering, Professor of Radiology

JOSHUA MICHAEL HARE

Adjunct Professor of Medicine, Adjunct Professor of Biomedical Engineering

STEVEN S. HSIAO

Professor of Neuroscience, Professor of Biomedical Engineering

RICHARD J. JOHNS

University Distinguished Service Professor Emeritus of Biomedical Engineering, Professor Emeritus of Medicine

DAVID A. KASS

Abraham and Virginia Weiss Professor of Cardiology in the Department of Medicine, Professor of Biomedical Engineering

MAYURESH V. KOTHARE, Visiting Professor

JONATHAN S. LEWIN

Martin W. Donner Professor of Radiology, Professor of Biomedical Engineering, Professor of Neurological Surgery, Professor of Oncology

W. LOWELL MAUGHAN

Professor of Medicine, Professor of Biomedical Engineering

LLOYD B. MINOR

Andelot Professor of Laryngology and Otology, Professor of Biomedical Engineering, Professor of Neuroscience

ALEKSANDER S. POPEL

Professor of Biomedical Engineering, Professor of Medicine

DAVID A. ROBINSON

University Distinguished Service Professor Emeritus of Ophthalmology, University Distinguished Service Professor Emeritus of Biomedical Engineering, University Distinguished Service Professor Emeritus of Neuroscience

MURRAY B. SACHS

University Distinguished Service Professor of Biomedical Engineering, Professor of Neuroscience, Professor of Otolaryngology-Head and Neck Surgery

LAWRENCE P. SCHRAMM

Professor of Biomedical Engineering, Professor of Neuroscience

REZA SHADMEHR

Professor of Biomedical Engineering, Professor of Neuroscience

ARTIN A. SHOUKAS

Professor of Biomedical Engineering, Professor of Anesthesiology and Critical Care Medicine, Joint Appointment in Physiology

NITISH V. THAKOR

Professor of Biomedical Engineering, Professor of Neurology

BENJAMIN M.W. TSUI

Professor of Radiology and Radiological Science, Professor of Biomedical Engineering

LESLIE TUNG, Professor

JENNIFER EILEEN VAN EYK

Professor of Medicine, Professor of Biological Chemistry, Professor of Biomedical Engineering

XIAOQIN WANG

Professor of Biomedical Engineering, Professor of Neuroscience, Professor of Otolaryngology-Head and Neck Surgery

RAIMOND L. WINSLOW

Professor of Biomedical Engineering, Professor of Medicine, Joint Appointment in Health Sciences Informatics

ERIC D. YOUNG

Professor of Biomedical Engineering, Professor of Neuroscience, Professor of Otolaryngology-Head and Neck Surgery

DAVID T. YUE

Professor of Biomedical Engineering, Professor of Neuroscience

ELIAS A. ZERHOUNI

Professor of Radiology, Professor of Biomedical Engineering

CHARLES C. DELLA SANTINA

Associate Professor of Otolaryngology-Head and Neck Surgery, Associate Professor of Biomedical Engineering

PETER L. GEHLBACH

Associate Professor of Ophthalmology, Associate Professor of Biomedical Engineering

EDITH DIAMENT GUREWITSCH

Associate Professor of Gynecology and Obstetrics, Associate Professor of Biomedical Engineering

SCOT C. KUO

Associate Professor of Biomedical Engineering, Associate Professor of Cell Biology

ALBERT C. LARDO

Associate Professor of Medicine, Associate Professor of Biomedical Engineering

XINGDE LI, Associate Professor

ROBERT E. MILLER

Associate Professor of Pathology, Associate Professor of Biomedical Engineering, Joint Appointment in Health Sciences Informatics

LEWIS HARTLEY ROMER

Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Biomedical Engineering, Associate Professor of Cell Biology, Associate Professor of Pediatrics

RICHARD DAVID SCHULICK

John L. Cameron Professor of Alimentary Tract Diseases in the Department of Surgery, Professor of Oncology, Associate Professor of Biomedical Engineering, Associate Professor of Gynecology and Obstetrics

MARK J. SHELHAMER

Associate Professor of Otolaryngology-Head and Neck Surgery, Associate Professor of Biomedical Engineering

JEFFREY H. SIEWERDSEN, Visiting Associate Professor**JOE ALEXANDER, JR., Adjunct Assistant Professor****ANGELO HOMAYOUN ALL**

Assistant Professor of Biomedical Engineering, Research Associate in Neurology

MOHAMAD E. ALLAF

Assistant Professor of Urology, Assistant Professor of Biomedical Engineering

ISAAC N. BANKMAN, Assistant Professor**MICHAEL A. BEER**

Assistant Professor of Biomedical Engineering in Genetic Medicine, Joint Appointment in Molecular Biology and Genetics

HARRY R. GOLDBERG

Assistant Professor of Biomedical Engineering, Joint Appointment in Health Sciences Informatics

WARREN L. GRAYSON, Assistant Professor (from 09/01/09)**JORDAN J. GREEN, Assistant Professor****MICHAEL A. GUTTMAN, Assistant Professor (from 09/01/09)****DANIEL A. HERZKA, Assistant Professor****DAVID W. KACZKA**

Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Biomedical Engineering

AKHIL JAY KHANNA

Assistant Professor of Orthopedic Surgery, Assistant Professor of Biomedical Engineering

AMERICO ANIELLO MIGLIACCIO

Adjunct Assistant Professor of Otolaryngology-Head and Neck Surgery, Adjunct Assistant Professor of Biomedical Engineering

SCOTT MITCHELL PAUL, Adjunct Assistant Professor**JOHN JEREMY RICE, Adjunct Assistant Professor****LEW C. SCHON**

Assistant Professor of Orthopedic Surgery, Assistant Professor of Biomedical Engineering

THOMAS B. WOOLF

Professor of Physiology, Assistant Professor of Biomedical Engineering, Joint Appointment in Biophysics and Biophysical Chemistry

YOUSEPH YAZDI, Assistant Professor (from 09/01/09)**KECHEN ZHANG**

Assistant Professor of Biomedical Engineering, Assistant Professor of Neuroscience

POPPY A.C. CRUM, Research Associate**XIAOFENG JIA**

Research Associate in Biomedical Engineering, Research Associate in Physical Medicine and Rehabilitation

NIRANJAN PANDEY, Research Associate**TUCK WAH SOONG, Research Associate****JOSEPH WEBSTER STAYMAN, Research Associate (from 09/01/09)****ANASTASIOS G. BEZERIANOS, Visiting Scientist (from 01/04/10)****YUZHEN CAO, Visiting Scientist****HAIYAN DING, Visiting Scientist****XIAOPING LI, Visiting Scientist (to 08/31/09)****FACULTY ASSOCIATED WITH THE DEPARTMENT OF BIOMEDICAL ENGINEERING HOLDING A PRIMARY APPOINTMENT IN:**

The G.W.C. Whiting School of Engineering:

JOEL S. BADER

Assistant Professor of Biomedical Engineering

ANDREW S. DOUGLAS

Professor of Mechanical Engineering

JUSTIN HANES

Professor of Chemical Engineering

KALINA HRISTOVA

Associate Professor of Materials Science and Engineering

PABLO A. IGLESIAS

Professor of Electrical and Computer Engineering

KONSTANTINOS KONSTANTOPOULOS

Professor of Chemical and Biomolecular Engineering

JERRY L. PRINCE

William B. Kouwenhoven Professor of Electrical and Computer Engineering

The Bloomberg School of Public Health:

WAYNE A. MITZNER

Professor of Environmental Health Sciences

REQUIRED COURSE WORK—The Department of Biomedical Engineering provides three educational programs. The Medical School program is described below, the Graduate Program leading to the Ph.D. degree is described on page 35, and the Graduate Program leading to the M.S.E. in Biomedical Engineering is described on page 37. Course work in the Graduate Programs is available to qualified medical students on an elective basis.

The required work for medical students in

this area is integrated with the required work in Physiology 360.600 and Neuroscience 440.600. It includes lectures and laboratory exercises on control systems, signal analysis, hemodynamics and modelling.

COURSES AND ELECTIVE OPPORTUNITIES—*Curricular Consultant: Dr. McVeigh. Elective courses must be approved by the preceptor; any member of the department may act as preceptor.*

Biomedical Engineering E

Courses are listed below by both School of Medicine and School of Engineering course numbers. For additional undergraduate courses, consult the Arts and Sciences/Engineering catalogue.

Special Studies and Research. Dr. McVeigh and staff.

Students may participate in current research activities in the department or may arrange to conduct independent work under the guidance of a preceptor. Students may, in addition, participate in the regular seminars and conferences.

DR. BOTTOMLEY

Magnetic resonance imaging.

DR. DOUGLAS

Dynamic fracture mechanics; finite element methods; nonlinear solid mechanics.

DR. FUCHS

Biophysics of sensory hair cell; regulation of ion channel expression.

DR. HALPERIN

Cardiac function and cardiac assist devices.

DR. HANES

Drug delivering.

DR. KASS

Cardiac mechanics; ventricular arterial interaction and heart failure.

DR. KONSTANTOPOULOS

Tissue engineering.

DR. KUO

Mechanics of subcellular force generation.

DR. MINOR

Oculomotor control.

DR. MITZNER

Biomedical engineering of the lung; 3-D image analysis.

DR. POPEL

Physiological flows and molecular transport; microcirculation; cell mechanics.

DR. PRINCE

Multi-dimensional signal processing; medical imaging; computational geometry.

DR. SACHS

Auditory neurophysiology and psychophysics.

DR. SCHRAMM

Neural control of metabolism; autonomic control systems.

DR. SHADMEHR

Human motor control and learning in health and disease; functional imaging of the brain; computational and theoretical neuroscience.

DR. SHELHAMER

Nonlinear dynamics in the oculomotor system.

DR. SHOUKAS

Systems analysis of circulatory systems; systems physiology.

DR. THAKOR

Cardiovascular and neurological instrumentation; signal processing; computer applications.

DR. TUNG

Cardiac electrophysiology; muscle mechanics.

DR. WANG

Neurophysiology of the auditory cortex; neural mechanisms of speech perception and learning; computational neuroscience.

DR. WINSLOW

Mathematical modeling of nervous system; computational neuroscience; auditory and visual neurophysiology.

DR. WOOLF

Models of membrane proteins.

DR. YOUNG

Auditory neurophysiology; neural modeling; sensory processes.

DR. YUE

Ionic channel electrophysiology; biophysics; molecular biology.

Biomedical Engineering in the Real World. (580.202 School of Engineering) Dr. Popel

A series of weekly lectures to inform students about careers in biomedical engineering and to discuss technological, social ethical, legal, and economic issues relevant to the profession. Topics include: academic careers in biomedical engineering; biomedical engineering in industry (large corporations to sole entrepreneurship); health care delivery; ethical issues; legal issues (patenting, licensing, product liability); standards and government regulations; and economic issues in biomedical engineering industry (start-up companies, global businesses). This course is open to all students.

Physiological Foundations for Biomedical Engineering. (580.421-422 School of Engineering) Dr. Yue and Shadmehr.

Recommended corequisites: Signals/Circuits (520.113, 580.274-275 School of Engineering) and 580.423 School of Engineering.

Prerequisite: 520.213 (School of Engineering) or 110.302 (Arts & Sciences)

A two semester sequence designed to provide the physiological background necessary for advanced work in biomedical engineering. A quantitative, model-oriented approach to physiological systems is stressed. First term topics include: the cell and its chemistry, transport and the cell membrane, properties of excitable tissue and muscle, the cardiovascular system, the respiratory system and the kidney. Second term: anatomy of the nervous system, structure and function of the auditory and visual systems, motor systems, and the neural and neuroendocrine control of the circulation. Counts as four credits of E and four credits of N for biomedical engineering majors.

Ionic Channels in Excitable Membranes. (580.425 School of Engineering) Dr. Yue.

Prerequisites: 580.421-422, or equivalent introductory biology.

Ionic channels are key signaling molecules that support electrical communication throughout the body. As such, these channels are a central focus of biomedical engineering as it relates to neuroscience, computational biology, biophysics, and drug discovery. This course introduces the engineering (stochastic and mathematical models) and molecular strategies (cloning and expression) used to understand the function of ionic channels. The course also surveys key papers that paint the current picture of how channels open (gating) and conduct ions (permeation). Biological implications of these properties are emphasized throughout. Finally, the course introduces how optical (fluorescence methods) and electrophysiological methods (patch clamp) now promise to revolutionize understanding of ionic channels. This course can be viewed as a valuable partner of Models of Physiological Processes in the Neuron (580.439).

Cellular Engineering. (580.441 School of Engineering) Drs. Konstantopoulos and Yarema.

Prerequisite: 580.221 Molecules and Cells.

Lectures provide an overview of molecular biology fundamentals, an extensive review on extracellular matrix and basics of receptors, followed by topics on cell-cell and cell-matrix interactions at both the theoretical and experimental levels. Subsequent lectures will cover the effects of physical (shear, stress, strain), chemical (cytokins, growth factors), and electrical stimuli on cell function, emphasizing topics on gene regulation and signal transduction processes. Material on cell-cycle, apoptosis, metabolic engineering, and gene therapy will also be incorporated into the course.

Tissue Engineering. (580.442 School of Engineering) Drs. Elisseeff and Leong.

Prerequisites: 580.421-422 Physiological Foundations I and II.

Lectures provide an overview of tissue structure and function, followed by a review of biomaterials (collagen) and cell-biomaterial interactions. Subsequent lectures will cover fundamentals of stem cell biology, and discuss in depth, applications of tissue engineering to specialized tissues and organs, including skin; muscular skeletal system (bone, cartilage, tendon, and ligament); cardiovascular system (vascular grafts, blood substitutions, cardiac patch, and heart valve); nervous system (peripheral and central nervous systems); and liver, pancreas, and kidney.

Biomechanics of Cells and Organisms. (580.448 School of Engineering) Dr. Sun.

Prerequisites: 171.101-102; 110.108-109; 110.202.

Mechanical aspects of the cell are introduced using the concepts in continuum mechanics. We will discuss the role of proteins, membranes, and cytoskeleton in cellular function and how to describe them using simple mathematical models.

Mechanics of Living Tissues. (580.450 School of Engineering)

Prerequisites: 110.201 (Arts & Sciences); Strength of Materials 560.206; Continuum Mechanics 530.305 (School of Engineering) or equivalent.

This course includes the following: review of continuum mechanics for large, finite deformations; an overview of constitutive properties of tissues,

including viscoelasticity; methods of mechanically testing tissues; the finite element method as applied to physiological problems; and mechanics of specific tissues and organs: eg. heart, lung, bone.

Introduction to Orthopaedic Biomechanics. (588.455 School of Engineering) Dr. Allen.

Prerequisites: 560.201 Statics; 110.302 Differential Equations.

This course will cover static and dynamic forces in the musculoskeletal system, joint reactions, soft and hard tissue response to force loads, muscle mechanics, material properties, biomechanical lumped parameter systems, modeling, and injury mechanisms.

Physiological Fluid Mechanics. (580.460 School of Engineering) Dr. Popel.

Prerequisite: Differential Equations (110.302, Arts and Sciences).

Basic concepts and problems of fluid and solid mechanics and rheology are introduced and applied to the analysis of blood flow in the macro- and microcirculation. Analysis of mathematical models is combined with discussions of physiological mechanisms.

Biological Transport. (580.461 School of Engineering) Drs. Leong and Popel

Prerequisite: School of Arts and Sciences 110.302.

Basic principles and mechanisms of mass transport in multicomponent systems with application to biological phenomena. Examples of physiological mass and heat transfer. Mathematical models of pharmacokinetics and membrane transport. Students will carry out a modeling project of biological transport systems.

Advanced Topics in Computer Vision. (580.464 School of Engineering) Dr. Vidal.

Prerequisites: 110.202 and 600.461, or instructor's permission.

State-of-the-art methods in dynamic vision, with an emphasis on segmentation, reconstruction, and recognition of static and dynamic scenes. Topics include: reconstruction of static scenes (tracking and correspondence, multiple view geometry, self calibration); reconstruction of dynamic scenes (2-D and 3-D motion segmentation, nonrigid motion analysis); recognition of visual dynamics (dynamic textures, face and hand gestures, human gaits, crowd motion analysis); as well as geometrical and statistical methods for clustering and unsupervised learning, such as K-means, Expectation Maximization, and Generalized Principal Component Analysis. Applications in robotics and biomedical imaging are also included.

Biomedical Sensors. (580.470 School of Engineering) Dr. Thakor.

Prerequisites: Signals/Circuits (520.113, 580.274-275 School of Engineering) and electronics lab (e.g. 520.125-28 or 520.145-148 School of Engineering; may be taken concurrently)

A survey of electronic sensors of physiological signals. The physics of transduction and characteristics of dynamic range, linearity, hysteresis and frequency response will be discussed. Topics include conventional methods to measure blood pressure and flow, temperature, respiration, muscle contrac-

tion, electrical signals from excitable tissues, as well as novel techniques used in research. Biological transducers which operate in the human body will be discussed as time permits. Properties of transducers will be explored in laboratory sessions.

Principles of the Design of Biomedical Instrumentation. (580.471 School of Engineering) Dr. Thakor.

Prerequisites: 520.326 or 580.470 (School of Engineering).

An intensive lecture and laboratory course covering fundamentals of biomedical measurements and principles of design. Lectures and laboratories initially emphasize systematic design of a complete electrocardiogram acquisition system. Subsequently cardiovascular, neurological, therapeutic and monitoring instrumentation as well as principles of patient safety are discussed. Finally students independently conceive the design of a medical device and reduce it to practice.

Medical Imaging Systems. (580.472 School of Engineering) Dr. Prince.

Prerequisite: 520.214 School of Engineering (Same as 520.432).

An introduction to the instrumentation and signal processing methods used to produce images in general radiography computed tomography, magnetic resonance imaging, and nuclear medicine.

Quantummechanical Basis of Nuclear Magnetic Resonance. (580.475 School of Engineering) Drs. Van Zijl and Pekar.

Prerequisites: Basic physics and mathematics.

Basics of NMR spectroscopy theory, data acquisition and processing. Topics include phenomenological/semi-classical description of NMR, introduction to quantum mechanics, quantum mechanics of NMR, density matrix, Cartesian spin operator formalism, homonuclear and heteronuclear pulse sequences for coupled spins, polarization transfer and coherence transfer, coherence transfer formalism, phase cycling for coherence selection, pulse sequences for multidimensional NMR, phase-sensitive and magnitude detection, and coherence selection using pulsed magnetic field gradients.

Microrfabrication Laboratory. (580.495 School of Engineering) Drs. Andreou and Wang.

Prerequisite: Permission of instructor.

This laboratory course introduces the principles used in the construction of microelectronic devices, sensors, and micromechanical structures. Students will work in the laboratory on the fabrication and testing of a device. Accompanying lecture material covers basic processing steps, design and analysis CAD tools, and national foundry services.

Topics in Biomedical Engineering. (580.603-604 School of Engineering) Staff.

A series of informal seminars in which faculty of the department discuss research interests; emphasis is on discussion between faculty and students. The purpose is to introduce graduate students to research opportunities. Open to doctoral students in Biomedical Engineering; others by permission. Both semesters at the School of Medicine.

Computational Functional Genomics (580.610 School of Engineering) Dr. Goutsias.

Prerequisite: Working knowledge of elementary probability and statistics.

An introduction to mathematical and computational techniques for Functional Genomics, a growing area of research in cell biology and genetics whose objective is to understand the biological function of genes and their interactions. Computational functional genomics focuses on the problems of collection, processing, and analyzing data related to genome-wide patterns of gene expression with the objective to discover mechanisms by which a cell's gene expression is coordinated. This has become feasible with the development of DNA micro array technology, which allows the simultaneous measurement of gene expression levels of thousand of genes. Topics include: an introduction to cell biology (cells, genome, DNA, transcription, translation, control of gene expression, DNA and RNA manipulation); DNA micro array technology and experimental design; processing and analysis of micro array data (data reduction and filtering, clustering); and computational models for genetic regulatory networks (Boolean networks, Bayesian networks, ODE-based networks).

Structure and Function of the Auditory and Vestibular System. (580.625-26 School of Engineering) Hearing Science Center staff.

Prerequisites: 580.421-422 School of Engineering; Differential Equations (110.302 Arts & Sciences); and Signals and Systems (520.214 School of Engineering).

Physiological mechanisms of hearing and balance. Topics include transmission of sound in the ear, transduction of sound and head orientation by hair cells, biophysics and biochemistry of hair cells, representation of sound and balance in eighth-nerve discharge patterns, anatomy of the central auditory and vestibular systems, and synaptic transmission and signal processing in central neurons. Aspects of hearing and balance such as speech perception, sound localization, vestibular reflexes and vestibular compensation are discussed with an integrated perspective covering perceptual, physiological and mechanistic data.

Topics in Systems Neuroscience (580.628 School of Engineering) Drs. Wang and Shadmehr.

Prerequisite: 580.421-422 Physiological Foundations or equivalent.

This course consists of weekly discussions of current literature in systems neuroscience. The selected readings will focus on neural mechanisms for perception, attention, motor behavior, learning, and memory, as studied using physiological, psychophysical, computational, and imaging techniques. Students are expected to give presentations and participate in discussions.

Theoretical Neuroscience. (580.630 School of Engineering) Drs. Wang and Young. Spring semester.

Prerequisites: Introduction to Neuroscience (580.422 or equivalent), Probability (550.420 or equivalent), and Signals and Systems (520.214 or equivalent).

Theoretical methods for analyzing information encoding and functional representations in neural systems. Topics include: models of single and multiple neural spike trains based on stochastic processes and information theory; detection and estimation of behaviorally relevant parameters from spike trains; system theoretic methods for analyzing sensory receptive fields; network models of neural systems. Both theoretical methods and the properties of specific well-studied neural systems will be discussed.

Computational Motor Control. (580.631 School of Engineering) Dr. Shadmehr

Prerequisites: Physiological Foundations 110.201; 110.302.

This course introduces the human motor control system using tools from control theory and robotics. Topics include: mechanics of multi-joint limbs; dynamics of muscles and spinal control structures; introduction to kinematics and biological motion planning; time delays and predictive control; neural correlates of control in the brain; motor disorders; and learning and adaptive control in humans.

210.632 Ionic Channels in Excitable Membranes. (580.632 School of Engineering) Dr. Yue.

Prerequisites: Differential Equations (110.302 School of Arts and Sciences), Physiological Foundations for Biomedical Engineering (580.421-422 School of Engineering) or Cell Biology (020.306 School of Arts and Sciences); Introductory Probability (550.310 School of Engineering). Permission of instructor may be substituted for these courses.

Comprehensive quantitative introduction to the function of ionic channels. Topics include: Hodgkin-Huxley theory; Markov models of gating charge movement identified by histogram approaches, linear systems theory, and noise analysis; models of ion permeation; and Guoy-Chapman-Stern theory of surface layers. Includes exercises with stochastic simulation of theoretical concepts.

Bioelectric Magnetic Phenomena in Cardiac Muscle. (580.635 School of Engineering) Dr. Tung.

Prerequisites: 110.202, 110.302 (Arts & Sciences), or 550.291, 520.213, 520.219, 520.214, 580.421 (School of Engineering) or equivalent.

Corequisite: 580.634 (School of Engineering).

This course reviews theoretical concepts and experimental approaches used to characterize the electrical properties of cardiac muscle. Topics include: biophysical aspects of cardiac cell membranes and gap junctions; volume conductor models of single cells; continuous and discontinuous bidomain models of tissue; voltage clamp techniques; optical indicators of transmembrane potential; and mechano-electrical coupling.

Cellular and Tissue Engineering. (580.637 School of Engineering) Drs. Leong, Kuo, and Popel.

This is an advanced course on the latest research accomplishments on cellular and tissue engineering from three different interdisciplinary perspectives: a) it summarizes the theoretical/experimental tools to investigate adhesion mechanisms and differentiated functions of cells attached on surfaces; b) it examines the signal transduction and regulation of metabolic activity in mammalian cells due

to physical (mechanical) forces; c) it highlights the mechanisms of cell motility and morphogenesis of anchored cells, and the mechanical properties of circulating cells.

Models of Physiological Processes in the Neuron. (580.639 School of Engineering) Dr. Young.

Prerequisites: School of Engineering 580.420-422 or equivalent; School of Arts and Sciences 110.302, or 500.303 or equivalent; 520.213 recommended.

Single-neuron modeling, emphasizing the use of computational models as links between the properties of neurons at several levels of detail. Topics include thermodynamics of ion flow in aqueous environments, a biology and biophysics of ion channels, gating, nonlinear dynamics as a way of studying the collective properties of channels in a membrane, synaptic transmission, and integration of electrical activity in multi-compartment dendritic tree models. Students will study the properties of computational models of neurons; graduate students will develop a neuron model using data from the literature.

Introduction to Nonlinear Dynamics in Physiology. (580.651 School of Engineering) Dr. Shelhamer

Prerequisites: Knowledge of signals and systems or instructor's consent.

This course is designed for students who may be interested in applying the techniques of nonlinear dynamics and chaos to the analysis of physiological data. Topics covered will include: fractals; strange attractors; bifurcations; state-space attractor reconstruction; Poincaré sections; dimension calculations; Lyapunov exponents; entropy, tests for determinism; and nonlinear forecasting. Examples will be drawn from studies in cardiology, brain function, and the oculomotor system.

Models of the Cardiac Myocyte. (580.682 School of Engineering) Dr. Winslow

Prerequisites: 580.421-22; 110.302 or 550.291; 600.109 or 500.200; Senior standing.

The cardiac myocyte is one of the most extensively studied cells in biology. As such, it serves as a critically important example of how to develop quantitative, dynamic computational models of cell function. This course will present a comprehensive review of all aspects of modeling of the cardiac myocyte. The course will also cover emerging areas of modeling activity including a) mapping and modeling of signal transduction pathways in the cardiac myocyte; b) mechanisms by which such pathways modulate cell function.

Experimental Foundations for Neural Models. (580.684 School of Engineering) Dr. Sachs and Staff.

Prerequisites: An introductory course on the nervous system; permission of instructor.

This course familiarizes students with the experimental tools that are used to provide the biological data base for neural models. Projects are designed to teach single unit recording in sensory nerve; characterization of complex receptive fields; cellular or synaptic potential measurement; evoked potential techniques; psychophysical measurement of sensory or motor function.

Foundations of Computational Biology I. (580.687 School of Engineering) Dr. Sun.

This course presents the fundamental concepts in equilibrium and non-equilibrium statistical mechanics and apply them to topics in modern molecular computational biology. Monte Carlo and statistical ensembles are presented. Field theories are introduced to describe the mechanics of membranes, cytoskeleton, and biofluids. Kinetic theory, master equations, and Fokker-Planck equations are discussed in the context of ion channels and molecular motors.

Foundations of Computational Biology II. (580.688 School of Engineering) Dr. Bader.

Prerequisites: Mathematics through linear algebra and differential equations; molecular biology and genetics at the level of 580.221 or equivalent; 660.226 or equivalent.

Homework assignments will require programming in a language of choice, and students will have access to a linux cluster as a computational resource.

This course uses statistical mechanics and information theory to develop probabilistic models for biological data, with a primary focus on sequence data and graphical models. Topics will include: probability theory; score matrices; hidden Markov models; suffix trees; phylogenetic inference; random graph theory; and network inference.

Systems Biology of Cell Regulation. (580.690 School of Engineering) Dr. Levchenko.

Prerequisites: 110.201 and 110.302 or equivalent; advanced biology.

This course will explore the recent advances in Systems Biology analysis of intracellular processes. Examples of the modeling and experimental studies of metabolic, genetic, signal transduction, and cell cycle regulation networks will be studied in detail. The classes will alternate between consideration of network-driven and network element (gene, metabolite or protein)-driven approaches.

Learning Theory. (580.691 School of Engineering) Drs. Shadmehr and Diedrichsen.

Prerequisites: 580.291 or equivalent linear algebra; probability theory.

This course will introduce major ideas in computational learning, with an emphasis on its connections with biological learning. The focus is on the probabilistic foundations of learning theory. We will discuss topics in regression, Bayesian learning, classification, reinforcement learning, and active learning. However, this is not a machine learning course. Rather, our aim is to use mathematical results to model adaptation and formation of memory in the central nervous system, including

problems in perception, sensori-motor adaptation, generalization, selection of action, consolidation, and addition.

Neuroengineering. (580.702 School of Engineering) Dr. Thakor.

Neuroengineering represents the application of engineering principles to develop systems for neurological research and clinical applications. This involves design of instrumentation for brain monitoring, development of signal processing methods to analyze brain rhythms, contemporary imaging methods ranging from optical/CT/MRI, use of micro and nanotechnologies to probe from neurons and brain, and development and application of neural stimulators, prosthesis, and deep brain stimulations and robotic/image guided therapeutic devices. The course will review and research the state-of-the-art in selected fields and support research and development projects by students in these topics.

Medical Microsystems. (580.725 School of Engineering) Drs. Andreas and Thakor.

Prerequisites: 580.471 or 580.495.

Topics include: fundamental and advanced fabrication processes for integrating diverse materials (including silicon) into microstructures and microdevices; micropatterning, moulding, sensing, and actuation technologies; research concepts and applications of microsystems at the molecular, cellular, and medical systems level. Applications such as DNA microarrays, drug and gene delivery, microsensors, and actuators for research, microstructures for implants and microdevices for prosthesis.

Pattern Theory: From Representation to Inference. (580.744 School of Engineering) Dr. Miller.

This course examines the metric pattern theory of Ulf Grenander in which shapes and patterns are studied as random processes on graphs. The course begins with the study of Markov processes on directed acyclic graphs, including Markov chains and branching processes, and on random fields on regular lattices. Moving to the continuum, the course examines Gaussian random fields, second order representation theory and random processes of geometric shape through Gaussian fields on manifolds. Numerous examples are examined in image understanding and image analysis.

210.801-802 Special Studies in Biomedical Engineering. (580.801-802 School of Engineering) Staff.

Studies conducted in any area of biomedical engineering on a tutorial basis by prior arrangement with a member of the faculty. May be taken more than once.

Biophysics and Biophysical Chemistry

L. MARIO AMZEL, Professor of Biophysics and Biophysical Chemistry, Director of the Department of Biophysics and Biophysical Chemistry

ROBERT J. COTTER
Professor of Pharmacology and Molecular Sciences, Professor of Biophysics and Biophysical Chemistry

HOWARD M. DINTZIS, Professor Emeritus

DANIEL J. LEAHY
Professor of Biophysics and Biophysical Chemistry, Professor of Oncology

JON R. LORSCH, Professor

DAVID R. SHORTELE
Professor of Biological Chemistry, Professor of Biophysics and Biophysical Chemistry

PETER C.M. VAN ZIJL
Professor of Radiology and Radiological Science, Professor of Biophysics and Biophysical Chemistry, Professor of Oncology

CYNTHIA WOLBERGER
Professor of Biophysics and Biophysical Chemistry, Investigator of the Howard Hughes Medical Institute

WEI YANG, Adjunct Professor

RENEE Z. DINTZIS
Associate Professor of Cell Biology, Associate Professor of Biophysics and Biophysical Chemistry

SCHEHERAZADE SADEGH-NASSERI
Associate Professor of Pathology, Associate Professor of Biophysics and Biophysical Chemistry

DOMINIQUE FRUEH, Assistant Professor (from 02/01/10)

HERSCHEL V. WADE, Assistant Professor

JIE XIAO, Assistant Professor

MARIO ANTONIO BIANCHET, Instructor

SANDRA B. GABELLI, Instructor

SILVIA A. PINEIRO, Visiting Scientist

FACULTY ASSOCIATED WITH THE DEPARTMENT OF BIOPHYSICS AND BIOPHYSICAL CHEMISTRY HOLDING A PRIMARY APPOINTMENT IN:

The School of Medicine:

THOMAS B. WOOLF
Professor of Physiology

The School of Arts and Sciences:

ERNESTO FREIRE
Hendry Walters Professor of Biology

GEORGE D. ROSE
Professor of Biophysics

The Bloomberg School of Public Health:

SEAN T. PRIGGE
Assistant Professor of Molecular Microbiology and Immunology

REQUIRED COURSE WORK FOR M.D. PROGRAM

First Year

100.600 Scientific Foundations of Medicine. Dr. Lorsch. M.-F., 8:00-1:00; Clinical Correlations, F., 2:00-3:30 p.m.

Biochemistry, Cell Biology, Genetics, and Pharmacology are fully integrated into a combined course of study presented by the basic science departments. The course provides a comprehensive, fully integrated coverage of the molecular basis of cellular metabolism and function. The course will emphasize small group learning and problem solving. The student will participate in "Journal Club," in which important papers in the front-line biomedical literature will be discussed. Clinical Correlations related to basic science concepts will be held at various days and times. Enrollment of non-medical students requires approval from the course director.

Prerequisites: Elementary courses in inorganic chemistry, organic chemistry, general biology, and general physics. At least one upper-level course in Biochemistry or Cell Biology is strongly recommended.

COURSES AND ELECTIVE OPPORTUNITIES—Curricular Consultant: Dr. Amzel. *Elective courses must be approved by the preceptor; any member of the department can act as preceptor.*

Biophysics

100.801/100.807 Research in Biophysics. By arrangement with the staff. Research will be conducted in various aspects of molecular biology. In particular the molecular structures of proteins and nucleic acids, their biosynthesis and functional interrelationships will be studied.

Research interests represented in the Department of Biophysics and Biophysical Chemistry are as follows:

DR. AMZEL

Structure and mechanism of proteins involved in redox or phosphoryl transfer reactions, such as peptidyl amidating monooxygenase.

DR. DINTZIS

Receptor oligomerization of cell function.

DR. FRUEH

Structural and dynamic studies of active enzymatic systems by Nuclear Magnetic Resonance (NMR); mechanisms of domain communication in non-ribosomal peptide synthetases.

DR. LEAHY

Three-dimensional structure of proteins involved in cell-cell and cell-matrix interaction and signaling.

DR. LORSCH

Mechanisms of eukaryotic translation.

DR. WADE

Directing signal recognition and signal control in biological switches; mechanisms in multidrug resistance functions.

DR. WOLBERGER

Structural studies of sirtuins and linkage-specific polyubiquitin assembly and recognition.

DR. XIAO

Dynamics of gene regulation and cell division using single-molecule fluorescence microscopy and live-cell analysis.

340.806 Research Projects in Biochemistry, Biophysics and Molecular Biology. (Jointly with Departments of Biological Chemistry and Molecular Biology and Genetics. See Biological Chemistry for course description.)

100.804 Topics in Macromolecular Structure and Function. Dr. Leahy. One hour per week throughout the academic year. Wednesdays, 9:30-10:30.

This is a seminar course covering a variety of topics involving the structure and function of proteins and nucleic acids. Recent topics have included: protein folding, evolutionary significance of introns, protein-DNA interactions, solution structure of peptides, prospects for designing novel proteins, and two-dimensional NMR.

100.705 Lecture: Computer Modeling of Biological Macromolecules. Drs. Amzel, Garcia-Moreno, Rose, Shortle and Woolf. Two hours per week; second semester.

Lectures will offer an introduction to the mathematical aspects of computer representation and manipulation of macromolecules followed by discussions of important topics in the computational chemistry of macromolecules including: forces and potential fields, molecular mechanics, Monte Carlo methods and others. A laboratory course can be taken simultaneously as a complement.

100.712 Lab: Computer Modeling of Biological Macromolecules. Drs. Bianchet and Amzel. Three hours per week; second semester; limited enrollment.

The laboratory course will familiarize students with practical aspects of molecular modeling. It teaches the necessary tools to create and manipulate computer generated models of biological-interest molecules. Techniques such as homology modeling of proteins, docking of drugs in proteins, and other applications will be introduced. A lecture course can be taken simultaneously (100.705).

100.706 Fundamentals of Protein Crystallography. Dr. Wolberger. Fourth quarter; two 75 minute lectures per week. Next offered 2010. Alternating years with Advanced Topics in Protein Crystallography (100.707).

Prerequisites: Calculus and elementary physics, or consent of instructor.

This is an introductory course, designed to present the core knowledge of protein crystallography necessary to function in the laboratory and to read the literature. The course will follow the text by author Jan Drenth and will require written homework.

100.708/AS:250.685 Proteins and Nucleic Acids. Dr. Woodson and Dr. Bowman. Interdivisional Course. Given every year during the first and second quarters (fall semester); three hours per week. Offered at the Homewood Campus. Tu-Th in the morning.

Prerequisites: Calculus, elementary physics, and basic biochemistry, or consent of instructor.

The graduate-level course provides an introduction to macromolecular structure, with emphasis on the physical underpinnings. Topics include: primary, secondary, tertiary structure of proteins and RNA; energetics, folding, protein and protein-nucleic acid interactions, and dynamics of macromolecular complexes. Format is class discussion of assigned readings from primary scientific literature with computer-based lab assignments. The course begins with an intensive introduction to the Python computer scripting language and the Unix operating system.

100.707 Advanced Topics in Protein Crystallography. Dr. Leahy. Course offered at the School of Medicine. Alternating years with Fundamentals of Protein Crystallography (100.706). One meeting per week, fourth quarter. Next offered 2011.

Prerequisites: Elementary crystallography.

In a journal club format this course examines standard advanced topics in crystallography as well as aspects of the current literature. Topics may include: refinement, approaches to the phase problem, fourier transform methods, etc.

100.709 Macromolecular Structure and Analysis. Drs. Cotter, Green, Hoh, Leahy, Raben, Schnaar, Shortle, Wade, Wolberger, Woolf, and Zhang. First quarter; three hours per week. T/Th, 9-10:30.

The structure and properties of biological macromolecules will be presented. Experimental and computational methods used to study macromolecular structure including X-ray crystallography, magnetic resonance, spectroscopy, microscopy, and mass spectrometry will also be covered.

100.710 Biochemical and Biophysical Principles. Drs. Amzel, Lorsch, Shortle, Xiao, and Wade. First quarter; four and a half hours per week. M/W/F, 9-10:30

The physical and chemical principles underlying biological processes are presented and discussed. Topics include thermodynamics, chemical equilibrium, chemical and enzymatic kinetics, electrochemistry, physical chemistry of solutions, and structure and properties of water. Elementary concepts of statistical thermodynamics will be introduced as a way of correlating macroscopic and microscopic properties.

100.711 Structure Determination. Dr. Leahy and faculty. Fourth quarter; three hours per week. Alternating days, 9-10:30.

This course will cover macromolecular structure determination by x-ray crystallography and nuclear magnetic resonance (NMR). The lectures will build upon the introduction to protein and nucleic acid structure and analysis given in the course, "Macromolecular Structure and Analysis." The course will emphasize structure determination methods and will cover the basic theory underlying x-ray crystallography and NMR, the steps in structure determination, and the application of these methods to addressing various questions in protein structure and function.

800.707 Bioinformatics. Dr. Pevsner. Second quarter; one and a half hours per week. M, 9-10:30.

This course is a survey of quantitative methods in modern biology and the computational concepts that are developing to analyze large data sets. Topics range from a review of statistics to problems in sequence analysis to the modeling of complex systems. The goal of the course is to familiarize students with the concepts of computational biol-

ogy rather than to achieve a deep understanding of any one topic.

GRADUATE PROGRAM—Students are accepted for graduate work leading to the degree of Doctor of Philosophy (see Graduate Programs—Program in Molecular and Computational Biophysics Program).



Cell Biology

PETER N. DEVREOTES

Isaac Morris Hay and Lucille Elizabeth Hay
Professor of Embryology in the Department of
Cell Biology, Professor of Biological Chemistry,
Director of the Department of Cell Biology

DEBORAH JEAN ANDREW, Professor

CHI VAN DANG

Johns Hopkins Family Professor for Oncology
Research in the Department of Medicine,
Professor of Cell Biology, Professor of Oncology,
Professor of Pathology, Joint Appointment in
Molecular Biology and Genetics

ANN L. COX HUBBARD

Professor of Cell Biology, Professor of
Physiology, Joint Appointment in Medicine

ROBERT E. JENSEN, Professor

ABRAHAM KUPFER, Professor

STEVEN D. LEACH

Paul K. Neumann Professor of Pancreatic
Cancer in the Department of Surgery, Professor
of Cell Biology, Professor of Oncology

CAROLYN E. MACHAMER, Professor

SUSAN MICHAELIS, Professor

DOUGLAS B. MURPHY, Adjunct Professor

KATHERINE LEE WILSON, Professor

RENEE Z. DINTZIS

Associate Professor of Cell Biology, Associate
Professor of Biophysics and Biophysical
Chemistry

PETER J. ESPENSHADE, Associate Professor

SCOT C. KUO

Associate Professor of Biomedical Engineering,
Associate Professor of Cell Biology

ERIKA L. MATUNIS, Associate Professor

DOUGLAS N. ROBINSON

Associate Professor of Cell Biology, Associate
Professor of Pharmacology and Molecular
Sciences

LEWIS HARTLEY ROMER

Associate Professor of Anesthesiology and
Critical Care Medicine, Associate Professor of
Biomedical Engineering, Associate Professor of
Cell Biology, Associate Professor of Pediatrics

JOY T. YANG, Associate Professor

SHUKTI CHAKRAVARTI

Associate Professor of Medicine, Associate
Professor of Ophthalmology, Assistant Professor
of Cell Biology

ANDREW J. EWALD

Assistant Professor of Cell Biology, Assistant
Professor of Oncology

MIHO IJIMA, Assistant Professor

TAKANARI INOUE, Assistant Professor

PERE PUIGSERVER, Visiting Assistant Professor

HIROMI SESAKI, Assistant Professor

LELITA TALAMANTEZ BRAITERMAN, Research Associate

MARGARET DE CUEVAS, Research Associate

YOICHIRO KAMIMURA, Research Associate

HANNAH KUPFER, Research Associate

THOMAS R. HYNES, Visiting Scientist

CHRISTIAN JAMES KETCHUM

Visiting Scientist in Physiology, Visiting Scientist
in Cell Biology

FACULTY ASSOCIATED WITH THE DEPARTMENT OF CELL BIOLOGY HOLDING A PRIMARY APPOINTMENT IN:

The Bloomberg School of Public Health:

MICHAEL JOSEPH MATUNIS

Associate Professor of Biochemistry and
Molecular Biology

REQUIRED COURSE WORK FOR M.D. PROGRAM

First Year

100.600 Scientific Foundations of Medicine.

Drs. Lorsch, Nathans, Robinson, Raben and staff..
M.-F., 8:00-1:00; Clinical Correlations, F., 2:00-
3:30 p.m.

Biochemistry, Cell Biology, Genetics, and Pharma-
cology are fully integrated into a combined course of
study presented by the basic science departments.
The course provides a comprehensive, fully inte-
grated coverage of the molecular basis of cellular
metabolism and function. The course will empha-
size small group learning and problem solving. The
student will participate in "Journal Club," in which
important papers in the front-line biomedical litera-
ture will be discussed. Clinical Correlations related
to basic science concepts will be held at various
days and times. Enrollment of non-medical stu-
dents requires approval from the course director.

Prerequisites: Elementary courses in inorganic
chemistry, organic chemistry, general biology,
and general physics. At least one upper-level
course in Biochemistry or Cell Biology is strongly
recommended.

360.600 Organ Systems. (Departments of Physi-
ology and Cell Biology) Drs. Guggino, Dintzis and
associates. Fourth quarter; eight weeks

The course provides a basic understanding of the
many different aspects of the internal structure and
function of the body. It aims to present a compre-
hensive survey of the complex interrelationships that
exist between the structure and function of cells,
tissues, and organs. The course is an integrative
one, bringing together the disciplines of physiology
and organ histology, with the various organ systems
of the human body, and their interactions, being
discussed and studied in sequence. The student is
encouraged to synthesize all that is learned about
cells, tissues and organs into a working knowledge
of mammalian physiology. The course includes lec-
tures, journal clubs, discussion groups, and both
physiological and virtual microscopic laboratories.
It is a required course for first year medical students
and is open to graduate students.

**OTHER COURSES AND ELECTIVE OPPOR-
TUNITIES—Curricular Consultant: Dr. Dev-
reotes. Elective courses must be approved by
preceptor; any member of the department may
act as preceptor.**

Cell Biology

ME110.700 Advanced Study and Teaching in Cell Biology.

Prerequisite: Consent of course director.

Residents and advanced students who wish additional training may serve as teaching assistants in Molecules and Cells. Individual supervision of reading and laboratory work is available. Year course.

340.703 Graduate Cell Structure and Dynamics.

Taught in cooperation with other faculty of the program in Biochemistry, Cellular and Molecular Biology. Dr. Espenshade and staff.

ME110.800 Advanced Work and Research. By arrangement with the staff.

Opportunities for training in cell biology, physical anthropology and vertebrate paleontology are available for qualified predoctoral and postdoctoral students. Fellowships covering normal living costs and tuition are available.

Research interests represented in the Department of Cell Biology are as follows:

DR. ANDREW

Developmental genetics of organ formation; *Drosophila*.

DR. CHAKRAVARTI

Corneal cell and extracellular matrix biology; pathobiology of inflammatory bowel disease (Crohn's disease and ulcerative colitis).

DR. DANG

Transcriptional regulation and neoplasia of cell metabolism.

DR. DEVREOTES

Chemoattractant directed cell migration; signal transduction.

DR. DINTZIS

Experimental immunology; differentiation signals.

DR. ESPENSHADE

Cellular regulation of cholesterol homeostasis and adaptation to hypoxia.

DR. EWALD

Cellular mechanisms and molecular regulation of epithelial morphogenesis in development and cancer.

DR. HUBBARD

Pathways and mechanisms of protein trafficking in polarized epithelia; Wilson and Menkes Diseases; copper ATPases.

DR. IJIMA

Lipid signaling in chemotaxis.

DR. INOUE

Directed cell migration; tumor metastasis; primary cilia; synthetic chemical biology; technology development.

DR. JENSEN

Mitochondrial assembly, dynamics, and function in yeast; trypanosomes and mammalian cells.

DR. KUO

Mechanical functions of cells; actin-based protrusion and cell motility; nanoscale biophysics; laser-based imaging and bioinstrumentation.

DR. KUPFER

Cellular interactions in the immune system; the immunological synapse; mechanisms of T cell activation and induction of tolerance.

DR. LEACH

Pancreatic development and differentiation using both mouse and zebrafish model systems.

DR. E. MATUNIS

Molecular genetics of germ line stem cell function.

DR. M. MATUNIS

Molecular mechanisms and functions of SUMOylation; nuclear pore complexes and control of nucleocytoplasmic transport.

DR. MACHAMER

Intracellular protein trafficking; enveloped virus assembly.

DR. MICHAELIS

Yeast and mammalian cell biology; progeria and lamin A processing; ER quality control and cystic fibrosis; ABC transporters.

DR. D. ROBINSON

Probing the molecular, biochemical, and mechanical basis for cytokinesis and cellular morphogenesis.

DR. SESAKI

Mitochondrial dynamics; membrane fusion and fission.

DR. WILSON

Nuclear envelope; epigenetics; emerin- and lamin-associated protein complexes; Emery-Dreifuss muscular dystrophy; Barrier to Autointegration Factor (BAF); chromatin.

DR. YANG

Cell migration and integrin signaling.

ME110.722 Principles of Light and Fluorescence Microscopy. Dr. Kuo. Course offered bi-annually. Next offering TBA.

Prerequisites: Students should have completed ME110.807 or have equivalent experience.

This is an advanced course for students wishing to understand state-of-the-art microscopy, perhaps to customize existing instruments. In addition to a more rigorous presentation of the principles of optical image formation for multiple light and fluorescent microscopes, the theory behind "best-practices" in microscopy (Koehler illumination, infinity optics) are actively considered. Not only reviewing the electromagnetic wave nature of light, advanced topics such as Fourier optics, point-spread functions, and spherical aberration will be considered in the context of modern microscopy. The culmination is considering the instrumentation design choices in assembling a multiphoton fluorescence microscope.

ME110.730 Membrane Traffic. Dr. Machamer. Fourth quarter; four weeks.

Prerequisites: Cell Structure and Dynamics or permission of course director.

This course addresses the pathways and mechanisms of membrane traffic (exocytosis and endocytosis) in eukaryotic cells. Topics include historical and current experimental approaches, as well as dissection of the pathways for cargo trafficking, signals on cargo proteins, and the required cellular machinery. The format will be a combination of lectures and student-led discussions of landmark and current papers.

ME110.807 Fundamentals of Fluorescence and Confocal Microscopy. Dr. Kuo and staff. First quarter; see course director for dates.

How does a light and fluorescence microscope form an image? What are the limits of optical resolution and how does it mesh with digital imaging? What is fluorescence and why are dichroic mirrors important? What are the different types of confocal microscopy (laser-spot scanning, slit scanning, spinning disk), why are they special, and when is each appropriate? What are the other methods for high-resolution imaging (TIRF, deconvolution, etc) and what are the trade-offs? For live-cell imaging, what are the latest optical techniques (FRAP, FRET, uncaging, FLIM, etc), and which biological processes can they probe (trafficking, association/dissociation kinetics, second messenger signalling, membrane fusion, etc)?

ME110.808 Essentials of Electron Microscopy. Dr. Kuo and staff. Fourth quarter.

Theory and use of electron microscopy. Sessions cover specimen preparation, exposure and image interpretation of specimens prepared for transmission electron microscopy (TEM) by embedding and thin sectioning, negative staining, heavy metal shadowing and other methods. Time on microscopes available for demonstrations by Microscope Facility staff.

260.706 Fundamentals of Genetics. Dr. Seydoux. Dec.-Jan., Tu & Thur, 9:00-10:30 a.m.

Taught by Dr. Seydoux (Molecular Biology and Genetics) in cooperation with other faculty in the BCMB program. This short lecture course will cover fundamental principles of genetics, focusing primarily on the genetics of model eukaryotes. Required problem sets will supplement the lecture material.

ME110.726 The Nucleus. Dr. Wilson and associates. Fourth quarter; four weeks.

Covers nuclear structure, lamins, nuclear membrane proteins, nuclear pore complexes and

nucleocytoplasmic transport mechanisms, actin, subnuclear organelles, chromatin organization, nuclear assembly and disassembly, signaling in the nucleus, evolution of the nucleus, and mechanisms of human "laminopathy" diseases.

ME110.727 The Cytoskeleton. Dr. Robinson and associates. Fourth quarter; four weeks.

In this course, we will explore the fundamental mechanisms of the cytoskeleton that the cell uses to drive motility and dynamic shape changes. We will emphasize the breadth of research on the cytoskeleton ranging from classic studies of muscle, cytoskeletal structure, enzymological and single molecule studies of motor proteins, rheology, polymer dynamics, cytoskeletal signaling, the cytoskeleton in disease, and chemical approaches to the cytoskeleton. The course format will be a combination of lecture and student-led discussions of hallmark papers.

ME340.704 Developmental Biology. Dr. Andrew and associates. Fourth quarter; four weeks.

This course covers the molecular and cellular basis of embryonic development in multiple organisms. Topics include stem cell biology, cloning, and the relationship between development and disease in addition to the fundamental molecular and cellular mechanisms that control the development of a mature organism from a single cell, the fertilized egg. Emphasis will be placed on key experiments or experimental approaches that have yielded significant insight into developmental mechanisms. Some descriptive embryology will be discussed to provide an anatomical basis for the cellular and molecular mechanisms.

GRADUATE PROGRAM—Students are accepted for graduate work leading to the degree of Doctor of Philosophy (see Graduate Programs)



Dermatology

SEWON KANG

Noxell Professor of Dermatology, Director of the Department of Dermatology

GRANT J. ANHALT

Professor of Dermatology, Professor of Pathology

CHARLES M. BALCH

Professor of Surgery, Professor of Dermatology, Professor of Oncology

LIEPING CHEN

Professor of Oncology, Professor of Dermatology

BERNARD A. COHEN

Professor of Dermatology, Professor of Pediatrics

EVAN R. FARMER, Professor

GERALD S. LAZARUS

Professor of Dermatology, Professor of Medicine

STEPHEN M. MILNER

Professor of Plastic Surgery, Professor of Dermatology (from 09/01/09), Professor of Pediatrics

WARWICK L. MORISON, Professor

THOMAS T. PROVOST

University Distinguished Service Professor of Dermatology

ERIC CARL VONDERHEID

Professor of Dermatology, Professor of Oncology

RHODA M. ALANI

Associate Professor of Oncology, Associate Professor of Dermatology, Joint Appointment in Molecular Biology and Genetics

PATRICK JOSEPH BYRNE

Associate Professor of Otolaryngology-Head and Neck Surgery, Associate Professor of Dermatology

JACQUELINE MARIE JUNKINS-HOPKINS

Visiting Associate Professor of Dermatology, Visiting Associate Professor of Pathology

STANFORD I. LAMBERG, Associate Professor

CHRISTOPH ULRICH LEHMANN

Associate Professor of Pediatrics, Associate Professor of Dermatology, Joint Appointment in Health Sciences Informatics

CIRO ROBERTO MARTINS

Associate Professor of Dermatology, Joint Appointment in Medicine

STANLEY J. MILLER

Associate Professor of Dermatology, Associate Professor of Otolaryngology-Head and Neck Surgery

EDWARD A. RATOVITSKI

Associate Professor of Dermatology, Associate Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Medicine, Assistant Professor of Pathology

WILLIAM H. SHARFMAN

Associate Professor of Oncology, Associate Professor of Dermatology

GARY RAY WARNOCK

Associate Professor of Dermatology (to 09/04/09), Assistant Professor of Pathology (to 09/04/09)

ROBERT A. WEISS, Associate Professor

WILLIAM H. WESTRA

Professor of Pathology, Professor of Oncology, Professor of Otolaryngology-Head and Neck Surgery, Associate Professor of Dermatology

S. ELIZABETH WHITMORE, Associate Professor (on leave of absence to 07/06/09)

RACHEL ABUAV, Assistant Professor

JILL ALLBRITTON, Assistant Professor (to 09/29/09)

ROBERT S. BERGER, Assistant Professor

DEREK KOFI BOAHENE

Assistant Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Dermatology

ELIZABETH M. BURKE, Assistant Professor

ANNA CHIEN, Assistant Professor (from 09/08/09)

ISRAEL S. ECKMAN, Assistant Professor

JEANNE STEMAN FINDLAY, Assistant Professor

LUIS ANDRES GARZA, Assistant Professor

ALLAN C. HARRINGTON, Assistant Professor

GINETTE HINDS, Assistant Professor

HOWARD C. HINES, Assistant Professor

REBECCA A. KAZIN, Assistant Professor

MITCHELL KLAPPER, Assistant Professor

JULIE ROBIN LANGE

Associate Professor of Surgery, Associate Professor of Oncology, Assistant Professor of Dermatology

NANETTE J. LIEGEOIS-KWON

Assistant Professor of Dermatology (to 09/30/09), Assistant Professor of Oncology, Assistant Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Plastic Surgery

LAURA YOUNG MCGIRT, Assistant Professor (from 07/13/09)

JON HAMILTON MEYERLE, Assistant Professor

GIRISH S. MUNAVALLI, Assistant Professor

DIANE JULIE ORLINSKY

Assistant Professor of Dermatology, Assistant Professor of Medicine

MANISHA J. PATEL, Assistant Professor

KATHERINE BROWN PUTTGEN, Assistant Professor

ELISABETH G. RICHARD, Assistant Professor (from 09/21/09)

WALTER L. RUSH, Assistant Professor

MARY SHEU, Assistant Professor

RONALD N. SHORE, Assistant Professor

EVA SIMMONS-O'BRIEN

Assistant Professor of Dermatology, Assistant Professor of Medicine

DAVID H. STEIN, Assistant Professor

RONALD J. SWEREN, Assistant Professor

JANIS MARIE TAUBE

Assistant Professor of Dermatology (from 08/01/09), Assistant Professor of Pathology (from 08/01/09)

MARGARET A. WEISS, Assistant Professor

JIHAD M. ALHARIRI, Instructor

BENJAMIN D. BERNSTEIN, Instructor

DAVID A. COWAN, Instructor

BENJAMIN N. LOCKSHIN, Instructor

MICHAEL RADOWSKY, Instructor

HOWARD N. ROBINSON, Instructor

PAUL A. RUSONIS, Instructor

DAVID STROBEL, Instructor

ELIZABETH LYN TANZI, Instructor

IRVING D. WOLFE, Instructor

DAKARA RUCKER WRIGHT, Instructor

YIPING HUANG, Research Associate

FACULTY ASSOCIATED WITH THE
DEPARTMENT OF DERMATOLOGY HOLDING
A PRIMARY APPOINTMENT IN:

The School of Medicine:

WILLIAM G. MERZ

Professor of Pathology

The Bloomberg School of Public Health:

PIERRE A. COULOMBE

Professor of Biochemistry and Molecular Biology

The Department of Dermatology provides instruction directed at the basic science aspects of the skin and at clinical cutaneous disease during each of the medical school years. The emphasis of the department is upon the pathophysiology of cutaneous reaction patterns, a correlation of skin lesions (gross pathology) with microscopic changes, the recognition and treatment of diseases that primarily affect the skin and the identification of skin changes that reflect diseases in other organ systems.

REQUIRED WORK

Dermatology-Second Year

Pathophysiology of Cutaneous Disease. Dr. Sewon and staff.

During the Human Pathophysiology course; a group of lectures dealing specifically with the mechanisms of cutaneous disease.

ELECTIVE OPPORTUNITIES—*Curricular Consultant: Dr. Sewon Kang. Elective courses must be approved by the preceptor; any member of the department may act as preceptor.*

E 1. Clinical Clerkship in Dermatology. Dr. Sewon Kang and staff. Offered all year; one month; four students; two month drop.

Prerequisites: Internal Medicine, Surgery, and Pediatrics

Students may apply towards the end of their 3rd or 4th year of medical school for a clinical elective in dermatology where the focus is placed on intensive exposure to a large number of patients in different clinical settings. Students will spend time exclusively at the Johns Hopkins facilities (Outpatient Center, Greenspring Station, Bayview Medical Center and Harriett Lane Pediatric Center). Our clinical services at these locations provide an excellent opportunity for students to interact with different types of patients and to be exposed to a wide range of skin problems. Parallel to the clinical activities, there are didactic sessions most mornings and occasionally at the end of the workday as well. Formal lectures on basic dermatology topics are given by dermatology residents and sessions at a more advanced level are taught by faculty members. No formal exam is given and grading is based on the evaluations submitted by residents and faculty members.

E 2. Advanced Clinical Clerkship in Dermatology. Drs. Abuav, Cohen, Kang, Lazarus, Patel and Whitmore. Offered all year; one to three months; two month drop.

Students who have already taken the basic elective in dermatology and who are interested in a specific area of dermatology, in dermatology research, and students interested in pursuing dermatology as a career may benefit from this elective. This elective gives the student the opportunity for more "in depth" participation in specific areas of interest within the department of dermatology under guidance of a faculty mentor. Arrangements have to be made between the interested student and the faculty member who will be mentoring him/her. The main objective of this elective is active participation in a small clinical research project, or clinical and scholarly work with faculty member with a certain specialty focus. The faculty mentor will provide the specific schedule. Students are encouraged to participate in all didactic activities including Grand Rounds and faculty lectures during the time spent in the department.

E 3. Dermatopathology Clinical Clerkship. Dr. Jakki Junkins-Hopkins. Offered all year; half quarter; one student; two month drop.

Prerequisites: Internal Medicine, Surgery, Pediatrics, Pathology, and Clinical Clerkship in Dermatology.

Students may apply during their 3rd or 4th year for an elective in dermatopathology. Students will attend daily sign out where they will be exposed to a large volume of cases. Additional exposure will come through the use of study sets which are available to the students. The students will attend the Dermatology weekly Grand Rounds where they will see patients and participate in the discussion and presentation of the pathology for those patients. Additionally, the students will attend two formal dermatopathology teaching sessions per week.

Research opportunities in the Department of Dermatology

DR. ABUAV

Medical dermatology; graft vs host disease

DR. ANHALT

Immunodermatology.

DR. CHIEN

Skin aging; pharmacology; translational research.

DR. COHEN

Pediatric dermatology.

DR. GARZA

Stem cells in dermatology; hair, wound healing.

DR. HINDS

Ethnic skin.

DR. KANG

Translational research in dermatology.

DR. LAZARUS

General clinical dermatology.

DR. PATEL

Acne; skin disease in solid organ transplant patients.

DR. PUTTGEN

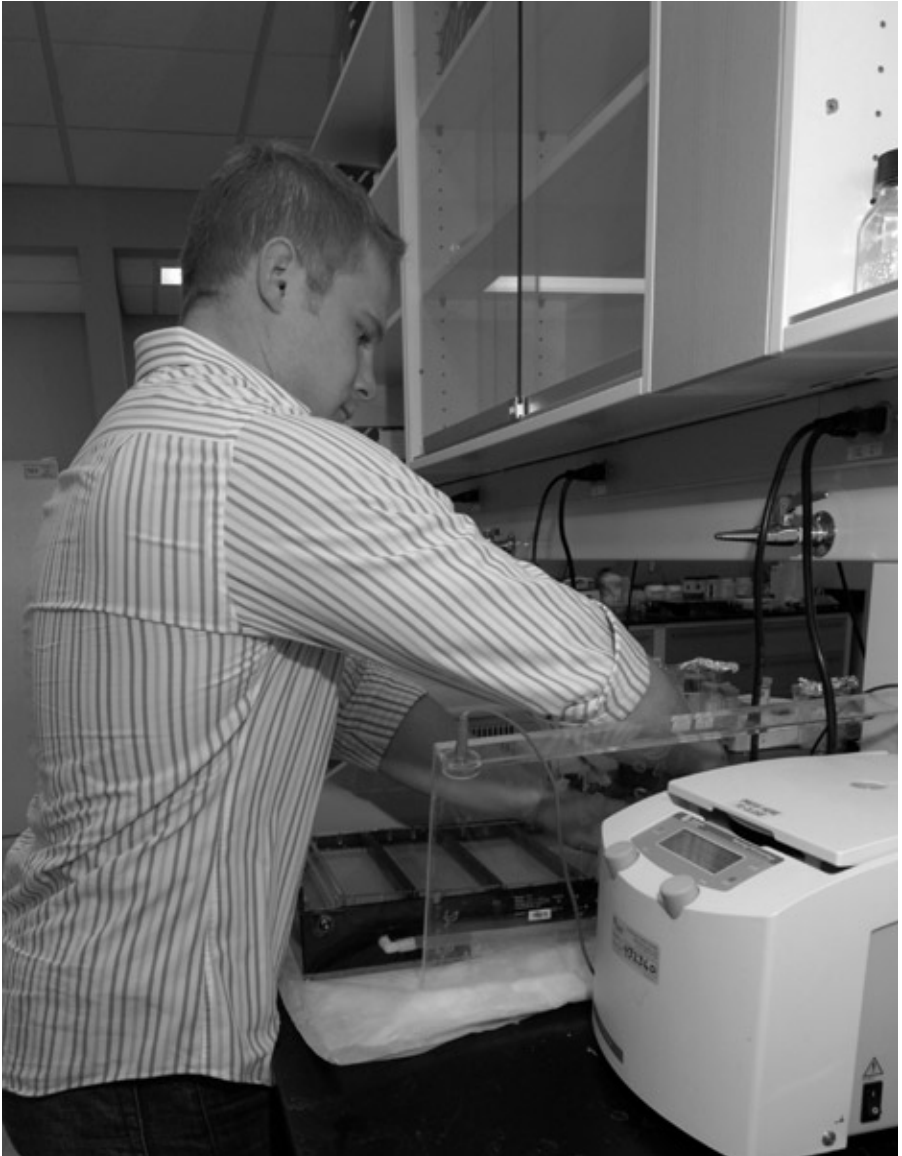
Pediatric dermatology; hemangiomas.

DR. TAUBE

Melanoma; dermatopathology.

DR. WANT

Skin cancer; skin surgery; melanoma.



Emergency Medicine

GABOR D. KELEN

Professor of Emergency Medicine, Director of the Department of Emergency Medicine

J. ALEX HALLER, JR.

Professor Emeritus of Pediatric Surgery, Professor Emeritus of Emergency Medicine, Professor Emeritus of Pediatrics

ARJUN S. CHANMUGAM, Associate Professor

EDBERT BRIAN HSU, Associate Professor

THOMAS DEAN KIRSCH, Associate Professor

FREDERICK LEVY, Associate Professor

MELISSA LEE MCCARTHY, Associate Professor

RICHARD E. ROTHMAN

Associate Professor of Emergency Medicine, Joint Appointment in Medicine

EDWARD S. BESSMAN, Assistant Professor

TERESA MARY CARLIN

Assistant Professor of Emergency Medicine, Assistant Professor of Pediatrics

CHRISTINA LYNNE CATLETT, Assistant Professor

ROBIN CUDDY, Assistant Professor

HUGH F. HILL, III, Assistant Professor

PETER M. HILL, Assistant Professor

BEATRICE HOFFMANN, Assistant Professor

WILLIAM T. HOSEK, Assistant Professor

YU-HSIANG HSIEH, Assistant Professor

JENNIFER LEE JENKINS, Assistant Professor

JULIANNA JUNG, Assistant Professor

MARK KING, Assistant Professor

FREDERICK K. KORLEY, Assistant Professor

RICKY C. KUE, Assistant Professor

SCOTT RYAN LEVIN, Assistant Professor

HORACE K. LIANG, Assistant Professor

HUBERT S. MICKEL, Assistant Professor

MICHAEL G. MILLIN, Assistant Professor

JULIUS CUONG PHAM

Assistant Professor of Emergency Medicine, Assistant Professor of Anesthesiology and Critical Care Medicine

LINDA REGAN, Assistant Professor

ANDREW I. STOLBACH, Assistant Professor

NELSON TANG, Assistant Professor

ALEXANDER VU, Assistant Professor

SAMUEL YANG, Assistant Professor

WALTER F. ATHA, Instructor

SHARON P. BORD, Instructor

SEAN BOUVET, Instructor (from 09/01/09)

DAVID A. BRADT, Instructor

EMILIE J.B. CALVELLO, Instructor

JOY ELIZABETH CROOK, Instructor

SAMIT PRAKASH DESAI, Instructor

DREW C. FULLER, Instructor

STEPHEN G. HOLTZCLAW, Instructor

PAUL J. KALOUDIS, Instructor

BUDDY G. KOZEN, JR., Instructor

TINA M. LATIMER, Instructor

MATTHEW JASON LEVY, Instructor

DARREN MAREINISS, Instructor

JUAN A. MORALES-TORRES, Instructor

WILLIAM ELLIS NORTHINGTON, Instructor

MICHAEL PERLINE, Instructor

KIEMANH PHAM, Instructor

RODICA REZEZAR, Instructor (on leave of absence)

MUSTAPHA SAHEED, Instructor

MICHAEL A. SILVERMAN, Instructor

MARY WESTERGAARD, Instructor

DONALD W. ALVES, Assistant

CHARLES ANDREW BERGMAN, Assistant

JAMES E. CORWIN, Assistant

TYLER C. DELANGE, Assistant

HAMID EHSANI, Assistant

CAREN EUSTER, Assistant

ISADORE A. FELDMAN, Assistant

KAREN MARIE HLADIK, Assistant

NING HU, Assistant (from 09/01/09)

MICHAEL E. HULL, Assistant

GAIL GLOTFELTY KRAMER, Assistant

HARDIN A. PANTLE

Assistant in Emergency Medicine, Assistant in Pediatrics

SHANNON BANDY PUTMAN, Assistant

ALICE L. WILKENFELD, Assistant

FREDERICK M. BURKLE, JR., Research Associate

JAMES J. SCHEULEN, Research Associate

JUDY B. SHAHAN, Research Associate

MERIDITH HILL THANNER, Research Associate

LING TIAH, Research Associate

FACULTY ASSOCIATED WITH THE DEPARTMENT OF EMERGENCY MEDICINE HOLDING A PRIMARY APPOINTMENT IN:

The School of Medicine:

GIORGIO GIOVANNI GALETTO

Assistant Professor of Medicine

CHARLOTTE A. GAYDOS

Professor of Medicine

KEVIN B. GEROLD

Assistant Professor of Anesthesiology and Critical Care Medicine

DAVID EDWARD NEWMAN-TOKER

Assistant Professor of Neurology

PATRICK TODD TRIPLETT

Assistant Professor of Psychiatry

The Bloomberg School of Public Health:

SUSAN P. BAKER

Professor of Health Policy and Management

LYNN R. GOLDMAN

Professor of Environmental Health Sciences

JONATHAN M. LINKS

Professor of Environmental Health Sciences

ELLEN J. MACKENZIE

Professor of Health Policy and Management

STEPHEN P. TERET

Professor of Health Policy and Management

REQUIRED WORK

Emergency Medicine—Second, Third and Fourth Years

Basic Clerkship in Emergency Medicine. Offered all year except July; 4 1/2 weeks; 12 students per half quarter; one month drop.

This course is a required basic clerkship in the medical curriculum. During the clerkship, students work closely with Emergency Medicine faculty and resident staff focusing on the initial assessment, management, stabilization and resuscitation of patients presenting to the Emergency Department. Appropriate history-taking and physical diagnosis, recognition of life-threats, rationale for ordering ancillary laboratory and radiographic tests, and a systematic approach to evaluating and stabilizing acute medical and surgical emergencies are emphasized. The students will be expected to attend a comprehensive lecture series as well as a variety of small group sessions, and department conferences. Students will rotate through the Johns Hopkins Bayview and Johns Hopkins Hospital Emergency Department, where they will be encouraged to manage their own patients in the context of a supervised physician team. In this clerkship students can expect to develop the skills and knowledge to independently care for patients with a wide variety of emergency problems.

ELECTIVE OPPORTUNITIES—Curricular Consultant: Dr. Julianna Jung. Elective courses must be approved by the preceptor; any member of the department may act as preceptor.

E 3. Advanced Clinical Clerkship in Emergency Medicine. Dr. Julianna Jung and staff. Available all year, except July; four weeks.

Prerequisite: Basic Clerkships in Surgery, Medicine, and Emergency Medicine; Ob/Gyn strongly recommended.

Students in the third and fourth years who wish an in depth experience in emergency medicine may serve as sub-interns in the Adult Emergency Department. Further development of clinical reasoning/problem solving skills and selected procedural skills will be emphasized. Upon completion of this elective, students will demonstrate competency in the recognition and initial stabilization of life threats in trauma and non-trauma patients. Exposure to pre-hospital care can be made available. Sub-interns are required to attend departmental conferences. A formal case presentation may also be required.

E 4. Research Topics in Emergency Medicine. Dr. Richard Rothman and staff. Available all year. Four week minimum (Eight weeks for visiting students).

This elective course is offered to any medical student with specific research interests in emer-

gency medicine. Students are given the opportunity to participate in original or on-going research projects with a faculty member in the Department of Emergency Medicine. During the summer a specific course teaches the fundamentals of clinical research while engaging in a research project designed as part of the curriculum.

Research Interests:

DR. CATLETT

Health system emergency preparedness and response; disaster education and training; expedition medicine.

DR. CHANMUGAM

Psychiatric emergencies.

DR. P. HILL

Clinical outcomes, focus on neurologic emergencies.

DR. HSIEH

Infectious diseases epidemiology in ED settings.

DR. HSU

Disaster preparedness; disaster training; pharmaceutical preparedness.

DR. JENKINS

Epidemiology; disaster medicine.

DR. JUNG

Simulation in medical education

DR. KELEN

Infectious disease; epidemiology and health services research; disaster medicine.

DR. KIRSCH

Disaster management, response, and training; ED management.

DR. LEVIN

Systems engineering in healthcare; healthcare resource utilization; ED crowding and patient outcomes.

DR. F. LEVY

Patient safety; tort reform; bioethics.

DR. MCCARTHY

ED overcrowding; access to care; health-related quality of life outcomes following trauma.

DR. MILLIN

Development of EMS system; out-of-hospital resuscitations; wilderness medicine; emergency preparedness.

DR. PHAM

Quality of care in the emergency department; quality of care in the ICU; learning from medical errors.

DR. REGAN

Medical education; curriculum development, feedback, and evaluation.

DR. ROTHMAN

Complications of drug abuse; health services research; infectious diseases and rapid diagnostics.

DR. TANG

EMS; operational emergency medicine; tactical medicine; law enforcement medical support; special event medical preparedness.

DR. YANG

Rapid PCR-based lab diagnosis of emergent infection.

Epidemiology

The Department of Epidemiology is an academic department in the Johns Hopkins University Bloomberg School of Public Health and directs the Clinical Epidemiology Program in the School of Medicine. The department offers a required course, Clinical Epidemiology (described below), for first year students in the School of Medicine. In addition, elective opportunities, both formal courses and tutorials, are available. Interested students should consult the School of Public Health catalog for information on course offerings and areas of research represented in the department. Course information is also available on the Internet at <http://commprojects.jhsph.edu/courses/>.

A combined M.D.-Ph.D. Program in Epidemiology is available. A valuable resource for students is the Welch Center for Prevention, Epidemiology and Clinical Research which is located on the second floor of 2024 East Monument Street. Interested students are invited to contact the center regarding additional educational and research opportunities in clinical epidemiology. The department offers a wide range of training opportunities in cancer epidemiology, cardiovascular diseases, aging and related disorders, vision and ophthalmology, genetics, infectious diseases, and occupational and environmental epidemiology, as well as extensive coursework in methodology.

DAVID CELENTANO

Professor and Chairman of the Department of Epidemiology, School of Public Health

TERRI H. BEATY

Professor and Deputy Chair of Epidemiology, School of Public Health

CHRIS BEYRER

Professor of Epidemiology, School of Public Health

JOSEF CORESH

Professor of Epidemiology, School of Public Health

CHRISTOPHER COX

Professor of Epidemiology, School of Public Health

ROSA CRUM

Professor of Epidemiology, School of Public Health

KAY DICKERSIN

Professor of Epidemiology, School of Public Health

HOMAYOON FARZADEGAN

Professor of Epidemiology, School of Public Health

MANNING FEINLEIB

Professor of Epidemiology, School of Public Health

STEPHEN J. GANGE

Professor of Epidemiology, School of Public Health

LEON GORDIS

Professor Emeritus of Epidemiology, School of Public Health and Professor of Pediatrics, School of Medicine

MICHEL A. IBRAHIM

Professor of Epidemiology, School of Public Health

MICHAEL KLAG

Professor of Epidemiology, School of Public Health, Dean of the School of Public Health

GENEVIEVE M. MATANOSKI

Professor of Epidemiology, School of Public Health

CURTIS L. MEINERT

Professor of Epidemiology, School of Public Health

ALVARO MUNOZ

Professor of Epidemiology, School of Public Health

KENRAD NELSON

Professor of Epidemiology, School of Public Health and Joint Appointment in the Department of Medicine, School of Medicine

SHEILA WEISS SMITH

Professor of Epidemiology, School of Public Health

ALFRED SOMMER

Professor of Epidemiology, School of Public Health

MOYSES SZKLO

Professor of Epidemiology, School of Public Health and Joint Appointment in the Oncology Center, School of Medicine

TAHA TAHA

Professor of Epidemiology, School of Public Health

BRAD ASTOR

Associate Professor of Epidemiology, School of Public Health

MARGARET DANIELE FALLIN

Associate Professor of Epidemiology, School of Public Health

JEAN FORD

Associate Professor of Epidemiology, School of Public Health

NOYA GALAI

Associate Professor of Epidemiology, School of Public Health

THOMAS GLASS

Associate Professor of Epidemiology, School of Public Health

VIVIAN FEI-LING GO

Associate Professor of Epidemiology, School of Public Health

PATTI GRAVITT

Associate Professor of Epidemiology, School of Public Health

ELISEO GUALLER
 Associate Professor of Epidemiology,
 School of Public Health

JANET HOLBROOK
 Associate Professor of Epidemiology,
 School of Public Health

LISA JACOBSON
 Associate Professor of Epidemiology,
 School of Public Health

WEN HONG LINDA KAO
 Associate Professor of Epidemiology,
 School of Public Health

SHRUTI MEHTA
 Associate Professor of Epidemiology,
 School of Public Health

WILLIAM MOSS
 Associate Professor of Epidemiology,
 School of Public Health

ELIZABETH A. PLATZ
 Associate Professor of Epidemiology,
 School of Public Health

MILO PUHAN
 Associate Professor of Epidemiology,
 School of Public Health

SUSAN GAIL SHERMAN
 Associate Professor of Epidemiology,
 School of Public Health

KALA VISVANATHAN
 Associate Professor of Epidemiology,
 School of Public Health

CHERYL ANDERSON
 Assistant Professor of Epidemiology,
 School of Public Health

DEREK CUMMINGS
 Assistant Professor of Epidemiology,
 School of Public Health

GYPSYAMBER D'SOUZA
 Assistant Professor of Epidemiology,
 School of Public Health

PRIYA DUGGAL
 Assistant Professor of Epidemiology,
 School of Public Health

GREGORY D. KIRK
 Assistant Professor of Epidemiology,
 School of Public Health

VU MINH QUAN
 Assistant Professor of Epidemiology,
 School of Public Health

ERIC SEABERG
 Assistant Professor of Epidemiology,
 School of Public Health

ELIZABETH SELVIN
 Assistant Professor of Epidemiology,
 School of Public Health

NANCY FINK
 Senior Scientist in Epidemiology,
 School of Public Health

SUSAN TONASCIA
 Senior Scientist in Epidemiology,
 School of Public Health

SANDRA CLIPP
 Associate Scientist in Epidemiology,
 School of Public Health

SUKON KANCHANARAKSA
 Associate Scientist in Epidemiology,
 School of Public Health

ROBERTA SCHERER
 Associate Scientist in Epidemiology,
 School of Public Health

ALICE STERNBERG
 Associate Scientist in Epidemiology,
 School of Public Health

DAVID SHADE
 Associate Scientist in Epidemiology,
 School of Public Health

ALISON ABRAHAM
 Assistant Scientist in Epidemiology,
 School of Public Health

KERI ALTHOFF
 Assistant Scientist in Epidemiology,
 School of Public Health

BENJAMIN APELBERG
 Assistant Scientist in Epidemiology,
 School of Public Health

ERIKA AVILA-TANG
 Assistant Scientist in Epidemiology,
 School of Public Health

ANN-MARGARET ERVIN
 Assistant Scientist in Epidemiology,
 School of Public Health

CAROLINE FICHTENBERG
 Assistant Scientist in Epidemiology,
 School of Public Health

ELIZABETH GOLUB
 Assistant Scientist in Epidemiology,
 School of Public Health

SURINDA KAWICHAI
 Assistant Scientist in Epidemiology,
 School of Public Health

LI-CHENG LEE
 Assistant Scientist in Epidemiology,
 School of Public Health

FRANGISCOS SIFAKIS
 Assistant Scientist in Epidemiology,
 School of Public Health

SUDHA SIVARAM
 Assistant Scientist in Epidemiology,
 School of Public Health

ELIZABETH SUGAR
 Assistant Scientist in Epidemiology,
 School of Public Health

AYNUR UNALP-ARIDA
 Assistant Scientist in Epidemiology,
 School of Public Health

CARLA ZELAYA
 Assistant Scientist in Epidemiology,
 School of Public Health

KATHRYN CARSON
 Senior Research Associate in Epidemiology,
 School of Public Health

LEE D. MCCAFFREY
Senior Research Associate in Epidemiology,
School of Public Health

LOUISE WALSH
Senior Research Associate in Epidemiology,
School of Public Health

JEANNE CHARLESTON
Research Associate in Epidemiology,
School of Public Health

PATTI EPHRAIM
Research Associate in Epidemiology,
School of Public Health

JASON GERSON
Research Associate in Epidemiology,
School of Public Health

LISETTE JOHNSON-HILL
Senior Research Associate in Epidemiology,
School of Public Health

TAMAKI KOBAYASHI
Research Associate in Epidemiology,
School of Public Health

NEWTON KUMWENDA
Research Associate in Epidemiology,
School of Public Health

JUSTIN LESSLER
Research Associate in Epidemiology,
School of Public Health

DARCY PHELAN
Research Associate in Epidemiology,
School of Public Health

NICHOLAS THOMSON
Research Associate in Epidemiology,
School of Public Health

SOL SU
Research Associate in Epidemiology,
School of Public Health

VORAVIT SUWANVANICHKIJ
Research Associate in Epidemiology,
School of Public Health

ALLYN ARNOLD
Instructor in Epidemiology,
School of Public Health

REQUIRED WORK FOR M.D. PROGRAM

First Year

800.620 Scientific Foundations of Medicine/ Epidemiology. Dr. Gail Daumit

This section is designed to provide students with an introduction to epidemiologic methodology and approaches and its applications to clinical medicine and clinical investigation by providing students a basic understanding of epidemiological methods and study design. The course spans two full days and four half-days during the Introduction to Genes to Society week.

OTHER COURSES AND ELECTIVE OPPORTUNITIES

Research and Tutorials. (same as Epidemiology PH340.840, School of Public Health).

Students may undertake tutorials under the supervision of a member of the Department of Epidemiology faculty. These programs are individually planned and consist of reading in specific areas of epidemiologic and clinical interest or may comprise participation in research activities underway in the department.



Center for Functional Anatomy and Evolution

CHRISTOPHER B. RUFF

Professor of Functional Anatomy and Evolution,
Professor of Orthopedic Surgery, Director of the
Center for Functional Anatomy and Evolution

REBECCA Z. GERMAN

Professor of Physical Medicine and
Rehabilitation, Professor of Functional Anatomy
and Evolution

JEFFREY B. PALMER

Lawrence Cardinal Shehan Professor of
Physical Medicine and Rehabilitation, Professor
of Functional Anatomy and Evolution, Professor
of Otolaryngology-Head and Neck Surgery

JOAN T. RICHTSMEIER, Visiting Professor

KENNETH D. ROSE, Professor

MARK F. TEAFORD, Professor

DAVID B. WEISHAMPEL, Professor

DONNA MAGID

Associate Professor of Radiology and
Radiological Science, Associate Professor
of Functional Anatomy and Evolution, Joint
Appointment in Orthopedic Surgery

VALERIE BURKE DELEON, Assistant Professor

REQUIRED WORK FOR M.D. DEGREE

130.600 Scientific Foundations of Medicine/Introduction to Human Anatomy. Dr. Mark Teaford.

This course is organized around a series of lectures (anatomical, functional, and clinical), small group activities, and intensive laboratory experience in dissection, accompanied by regular readings in the text. Lectures emphasize important aspects of descriptive and functional anatomy, embryology, introductory medical imaging, and clinical applications, and are given by the anatomy faculty, as well as a number of clinicians. In addition, small group activities will often be centered on clinical case histories of relevance to human anatomy. They will emphasize both team-work and reiteration of key concepts from different perspectives. Students are assessed with three written knowledge tests, as well as participation in lab, lab presentations, and team-based learning.

REQUIRED COURSE WORK FOR Ph.D. PROGRAM

First Year

130.601 Human Anatomy. Drs. DeLeon, Rose, Ruff, Teaford, Weishampel and staff.

An integrated coverage of functional anatomy including cadaveric dissection, clinical and basic science lectures, discussion groups and clinical correlation sessions.

OTHER COURSES AND ELECTIVE OPPORTUNITIES—*Elective courses must be approved by preceptor; any member of the center may be a preceptor.*

Research interests represented in the Center for Functional Anatomy and Evolution are as follows:

DR. DELEON

Craniofacial development; quantitative morphology; morphological integration.

DR. ROSE

Mammalian evolution; functional anatomy; paleontology.

DR. RUFF

Biomechanics; human biological variation and evolution.

DR. TEAFORD

Functional morphology; primate ecology and evolution.

DR. WEISHAMPEL

Vertebrate paleobiology; functional and constructional morphology.

130.707 Mammals: Diversity, Structure, and Evolution. Dr. Rose. All year; two hours per week; offered in alternate years.

Prerequisite: Consent of instructor.

A survey of the recent and fossil orders of mammals, focusing on comparative skeletal and dental anatomy. Readings will be supplemented by regular examination of recent and fossil specimens and weekly discussions. Research paper required.

130.708 Biomechanics of the Skeleton. Dr. Ruff. First quarter. Offered in alternate years.

Prerequisite: Consent of instructor.

Basic mechanical principles and their application to analysis of skeletal form. Bone material and geometric properties, structural remodeling and adaptation to the mechanical environment.

130.710 Evolutionary Biology. Dr. Weishampel. Third quarter; offered in alternate years.

This course covers a variety of topics in evolutionary biology: biotic variation and diversity, development, natural selection, speciation theory, systematics, and macroevolution, among other subjects.

130.716 Primate Evolution. Drs. Teaford and associates. Third and fourth quarters; offered in alternate years. By arrangement with instructor.

This course surveys the mammalian order primates beginning with the origin of the group and ending with a brief survey of modern primates. Topics include the definition of primates, archaic primates, the first modern primates, oligocene primates and the origin of monkey and apes, the miocene hominoid radiation, the plio-pleistocene radiation of old world monkeys, and human ancestors.

130.724 Cladistics. Dr. Weishampel. First quarter; offered in alternate years.

Prerequisite: Consent of instructor.

This course covers the practical and theoretical basis for cladistics. This approach, otherwise known as the phylogenetic systematics, includes discussions of homology, the hierarchy of evolutionary common descent, parsimony, and computer algorithms that facilitate modern cladistic studies.

130.725 Applied Statistics for the Natural Sciences. Dr. DeLeon. First quarter. Offered in alternate years.

Prerequisite: Consent of instructor.

This course provides a survey of statistical methods commonly used in the natural sciences, with application to anthropological and paleontological data.

Periodic assignment of problem sets gives students experience with formatting data for software input, addressing underlying assumptions of statistical methods, and interpreting software output.

130.726 Advanced Studies of Dinosaurs. Dr. Weishampel. Three hours per week. Offered upon request.

This course provides a detailed review of the evolution of Mesozoic Ornithodira including dinosaurs, stressing their comparative and functional anatomy, systematics, stratigraphy, and biogeography.

130.727 Morphometrics. Dr. DeLeon. Fourth quarter. Offered in alternate years.

Prerequisite: Consent of instructor.

In this course students will learn techniques that are used to quantify and compare shapes. A combination of lectures, discussion, and projects will give the students applied knowledge of these techniques. Different types of data will be discussed, including landmark coordinate data, outlines, and surfaces. The theory underlying different analytical approaches will be described and discussed.

130.728 Comparative Vertebrate Anatomy. Dr. DeLeon. Offered in alternate years.

Prerequisite: Consent of instructor.

Students will gain knowledge of the functional and evolutionary anatomy of vertebrates. Laboratory dissections assist the student in learning anatomical structure and nomenclature. Lectures provide

an evolutionary biology context, focusing on the evolution and function of anatomic structures. Discussion sessions require critical thinking by the student to assess the role of genetic, developmental, and mechanical influences underlying observed anatomy in a phylogenetic context.

130.809 Research Rotation in Functional Anatomy and Evolution. FAE Faculty.

This course is designed to provide first year students with research experience. The project is planned between one or more faculty members and a student. A research question or topic is chosen, appropriate data are collected, analysis is done and a report is written. Results of the study are presented at a seminar to the FAE faculty and students.

130.810 Dinosaurs. Dr. Weishampel. Offered in alternate years.

130.811 Topics in Allometry. Dr. Ruff. Offered upon request.

This course will consist of discussions of readings in both the theory and application of allometry to various zoological issues. Readings will include both "classical" sources as well as more recent articles dealing with this general topic.

130.812 Predissertation Research. FAE faculty.

GRADUATE PROGRAM—Students are accepted for graduate work leading to the degree of Doctor of Philosophy (see Graduate Programs)



McKusick-Nathans Institute of Genetic Medicine

CORE FACULTY*

DAVID L. VALLE

Professor of Pediatrics in Genetic Medicine, Professor of Ophthalmology, Joint Appointment in Medicine, Joint Appointment in Molecular Biology and Genetics, Henry J. Knott Director of the McKusick/Nathans Center for Medical Genetics

KARIN J. BLAKEMORE

Professor of Gynecology and Obstetrics in Genetic Medicine, Professor of Oncology

ARAVINDA CHAKRAVARTI

Professor of Medicine in Genetic Medicine, Professor of Pediatrics, Joint Appointment in Molecular Biology and Genetics

BARTON CHILDS, Professor Emeritus of Pediatrics

GARRY CUTTING

Aetna U.S. Healthcare Professor of Medical Genetics in the Department of Pediatrics, Professor of Medicine

HARRY C. DIETZ

Victor A. McKusick Professor of Medicine and Genetics in the Department of Pediatrics, Associate Professor of Medicine, Assistant Professor of Neurological Surgery, Joint Appointment in Molecular Biology and Genetics, Investigator of the Howard Hughes Medical Institute

ANDREW P. FEINBERG

King Fahd Professor of Molecular Medicine in the Department of Medicine, Professor of Oncology, Joint Appointment in Molecular Biology and Genetics

JOHN D. GEARHART

Adjunct Professor of Gynecology & Obstetrics in Genetic Medicine, Adjunct Professor of Physiology

GAIL GELLER, Professor of Medicine in Genetic Medicine, Professor of Pediatrics

ADA HAMOSH, Professor of Pediatrics in Genetic Medicine

NEIL A. HOLTZMAN, Professor Emeritus of Pediatrics

BARBARA R. MIGEON

Professor of Pediatrics in Genetic Medicine

ROGER H. REEVES, Professor of Physiology in Genetic Medicine

GREGG L. SEMENZA

Professor of Pediatrics in Genetic Medicine, Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Oncology, Professor of Medicine, Professor of Biological Chemistry

KIRBY D. SMITH, Professor of Pediatrics in Genetic Medicine

GEORGE H. THOMAS

Professor of Pediatrics in Genetic Medicine, Professor of Pathology, Joint Appointment in Medicine

DIMITRIOS AVRAMOPOULOS

Associate Professor of Psychiatry in Genetic Medicine

CORRINE D. BOEHM, Associate Professor of Pediatrics in Genetic Medicine

VIRGINIA L. CORSON

Associate Professor of Gynecology and Obstetrics in Genetic Medicine, Associate Professor of Pediatrics

KATHY LYNN HUDSON, Associate Professor of Pediatrics in Genetic Medicine

NICHOLAS KATSANIS, Adjunct Associate Professor of Ophthalmology in Genetic Medicine, Joint Appointment in Molecular Biology and Genetics

JOSHUA T. MENDELL

Associate Professor of Pediatrics in Genetic Medicine, Joint Appointment in Molecular Biology and Genetics

AKHILESH PANDEY, Associate Professor of Biological Chemistry in Genetic Medicine, Associate Professor of Oncology, Associate Professor of Pathology (on leave of absence)

ALAN F. SCOTT

Associate Professor of Medicine in Genetic Medicine, Associate Professor of Oncology

FORREST SPENCER

Associate Professor of Medicine in Genetic Medicine, Joint Appointment in Molecular Biology and Genetics

GAIL STETTEN

Associate Professor Emerita of Gynecology and Obstetrics, Joint Appointment in Pediatrics

DAN ARKING

Assistant Professor of Medicine in Genetic Medicine

MICHAEL A. BEER

Assistant Professor of Biomedical Engineering in Genetic Medicine, Joint Appointment in Molecular Biology and Genetics

RONALD D. COHN

Assistant Professor of Pediatrics in Genetic Medicine, Assistant Professor of Neurology

JULIE ELIZABETH HOOVER-FONG, Assistant Professor of Pediatrics in Genetic Medicine

ANDREW S. MCCALLION

Assistant Professor of Molecular and Comparative Pathobiology in Genetic Medicine, Research Associate in Medicine

TAO WANG, Assistant Professor of Pediatrics in Genetic Medicine

* Core faculty hold a primary appointment in a School of Medicine department and hold full membership in the Institute.

The Institute of Genetic Medicine is a new organizational structure to consolidate basic and applied research, teaching and patient care in human and medical genetics at Johns Hopkins, and to provide national and inter-

national leadership in genetic medicine. The new field of genetic medicine is concerned not only with the practice of medicine informed by new genetic knowledge but also in considering how an individual's genome sequence can influence their disease treatment and management. The Institute serves as a focal point for interactions between diverse investigators to promote the application of genetic discoveries to human disease and genetics education to the public. The faculty have considerable strengths and expertise in the areas of genomics, human developmental genetics, biochemical genetics, population genetics and complex disease genetics. One of the aims of the Institute is to catalyze the spread of human genetic perspectives to other related disciplines by collaboration with other departments within Hopkins.

RESEARCH INTERESTS

Research interests represented in the Institute are as follows:

DR. BEER

Computational identification of regulatory networks from microarray expression data and whole genome DNA sequence; experimental validation of regulatory pathways in *C. elegans*.

DR. BOEHM

DNA-based diagnosis of genetic disorders.

DR. CHAKRAVARTI

Complex disease; genomics; computational biology.

DR. COHN

Pathogenesis of muscle disorders; clinical genetics.

DR. CUTTING

Inherited sinopulmonary diseases (cystic fibrosis, chronic rhinosinusitis, asthma)

DR. DIETZ

Pathogenetic mechanisms in Marfan syndrome; nonsense-mediated mRNA decay.

DR. HAMOSH

Clinical implications of human genome project; inborn errors of metabolism.

DR. HOOVER-FONG

Skeletal dysplasias.

DR. KATSANIS

Oligogenic disorders, Bardet-Biedl syndrome; retinal degeneration.

DR. MCCALLION

Functional comparative genomic approaches to complex genetic disease.

DR. MENDELL

The regulation and function of a recently described class of regulatory RNA molecules known as microRNAs; the role of these molecules in regulating cellular proliferation, cell-cycle progression, and tumorigenesis.

DR. MIGEON

X chromosome inactivation; genomic imprinting.

DR. PANDEY

Signal transduction; proteomics; bioinformatics.

DR. SCOTT

Genetic/genomic technology; SNP association studies for complex traits.

DR. SEMENZA

Hypoxia-inducible factor 1 in cancer and cardiovascular disease.

DR. WANG

X linked mental retardation; inborn errors of metabolism.

DR. VALLE

Clinical, biochemical and molecular bases of disease, model systems, evolution, genomics and principles of disease

GRADUATE PROGRAM—*Students are accepted for graduate work leading to the degree of Doctor of Philosophy (see Graduate Programs in Human Genetics)*

RESIDENCY PROGRAM—*The Medical Genetics Residency Program is a two year program designed to train physicians to provide comprehensive diagnostic, management and counseling services for inherited diseases and the genetic factors pertinent to all diseases. The training experience also emphasizes the role of research in Medical Genetics so that trainees can pursue investigator-initiated research upon completion of the program.*



Gynecology and Obstetrics

HAROLD EDWARD FOX

Doctor Dorothy Edwards Professor of Gynecology and Obstetrics, Director of the Department of Gynecology and Obstetrics

JEAN R. ANDERSON

Professor of Gynecology and Obstetrics, Joint Appointment in Medicine

KARIN J. BLAKEMORE

Professor of Gynecology and Obstetrics in Genetic Medicine, Professor of Oncology

ROBERT E. BRISTOW

Professor of Gynecology and Obstetrics, Professor of Oncology

DAVID S. ETtingER

Alex Grass Professor of Oncology, Professor of Gynecology and Obstetrics, Professor of Medicine, Professor of Otolaryngology-Head and Neck Surgery, Professor of Radiation Oncology and Molecular Radiation Sciences

JOHN D. GEARHART

C. Michael Armstrong Professor of Gynecology, Adjunct Professor of Physiology

GEORGE R. HUGGINS, Professor Emeritus

HOWARD W. JONES, JR., Professor Emeritus

ROBERT J. KURMAN

Richard W. Telinde Distinguished Professor of Gynecologic Pathology in the Department of Gynecology and Obstetrics, Professor of Oncology, Professor of Pathology

BRIGITTE MARIA RONNETT

Professor of Pathology, Professor of Gynecology and Obstetrics

DOROTHY L. ROSENTHAL

Professor of Pathology, Professor of Gynecology and Obstetrics

ANDREW J. SATIN, Professor

IE-MING SHIH

Professor of Pathology, Professor of Gynecology and Obstetrics, Professor of Oncology

EDWARD E. WALLACH

J. Donald Woodruff Professor of Gynecology and Obstetrics

FRANK R. WITTER, Professor

TZYY-CHOOU WU

Professor of Pathology, Professor of Gynecology and Obstetrics, Professor of Oncology

HOWARD A. ZACUR

Theodore and Ingrid Baramki Professor of Reproductive Endocrinology in the Department of Gynecology and Obstetrics

JONATHAN M. ZENILMAN

Professor of Medicine, Professor of Gynecology and Obstetrics

DEBORAH K. ARMSTRONG

Associate Professor of Oncology, Associate Professor of Gynecology and Obstetrics

THEODORE A. BARAMKI

Associate Professor of Gynecology and Obstetrics, Joint Appointment in Pediatrics

JESSICA L. BIENSTOCK, Associate Professor

LINZHAO CHENG

Associate Professor of Gynecology and Obstetrics, Associate Professor of Oncology, Assistant Professor of Medicine

VIRGINIA L. CORSON

Associate Professor of Gynecology and Obstetrics in Genetic Medicine, Associate Professor of Pediatrics

MARIAN D. DAMEWOOD, Associate Professor

JODI ANNE FLAWS, Adjunct Associate Professor

JAIRO E. GARCIA, Associate Professor

RENE R. GENADRY, Associate Professor

ERNEST MARSHALL GRAHAM, Associate Professor

EDITH DIAMENT GUREWITSH

Associate Professor of Gynecology and Obstetrics, Associate Professor of Biomedical Engineering

VICTORIA L. HANDA, Associate Professor

ANDREW P. HARRIS

Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Gynecology and Obstetrics

HENDREE EVELYN JONES

Associate Professor of Behavioral Biology in the Department of Psychiatry, Associate Professor of Gynecology and Obstetrics

SUHEIL JAMIL MUASHER, Associate Professor

WANDA NICHOLSON, Associate Professor

J. COURTLAND ROBINSON, Associate Professor Emeritus

RICHARD B. S. RODEN

Associate Professor of Pathology, Associate Professor of Gynecology and Obstetrics, Associate Professor of Oncology

ANNE M. ROMPALO

Professor of Medicine, Associate Professor of Gynecology and Obstetrics

RICHARD DAVID SCHULICK

John L. Cameron Professor of Alimentary Tract Diseases in the Department of Surgery, Professor of Oncology, Associate Professor of Biomedical Engineering, Associate Professor of Gynecology and Obstetrics

DAVID B. SCHWARTZ, Visiting Associate Professor

SAMUEL SMITH, Associate Professor

GAIL STETTEN

Associate Professor Emerita of Gynecology and Obstetrics

CORNELIA LIU TRIMBLE

Associate Professor of Gynecology and Obstetrics, Associate Professor of Oncology, Associate Professor of Pathology

EDWARD LLOYD TRIMBLE

Associate Professor of Gynecology and Obstetrics, Associate Professor of Oncology

CLIFFORD R. WHEELESS, JR., Associate Professor Emeritus

YULIAN ZHAO, Associate Professor

ABIMBOLA J. AINA, Assistant Professor

JANYNE ALTHAUS, Assistant Professor

KRISTIINA RUUTIAINEN ALTMAN, Assistant Professor

CYNTHIA HOLCROFT ARGANI, Assistant Professor

SHAUKAT A. ASHAI, Assistant Professor Emeritus

ROBERT K. BROONER
Professor of Medical Psychology in the Department of Psychiatry, Assistant Professor of Gynecology and Obstetrics

ANNE E. BURKE, Assistant Professor

MERVYN L. CAREY, Assistant Professor Emeritus

PAUL CELANO
Assistant Professor of Oncology, Assistant Professor of Gynecology and Obstetrics

CHI CHIUNG GRACE CHEN, Assistant Professor

BETTY CHOU, Assistant Professor

TERRI L. CORNELISON, Assistant Professor

RAYMOND L. COX, JR., Assistant Professor

JUDE P. CRINO, Assistant Professor

CHERYL DESCIPIO
Assistant Professor of Pathology (from 09/01/09), Assistant Professor of Gynecology and Obstetrics (from 09/01/09)

TERESA DEL P. DIAZ-MONTES, Assistant Professor

JAMES H. DORSEY, Assistant Professor Emeritus

HARROLD T. ELBERFELD, Assistant Professor

RICHARD MARCUS ELLERKMANN, Assistant Professor

JESUS ESQUIVEL, Assistant Professor

AMANDA NICKLES FADER, Assistant Professor (from 09/02/09)

MICHELLE CANDICE FOX, Assistant Professor

ROBERT L. GIUNTOLI, II
Assistant Professor of Gynecology and Obstetrics, Assistant Professor of Oncology

GERALD A. GLOWACKI, Assistant Professor Emeritus

ISABEL C. GREEN, Assistant Professor

FRANCIS C. GRUMBINE, Assistant Professor

EMILY M.S. HALLER, Assistant Professor Emerita

KAMAL A. HAMOD, Assistant Professor

JANICE L. HENDERSON, Assistant Professor

ENDRIKA L. HINTON, Assistant Professor

NANCY ANN HUEPPCHEN, Assistant Professor

CHIEN-FU HUNG
Assistant Professor of Pathology, Assistant Professor of Gynecology and Obstetrics, Assistant Professor of Oncology

DWIGHT D. IM, Assistant Professor (to 08/31/09)

ROXANNE M. JAMSHIDI, Assistant Professor

LAURA S.R. KATTA, Assistant Professor

EUGENE KATZ, Assistant Professor

JEAN M. KELLER, Assistant Professor

CANDACE L. KERR, Assistant Professor

VICTOR A. KHOUZAMI, Assistant Professor

LISA A. KOLP, Assistant Professor

MICHAEL EDWARD LANTZ, Assistant Professor

CATHLEEN ESCALLON LAWSON, Assistant Professor

SHARI MARTIN LAWSON, Assistant Professor

JUDY MON-HWA LEE, Assistant Professor

ANDREW LONDON, Assistant Professor

MEREDITH BUONANNO LOVELESS
Assistant Professor of Gynecology and Obstetrics, Assistant Professor of Pediatrics

MARC LOWEN, Assistant Professor

RONALD H. MAGARICK, Assistant Professor

RICHARD P. MARVEL, Assistant Professor

MICHAEL E. MCCOLLUM, Assistant Professor

LORRAINE A. MILIO, Assistant Professor

SUSAN R. MILLER, Assistant Professor

KATHERINE MILLER-BASS, Assistant Professor

MICHAEL B. MONIAS, Assistant Professor

DONNA MARIA NEALE, Assistant Professor

TOLA OMOOTSHO, Assistant Professor (from 09/01/09)

SANDRA D. QUARTNER, Assistant Professor

NASSER REZAI, Assistant Professor Emeritus

EDWARD H. RICHARDSON, JR., Assistant Professor Emeritus

JUDITH P. ROSSITER, Assistant Professor

ANTONIO SANTILLAN-GOMEZ, Assistant Professor

CATHERINE ANGELA SEWELL, Assistant Professor

WEN SHEN, Assistant Professor

LILLIE SHOCKNEY
University Distinguished Service Assistant Professor of Breast Cancer, Assistant Professor of Surgery, Assistant Professor of Gynecology and Obstetrics

ANDREW W. SIEGEL, Assistant Professor

NAVIN SINGH
Assistant Professor of Plastic Surgery, Assistant Professor of Gynecology and Obstetrics, Assistant Professor of Neurological Surgery

RAMEET SINGH, Assistant Professor

JEFFREY M. SMITH, Assistant Professor (on leave of absence to 09/30/09)

DONALD B. SPANGLER, Assistant Professor Emeritus

ALAN J. TAPPER, Assistant Professor Emeritus

RUSSELL VANG
Associate Professor of Pathology, Assistant Professor of Gynecology and Obstetrics

NIKOS VLAHOS, Assistant Professor

TIAN-LI WANG
Assistant Professor of Gynecology and Obstetrics, Assistant Professor of Oncology

ELIZABETH WOOD, Assistant Professor

RICARDO A. YAZIGI, Assistant Professor

PETER K. ZUCKER, Assistant Professor

FOUAD M. ABBAS, Instructor

SAMUEL ROBERT AKMAN, Instructor

BETH L. ARONSON, Instructor

PEDRO PABLO ARRABAL, Instructor

THELMA S. ASARE, Instructor

JOAN L. BLOMQUIST, Instructor

DOUGLAS M. BOURQUE, Instructor

SHAILAJA M. DIDOLKAR, Instructor
 KAREN A. ENGSTROM, Instructor
 LAURA MACIEL ERDMAN, Instructor
 DAYNA A. FINKENZELLER, Instructor
 DONALD I. GALLAGHER, Instructor Emeritus
 DONALD E. GARLAND, Instructor
 ANDREW TODD GOLDSTEIN, Instructor
 DEBORAH L. HEBB, Instructor
 CESCILI D. HOPKINS, Instructor
 SANDRA SCHWARTZ ISBISTER, Instructor
 JULIE MENDELSON JACOBSTEIN, Instructor
 HARVEY H. KASNER, Instructor
 SUNG E. KIM, Instructor
 LEISE ROSE KNOEPP, Instructor
 DELESE LACOUR, Instructor
 NIKITA A. LEVY, Instructor
 GENA TAYLOR MANLEY, Instructor
 DEBORAH J. MARTIN, Instructor
 RAEGAN MCDONALD-MOSLEY, Instructor
 CHRISTINE PHAM NGUYEN, Instructor
 ROBERT FIELDING PEGUES, Instructor
 JAMILA BURGESS PERRITT, Instructor
 COURTNEY PAIGE RHOADES, Instructor
 FRANCISCO ROJAS, Instructor
 ALLAN I. RUBIN, Instructor
 MARILYN SHORT, Instructor
 TAMARA DESHAWN TERRY, Instructor
 ELI A. TIMOLL, Instructor Emeritus
 SAYEEDHA UDDIN, Instructor (to 08/31/09)
 CARLA J. WEISMAN, Instructor
 CLAIRE MARIE WEITZ, Instructor
 CARROLL F. CELENTANO, Assistant
 VITTORIO DANIORE, Lecturer
 FLORENCE P. HASELTINE, Lecturer
 DEBORAH MACMILLAN, Research Associate

FACULTY ASSOCIATED WITH THE
 DEPARTMENT OF GYNECOLOGY AND
 OBSTETRICS HOLDING A PRIMARY
 APPOINTMENT IN:

The School of Medicine:

SAMUEL S. CHONG
 Assistant Professor of Pediatrics
 RHONDA L. ZUCKERMAN
 Assistant Professor of Anesthesiology and
 Critical Care Medicine

The Bloomberg School of Public Health:

JANET A. DIPIETRO
 Professor of Population, Family, and
 Reproductive Health.
 LAURIE S. ZABIN
 Professor of Population, Family, and
 Reproductive Health.

BARRY R. ZIRKIN
 Professor of Biochemistry and Molecular Biology

The Whiting School of Engineering:

ROBERT HARRY ALLEN
 Associate Research Professor of Biomedical
 Engineering

REQUIRED WORK

***Gynecology and Obstetrics—Second,
 Third, or Fourth Year***

Clinical Clerkship in Obstetrics and Gynecology. Dr. Hueppchen and staff of the Department of Gynecology and Obstetrics, 6 weeks.

Course may be taken at any time from the fourth quarter of the second year through the third quarter of the fourth year. Students are encouraged to complete this clerkship during the second or third year. Clinical experience in obstetrics will include antepartum, labor and delivery, as well as postoperative postpartum care. Clinical experience in gynecology will include care of inpatients and outpatients.

ELECTIVE OPPORTUNITIES—*Curricular Consultant:* Dr. Hueppchen. Elective courses must be approved by the preceptor; any member of the department may act as preceptor.

Gynecology and Obstetrics E

E 1. Reproductive Endocrinology. Dr. Zacur. Four quarters. Open to fourth year students.

This clinical experience consists of a subinternship in Reproductive Endocrinology. The student will function as a house officer at the first year level. In this capacity, the student will be responsible for the provision of inpatient and outpatient care including assisted reproductive technology services such as IVF.

E 2. Pathology. Drs. Kurman and Ronnett. Four quarters. Open to second, third, and fourth year students.

Consideration is given to the gross and histologic pathology of lesions of the reproductive tract, with opportunity for special investigative work in areas such as papilloma virus, tumors of the female genital tract and gestational trophoblastic disease. Admission is by permission.

E 3. Advanced Work and Research. By arrangement with the staff.

Research interests represented in the Department of Gynecology and Obstetrics are as follows:

DR. AINA
 Maternal and fetal medicine.
 DR. ARGANI
 Maternal and fetal medicine.
 DR. ANDERSON
 Obstetrics/Gynecology infectious diseases; HIV.
 DR. BIENSTOCK
 Maternal and fetal medicine.
 DR. BLAKEMORE
 Maternal and fetal medicine; prenatal genetics.
 DR. BRISTOW
 Gynecologic oncology.
 DR. CHENG
 Embryonic stem cells; hematopoiesis.
 DR. CORNELISON
 Gynecologic oncology.
 MS. CORSON
 Prenatal genetics.

DR. CRINO
Maternal and fetal medicine; fetal ultrasound.

DR. DIAZ-MONTES
Gynecologic oncology.

DR. GARCIA
Reproductive endocrinology; in vitro fertilization.

DR. GIUNTOLI
Gynecologic oncology.

DR. GRAHAM
Maternal and fetal medicine.

DR. GUREWITSCH
Maternal and fetal medicine.

DR. HANDA
Urogynecology.

DR. HENDERSON
Maternal and fetal medicine.

DR. HUEPPCHEN
Maternal and fetal medicine.

DR. KOLP
Reproductive endocrinology.

MS. LAWSON
Prenatal genetics.

DR. LEE
General gynecology; cervical dysplasia; HIV.

DR. MILIO
Maternal and fetal medicine; drug addiction; maternal diabetes.

DR. NEALE
Maternal and fetal medicine.

DR. NICHOLSON
General gynecology; health policy.

MS. OEHLER
Prenatal genetics.

DR. SEWELL
Gynecologic specialties.

DR. SHEN
General gynecology; menopause; cervical dysplasia; chronic uterine bleeding.

DR. STETTEN
Cytogenetics and molecular cytogenetics.

DR. SZYMANSKI
Maternal and fetal medicine.

DR. C. TRIMBLE
Gynecologic pathology; special clinical-pathologic projects; therapeutic HPV vaccines; cervical dysplasia.

DR. E. TRIMBLE
Gynecologic oncology.

DR. WALLACH
Ovarian physiology; the periovulatory interval.

DR. WITTER
Maternal and fetal medicine; clinical pharmacology.

MS. WOOD
Prenatal genetics.

DR. ZACUR
Reproductive endocrinology.

DR. ZHAO
IVF laboratory.

E 4. Subinternship in Gynecology and Obstetrics. Dr. Hueppchen. Specific times during the year; four to six weeks.

Prerequisite: Completion of the Ob/Gyn Basic Clerkship and an interview.

This clinical experience consists of a subinternship in obstetrics and gynecology. The student will function as a house officer at the first year level. In this capacity, the student will be responsible for the provision of inpatient and outpatient care.

E 5. Subinternship in Gynecologic Oncology. Dr. Bristow. Specific times during the year; three, four or nine weeks.

Prerequisite: Completion of the Ob/Gyn Basic Clerkship and an interview.

The student will function as a house officer at the first year level. Responsibilities include, for assigned patients: complete admission workup, history, and physical examination, and with the attending physician, develop a plan of patient care. The student will also be involved in the patient's surgery, radiation and/or chemotherapy treatments.

E 6. Subinternship in HIV Infection in Women. Dr. Anderson. Specific times during the year; three or four weeks.

Prerequisite: Completion of Ob/Gyn Basic Clerkship and an interview.

Students will participate in the obstetric and gynecology care of HIV-positive women. A research component is encouraged.

E 7. Subinternship in Obstetrics and Gynecology-Bayview. Dr. Argani. Various times during the year; three, four, or six weeks.

Prerequisite: Completion of Ob/Gyn Basic Clerkship.

This clinical experience consists of a subinternship in General Obstetrics and Gynecology. The student will function as an intern with responsibility for both inpatient and outpatient care. The emphasis will be on management of common Ob/Gyn problems.

E 8. Subinternship in Obstetrics. Dr. Hueppchen. Specific times during the year; three, four, or six weeks.

Prerequisite: Completion of Ob/Gyn Basic Clerkship and an interview.

This clinical experience consists of a subinternship in obstetrics. The student will function as a house officer at the first year level. In this capacity, the student will be responsible for the provision of inpatient and outpatient care, labor and delivery. This subinternship can be combined with the Gynecology Subinternship.

Health Sciences Informatics

NANCY K. RODERER

Associate Professor of Health Sciences Informatics, Associate Professor of Medicine, Acting Director of the Division of Health Sciences Informatics

LEE ALAN FLEISHER

Adjunct Professor of Health Sciences Informatics

NINA W. MATHESON

Professor Emerita of Medical Information

WILLIAM A. YASNOFF, Adjunct Professor

HAROLD P. LEHMANN

Associate Professor of Health Sciences Informatics, Associate Professor of Pediatrics

ALLEN YIYEN TIEN, Adjunct Associate Professor

ALAN COLTRI, Assistant Professor

JOSEPH S. LOMBARDO, Assistant Professor

STEVEN F. MANDELL, Assistant Professor

EDUARDO ORTIZ, Visiting Assistant Professor

STEPHANIE L. REEL, Assistant Professor

P. ZOE STAVRI, Visiting Assistant Professor

EDWARD B. BUNKER, Research Associate

KOSSI C. DAMBITA, Research Associate

SCOTT FINLEY, Research Associate

GEORGE R. KIM

Research Associate in Pediatrics, Research Associate in Health Sciences Informatics

DEBORAH A. MCCLELLAN

Research Associate in Health Sciences Informatics, Research Associate in Pharmacology and Molecular Sciences

DONGMING ZHANG, Research Associate

ROBERT THOMAS KAMBIC, Visiting Scientist

FACULTY ASSOCIATED WITH THE DIVISION OF HEALTH SCIENCES INFORMATICS HOLDING A PRIMARY APPOINTMENT IN:

The School of Medicine:

MICHAEL V. BOLAND

Assistant Professor of Ophthalmology

G. STEVEN BOVA

Assistant Professor of Pathology

JOHN ENG

Associate Professor of Radiology and Radiological Science

JOSEPH FINKELSTEIN

Assistant Professor of Medicine

HARRY R. GOLDBERG

Assistant Professor of Biomedical Engineering

PETER SCHUYLER GREENE

Associate Professor of Cardiac Surgery

MATTHEW I. KIM

Assistant Professor of Medicine

CHRISTOPH ULRICH LEHMANN

Associate Professor of Pediatrics

ROBERT E. MILLER

Associate Professor of Pathology

DAVID EDWARD NEWMAN-TOKER

Assistant Professor of Neurology

MICHAEL F. OCHS

Associate Professor of Oncology

GIOVANNI PARMIGIANI

Professor of Oncology

JONATHAN PEVSNER

Associate Professor of Neuroscience

PETER J. PRONOVOST

Professor of Anesthesiology and Critical Care Medicine

STUART CAMPBELL RAY

Associate Professor of Medicine

KAREN A. ROBINSON

Research Associate in Medicine

DAVID R. THIEMANN

Associate Professor of Medicine

RAIMOND L. WINSLOW

Professor of Biomedical Engineering

The Bloomberg School of Public Health

ANNA O. ORLOVA

Associate in Health Policy and Management

FERNANDO JAVIER PINEDA

Associate Professor of Molecular Microbiology & Immunology

DONALD M. STEINWACHS

Professor of Health Policy and Management

JONATHAN P. WEINER

Professor of Health Policy and Management

WILLIAM M. WEISS

Assistant Scientist in International Health

The School of Nursing

PATRICIA A. ABBOTT

Associate Professor of Nursing

MARION J. BALL

Adjunct Professor of Nursing

CHERYL R. DENNISON

Associate Professor of Nursing

BARBARA L. VAN DE CASTLE

Instructor in Nursing

This interdisciplinary academic division brings together a wide range of resources and expertise in biomedical information management, communication and technology. Through the educational, research and service activities of its components, the Division of Health Sciences Informatics seeks to advance the development and use of electronic and other information resources for decision-making, research, health care delivery and individual academic growth and to increase the awareness of these resources among the Johns Hopkins medical community.

Basic research and development involving the application of informatics to a variety of medical and basic science disciplines is also being carried out by individual members of the division, and the results of these efforts are being applied to research and educational initiatives throughout the Johns Hopkins Medical Institu-

tions. Current research areas include: medical informatics, genome informatics, information management, consumer health informatics, computer based documentation systems for point of care, informatics and evidence based medicine, biomedical editing and communication, and electronic publishing.

The service component of the division is the Welch Medical Library. In addition to providing access to the published literature (printed and electronic) and numerous scientific databases, the Welch Library offers educational and outreach programs to assist clinical and basic science faculty, staff and students in using electronic information resources to access critical scientific information and to analyze and communicate their research findings.

Research Activities

Research interests represented in the Division of Health Sciences Informatics are as follows:

DR. FLEISHER

Technology assessment.

DR. LEHMANN

Evidence-based medicine; decision modeling.

DR. MCCLELLAN

Medical and technical writing.

MS. OLIVER

Patient information; information professional roles; public health information need and services.

MS. RODERER

Information use, systems, management, and organization

DR. SHATZER

Medical education.

MR. ZHANG

UMLS applications in institutional repositories.

600.701 Health Sciences Informatics Data, Information, Knowledge. Ms. Roderer. Second quarter.

This course provides a framework for understanding the role of data, information, and knowledge in biomedicine and related domains. Fundamentals such as data structures, standards, and vocabularies, will be applied to the effects decisions in these areas have on the potential users of information and knowledge. Specific domains will be used to exem-

plify the underlying theoretical principles and issues and may include several of the following, depending upon the interests of the class: medicine, nursing, public health, consumer health, or biomedicine.

600.702 Health Science Informatics Knowledge Engineering and Decision Support. Dr. Lehmann. Third and fourth quarters.

This course provides a framework for understanding decision support in the workflow of the health sciences. The focus is on the types of support needed by different decision makers, and the features associated with those types of support. A variety of decision support algorithms is discussed, examining advantages and disadvantages of each, with a strong emphasis on decision analysis as the basic science of decision making. Students are expected to demonstrate facility with one algorithm in particular through the creation of a working prototype, and to articulate the evidence for efficacy and effectiveness of various types of decision support in health sciences and practice, in general.

600.705 Health Sciences Informatics Security, Confidentiality, and Privacy. Dr. Miller. Third quarter.

Security of health information is a central component of any information system in the health sciences. This course will address the security technologies, the confidentiality policies, and the privacy responsibilities in providing clinical care (e.g., HIPAA issues) and pursuing research (e.g., human subjects research).

600.807 Informationist Seminar: Bringing Evidence to Practice. Ms. Oliver. Fourth quarter.

This course is designed for professionals seeking to develop core competencies needed for an informationist role in the fields of clinical medicine and public health. Students will analyze and present evidence to support decision-making in case scenarios drawn from clinical or public health practice. A combination of lecture and laboratory exercises will teach the skills involved in finding, analyzing, and delivering evidence for clinical and public health decision-making: identifying a question embedded in a case presentation; developing effective search strategies for relevant evidence to address the question; evaluating and synthesizing the identified evidence; and effectively presenting that evidence. Evaluations will be based on participation in class, exercise completion, and final oral and written presentations of assigned cases.

History of Medicine

RANDALL M. PACKARD

William H. Welch Professor of History of Medicine, Director of the Department of the History of Medicine

GERT H. BRIEGER

Distinguished Service Professor Emeritus in the Department of History of Medicine

ELIZABETH FEE, Professor

MARY E. FISSSELL, Professor

ROBERT H. KARGON, Willis K. Shepard Professor of History of Science*

SHARON ELIZABETH KINGSLAND, Professor*

STUART W. LESLIE, Professor*

GIANNA POMATA, Professor

DANIEL P. TODES, Professor

NATHANIEL CHARLES COMFORT, Associate Professor

HARRY MILTON MARKS

Associate Professor of History of Medicine, Occupying the Elizabeth Treide and A. McGehee Harvey Chair in the Department of the History of Medicine

MARTA HANSON, Assistant Professor

GRAHAM MOONEY, Assistant Professor (on leave of absence to 08/31/09)

CHRISTINE A. RUGGERE, Lecturer

NANCY MCCALL, Research Associate

YUEH-TSEN JULIETTE CHUNG, Visiting Scientist

PETER KEATING, Visiting Scientist (from 01/01/10)

FACULTY ASSOCIATED WITH THE DEPARTMENT OF THE HISTORY OF MEDICINE HOLDING A PRIMARY APPOINTMENT IN:

The School of Medicine:

ARTHUR M. SILVERSTEIN

Odd Fellows Professor Emeritus of Ophthalmic Immunology in the Department of Ophthalmology

The School of Arts and Sciences:

RICHARD A. MACKSEY

Professor, Humanities Center

* Faculty, School of Arts and Sciences.

The department is organized to give instruction and opportunities for research in the history of medicine and kindred sciences, including the history of public health.

ELECTIVE OPPORTUNITIES—Curricular Consultant: Dr. Marks.

History of Medicine

Independent study program on a topic to be agreed upon with appropriate faculty member.

Each year a number of electives on varying topics is offered.

Courses run thirteen weeks.

AS 140.601 Methods, Approaches, and Perspectives. Drs. Marta Hanson and Harry Marks.

AS 140.695 Topics in Early Modern Medicine. Dr. Fissell. Fall.

This course examines themes in the social and cultural history of early-modern medicine, including patients, practitioners, medical theories, institutions, and practices.

150.701 History of Medicine I: Antiquity to the Scientific Revolution. Dr. Mary Fissell. Fall.

This course will review the social, intellectual, and cultural history of Western medicine from ancient times to the seventeenth century, addressing in particular the following issues: a) the social definition of the physician's role and the relationship between healers and patients as regulated by social custom and by law; b) cultural perceptions of the body and definitions of health and illness; c) the intellectual exchange between medicine and other disciplines, such as natural philosophy and natural history; and d) the varying relationship between medicine and religious belief.

150.702 History of Medicine II: Enlightenment to the Present. Dr. Daniel Todes. Spring.

This course will review the social, intellectual, and cultural history of Western medicine from the 18th century to the present. Emphasis is on Western medicine as the result of Western political-economic and institutional structures, cultural values, and the rise and complexities of "scientific medicine".

150.706 History of Public Health in China. Dr. Hanson.

The modern term for public health "weisheng" in China has changed in the past two centuries from the "safe-guarding life" practices of individuals to the state's responsibility for the health of its citizens. This course will examine the history of public health from the earliest evidence of a state medical bureaucracy in Chinese antiquity to the modern problems of STDs, HIV/AIDS, and SARS.

150.711 History of Disease and Disease Control: Comparative Perspectives. Drs. Marks, Mooney, and Packard.

This course examines the long history of disease and disease control from the 14th century plague to the 20th century campaign for smallpox eradication, drawing on historical materials from Europe, Asia, Africa, and Latin American. Emphasis is on the ways in which political, social, and economic institutions and practices influence the history of disease, its understanding, and its control.

150.713 Oral History Theory and Method. Dr. Nathaniel Comfort.

Interviewing is a powerful technique that should be in the toolkit of almost any historian working the middle of late twentieth century. In this seminar, you will be introduced to the range of techniques and uses for interviewing, some examples of effective historical writing that uses interviewing, and some of the theory behind oral history. A key theme course-long will be the interpretation of oral statements: what, if anything, can the historian take at face value, and how can you tell? The centerpiece

of the course is each student's planning, carrying out, transcribing, and interpreting an oral history interview. In addition, there will be weekly reading (tapering off toward the end of the semester) and in-class discussion.

150.714 History of Twentieth Century Biomedicine. Drs. Comfort and Todes. Spring.

This seminar-style course is intended for students in the basic sciences and in the history of science and medicine. We will study classic experiments in twentieth-century physiology, immunology, genetics, and neuroscience using both original research papers and historians' accounts. Themes under discussion will include theory and experiment, styles of research, ethics of experimental work and scientific publishing, and the impact of social interactions on laboratory work. This course will appeal to any science students interested in understanding the origins of biomedicine and in exploring what makes biomedicine unique in the history of science and medicine.

150.715 History of Health and Development in Africa. Dr. Packard.

This course will examine the impact of colonial and post-colonial development on patterns of sickness, health, and health care in Africa. It will also focus on African responses to changing patterns of health care and disease. Topics include: patterns of disease and therapeutic responses in pre-colonial Africa; colonial epidemics; industrialization, urbanization, and disease; agrarian transformations, malnutrition, and the political economy of famine; sexuality, colonial control, and disease; western medicine and the social construction of African identities; African reproductive health and family planning; recession, debt, and Africa's health care crises; histories of AIDS in Africa.

150.716 History of Chinese Medicine. Dr. Hanson.

How did the Chinese conceptualize the human body, health and disease over the past 2,000 years? What were the range of responses from religious to therapeutic to disease in China? What are Chinese acupuncture, moxibustion, and herbal medicine? Who practiced medicine in China; what did they practice; and how do we know what we know about them? Students will engage these and other questions by discussing the latest historical and anthropological history of medicine in China. Students will be expected to attend the lectures of AS140.346, read relevant primary sources in Chinese, and write a research paper.

150.718 Analogy and Metaphor in Science and Medicine. Dr. Todes.

How do metaphors in science, technology, and medicine originate and how do they influence human thought? The course explores such examples as William Harvey's analogy between the heart and a pump, Charles Darwin's concepts of the struggle for existence and natural selection, military metaphors in the history of public health, the use of metaphors of production in medicine, and the comparison of the brain to a computer.

150.813 Medicine and Science in History: An Introduction to Historiography. Drs. Todes and Hanson. Spring.

Discussion of historiographical developments in, and various approaches to History of Medicine based on readings of important secondary works.

150.801 Research in the History of Medicine.

For doctoral candidates and other advanced students engaged in original research under faculty supervision.

150.802 Readings in the History of Medicine.

Available as an elective to both graduate and medical students.

150.808 History of Epidemiology. Dr. Marks. Fourth quarter.

Will examine epidemiological concepts and methods in the 19th and 20th centuries, emphasizing the links between epidemiology, medical theory, and public health practice. Readings consist of classic (and not-so-classic) epidemiological studies, ranging from Snow on Cholera to John Paul on Rheumatic Fever.

Other Course offerings:

150.812 Introduction to the History of Public Health. Dr. Mooney. Fall.

SPH221.605 History of International Health and Development. Dr. Packard. Spring.

An examination of the history of western efforts to promote health and nutrition in the "developing world" from the beginnings of tropical medicine to recent efforts at disease eradication. The course will explore the various economic and political interests, as well as the cultural assumptions, that have shaped the development of ideas and practices associated with international health in "developing" countries. Topics include: history of international health organizations, strategies, and policies.

GRADUATE PROGRAM—Students are accepted for graduate work leading to the degrees of Master of Arts and Doctor of Philosophy (see Graduate Programs).

Medicine

MYRON L. WEISFELDT

William Osler Professor of Medicine, Director of the Department of Medicine

DARRELL R. ABERNETHY

Professor of Medicine, Professor of Pharmacology and Molecular Sciences

STEPHEN C. ACHUFF, Professor

N. FRANKLIN ADKINSON, JR., Professor

RICHARD F. AMBINDER

James B. Murphy Professor of Oncology, Professor of Medicine, Professor of Pathology, Professor of Pharmacology and Molecular Sciences

REUBIN ANDRES, Professor

LAWRENCE J. APPEL, Professor

KAMAL F. BADR, Adjunct Professor

LEE RANDOL BARKER, Professor

JOHN G. BARTLETT

Stanhope Bayne-Jones Professor of Medicine

ERIC B. BASS, Professor

JOAN M. BATHON, Professor

THEODORE M. BAYLESS

Sherlock Hibbs Professor of Inflammatory Bowel Disease in the Department of Medicine

STEPHEN B. BAYLIN

Virginia and Daniel K. Ludwig Professor of Cancer Research in the Department of Oncology, Professor of Medicine

DIANE M. BECKER, Professor

LEWIS C. BECKER

Robert L. Levy Professor of Cardiology in the Department of Medicine, Joint Appointment in Radiology

WILLIAM R. BELL

Edyth Harris Lucas and Clara Lucas Lynn Professor Emeritus of Hematology in the Department of Medicine

RICHARD G. BENNETT, Professor

RONALD D. BERGER

Professor of Medicine, Professor of Biomedical Engineering

RAFAEL BEYAR, Visiting Professor

WILMA B. BIAS, Professor Emerita

WILLIAM RAMSES BISHAI

Professor of Medicine, Joint Appointment in Pathology

MARC R. BLACKMAN, Professor

DAVID A. BLUEMKE

Professor of Radiology and Radiological Science, Professor of Medicine

ROGER S. BLUMENTHAL, Professor

BRUCE S. BOCHNER, Professor

ROBERTO BOLLI, Adjunct Professor

ROBERT C. BOLLINGER, JR., Professor

PAUL A. BOTTOMLEY

Russell H. Morgan Professor of Radiology, Professor of Biomedical Engineering, Professor of Medicine

FREDERICK L. BRANCATI

Samsung Professor of Medicine

JEFFREY A. BRINKER

Professor of Medicine, Joint Appointment in Radiology

ROBERT A. BRODSKY

Edyth Harris Lucas and Clara Lucas Lynn Professor of Medicine, Professor of Oncology

ROY G. BROWER, Professor

JOHN R. BURTON

Mason F. Lord Professor of Geriatric Medicine in the Department of Medicine

HUGH G. CALKINS

Nicholas J. Fortuin, M.D. Professor of Cardiology in the Department of Medicine, Professor of Pediatrics

DONALD O. CASTELL, Visiting Professor (from 09/01/09)

RICHARD E. CHAISSON, Professor

ARAVINDA CHAKRAVARTI

Professor of Medicine, Professor of Pediatrics, Joint Appointment in Molecular Biology and Genetics

NISHA CHANDRA, Professor

PATRICIA CHARACHE

Professor of Pathology, Professor of Medicine, Professor of Oncology

SAMUEL CHARACHE

Professor Emeritus of Medicine, Professor Emeritus of Pathology

ARTHUR B. CHAUSMER, Adjunct Professor

BART CHERNOW

Adjunct Professor of Medicine

HORACIO CINGOLANI, Visiting Professor

NANCY ABBEY COLLOP

Professor of Medicine, Professor of Neurology

C. LOCKARD CONLEY

University Distinguished Service Professor Emeritus of Medicine

DAVID S. COOPER, Professor

LISA COOPER, Professor

GARRY R. CUTTING

Aetna U.S. Healthcare Professor of Medical Genetics in the Department of Pediatrics, Professor of Medicine

CHI VAN DANG

Johns Hopkins Family Professor for Oncology Research in the Department of Medicine, Professor of Cell Biology, Professor of Oncology, Professor of Pathology, Joint Appointment in Molecular Biology and Genetics

ADRIAN S. DOBS

Professor of Medicine, Professor of Oncology

ROSS C. DONEHOWER

Virginia and Daniel K. Ludwig Professor of Clinical Investigation of Cancer in the Department of Oncology, Professor of Medicine

MARK DONOWITZ

George LeBoff Professor for Research in Digestive Diseases in the Department of Medicine, Professor of Physiology

JERROLD J. ELLNER, Visiting Professor

DAVID S. ETtinger

Alex Grass Professor of Oncology, Professor of Gynecology and Obstetrics, Professor of Medicine, Professor of Otolaryngology-Head and Neck Surgery, Professor of Radiation Oncology and Molecular Radiation Sciences

NEAL S. FEDARKO, Professor

ANDREW P. FEINBERG

King Fahd Professor of Molecular Medicine in the Department of Medicine, Professor of Oncology, Joint Appointment in Molecular Biology and Genetics, Joint Appointment in Psychiatry

LUIGI FERRUCCI, Adjunct Professor

THOMAS E. FINUCANE, Professor

CHARLES W. FLEXNER

Professor of Medicine, Professor of Pharmacology and Molecular Sciences

JOHN A. FLYNN

D. William Schlott, M.D. Professor of Clinical Medicine, Joint Appointment in Psychiatry

DANIEL E. FORD

David M. Levine Professor of Medicine, Joint Appointment in Psychiatry

NICHOLAS J. FORTUIN, Professor

LINDA P. FRIED

Mason F. Lord Professor of Geriatric Medicine in the Department of Medicine (on leave of absence to 12/31/09)

JOEL E. GALLANT, Professor

STEVEN ROSS GAMBERT, Professor

CHARLOTTE A. GAYDOS

Professor of Medicine, Joint Appointment in Emergency Medicine

PATRICIA J. GEARHART

Adjunct Professor of Medicine, Adjunct Associate Professor of Pathology, Adjunct Associate Professor of Surgery

GAIL GELLER

Professor of Medicine in Genetic Medicine, Professor of Pediatrics

GREGORY G. GERMINO

Adjunct Professor of Medicine, Joint Appointment in Molecular Biology and Genetics

GARY GERSTENBLITH

Professor of Medicine, Joint Appointment in Radiology

FRANCIS M. GIARDIELLO

John G. Rangos Sr. Professor of Adult Medicine in the Department of Medicine, Professor of Oncology, Professor of Pathology

MICHAEL GOGGINS

Professor of Pathology, Professor of Medicine, Professor of Oncology

DAVID S. GOLDSTEIN, Visiting Professor

WILLIAM B. GREENOUGH, III, Professor

LAWRENCE S. GRIFFITH

Professor of Medicine, Joint Appointment in Radiology

JACQUES H. E. GROSSET, Visiting Professor

STUART A. GROSSMAN

Professor of Oncology, Professor of Medicine, Professor of Neurological Surgery

HENRY R. HALPERIN

Professor of Medicine, Professor of Biomedical Engineering, Professor of Radiology

ROBERT G. HAMILTON

Professor of Medicine, Professor of Pathology

JOSHUA MICHAEL HARE

Adjunct Professor of Medicine, Adjunct Professor of Biomedical Engineering

PAUL M. HASSOUN, Professor

DAVID B. HELLMANN

Aliki Perroti Professor of Medicine

CRAIG WALTER HENDRIX

Professor of Medicine, Professor of Pharmacology and Molecular Sciences

THOMAS R. HENDRIX

Moses and Helen Golden Paulson Professor Emeritus of Gastroenterology in the Department of Medicine and University Distinguished Service Professor

SHAU-KU HUANG, Professor

KIMISHIGE ISHIZAKA

Thomas P. O'Neill Professor Emeritus of Immunology in the Department of Medicine

TERUKO ISHIZAKA, Professor Emerita

ETHYLIN W. JABS

Adjunct Professor of Pediatrics, Adjunct Professor of Medicine, Adjunct Professor of Plastic Surgery

DAVID L. JACKSON, Adjunct Professor

DONALD R. JASINSKI, Professor

RICHARD J. JOHNS

University Distinguished Service Professor Emeritus of Biomedical Engineering, Professor Emeritus of Medicine

ROGER ANTHONY JOHNS

Professor of Anesthesiology and Critical Care Medicine, Professor of Medicine

RICHARD J. JONES

Professor of Oncology, Professor of Medicine

ANTHONY N. KALLOO

Moses and Helen Golden Paulson Professor of Medicine

JUDITH E. KARP

Professor of Oncology, Professor of Medicine

EDWARD KEVIN KASPER

E. Cowles Andrus Professor of Cardiology in the Department of Medicine

DAVID A. KASS

Abraham and Virginia Weiss Professor of Cardiology in the Department of Medicine, Professor of Biomedical Engineering

DAVID E. KERN, Professor

THOMAS S. KICKLER

Professor of Pathology, Professor of Medicine, Professor of Oncology

MICHAEL J. KLAG, Professor

HARVEY G. KLEIN

Adjunct Professor of Pathology, Adjunct Professor of Medicine

JOHN HOWARD KLIPPEL, Visiting Professor

HIDEO KUSUOKA, Visiting Professor

PETER O. KWITEROVICH, JR.

Professor of Pediatrics, Professor of Medicine

PAUL W. LADENSON
John Eager Howard Professor of Endocrinology and Metabolism in the Department of Medicine, University Distinguished Professor of Medicine, Professor of Oncology, Professor of Pathology, Professor of Radiology

EDWARD G. LAKATTA, Professor

RICHARD A. LANGE, Professor

GERALD S. LAZARUS
Professor of Dermatology, Professor of Medicine

MARY SUE LEFFELL, Professor

MARIANNE J. LEGATO, Adjunct Professor

RAYMOND E. LENHARD, JR.
Professor Emeritus of Oncology, Professor Emeritus of Medicine

DAVID M. LEVINE
Samsung Professor of Medicine

HYAM I. LEVITSKY
Professor of Oncology, Professor of Medicine, Professor of Urology

TSANYANG JAKE LIANG, Adjunct Professor

LAWRENCE M. LICHTENSTEIN, Professor Emeritus

PAUL S. LIETMAN
Professor of Medicine, Professor of Pediatrics, Professor of Pharmacology and Molecular Sciences

JOAO A.C. LIMA
Professor of Medicine, Associate Professor of Radiology

CHARLES J. LOWENSTEIN
Adjunct Professor of Medicine

SUSAN M. MACDONALD, Professor

DONALD W. MACGLASHAN, JR., Professor

EDUARDO MARBAN
Michel Mirowski Professor of Cardiology in the Department of Medicine

SIMEON MARGOLIS
Professor Emeritus of Medicine, Professor Emeritus of Biological Chemistry

KIEREN ANNE MARR
Professor of Medicine, Professor of Oncology

W. LOWELL MAUGHAN
Professor of Medicine, Professor of Biomedical Engineering

JUSTIN C. MCARTHUR
Professor of Neurology, Professor of Medicine, Professor of Pathology

STEPHEN J. MELTZER
Harry and Betty Meyerberg/Thomas R. Hendrix Professor of Gastroenterology in the Department of Medicine, Professor of Oncology

ESTEBAN MEZEY, Professor

MYRON MILLER, Professor

RICHARD D. MOORE, Professor

GARY JAN NABEL, Visiting Professor

WILLIAM G. NELSON
Marion I. Knott Director and Professor of Oncology, Professor of Medicine, Professor of Pathology, Professor of Pharmacology and Molecular Sciences, Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Urology

PAUL M. NESS
Professor of Pathology, Professor of Medicine, Joint Appointment in Oncology

PHILIP S. NORMAN, Professor

BRIAN O'ROURKE, Professor

G. JOHAN OFFERHAUS
Visiting Professor of Medicine, Visiting Professor of Pathology

JONATHAN BRETT ORENS, Professor

PAMELA OUYANG, Professor

ALBERT H. OWENS, JR.
University Distinguished Service Professor Emeritus of Oncology, University Distinguished Service Professor Emeritus of Medicine

DREW M. PARDOLL
Martin D. Abeloff Professor of Oncology, Professor of Medicine, Professor of Pathology

TRISH M. PERL
Professor of Medicine, Associate Professor of Pathology

SOLBERT PERMUTT, Professor Emeritus

MICHELLE PETRI, Professor

PAUL HUNTER PLOTZ, Adjunct Professor

ALEKSANDER S. POPEL
Professor of Biomedical Engineering, Professor of Medicine

NEIL R. POWE
Distinguished Service Professor of Medicine

THOMAS C. QUINN, Professor

HAMID RABB
Professor of Medicine, Professor of Surgery

CYNTHIA S. RAND
Professor of Medicine, Joint Appointment in Behavioral Biology in the Department of Psychiatry

ANNE M. ROMPALO
Professor of Medicine, Associate Professor of Gynecology and Obstetrics

ANTONY ROSEN
Mary Betty Stevens Professor of Medicine, Professor of Pathology

RICHARD S. ROSS, Professor Emeritus

HAYA R. RUBIN, Adjunct Professor

RICHARD R. RUBIN
Professor of Medicine, Professor of Pediatrics

JAY H. SANDERS, Adjunct Professor

CHRISTOPHER D. SAUDEK
Hugh P. McCormick Family Professor of Endocrinology and Metabolism in the Department of Medicine

STEVEN P. SCHULMAN, Professor

MARVIN M. SCHUSTER
Janssen/Strauss-Halbreich Professor Emeritus of Digestive and Motility Disorders in the Department of Medicine, Joint Appointment Emeritus in Psychiatry

ALAN R. SCHWARTZ, Professor

CYNTHIA LOUISE SEARS
Professor of Medicine, Professor of Oncology

GREGG L. SEMENZA
C. Michael Armstrong Professor of Pediatrics in Genetic Medicine, Professor of Biological Chemistry, Professor of Medicine, Professor of Oncology, Professor of Radiation Oncology and Molecular Radiation Sciences

RANJAN SEN, Adjunct Professor

EDWARD P. SHAPIRO, Professor

THERESA A. SHAPIRO
Wellcome Professor of Clinical Pharmacology in the Department of Medicine, Professor of Pharmacology and Molecular Sciences

ROBERT F. SILICIANO
Professor of Medicine, Joint Appointment in Molecular Biology and Genetics, Investigator of the Howard Hughes Medical Institute

PHILIP L. SMITH, Professor

MARK J. SOLOSKI
Professor of Medicine, Professor of Pathology, Joint Appointment in Molecular Biology and Genetics

JERRY L. SPIVAK
Professor of Medicine

EARL P. STEINBERG
Adjunct Professor of Medicine, Adjunct Associate Professor of Radiology and Radiological Science

KERRY J. STEWART, Professor

JEREMY SUGARMAN
Harvey M Meyerhoff Professor of Bioethics and Medicine

JIMMIE T. SYLVESTER
Professor of Medicine, Joint Appointment in Anesthesiology and Critical Care Medicine

PETER B. TERRY
Professor of Medicine, Associate Professor of Anesthesiology and Critical Care Medicine

DAVID LEE THOMAS
Stanhope Bayne-Jones Professor of Medicine

GORDON F. TOMASELLI
Michel Mirowski, M.D. Professor of Cardiology in the Department of Medicine

THOMAS A. TRAILL, Professor

GLENN J. TREISMAN
Professor of Psychiatry, Professor of Medicine

SHAN POU TSAI, Adjunct Professor

BRADLEY J. UNDEM, Professor

MARTIN D. VALENTINE, Professor

JENNIFER EILEEN VAN EYK
Professor of Medicine, Professor of Biological Chemistry, Professor of Biomedical Engineering

ELIZABETH WAGNER, Professor

JEREMY D. WALSTON, Professor

GARY S. WAND
Alfredo Riviere and Norma Rodriguez de Riviere Professor of Endocrinology in the Department of Medicine, Professor of Psychiatry

STEVEN A. WARTMAN, Adjunct Professor

JAMES L. WEISS
Michael J. Cudahy Professor of Cardiology in the Department of Medicine

ROBERT G. WEISS
Professor of Medicine, Joint Appointment in Radiology

ANDREW WHELTON, Adjunct Professor

BARBARA WHITE, Visiting Professor

CHARLES M. WIENER
Professor of Medicine, Professor of Physiology

FREDRICK M. WIGLEY, Professor

JERRY A. WINKELSTEIN
Professor Emeritus of Pediatrics, Professor Emeritus of Medicine, Professor Emeritus of Pathology

RAIMOND L. WINSLOW
Professor of Biomedical Engineering, Professor of Medicine, Joint Appointment in Health Sciences Informatics

ROBERT A. WISE
Professor of Medicine, Instructor in Radiology and Radiological Science

SCOTT M. WRIGHT, Professor

ANDREA A. ZACHARY, Professor

JONATHAN M. ZENILMAN
Professor of Medicine, Professor of Gynecology and Obstetrics

ROY C. ZIEGELSTEIN, Professor

PHILIP D. ZIEVE, Professor Emeritus

JAY L. ZWEIER
Visiting Professor of Medicine, Visiting Associate Professor of Radiology

THEODORE P. ABRAHAM, Associate Professor

BIMAL H. ASHAR, Associate Professor

MOHAMED G. ATTA, Associate Professor

PAUL GISBERT AUWAERTER, Associate Professor

THOMAS R. AVERSANO, Associate Professor

ALAN NATHANIEL BAER, Associate Professor

DOUGLAS W. BALL
Associate Professor of Medicine, Associate Professor of Oncology

WILMOT C. BALL, JR., Associate Professor Emeritus

KATHLEEN CAROLE BARNES, Associate Professor

SUSAN JOAN BARTLETT, Adjunct Associate Professor

MARY CATHERINE BEACH, Associate Professor

PATRICE M. BECKER, Associate Professor

MICHELE F. BELLANTONI, Associate Professor

EDWARD J. BERNACKI, Associate Professor

JONATHAN BENJAMIN BORAK, Adjunct Associate Professor

LEIGH EBONY BOULWARE, Associate Professor

GEORGE M. BOYER, Adjunct Associate Professor

MICHAEL PATRICK BOYLE, Associate Professor

HAYDEN GRANT BRAINE
Associate Professor Emeritus of Oncology, Associate Professor Emeritus of Medicine

STEVEN R. BRANT, Associate Professor

DANIEL JOSEPH BROTMAN, Associate Professor

DAVID E. BUSH, Associate Professor

BRENDAN J. CANNING, Associate Professor

MARCIA IRENE FOO CANTO
Associate Professor of Medicine, Associate Professor of Oncology

JOSEPH A. CARRESE, Associate Professor

LIVIA A. CASCIOLA-ROSEN, Associate Professor

VINCENZO CASOLARO
Associate Professor of Medicine (on leave of absence to 07/31/09)

SHUKTI CHAKRAVARTI
Associate Professor of Medicine, Associate Professor of Ophthalmology, Assistant Professor of Cell Biology

CHARLES PATRICK CHAULK, Adjunct Associate Professor

MICHAEL JAMES CHOI, Associate Professor

JEANNE M. CLARK, Associate Professor

JOSEPH COFRANCESCO, JR., Associate Professor

MARY CONCETTA CORRETTI, Associate Professor

SARA COSGROVE
Associate Professor of Medicine (from 10/01/09), Assistant Professor of Medicine (to 09/30/09)

ANDREA L. COX
Associate Professor of Medicine (from 10/01/09), Assistant Professor of Medicine (to 09/30/09), Associate Professor of Oncology (from 10/01/09), Assistant Professor of Oncology (to 09/30/09)

PETER S. CRETICOS, Associate Professor

MICHAEL T. CROW, Associate Professor

BURTON C. D'LUGOFF, Associate Professor Emeritus

MEL P. DALY, Associate Professor

PETER E. DANS, Associate Professor

GAIL L. DAUMIT
Associate Professor of Medicine, Joint Appointment in Psychiatry

GREGORY B. DIETTE, Associate Professor

HARRY C. DIETZ
Victor A. McKusick Professor of Medicine and Genetics in the Department of Pediatrics, Associate Professor of Medicine, Assistant Professor of Neurological Surgery, Joint Appointment in Molecular Biology and Genetics

SUSAN ELIZABETH DORMAN, Associate Professor

SAMUEL C. DURSO, Associate Professor

JOSEPHINE MARY EGAN, Associate Professor

REBECCA D. ELON, Associate Professor

ERIC ANDREW ENGELS, Associate Professor

EMILY J. ERBELDING
Associate Professor of Medicine, Associate Professor of Pediatrics

DAVID J. FELLER-KOPMAN, Visiting Associate Professor

ROBERT P. FERGUSON, Associate Professor

HENRY E. FESSLER, Associate Professor

JOHN H. FETTING, III
Associate Professor of Oncology, Associate Professor of Medicine, Assistant Professor of Psychiatry

DEREK MICHAEL FINE, Associate Professor

MICHAEL I. FINGERHOOD, Associate Professor

TOREN FINKEL, Visiting Associate Professor

KEVIN R. FONTAINE, Associate Professor

CLAIR A. FRANCOMANO
Associate Professor of Medicine, Assistant Professor of Pediatrics

KELLY A. GEBO, Associate Professor

ALLAN CHARLES GELBER, Associate Professor

EBEID REDA GIRGIS, Associate Professor

F. MICHAEL GLOTH, III, Associate Professor

DAVID B.K. GOLDEN, Associate Professor

SHERITA HILL GOLDEN, Associate Professor

SHELDON H. GOTTLIEB, Associate Professor

JEREMY DAVID GRADON, Associate Professor

CONSTANCE A. GRIFFIN
Professor of Pathology, Professor of Oncology, Associate Professor of Medicine

LOUISE B. GROCHOW
Associate Professor of Oncology, Associate Professor of Medicine

RICHARD J. GROSS, Associate Professor

SANDRA E. GUGGINO
Associate Professor of Medicine, Associate Professor of Physiology

AHMET GURAKAR, Visiting Associate Professor

PAUL A. GURBEL, Associate Professor

H. FRANKLIN HERLONG, Associate Professor

CHARLES STEVEN HESDORFFER
Associate Professor of Medicine, Associate Professor of Oncology

FELICIA HILL-BRIGGS
Associate Professor of Medicine, Assistant Professor of Physical Medicine and Rehabilitation

MAUREEN RENEE HORTON, Associate Professor

ERIC E. HOWELL, Associate Professor

TAH-HSIUNG HSU, Associate Professor

WALTER C. HUBBARD
Associate Professor of Medicine, Associate Professor of Pharmacology and Molecular Sciences

RICHARD L. HUMPHREY
Associate Professor of Pathology, Associate Professor of Medicine

MEHBOOB ALI HUSSAIN
Associate Professor of Pediatrics, Associate Professor of Biological Chemistry, Associate Professor of Medicine

NOREEN A. HYNES, Associate Professor

SUZANNE M. JAN DE BEUR, Associate Professor

DANIEL PHILIP JUDGE, Associate Professor

MICHAEL H. KELEMEN, Associate Professor

LONDON STUART KING
Associate Professor of Medicine, Associate Professor of Biological Chemistry

EDWARD S. KRAUS, Associate Professor

ALBERT C. LARDO

Associate Professor of Medicine, Associate Professor of Biomedical Engineering

BRUCE ALLEN LEFF, Associate Professor

MARK JAMES LEVIS

Associate Professor of Oncology, Associate Professor of Medicine

KENNETH B. LEWIS, Associate Professor Emeritus

MARK CHANG-HWA LIU, Associate Professor

GREGORY M. LUCAS, Associate Professor

MAHADEVAPPA MAHESH

Associate Professor of Radiology and Radiological Science, Associate Professor of Medicine

YUKARI CAROL MANABE, Associate Professor

JOSEPH E. MARINE, Associate Professor

BRUCE C. MARSHALL, Associate Professor

ROBERT E. MASON, Associate Professor Emeritus

MARY E. MCCAUL

Professor of Behavioral Biology in the Department of Psychiatry, Associate Professor of Medicine

ANDREA NIKKI MEYERHOFF, Adjunct Associate Professor

EDGAR RAYMOND MILLER, III, Associate Professor

REDONDA GAIL MILLER, Associate Professor

FRANCIS D. MILLIGAN, Associate Professor

MACK C. MITCHELL, JR., Associate Professor

DAVID R. MOLLER, Associate Professor

W. TABB MOORE, Associate Professor

MORTON MAIMON MOWER, Associate Professor

GERARD E. MULLIN, Associate Professor

LAURA M. MUMFORD, Associate Professor

ALLEN C. MYERS, Associate Professor

SALAH M. NASRALLAH, Associate Professor

PARVIZ NIKOOMANESH, Associate Professor

RULAN PAREKH

Associate Professor of Medicine

GARY R. PASTERNAK

Adjunct Associate Professor of Pathology, Adjunct Associate Professor of Medicine

DAVID B. PEARSE, Associate Professor

MARGARET B. PENNO, Associate Professor

BRENT G. PETTY

Associate Professor of Medicine, Associate Professor of Pharmacology and Molecular Sciences

GARY D. PLOTNICK, Associate Professor

VSEVOLOD Y. POLOTSKY, Associate Professor

WENDY S. POST, Associate Professor

NARESH M. PUNJABI, Associate Professor

JEFFREY J. RADE, Associate Professor

WILLIAM J. RAVICH

Associate Professor of Medicine, Associate Professor of Otolaryngology-Head and Neck Surgery

STUART CAMPBELL RAY

Associate Professor of Medicine, Associate Professor of Oncology, Joint Appointment in Health Sciences Informatics

JON R. RESAR, Associate Professor

LINDA M.S. RESAR

Associate Professor of Medicine, Associate Professor of Oncology

NANCY K. RODERER

Professor of Health Sciences Informatics, Associate Professor of Medicine

ANNABELLE RODRIGUEZ-QUENDO, Associate Professor

ELIZABETH LONDON ROGERS, Adjunct Associate Professor

SHEILA H. ROMAN, Associate Professor

STUART DEAN RUSSELL, Associate Professor

GEORGE H. SACK, JR.

Associate Professor of Medicine, Associate Professor of Biological Chemistry

SARBJIT SINGH SAINI, Associate Professor

ROBERTO SALVATORI, Associate Professor

SCHERER P. SANDERS, Associate Professor

PAUL J. SCHEEL, JR., Associate Professor

D. WILLIAM SCHLOTT

Philip A. Tumulty Associate Professor of Medicine

JONATHAN SCHNECK

Professor of Pathology, Professor of Oncology, Associate Professor of Medicine

JOHN THOMAS SCHROEDER, Associate Professor

ALAN F. SCOTT

Associate Professor of Medicine in Genetic Medicine, Associate Professor of Oncology

JODI BETH SEGAL, Associate Professor

ERIC J. SEIFTER

Associate Professor of Medicine, Associate Professor of Oncology

DEBORAH E. SELLMAYER, Visiting Associate Professor

JAMES S. K. SHAM, Associate Professor

LARISSA AKIMI SHIMODA, Associate Professor

LAWRENCE E. SHULMAN, Associate Professor Emeritus

ELEANOR MARIE SIMONICK, Associate Professor

STEPHEN D. SISSON, Associate Professor

DAVID A. SPECTOR, Associate Professor

FORREST SPENCER

Associate Professor in Genetic Medicine of Medicine, Joint Appointment in Molecular Biology and Genetics

PETER MICHAEL SPOONER, Associate Professor

CRISTIANA STELLATO, Associate Professor

MICHAEL BLAKE STREIFF

Associate Professor of Medicine, Instructor in Pathology

MARK SEBASTIAN SULKOWSKI, Associate Professor

DAVID R. THIEMANN
Associate Professor of Medicine, Joint
Appointment in Health Sciences Informatics

CHLOE LYNNE THIO, Associate Professor

PATRICIA A. THOMAS, Associate Professor

CHUNG-MING TSE, Associate Professor

KO-PEN WANG
Associate Professor of Medicine, Associate
Professor of Radiology and Radiological
Science

TERRY WATNICK, Associate Professor

PENELOPE R. WILLIAMSON, Associate Professor

ROBERT J. WITYK
Associate Professor of Neurology, Associate
Professor of Medicine

MARK THOMAS WORTHINGTON, Associate
Professor

MICHAEL MINGZHAO XING
Associate Professor of Medicine, Associate
Professor of Oncology

PAUL MICHAEL YEN, Associate Professor

DEBORAH SUE ROHM YOUNG, Visiting
Associate Professor

JIMMY B. ZACHARY, Associate Professor
Emeritus

ZHOU ZHU, Associate Professor

CAROL M. ZIMINSKI, Associate Professor

THOMAS M. ZIZIC, Associate Professor

PETER M. ABADIR, Assistant Professor

MARWAN SAMIR ABOUGERGI, Assistant
Professor

HANAN J. ABOUMATAR, Assistant Professor

JOHN M. ABRAHAM, Assistant Professor

MARIA ROSELLE ABRAHAM, Assistant Professor

FADI G. AKAR, Assistant Professor

CHARLES R. ALBRECHT, III, Assistant Professor

ANIKA A.H. ALVANZO, Assistant Professor

JOHN E. ANDERSON, Assistant Professor

ADRIANA S.A. ANDRADE, Assistant Professor

FELIPE A. ANDRADE, Assistant Professor

CHARLES S. ANGELL, Assistant Professor

MICHAEL ALAN ANKROM, Assistant Professor

ARMIN ARBAB-ZADEH, Assistant Professor

ALICIA I. ARBAJE, Assistant Professor

DAN EYTAN ARKING, Assistant Professor of
Medicine in Genetic Medicine

ERNEST N. ARNETT, Assistant Professor

ROMULO F. BALTAZAR, Assistant Professor

LLI AYALA BAROUCH, Assistant Professor

JEREMY S. BARRON, Assistant Professor

MARSHALL S. BEDINE, Assistant Professor

NICHOLAS J. BELITSOS
Assistant Professor of Medicine, Lecturer in
Pathology

PETER C BELITSOS, Assistant Professor

WENDY LYNNE BENNETT, Assistant Professor

ZACKARY DOV BERGER, Assistant Professor
(from 09/01/09)

GAIL VALERIE BERKENBLIT, Assistant Professor

RINKY BHATIA, Assistant Professor

LYNN M. BILLINGSLEY, Assistant Professor

CLIFTON O. BINGHAM, III, Assistant Professor

JOEL BLANKSON, Assistant Professor

FRANCESCO BOIN, Assistant Professor

ROMSAI TONY BOONYASAI, Assistant Professor

LUCIANA L. BORIO, Assistant Professor

LISA B. BOULT, Assistant Professor

CYNTHIA MELINDA BOYD, Assistant Professor

SAMI A. BRAHIM, Assistant Professor

PETER BRAVERMAN, Assistant Professor

MARGARET M. BRENNAN, Assistant Professor

TODD T. BROWN, Assistant Professor

PHILIP C. BUESCHER, Assistant Professor

JOYCE KOPICKY BURD, Assistant Professor

ZHEQING CAI, Assistant Professor

YING JUN CAO
Adjunct Assistant Professor of Medicine

DANELLE CAYEA, Assistant Professor

MATTHEWS CHACKO, Assistant Professor

GEETANJALI CHANDER, Assistant Professor

AMINA A. CHAUDHRY, Assistant Professor

PAULO H.M. CHAVES, Assistant Professor

EDWARD S. CHEN, Assistant Professor

ALAN CHENG, Assistant Professor

LINZHAO CHENG
Associate Professor of Gynecology and
Obstetrics, Associate Professor of Oncology,
Assistant Professor of Medicine

ROY W. CHESNUT, JR., Assistant Professor

CHEE WEI CHIA, Adjunct Assistant Professor

OKSOON HONG CHOI, Assistant Professor

ROBERT TAO-PING CHOW, Assistant Professor

COLLEEN CHRISTMAS, Assistant Professor

LISA CHRISTOPHER-STINE
Assistant Professor of Medicine, Assistant
Professor of Neurology

OSCAR CINGOLANI, Assistant Professor

GREGORY O. CLARK, Assistant Professor

JOHN O'BRIEN CLARKE, III, Assistant Professor

SARAH L. CLEVER, Assistant Professor

ARTHUR E. COCCO, Assistant Professor

KARAN A. COLE, Assistant Professor

THOMAS A. CORSON
Assistant Professor of Medicine, Assistant
Professor of Pediatrics

VICTOR CRENTSIL, Assistant Professor

DAVID M. CROMWELL, Assistant Professor

MARCIA CRUZ-CORREA, Visiting Assistant
Professor

HENGMI CUI, Assistant Professor

DARSHAN DALAL, Assistant Professor

RACHEL LYNN DAMICO, Assistant Professor

SONYE KAREN DANOFF, Assistant Professor

JONATHAN D. DARER, Assistant Professor

KARL ERIC DEJONGE, Assistant Professor

DONALD H. DEMBO, Assistant Professor

SANJAY VIRENDRA DESAI, Assistant Professor

TIMM-MICHAEL L. DICKFELD, Adjunct Assistant Professor

ALBENA TODOROVA DINKOVA-KOSTOV
Assistant Professor of Pharmacology and Molecular Sciences, Assistant Professor of Medicine

DANIELLE J. DOBERMAN, Assistant Professor

MEG CAROLINE DOHERTY, Assistant Professor

JUN DONG, Adjunct Assistant Professor

XAVIER DRAY, Adjunct Assistant Professor

MALCOLM S. DRUSKIN, Assistant Professor

SHARON DUDLEY-BROWN, Assistant Professor

KERRY BRANDT DUNBAR, Assistant Professor

ZAYD A. ELDADAH, Adjunct Assistant Professor

LOIS J. ELDRED, Assistant Professor

LOUIS KOFI ESSANDOH, Assistant Professor

MICHELLE ESTRELLA, Assistant Professor

CAMELLUS O. EZEUGWU, Assistant Professor

HENRY GEORGE FEIN, Assistant Professor

LEONARD S. FELDMAN
Assistant Professor of Medicine, Assistant Professor of Pediatrics

IRA T. FINE, Assistant Professor

JOSEPH FINKELSTEIN
Assistant Professor of Medicine, Joint Appointment in Health Sciences Informatics

DANA H. FRANK, Assistant Professor

BARUCH FRIEDMAN, Assistant Professor

WILLIAM F. FRITZ, Assistant Professor Emeritus

JEFFREY P. FROEHLICH, Assistant Professor (to 08/13/09)

JYOTHI GADDE, Assistant Professor

GIORGIO GIOVANNI GALETTO
Assistant Professor of Medicine, Joint Appointment in Emergency Medicine

CHARLENE E. GAMALDO
Assistant Professor of Neurology, Assistant Professor of Medicine

PEISONG GAO, Assistant Professor

DUVURU GEETHA, Assistant Professor

RICHARD T. GEORGE, Assistant Professor

KHALIL G. GHANEM, Assistant Professor

BRIAN K. GIBBS, Assistant Professor

SAMUEL A. GIDAY, Assistant Professor

JON TYLER GILES, Assistant Professor

LUIS F. GIMENEZ, Assistant Professor

SEAN T. GLOTH, Assistant Professor

JONATHAN E. GOLUB, Assistant Professor

AMY H. GORDON, Assistant Professor

AYSEGUL GOZU, Assistant Professor

THOMAS GRADER-BECK, Assistant Professor

DAVID R.M. GRAHAM
Assistant Professor of Molecular and Comparative Pathobiology, Assistant Professor of Medicine

ROBERT I. GRIFFITHS, Assistant Professor

CORDELIA T. GRIMM, Assistant Professor

AMITA GUPTA, Assistant Professor

DAVID N. HAGER, Assistant Professor

ABDEL-RAHIM A. HAMAD
Assistant Professor of Pathology, Assistant Professor of Medicine

JAMES P. HAMILTON, Assistant Professor

FAYEZ MAHMOUD HAMZEH, Adjunct Assistant Professor

NADIA N. HANSEL, Assistant Professor

LAURA A. HANYOK, Assistant Professor

UZMA JALAL HAQUE, Assistant Professor

KATHARINE SANTOS HARRISON, Assistant Professor

JENNIFER L. HAYASHI, Assistant Professor

ALLISON GAMBOA HAYS, Assistant Professor

CARLTON HAYWOOD, JR., Assistant Professor

CHARLES ALAN HENRIKSON, Assistant Professor

WILLIAM R. HERZOG, JR., Assistant Professor

GLENN A. HIRSCH, Assistant Professor

GERALD A. HOFKIN, Assistant Professor

PETER A. HOLT, Assistant Professor

CAROL ANN HUFF
Assistant Professor of Oncology, Assistant Professor of Medicine

MARK THOMAS HUGHES, Assistant Professor

MARY MARGARET HUIZINGA, Assistant Professor

LAURA K. HUMMERS, Assistant Professor

DAVID F. HUTCHEON, Assistant Professor

PAUL M. HWANG, Assistant Professor

IREDELL W. IGLEHART, III, Assistant Professor

THOMAS V. INGLESBY, Assistant Professor

BERNARD G. JAAR, Assistant Professor

ANNETTE MARIE JACKSON, Assistant Professor

JULIAN JAKOBOVITS, Assistant Professor

NIRAJ D. JANI, Assistant Professor

HYLTON VICTOR JOFFE, Assistant Professor

WALLACE ROBERT JOHNSON, JR., Visiting Assistant Professor

PETER V. JOHNSTON, Assistant Professor

STEVEN R. JONES, Visiting Assistant Professor

ROSALYN ANNE JUERGENS
Assistant Professor of Oncology, Assistant Professor of Medicine (from 08/01/09)

DAVID R. KAFONEK, Assistant Professor

MELINDA E. KANTSIPER, Assistant Professor

PETROS C. KARAKOUSIS, Assistant Professor

YVETTE L. KASAMON
Assistant Professor of Oncology, Assistant Professor of Medicine

NEWTON E. KENDIG, Assistant Professor

JEANNE COUTURIER KERULY, Assistant Professor

JEAN KIM
Assistant Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Medicine

MATTHEW I. KIM
Assistant Professor of Medicine (to 10/15/09), Joint Appointment in Health Sciences Informatics (to 10/15/09)

FLORA N. KISUULE, Assistant Professor

JONATHAN TZVI KLEIN, Assistant Professor
LAWRENCE E. KLEIN, Assistant Professor
AMY M. KNIGHT, Assistant Professor
MARIAN KOLLARIK, Assistant Professor
AYMAN A. KOTEISH, Assistant Professor
OLGA N. KOVBASNJUK, Assistant Professor
BRIAN GUSTAV KRAL, Assistant Professor
STEVEN J. KRAVET, Assistant Professor
ESTHER I. KRUG, Assistant Professor
ANNE J. KRUSH, Assistant Professor Emerita
JOHN H. KWON, Assistant Professor
GHYANU LAMICHHANE, Assistant Professor
THOMAS F. LANSDALE, III, Assistant Professor
SOPHIE M. LANZKRON
Assistant Professor of Medicine, Assistant
Professor of Oncology
BRYAN LAU, Assistant Professor
MARK G. LAZAREV, Assistant Professor (from
08/01/09)
NOAH LECHTZIN
Assistant Professor of Medicine, Assistant
Professor of Neurology
LINDA A. LEE, Assistant Professor
SEAN XIAO LENG, Assistant Professor
RACHEL B. LEVINE, Assistant Professor
STUART M. LEVINE, Assistant Professor
HOWARD PHILIP LEVY, Assistant Professor
XUZHANG LI, Assistant Professor
ZHIPING LI, Assistant Professor
SUSAN LEE LIMB, Assistant Professor
LI LIN, Adjunct Assistant Professor
SHARI MIURA LING, Assistant Professor
CHARLES F.S. LOCKE, Assistant Professor
J. CRAIG LONGENECKER, Assistant Professor
NANCY RYAN LOWITT, Assistant Professor
DAVID H. MADOFF, Assistant Professor
JEFFREY LANCE MAGAZINER, Assistant
Professor
PRISCILLA MAGNO, Adjunct Assistant Professor
ANDREW L. MAMMEN
Assistant Professor of Neurology, Assistant
Professor of Medicine
LISA L. MARAGAKIS, Assistant Professor
SPYRIDON S. MARINOPOULOS, Assistant
Professor
DON RICHARD MARTIN, Assistant Professor
L. DAVID MARTIN, Assistant Professor
NEIL ALEXANDER MARTINSON, Assistant
Professor
ANDREA SLOTKOFF MARX, Assistant Professor
STEPHEN C. MATHAI
Assistant Professor of Medicine (from 08/01/09),
Instructor in Medicine (to 07/31/09)
RASIKA ANN MATHIAS, Assistant Professor
ALAN K. MATSUMOTO, Assistant Professor
SUSAN A. MAYER, Assistant Professor
ANDREW R. MAYRER, Assistant Professor
REZA MAZHARI, Adjunct Assistant Professor

ROBERT EMMETT MCCARTHY, III, Assistant
Professor
JEANNE M. MCCAULEY, Assistant Professor
MEREDITH CHRISTINE MCCORMACK, Assistant
Professor
MICHAEL A. MCDEVITT
Assistant Professor of Medicine, Assistant
Professor of Oncology
JOHN F. MCDYER, Assistant Professor
MAURA J. MCGUIRE, Assistant Professor
ROBIN MCKENZIE, Assistant Professor
ANNE B. MCKUSICK, Assistant Professor
RHONDALYN C. MCLEAN, Assistant Professor
MATTHEW K. MCNABNEY, Assistant Professor
ELIZABETH PYNADATH MENACHERY, Assistant
Professor
CHRISTIAN A. MERLO, Assistant Professor
JAMES H. MERSEY, Assistant Professor
JOHN O. MEYERHOFF, Assistant Professor
THERESA M. MICHELE, Assistant Professor
ERIN DONNELLY MICHOS, Assistant Professor
JULIE MARIE MILLER, Assistant Professor
ALISON RAE MOLITERNO, Assistant Professor
ANNA T. MONIAS, Assistant Professor
YURIKO MORI, Assistant Professor
JAMES O. MUDD, Assistant Professor
DONNA I. MYERS, Assistant Professor
SAMER S. NAJJAR, Assistant Professor
SAMAN NAZARIAN, Assistant Professor
DALE M. NEEDHAM
Assistant Professor of Medicine, Assistant
Professor of Physical Medicine and
Rehabilitation
DIONISSIOS NEOFYTOS, Assistant Professor
ENID R. NEPTUNE, Assistant Professor
DALE M. NETSKI, Adjunct Assistant Professor
MARY M. NEWMAN, Assistant Professor
GEOFFREY C. NGUYEN, Adjunct Assistant
Professor
JACK E. NISSIM, Assistant Professor
EMMANUEL NCHINDA NSAH, Assistant Professor
ERIC NUERMBERGER, Assistant Professor
NAOMI P. O'GRADY, Assistant Professor
ESTHER S. OH
Assistant Professor of Medicine, Instructor in
Pathology, Joint Appointment in Psychiatry
PATRICK I. OKOLO, III, Assistant Professor
YNGVILD OLSEN, Assistant Professor
PATRICK ONYANGO, Assistant Professor
DIANE JULIE ORLINSKY
Assistant Professor of Dermatology, Assistant
Professor of Medicine
KATHLEEN R. PAGE, Assistant Professor
NAZARENO PAOLOCCI, Assistant Professor
ANAND K. PAREKH, Adjunct Assistant Professor
EUNMI PARK, Assistant Professor
CATHERINE PASSARETTI, Assistant Professor
SUSHEEL P. PATIL, Assistant Professor

ALDO T. PAZ-GUEVARA, Assistant Professor
 KIMBERLY S. PEAIRS, Assistant Professor
 RICHARD N. PEELER, Assistant Professor
 JOSEPH V. PERGOLIZZI, JR., Adjunct Assistant Professor
 MARK F. PEYROT, Assistant Professor
 SALLY MAE PINKSTAFF, Assistant Professor
 MARK F. PITTENGER, Adjunct Assistant Professor
 CHRISTOPHER VINE PLOWE, Assistant Professor
 GREGORY S. POKRYWKA, Assistant Professor
 ALBERT J. POLITO, Assistant Professor
 JAMES K. PORTERFIELD, Assistant Professor
 THOMAS POZEFSKY, Assistant Professor
 KALPANA RAO PRAKASA, Assistant Professor
 GREGORY P. PROKOPOWICZ, Assistant Professor
 REHAN QAYYUM, Assistant Professor
 FENG QIAN, Assistant Professor
 WILLIAM S. QUEALE, Assistant Professor
 LEWIS JOSEPH RADONOVICH, Adjunct Assistant Professor
 RUDRAJIT M. RAI, Assistant Professor
 JESSICA C. RAMELLA-ROMAN, Adjunct Assistant Professor
 PADMINI D. RANASINGHE, Assistant Professor
 DARIUS A. RASTEGAR, Assistant Professor
 NEDA RATANAWONGSA, Assistant Professor
 ELIZABETH RATCHFORD, Assistant Professor
 EDWARD A. RATOVIJSKI
 Associate Professor of Dermatology, Associate Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Medicine, Assistant Professor of Pathology
 RUBEN REIDER, Assistant Professor
 STEVEN J. REYNOLDS, Assistant Professor
 KRISTIN A. RIEKERT, Assistant Professor
 REED D. RILEY, Assistant Professor
 JUAN J. RIVERA, Assistant Professor
 JOHN F. ROGERS, Assistant Professor
 JO ANN ROSENFELD, Assistant Professor
 RICHARD R. ROSENTHAL, Assistant Professor
 WILMA A. ROWE, Adjunct Assistant Professor
 ANASTASIA ROWLAND-SEYMOUR, Assistant Professor
 CINDY N. ROY, Assistant Professor
 JANICE RYDEN, Assistant Professor
 RACHEL MARIE E. SALAS
 Assistant Professor of Neurology, Assistant Professor of Medicine
 ALVIN M. SANICO, Assistant Professor
 MARYAM SATTARI, Assistant Professor
 JOHN A. SCHAEFER, Assistant Professor
 ALLEN H. SCHAEFFER, Assistant Professor
 HARTMUT SCHNEIDER, Assistant Professor
 CHRISTINE R. SCHNEYER, Assistant Professor
 STEVEN A. SCHONFELD, Assistant Professor
 PAMELA ROSE SCHROEDER, Assistant Professor
 FLORIN MARIAN SELARU, Assistant Professor
 STUART E. SELONICK
 Assistant Professor of Medicine, Assistant Professor of Oncology
 JYOTI MISRA SEN, Adjunct Assistant Professor
 PHILIP SEO, Assistant Professor
 JONATHAN E. SEVRANSKY, Assistant Professor
 TARIQ SHAFI, Assistant Professor
 JAMES CHRISTOPHER SHEPHERD, Adjunct Assistant Professor
 EUN JI SHIN, Assistant Professor
 ROBERT B. SHOCHET, Assistant Professor
 VENKATARAMANA K. SIDHAYE, Assistant Professor
 HARRY A. SILBER, Assistant Professor
 JANET M. SILICIANO, Assistant Professor
 EVA SIMMONS-O'BRIEN
 Assistant Professor of Dermatology, Assistant Professor of Medicine
 LISA SIMONSON, Assistant Professor
 CRYSTAL F. SIMPSON, Assistant Professor
 SONAL SINGH, Assistant Professor
 GITA SINHA, Assistant Professor
 SUNIL KUMAR SINHA, Assistant Professor
 MARY D. SKINNER
 Assistant Professor of Medicine
 PETER JEFFREY SLOANE, Assistant Professor
 STEPHEN R. SMITH, Assistant Professor
 CLAIRE SNYDER
 Assistant Professor of Medicine, Assistant Professor of Oncology
 JANET M. SOEFFING, Assistant Professor
 STEVEN F. SOLGA, Visiting Assistant Professor
 STEVEN J. SOLLOTT, Assistant Professor
 CHRISTINE CHIA-CHI SOONG, Assistant Professor
 LISA A. SPACEK, Assistant Professor
 CHRISTOPHER JOHN SPERATI, Assistant Professor
 DAVID DOUGLASS SPRAGG, Assistant Professor
 JANET F. STAAB, Assistant Professor
 CLAUDIA A. STEINER, Assistant Professor
 ROSALYN W. STEWART, Assistant Professor
 NANCY V. STRAHAN, Assistant Professor
 JOHN J. STROUSE
 Assistant Professor of Pediatrics, Assistant Professor of Medicine
 MATTHIAS STUBER
 Associate Professor of Radiology (on leave of absence from 08/03/09), Assistant Professor of Medicine (on leave of absence from 08/03/09)
 ARUNA KUMAR SUBRAMANIAN, Assistant Professor
 G. MANI SUBRAMANIAN, Assistant Professor
 BERNARD TABATZNIK, Assistant Professor Emeritus
 EIKI TAKIMOTO, Assistant Professor
 ERWIN TAN, Assistant Professor

HARIKRISHNA TANDRI, Assistant Professor
 CRAIG P. TANIO, Assistant Professor
 JENNIFER WILLIAMS TANIO, Assistant Professor
 XUGUANG (GRANT) TAO, Assistant Professor
 DEAN R. TAYLOR, Assistant Professor
 GREGORY HARRY TAYLOR, Adjunct Assistant Professor
 MAHMUD THAMER, Assistant Professor Emeritus
 ASHA THOMAS, Assistant Professor
 LOUIS C. TRIPOLI, Adjunct Assistant Professor
 JEFFREY C. TROST, Assistant Professor
 CRISTINA I. TRUICA, Assistant Professor
 SEAN R. TUNIS, Adjunct Assistant Professor
 SHARON TURBAN, Assistant Professor
 RICHARD M. UGARTE, Assistant Professor
 MAGDALENA UHART, Assistant Professor
 DHANANJAY M. VAIDYA, Assistant Professor
 RAVI VARADHAN, Assistant Professor
 MICHAEL Y. VIKSMAN, Assistant Professor
 BECKY MARIE VONAKIS, Assistant Professor
 CAROLYN CLYMER VOORHEES, Assistant Professor
 JEAN S. WANG, Assistant Professor (to 08/31/09)
 JIAN WANG, Assistant Professor
 NAE-YUH WANG, Assistant Professor
 CARLOS O. WEISS, Assistant Professor
 DEBRA S. WERTHEIMER, Assistant Professor
 LORA B. WILDER, Assistant Professor
 MARLENE STEPHANIE WILLIAMS, Assistant Professor
 RICHARD BLAND WILLIAMS, III, Adjunct Assistant Professor
 STEPHEN BRYAN WILLIAMS, Assistant Professor
 LUCY EDLIN WILSON, Adjunct Assistant Professor
 ILAN SHOR WITTSTEIN, Assistant Professor
 LEAH WOLFE, Assistant Professor
 KARL L. WOMER, Assistant Professor
 PATRICIA WONG, Assistant Professor
 KATHERINE C. WU, Assistant Professor
 MARK N. WU
 Assistant Professor of Neurology (from 08/01/09), Assistant Professor of Medicine (from 08/01/09)
 QIAN-LI XUE, Assistant Professor
 SEVIL YASAR, Assistant Professor
 HSIN-CHIEH YEH, Assistant Professor
 ELAINE YONG, Visiting Assistant Professor
 JEFFERY HUNTER YOUNG, Assistant Professor
 REX CHIN-WEI YUNG
 Assistant Professor of Medicine, Assistant Professor of Oncology
 NICHOLAS ZACHOS, Assistant Professor
 ARI L. ZAIMAN, Assistant Professor
 RONG ZHANG-HOWARD, Assistant Professor
 TAO ZHENG, Assistant Professor
 YAO-YAO ZHU, Assistant Professor
 SUSAN JANE ZIEMAN, Assistant Professor

EDWARD LEE ZUROWESTE, Assistant Professor
 RIAD ZUHDI ABDELKARIM, Instructor
 NADA ALACHKAR, Instructor
 ELI B. ALEGADO, Instructor
 RUBEN AMARASINGHAM, Instructor
 MUHAMMAD AMER, Instructor
 WILLIAM C. ANTHONY, Instructor
 JOHN NATHANIEL AUCOTT, Instructor
 MICHELLE L. BAHRAIN, Instructor
 ASHWIN BALAGOPAL, Instructor
 MICHAEL S. BARR, Instructor
 ANDREW N. BECKER, Instructor
 SAMUEL I. BENESH, Instructor
 ADAM RICHARD BERLINER, Instructor
 BERNHARD BIRNBAUM, Instructor
 JULIUS BIRNBAUM, Instructor
 KEVIN E. BISHOFF-CARLSON, Instructor
 JASON WESLEY BLACK, Instructor
 JOANNA M. BOCK, Instructor (from 09/01/09)
 RICHARD BOEHLER, Instructor
 CATHERINE A. BOOHER, Instructor
 JENNIFER E. BRACEY, Instructor
 GREGORY WILLIAM BRANCH, Instructor
 HOWARD D. BRONSTEIN, Instructor
 MELVA JOAN BROWN, Instructor
 ROCHELLE VANESSA BROWN, Instructor
 ANITHA BYREDDY, Instructor
 SUZANNE M. CACCAMESE, Instructor
 MAYY FARID CHAHLA, Instructor
 SABRINA THERESA CHAKLOS, Instructor
 FRED T. CHAN, Instructor
 SHALINI CHANDRA, Instructor
 LARRY WILLIAM CHANG, Instructor
 STEPHANIE CHANG, Instructor
 RAQUEL FRANCINE CHARLES, Instructor
 FRANKLIN E. CHATHAM, Instructor
 SAJIDA CHAUDRY, Instructor
 WILLIAM CHECKLEY, Instructor
 BELINDA YIM CHEN, Instructor
 GRANT VICTOR CHOW, Instructor
 TRACEY LYNN CHUNN, Instructor
 EMMANUELLE M. CLERISME-BEATY, Instructor
 JOHN CMAR, Instructor
 NANCY CODORI, Instructor
 ROBERT L. CONNORS, Instructor
 BARBARA G. COOK, Instructor
 DAMIAN D. CRAWFORD, Instructor
 DEIDRA CANDICE CREWS, Instructor
 NAOMI PAULA CUTLER, Instructor
 FRANCO R. D'ALESSIO, Instructor
 HOLLY RYERSON DAHLMAN, Instructor
 DEAN HAMID DALILI, Instructor (to 10/16/09)
 MAHENDRA DAMARLA, Instructor
 ELIZABETH LEE DAUGHERTY, Instructor
 PANKAJ R. DESAI, Instructor
 AMY ELIZABETH DEZERN, Instructor

LEDYS DIMARSICO, Instructor
SUSAN J. DIRKS, Instructor
ETOSHA DIXON, Instructor
SHARON DLHOSH, Instructor
DEVON A. DOBROSIELSKI, Instructor (from
07/31/09)
JONATHAN DUBOIS DUBIN, Instructor
GWEN L. DUBOIS, Instructor
DEENA R. EBRIGHT, Instructor
SHAKER M. EID, Instructor
ROLAND C. EINHORN, Instructor
DAVID LEE EISENBERG, Instructor
MYRNA T. ESTRUCH, Instructor Emerita
EDDY FAN, Instructor
JINSHUI FAN, Instructor
ROBYN NEBLETT FANFAIR, Instructor
SCOTT A. FEESER, Instructor
DANIEL FEIRTAG, Instructor
NAOMI RUTH FELDMAN, Instructor
APRIL S. FITZGERALD, Instructor
JELLES N. FONDA, Instructor
PAUL N. FOSTER, Instructor
PHILLIP J. FRANKLIN, Instructor
NORMAN R. FREEMAN, JR., Instructor Emeritus
NANCY JANE C. FRIEDLEY, Instructor
JONATHAN M. GERBER, Instructor
ELIAS CAMILLE GHANDOUR, Instructor
KENNETH L. GLICK, Instructor
MICHAEL H. GOLDMAN, Instructor
DENISE A. GONZALES, Instructor
HELEN MINIFIE GORDON, Instructor
KIM LESLEY GORING, Instructor (to 09/09/09)
MADHAV GOYAL, Instructor
GENE E. GREEN, Instructor
CARLTON C. GREENE, Instructor
DMITRY N. GRIGORYEV, Instructor
KENNETH S. GUMMERSON, Instructor
TAMMY D. HADLEY, Instructor
CHARLES A. HAILE, Instructor
SANDRA WATSON HAIRSTON, Instructor
ELIZABETH A. HALLORAN, Instructor
F. CHRIS HANSEN, III, Instructor
KALEEM U. HAQUE, Instructor
DANIEL C. HARDESTY, Instructor
ANTHONY J. HARRELL, Instructor
CHE M. HARRIS, Instructor
HOWARD W. HAUPTMAN, Instructor
TODD D. HELLER, Instructor
ANNE-GILBERT CARRIE HERZKE, Instructor
BONNIE L. HIATT, Instructor
CHRISTOPHER J. HOFFMANN, Instructor
GEORGE MARTIN HOKE, Instructor
CAROLYN CLARKSON HOUK, Instructor
ERICA E. HOWE, Instructor
ROBERT Y. HSIAO, Instructor
CONSTANCE W. HWANG, Instructor

CHRISTOPHER ISH, Instructor
CHERYL ANNE JACKSON, Instructor
ALPA LAHERI JANI, Instructor
FERN MARIE JEFFRIES, Instructor
GERALD J. JEROME, Instructor
KRISTINE ERICA JOHNSON, Instructor
CHRISTINE KAJUBI, Instructor
IRA E. KAPLAN, Instructor
GEORGE JOHN KARGUL, Instructor
FREDERICK J. KARKOWSKI, Instructor
ROBERT NEIL KASS, Instructor
WALTER T. KEES, Instructor Emeritus
GREGORY B. KELLY, Instructor
JULIA KHARLIP, Instructor
ADNAN N. KIANI, Instructor
THOMAS J. KIM, Instructor
DMITRY E. KIYATKIN, Instructor
TODD MATTHEW KOLB, Instructor
TIMOTHY L. KROHE, Instructor (to 09/27/09)
PAULA J. KUE, Instructor
PALLAVI P. KUMAR, Instructor
KEVIN K. KWONG, Instructor
OLIVER B. LAEYENDECKER, Instructor
KATHY L. LAMPL, Instructor
JEFFREY S. LANDSMAN, Instructor
ERIKA R. LARSON, Instructor
NAUDIA NATALEE LAUDER, Instructor
ROBERT I. LEVY, Instructor
SUSAN M. LEVY, Instructor
GANG (GARY) LI, Instructor
HUAMIN LI, Instructor
HYUNG MIN LIM, Instructor
DINGXIE LIU, Instructor
THERESA R. LORCH, Instructor
OLGA I. LURYE, Instructor
BRENT BRUCE MACDONALD, Instructor
M. ISABELLE MACGREGOR, Instructor
DAVID ALAN MADDER, Instructor
IRA N. MANDELL, Instructor
ROSEMARIE MARAJ, Instructor
KENNETH MARGOLIS, Instructor
ANTHONY MARTINEZ, Instructor
JASON J. MARX, Instructor
JONATHAN MATZ, Instructor
ALLAN R. MCCLARY
Associate Professor Emeritus of Psychiatry,
Instructor in Medicine
WILLIAM D. MCCONNELL, Instructor
SHARON MCCORMACK, Instructor
DAVID ELIOT MCGINNIS, Instructor
MARCO A. MEJIA, Instructor
MICHAEL MELIA, Instructor
GAIL WILSON MILLER, Instructor
LOUIS W. MILLER, Instructor
GARY A. MILLES, Instructor
KEIFFER J. MITCHELL, Instructor

RAMEEN JAMES MOLAVI, Instructor
 SUSAN MELLEY MOLINARO, Instructor
 GEORGE W. MORAN, Instructor
 CLAYTON L. MORAVEC, JR., Instructor
 ATHOL WINSTON MORGAN, Instructor
 NICHOLAS W. MOROG, Instructor
 ANN CASSIDY MORRILL, Instructor
 DEBORAH J. MORRIS, Instructor
 DANIEL MUNOZ, Instructor
 PALANIAPPAN GANESH MUTHAPPAN, Instructor
 ALEJANDRO JOSE NECOCHEA, Instructor
 JOHN A. NESBITT, III, Instructor
 PHILIP JARATSAK NIVATPUMIN, Instructor
 GARY J. NORONHA, Instructor
 JAMES S. NOVICK, Instructor
 IBIRONKE ODUYEBO, Instructor
 SUN YOUNG OH, Instructor
 JOAN ORDMAN, Instructor
 YVONNE OTTAVIANO, Instructor
 THOMAS J. PACE, Instructor
 DIMITRIOS PAPPAS, Instructor
 GLENDA FERGUSON PARKER, Instructor
 KASHIBEN G.J. PATEL, Instructor
 TARA PERTI, Instructor
 SWATI PHATAK, Instructor
 KARRAN A. PHILLIPS, Instructor
 STEVEN T. PONDEK, Instructor
 JEFFREY N. POSNER, Instructor
 ADAM BRADLEY POSSNER, Instructor
 SHANTA PURCELL, Instructor
 SUNIL RAJANI, Instructor
 JANET RECORD, Instructor
 CHARLES B. REULAND, Instructor
 STASIA STOTT REYNOLDS, Instructor
 JEFFREY M. RICHARDSON, Instructor
 CAROLINE G.P. ROBERTS, Instructor
 DAVID G. ROBERTS, III, Instructor
 ROBERT K. ROBY, Instructor
 MICHAEL T. RUDIHOFF, Instructor
 BAHMAN SAATIAN, Instructor
 MARK D. SCARUPA, Instructor
 ARTHUR SCHROEDER, Instructor
 JERRY ELLIS SEALS, Instructor
 PAUL E. SEGAL, Instructor
 AMI AALOK SHAH, Instructor
 DEEPAK A. SHAH, Instructor
 ROBERT A. SHAW, Instructor
 ELIAS K. SHAYA
 Instructor in Radiology and Radiological
 Science, Instructor in Medicine
 JEROME SHERMAN, Instructor Emeritus
 ZISHAN K. SIDDIQUI, Instructor
 ANIKET R. SIDHAYE
 Instructor in Pediatrics, Instructor in Medicine
 ERIC SIMBALL, Instructor
 VIKESH K. SINGH, Instructor
 BERNARD SLOSBERG, Instructor
 BRAD TIBBETTS SMITH, Instructor
 RAMONA F. SOBHANI, Instructor
 PATRICK RYAN SOSNAY, Instructor
 STEPHEN MARTIN SOZIO, Instructor
 ETHAN J. SPIEGLER
 Assistant Professor of Radiology and
 Radiological Science, Instructor in Medicine
 ANIRUDH SRIDHARAN, Instructor
 KELLY BRUNGARDT STEIN, Instructor
 HOWARD STEINER, Instructor
 SANGEETA DILEEP SULE
 Assistant Professor of Pediatrics, Instructor in
 Medicine
 TROY SULLIVAN, Instructor
 ANIL SURYAPRASAD, Instructor
 DARLENE B. TAD-Y, Instructor
 LILA TARMIN, Instructor
 RAYMOND TAYLOR, JR., Instructor
 NIK TCHOPEV
 Instructor in Pediatrics, Instructor in Medicine
 RAJIV N. THAKKAR, Instructor
 SUMESKA THAVARAJAH, Instructor
 JON TILBURT, Instructor
 HARUKA MATSUBARA TOROK, Instructor
 PATRYCE A. TOYE, Instructor
 EDITH MARGARET VARGO, Instructor
 KITTANE S. VISHNUPRIYA, Instructor
 GEORGE C. WANG, Instructor
 CATHERINE L. WASHBURN, Instructor
 DAVID S. WEISMAN, Instructor
 MELVIN WELINSKY, Instructor
 WALTER R. WELZANT, Instructor
 BO WEN, Instructor
 MICHAEL J. WEST, Instructor
 KANTHI WICKRAMARATINE, Instructor
 PAUL R. WILLGING, Instructor
 DONNA L. WILLIS, Instructor
 E. HUNTER WILSON, JR., Instructor
 THOMAS SCOTT WILSON, Instructor
 EDWARD J. WOLF, Instructor
 RENEE WRIGHT, Instructor
 JEAN WU, Instructor
 SHAOGUANG WU, Instructor
 PETER K. WUNG, Instructor
 JENEL STEELE WYATT, Instructor
 LISA RENEE YANEK, Instructor
 SAMMY ZAKARIA, Instructor
 MICHELLE NABULUMBA ZIKUSOKA, Instructor
 RAYMOND H. ZOLLINGER, Instructor
 JILL D. BRENSINGER TRIMBATH, Assistant
 ALAN B. COHEN, Assistant
 MARK P. DIAMOND, Assistant
 E. ROBERT FEROLI, JR., Assistant
 CHARLES F. HOESCH, Assistant
 GEORGE D. LAWRENCE, Assistant
 TAO TUAN LE, Assistant

DAN H. MCDOUGAL, Assistant
DAVID I. MILLER, Assistant
VIJAYACHANDRA S. NAIR, Assistant
BRIAN PINTO, Assistant
MARSHALL FRANK PRENTICE, Assistant
ARTHUR L. RUDO, Assistant
PATRICIA A. SAVADEL, Assistant
NATHAN A. SCOTT, III, Assistant
KENNETH M. SHERMOCK, Assistant
MELVIN B. TUGGLE, II, Assistant
HERBERT W. WATSON, JR., Assistant
LONNY BRETT YARMUS, Assistant
JOHN E. BENNETT, Lecturer
PAUL S. HEES, Lecturer
MOHAMMED KHALID, Lecturer
ARNOLD L. ORONSKY, Lecturer
RACHANA AGARWAL, Research Associate
MIGUEL ANTONIO AON, Research Associate
STACEY MARIE ARNOLD, Research Associate
MARIE BAILEY-KLOCH, Research Associate
RAHUL P. BAKSHI, Research Associate
CLARE LI-JUNE BAO, Research Associate
GRACE LINK BARNES, Research Associate
MARIAN L. BATTS-TURNER, Research Associate
SUBRATA BISWAS, Research Associate
MARY ELIZABETH BRUMMET, Research Associate
SHIVAUN A. CELANO, Research Associate
BOYOUNG CHA, Research Associate
CHRIS CHEADLE, Research Associate
KRISTIN L. CHICHESTER, Research Associate
PAUL J. CONVERSE, Research Associate
SONIA DEL CARMEN CORTASSA, Research Associate
ARLENE DALCIN, Research Associate
LISA WU DATTA, Research Associate
FRANCESCO PAOLO DI CELLO, Research Associate
MAIRE E. DOYLE, Research Associate
MICHELLE NUTTALL EAKIN, Research Associate
EVA EHRLICH, Research Associate
MARJORIE ELIZABETH EWERTZ, Research Associate
MARCELLA FERLITO, Research Associate
IWONA FIJALKOWSKA, Research Associate
DARREN BRIAN FOSTER, Research Associate
AUGUSTO A. FRANCO-MORA, Research Associate
QIN FU, Research Associate
EDWARD J. FUCHS, Research Associate
LI GAO, Research Associate
PING GAO, Research Associate
LAURA I. GUTIERREZ-ALAMILLO, Research Associate
JANE L. HALPERN, Research Associate
J. ENRIQUE HERERRA-GALEANO, Research Associate

EDWARD HOROWITZ, Research Associate
RONG HU, Research Associate
SHERRY ANN HUDSON, Research Associate
SUSAN SENCHAK ISHMAEL, Research Associate
MOLLIE W. JENCKES, Research Associate
CHUNFA (CHARLES) JIE, Research Associate
ZHE JIN, Research Associate
JASON PAUL KIRKNESS, Research Associate (from 10/01/09)
OLEG V. LAPSHIN, Research Associate
LISA K. LEVENTHAL, Research Associate
JIANGUO DAVID LI, Research Associate
MANCHANG LIU, Research Associate
YE V. LIU, Research Associate
WENJU LU, Research Associate
ANDREW S. MCCALLION
Associate Professor of Molecular and Comparative Pathobiology in Genetic Medicine, Research Associate in Medicine
SONYA NELL MEEKER, Research Associate
AIGUL K. MOLDOBAEVA, Research Associate
TARYN F. MOY, Research Associate
MENEKHEM MUZ ZVIMAN, Research Associate
MOHAMMAD NAQIBUDDIN, Research Associate
GUENO G. NEDELTCHEV, Research Associate
ALEXANDRU VASILE OLARU, Research Associate
DARIN B. OSTRANDER, Research Associate
JONG MYUN PARK, Research Associate
THOMAS L. PARKS, Research Associate
TERESA L. PARSONS, Research Associate
PAUL A. PHAM, Research Associate
KLAUS B. PIONTEK
Research Associate in Oncology (from 09/01/09), Research Associate in Medicine (to 08/31/09)
JAMES J. POTTER, Research Associate
KAREN A. ROBINSON
Research Associate in Medicine, Joint Appointment in Health Sciences Informatics
LAURA E. ROCCO, Research Associate
FEI RU, Research Associate
BEULAH PERDUE SABUNDAYO, Research Associate
KAKALI SARKAR, Research Associate
RAFIQUEL I. SARKER, Research Associate
JANE RUBLE SCOCCA, Research Associate
DAVID M. SHADE, Research Associate
MEENA SOMANCHI, Research Associate
ZHIMIN SONG, Research Associate
LEE J. SWARTZ, Research Associate
CHARLES CONOVER TALBOT, JR., Research Associate (to 10/16/09)
LARISA GENNADIEVNA TERESHCHENKO, Research Associate (from 09/01/09)
CANDELARIA VERGARA, Research Associate
LOUISE JULIET WALSH, Research Associate
DONNA WILLIAMS, Research Associate

FENG WU, Research Associate
 MINGHUI XIANG, Research Associate
 HUIQING XIAO, Research Associate
 XIAO PING YANG, Research Associate
 XIAO-RU YANG, Research Associate
 XIAOJU YANG, Research Associate
 QILU YU, Research Associate
 ASIFA K. ZAIDI, Research Associate
 KAREN I. ZELLER, Research Associate
 MANUEL H. AGUIAR-OLIVEIRA, Visiting Scientist
 KEITH WARREN CRAWFORD, Visiting Scientist
 WILLIAM DAVID HANKINS, Visiting Scientist
 YONG SIK KIM, Visiting Scientist
 ARSENI MARKOV, Visiting Scientist
 DE-GUANG MU, Visiting Scientist
 EREZ NEVO, Visiting Scientist
 REBECCA OSTHUS, Visiting Scientist
 CHANG-SHIN PARK, Visiting Scientist (to
 08/31/09)
 YOON-MEAN PARK, Visiting Scientist
 NICOLA SCICHLONE, Visiting Scientist
 ANDING SHEN, Visiting Scientist
 SA SHI, Visiting Scientist
 LU XIA, Visiting Scientist
 XU YAO, Visiting Scientist

FACULTY ASSOCIATED WITH THE
 DEPARTMENT OF MEDICINE HOLDING A
 PRIMARY APPOINTMENT IN:

The School of Medicine:

ALLISON LORNA AGWU
 Assistant Professor of Pediatrics
 JEAN R. ANDERSON
 Professor of Gynecology and Obstetrics
 FRANK MICHAEL BENGEL
 Associate Professor of Radiology and
 Radiological Science
 ROBERT H. BROWN
 Professor of Anesthesiology and Critical Care
 Medicine
 ILENE S. BROWNER
 Instructor in Oncology
 KAREN C. CARROLL
 Professor of Pathology
 PATRIZIO P. CATUREGLI
 Associate Professor of Pathology
 TODD DORMAN
 Professor of Anesthesiology and Critical Care
 Medicine
 GEORGE J. DOVER
 Given Foundation Professor of Pediatrics
 DARIUSH ELAHI
 Professor of Surgery
 DANIEL J. FREEDENBURG
 Instructor in Psychiatry
 MARK R. GINSBERG
 Assistant Professor of Psychiatry
 ANN L. COX HUBBARD
 Professor of Cell Biology

SHENGHAN LAI
 Professor of Pathology
 BETH L. LAUBE
 Professor of Pediatrics
 HOWARD M. LEDERMAN
 Professor of Pediatrics
 CIRO ROBERTO MARTINS
 Associate Professor of Dermatology
 SRIDHAR NIMMAGADDA
 Instructor in Radiology and Radiological
 Science
 RICHARD J. O'BRIEN
 Associate Professor of Neurology
 NAEL FAKHRY OSMAN
 Associate Professor of Radiology and
 Radiological Science
 JAMES B. POTASH
 Associate Professor of Psychiatry
 PETER V. RABINS
 Professor of Psychiatry
 RICHARD E. ROTHMAN
 Associate Professor of Emergency Medicine
 HYUN S. SHIN
 Professor of Molecular Biology and Genetics
 PHILIP JOEL SPEVAK
 Associate Professor of Pediatrics
 GEORGE H. THOMAS
 Professor of Pediatrics in Genetic Medicine
 ANNIE UMBRICH
 Assistant Professor of Psychiatry
 DAVID L. VALLE
 Professor of Pediatrics in Genetic Medicine
 FREDERIC E. WONDISFORD
 Professor of Pediatrics
 The Bloomberg School of Public Health:
 MIRIAM H. ALEXANDER
 Assistant Professor of Population and Family
 Health Sciences
 GERARD F. ANDERSON
 Professor of Health Policy and Management
 BRAD C. ASTOR
 Assistant Professor of Epidemiology
 KAREN BANDEEN-ROCHE
 Professor of Biostatistics
 SHYAM SUNDAR BISWAL
 Associate Professor of Environmental Health
 Sciences
 ROBERT E. BLACK
 Professor of International Health
 LEE R. BONE
 Associate Professor of Health Behavior and
 Society
 CHARLES E. BOULT
 Professor of Health Policy and Management
 PATRICK N. BREYSSE
 Professor of Environmental Health Sciences
 DONALD SCOTT BURKE
 Professor of International Health
 GILBERT M. BURNHAM
 Professor of International Health
 DAVID DUPUY CELENTANO
 Professor of Epidemiology

JEANNE CHARLESTON
 Research Associate in Epidemiology

LAWRENCE J. CHESKIN
 Associate Professor of International Health

JOSEF CORESH
 Professor of Epidemiology

ANNA PALMER DURBIN
 Associate Professor of International Health

SYDNEY E MORSS DY
 Assistant Professor of Health Policy and Management

RUTH R. FADEN
 Professor of Health Policy and Management

MARGARET DANIELE FALLIN
 Associate Professor of Epidemiology

NANCY E. FINK
 Senior Scientist in Epidemiology

ROBERT S. FITZGERALD
 Professor of Environmental Health Sciences

JEAN G. FORD
 Associate Professor of Epidemiology

TIFFANY L. GARY
 Assistant Professor of Epidemiology

PEARL S. GERMAN
 Professor of Health Policy and Management

MICHAEL CHRISTOPHER GIBBONS
 Assistant Professor of Health Behavior and Society

ROBERT H. GILMAN
 Professor of International Health

M. DIANE E. GRIFFIN
 Professor of Molecular Microbiology and Immunology

ELISEO GUALLAR
 Associate Professor of Epidemiology

DAVID ROBERT HOLTGRAVE
 Professor and Chair of Health Behavior and Society

RAFAEL A. IRIZARRY
 Professor of Biostatistics

JEFFREY V. JOHNSON
 Associate in Health Policy and Management

WEN HONG LINDA KAO
 Associate Professor of Epidemiology

GREGORY D. KIRK
 Assistant Professor of Epidemiology

ROBERT SWAN LAWRENCE
 Professor of Health Policy and Management

JOSEPH B. MARGOLICK
 Professor of Molecular Microbiology and Immunology

RICHARD B. MARKHAM
 Professor of Molecular Microbiology and Immunology

LUCY A. MEONI
 Associate Scientist in Biostatistics

WAYNE MITZNER
 Professor of Environmental Health Sciences

KENRAD E. NELSON
 Professor of Epidemiology

MYAING M. NYUNT
 Assistant Professor of Epidemiology

NATHANIEL F. PIERCE
 Professor of International Health

MILO A. PUHAN
 Associate Professor of Epidemiology

M. HAFIZUR RAHMAN
 Assistant Scientist in International Health

RAYMOND REID
 Research Associate in International Health

NOEL R. ROSE
 Professor of Molecular Microbiology and Immunology

DEBRA L. ROTER
 Professor of Health Behavior and Society

DAVID A. SACK
 Professor of International Health

R. BRADLEY SACK
 Professor of International Health

EDYTH H. SCHOENRICH
 Professor of Health Policy and Management

BRIAN S. SCHWARTZ
 Professor of Occupational and Environmental Health

ELIZABETH SELVIN
 Assistant Professor of Epidemiology

THOMAS W. SIMPSON
 Associate Professor Emeritus of International Health

DONALD M. STEINWACHS
 Professor of Health Policy and Management

DAVID JOSEPH SULLIVAN, JR.
 Associate Professor of Molecular Microbiology and Immunology

MOYSES SZKLO
 Professor of Epidemiology

KAWSAR R. TALAAT
 Assistant Scientist in International Health

DAVID N. TAYLOR
 Research Professor of International Health

DAVID VLAHOV
 Professor of Epidemiology

VIRGINIA MARIE WEAVER
 Associate Professor of Environmental Health Sciences

JONATHAN P. WEINER
 Professor of Health Policy and Management

JENNIFER L. WOLFF
 Assistant Professor of Health Policy and Management

ALBERT W. WU
 Professor of Health Policy and Management

YING ZHANG
 Professor of Molecular Microbiology and Immunology

The School of Arts and Sciences:
 MICHAEL AARON EDIDIN
 Professor of Biology

The School of Nursing:
 JERILYN K. ALLEN
 Professor of Nursing

MARTHA N. HILL
 Professor of Nursing

KAREN HUSS

Associate Professor of Nursing

JOAN ELLEN KUB

Assistant Professor of Nursing

The courses in medicine have been arranged for the student with three principal objects in view. First, students are given training in accepted technical methods so that they may employ these fundamental procedures for the intelligent examination of patients. Second, they are trained in the principles of diagnosis and are given opportunities to study disease in the human being, including its treatment and prevention. Third, their attention is directed to the patient as a problem, and they are required to study the special needs of particular human beings and the peculiar reactions to the disease from which they suffer. The work is essentially practical and the three objects are pursued simultaneously. While the students are following these courses they have an opportunity to spend their entire time in the laboratories, and the inpatient and outpatient units of the Osler Medical Service. In addition to the practical instruction students are expected to read textbooks and consult monographs and original articles for much of their information.

Those students who wish to seek their area of concentration within the Department of Medicine will be assigned to a preceptor who will guide their clinical work, research, reading, and study, on a tutorial basis. It is particularly in the use of "elective time" that the preceptor will advise the student. To fit the interests and ability of the student, considerable flexibility in the choice of elective program will be possible.

REQUIRED WORK

Medicine—First Year

250.610 & 250.613 Genes to Society/Immunology I & II. Dr. Jonathan Schneck.

250.611 Genes to Society/Microbiology and Infectious Disease. Dr. Khalil Ghanem.

800.621 Clinical Foundations of Medicine. Dr. Robert Shochet.

This 17 week course runs concurrently with Scientific Foundations of Medicine. Students spend 1-2 afternoons per week, usually working in groups of 5 with their college advisor, to master the basic medical interview and physical examination skills needed to participate in the Longitudinal Clerkship beginning in January of Year 1. In addition to small group discussion and practice, the course uses standardized patients, and trained teaching associates to provide students with multiple opportunities to learn and practice these important skills in a safe environment, enriched by detailed feedback.

800.616 Longitudinal Clerkship. Dr. Maura McGuire.

The goal of the Longitudinal Clerkship is to integrate the learning of basic science and clinical sciences. Students are placed a "home clinic" one half day per week beginning in January of Year 1 and remain through December of Year 2. Students are expected to practice and further develop clinical skills under the supervision of their preceptors, and experience first hand the professional, health system and ethical challenges in the practice of medicine. They record their reflections and structured patient exercises in an online Learning Portfolio. Once a month they return to the medical school for small group discussions and further instruction in clinical skills with their college faculty.

They are assessed by their preceptors and with structured observation of clinical skills in the Simulation Center, as well as for their written work and a knowledge examination.

Medicine—Second Year

The curriculum is limited to students of the second year and is offered throughout the first three quarters. Prerequisite for admission is thorough training in the sciences fundamental to medicine. The course is divided into three parts, which present and coordinate the basic information and techniques of clinical medicine. The aims are (a) to bridge the gap between the basic sciences and clinical medicine by emphasizing the pathophysiological basis for clinical manifestations and quantitative measurements in clinical medicine, (b) to introduce the student to patterns in the natural history of major groups of disease entities, and (c) to train the student in the techniques required for examination of the patient. The work is arranged as follows:

1. Human Pathophysiology. Drs. C. Wiener, A. Dobs, R. Elon, P. Fagan, F. Giardiello, R. Humphrey, D. Kass, E. McCarthy, P. Murphy, P. Rabins, J. Troncoso, A. Whelton, R. Wise, and H. Zacur. Quarters 1-3; second year.

An interdepartmental course designed to introduce students to clinical medicine through the application of information from the basic sciences to the solution of clinical problems and for the elucidation of physiological and biochemical mechanisms in health and disease. The course covers the major disease areas by means of whole class lectures and small group discussions led by clinical preceptors and by members of subspecialty groups. This course is closely integrated with Pathology and Pharmacology.

Graduate students may take the lecture portion (250.705) of this course. Enrollment limited.

2. Introduction to Medicine: Clinical Skills. Dr. Shochet (Course Director) and members of the clinical faculty. First and second quarters, M., or W., 2-5; Third quarter, Tu., Wed., and Th., 2-5.

An interdepartmental course in the clinical techniques of patient evaluation. Students working in small groups with an instructor from the clinical faculty, take histories and perform physical exami-

nations on patients, then present their findings in verbal and written form. A differential diagnosis is formed. Whereas the major instruction is from Internal Medicine, also included is instruction given by the following departments or subspecialty groups: Pediatrics, Neurology, Ophthalmology, Urology, Dermatology, Otolaryngology, and Gynecology.

3. Advanced Clinical Skills.

This course is a prerequisite for all clinical clerkships and ordinarily will be taken between the third and fourth quarters of the second year. Its purpose is to prepare new clerks for the daily activities of patient care. Through a combination of lectures, laboratory exercises and small group discussions, students will learn practical aspects of relating to patients and their families; to provide care according to diagnostic probabilities and relative priorities; to recognize and manage common acute problems; and to order, perform and interpret the results of basic laboratory tests.

Medicine—Second, Third and Fourth Years

This required clinical course is repeated each quarter of the academic year and in the summer.

1. Clinical Clerkship. Dr. Leff and Dr. Caya.

A nine-week clerkship that can be taken at any time from the final quarter of the second year through the third quarter of the fourth year.

Prerequisite for admission is satisfactory completion of Medicine B-Second Year or courses completed elsewhere that are considered as equivalent by the director of the Department of Medicine.

CLINICAL WORK AT THE JOHNS HOPKINS HOSPITAL, Dr. Leff and staff; CLINICAL WORK AT JOHNS HOPKINS BAYVIEW MEDICAL CENTER, Dr. Hellmann and staff; and CLINICAL WORK AT SINAI HOSPITAL, Dr. Gambert.

Students serve full time as clinical clerks for 4 1/2 weeks on the medical service of The Johns Hopkins Hospital and 4 1/2 weeks at either Johns Hopkins Bayview Medical Center or Sinai Hospital. Students are assigned appropriate patients on whom they perform a complete history and physical examination and follow their clinical course. Students participate in the visiting physician's rounds, house staff rounds, and conferences. Students attend a lecture series and special seminars.

2. Ambulatory Clerkship. Dr. Thomas and staff.

A four-week clerkship that can be taken any time from final quarter of the second year through the third quarter of the fourth year.

(a) CLINICAL WORK AT THE JOHNS HOPKINS COMMUNITY PHYSICIANS PRACTICES, Dr. McGuire and staff; CLINICAL WORK AT SINAI HOSPITAL, Dr. King and staff; CLINICAL WORK AT COMMUNITY PRACTICES, Dr. Thomas and staff.

Students spend 50 percent time in community-based practices working one-on-one with faculty evaluating outpatients. Two or three small group sessions per week with hospital-based faculty are used to emphasize clinical skills and problem-solving. Students develop a learning portfolio of their patient logs, training problems with self-assessment, and an evidence-based report.

Medicine—Fourth Year

Rational Therapeutics. Dr. Hendrix, Division of Clinical Pharmacology and other selected clinical faculty. Required of all fourth year medical students when at The Johns Hopkins Hospital. Second and fourth Thursdays; Sept.-March, 8:30-10:00 a.m. No prerequisite.

This course is designed to consolidate student skills in the selection and use of drugs commonly prescribed in medical practice. This course will build on the foundation of the second year pharmacology course and third year clinical clerkship experiences. The course focuses on therapeutic decision-making in the context of clinical problems based upon pharmacologic principles. Clinical topics in therapeutics to be covered will challenge the students frequently during their internship and will demonstrate the rational application of core pharmacologic principles with general applicability to clinical situations throughout a medical career. Widely respected clinicians from various departments within the School of Medicine will present the therapeutic decision-making process for a given clinical topic during the first hour of the sessions. In the final hour, the guest faculty will facilitate a practical case-oriented discussion with students to interactively solve a series of clinical problems using the therapeutic tools just presented.

ELECTIVE OPPORTUNITIES

Curricular Consultants: Drs. Thomas and Weiner. Registration in elective courses is subject to:

1. -satisfactory completion of prerequisites
2. -for individual study and research, approval of the preceptor
3. -for some courses as noted in this catalog, approval of the course director

The elective opportunities offered by the Department of Medicine are organized as follows:

E 1. Clinical Clerkships

These courses generally involve clinical work in a medical subspecialty. The student participates in all clinical activities of the division, including consultations and outpatient clinics; there is a varying amount of initial evaluation and follow-up of inpatients admitted by faculty of the division.

The Medicine Basic Clerkship is often a prerequisite.

E 2. Advanced Clinical Clerkships

These courses involve direct management of inpatients to a degree expected of interns (hence the common appellation "subinternship").

E 3. Lecture Courses, Tutorials, and Seminars

These courses have widely varying prerequisites and time commitments. Some are not for credit.

E 4. Individual Preceptorship

Each division has faculty and specialized clinical facilities for studying the diseases in its area of interest. Students have the opportunity to participate in the evaluation and management of patients in clinics and on the wards under the guidance of a preceptor. Opportunities exist for clinical inves-

tigations of various types, including the study of patients in a specialty clinic or in one of the clinical research centers, analysis of medical records, and literature review. There are also opportunities in most divisions for laboratory investigation. Depending on the background and interests of the student, he or she may participate in a current investigation or undertake independent investigation using the laboratory and clinical facilities of the department. Because of the fundamental nature of the laboratory research in some of the divisions, the student may find it advantageous to become identified with one of these research programs early in his or her medical school career.

DEPARTMENTAL COURSES

E 2. Advanced Clerkship in Internal Medicine. Drs. Ashar and Feldman. Available four quarters and summer (except July).

Prerequisite: Basic Medicine Clerkship.

Students can serve as subinterns on one of the Nelson/Baker Units, Osler firm services, the Polk unit (HIV), or the Hospitalist service. On most of these services students work under the supervision and tutelage of interns, residents, and the admitting physician. On the hospitalist service, students work directly with the attending hospitalist physicians. Patients are assigned to each subintern, who fulfills the responsibilities of a PGY-1. Didactic sessions with the course directors are also part of this clerkship. Registration is through the Office of the Registrar as a lottery elective.

E 1. Clinical Clerkship in Medical Intensive Care. Dr. Brower. One student each one-half quarter. Not available in July and August.

Prerequisite: Medicine Basic Clerkship and at least one other rotation in medicine or surgery.

Medical students learn an approach to the critically ill patient, enhance their knowledge of respiratory and circulatory physiology and pathophysiology, and build on their abilities to evaluate and manage medical patients in general.

The medical team consists of an attending physician, the MICU nursing staff, four medical house officers, and a critical care fellow. Medical students may join the team, take night call with house staff, obtain histories and perform physical examinations, gather and integrate laboratory data and pertinent information from literature, participate in decision making, write admission and progress notes, etc. Students are encouraged to follow a few patients closely and report admission and progress information on daily morning rounds which are conducted from 8:30-10:30 a.m. The nursing staff will provide instruction in critical care skills such as endotracheal suctioning, management of multiple intravenous lines including Swan-Ganz and central venous catheters, proper administration of medications such as antibiotics and pressors, etc. The student will not be required to perform any laboratory tests except those associated with special procedures (such as a lumbar puncture) performed with, and under the direction of, the house officers.

E 2. Advanced Clinical Clerkship in Medicine. (Johns Hopkins Bayview Medical Center). Dr. Ziegelstein and staff. Available September through

June; 3 students. One-half quarter. Two month drop notice.

Prerequisite: Medicine Basic Clerkship.

The student will serve in the role of an intern under the supervision of the assistant residents and attending physician on one of the medical units. The student will admit patients in rotation, make an evaluation of these patients and directly supervise appropriate therapy. Generally, on-call and admission responsibility will be every fifth 24 hours. An average of three patients are admitted each 24 hours. The student will participate fully in the work rounds of the unit as well as in the teaching activities of the department.

E 2. Advanced Clinical Clerkship in Medicine. (Greater Baltimore Medical Center). Dr. Landsdale and staff. Available all year. One-half quarter.

Prerequisite: Medicine Basic Clerkship.

Students are assigned to a medical unit and assume charge of patients in rotation under the supervision of the resident, visiting staff, and Chief of Medicine. On-call schedule is every fourth night. Students participate fully in all teaching activities of residency training, including twice weekly rounds with the Chief of Medicine, rounds with the visiting physician, pathology rounds and combined service rounds. The elective provides an opportunity to participate in the care of both hospitalized and ambulatory patients in a community hospital.

E 2. Advanced Clinical Clerkship in Medicine. (Sinai Hospital). Drs. Chow, Gambert, and staff. Available all year; arrange through Dr. Gambert. One-half or full quarter.

Prerequisite: Medicine Basic Clerkship.

This course is offered to provide a comprehensive and meaningful patient care experience in a supervised teaching environment. The student is assigned to a housestaff team on one of the general medicine units and functions as an integral member of the team at a level expected of interns. Supplemental rotations in the Intensive Care Unit, the Coronary Care Unit, the Emergency Room, or a subspecialty division are available. Teaching is centered on patient care and is supplemented by departmental conferences.

CARDIOVASCULAR DIVISION

DR. TOMASELLI, DIRECTOR

DR. KASPER, CLINICAL DIRECTOR

DR. T. ABRAHAM

Echocardiography.

DR. ACHUFF

Coronary artery disease; transplantation; natural history of ischemic heart disease.

DR. ARNETT

Clinical and invasive cardiology.

DR. AVERSAO

Coronary blood flow

DR. BECKER

Myocardial blood flow; nuclear cardiology.

DR. BERGER

Cardiac electrophysiology; hemodynamics of cardiac pacing; autonomic influences on cardiovascular system.

DR. BLUMENTHAL
Artherosclerosis progression and regression; medical and interventional management of coronary artery disease.

DR. BRINKER
Angiography; angioplasty; myocardial function.

DR. BUSH*
Cardiac CT.

DR. CALKINS
Clinical and cellular electrophysiology.

DR. CORRETTI
Echocardiography.

DR. CHANDRA*
Cardiopulmonary resuscitation.

DR. GERSTENBLITH
Age changes in cardiac function.

DR. S. H. GOTTLIEB*
Ischemic heart disease, diabetes and heart disease.

DR. HALPERIN
Biomedical engineering and biomechanics, electrophysiology.

DR. HIRSCH*
Clinical cardiology.

DR. JUDGE
Cardiac genetics.

DR. KASPER
Cardiomyopathy; heart transplantation.

DR. KASS
Hemodynamics; left ventricular function.

DR. LIMA
Left ventricular remodeling; mitral valve disease; transesophageal echocardiography; MRI, CT.

DR. LOWENSTEIN
Nitric oxide; regulation of nitric oxide synthases; endothelial cell mediated vasodilation; myocardial transplant rejection.

DR. MARINE*
Electrophysiology.

DR. MAUGHAN
Trinidad and Tobago Cardiology Program.

DR. MAYER*
Echocardiography.

DR. MILLER
Clinical trials in interventional cardiology; acute coronary syndromes.

DR. OUYANG*
Cardiovascular pharmacology.

DR. POST
Echocardiography and hypertension.

DR. RADE
Vascular biology and interventional cardiology.

DR. RESAR
Clinical trials utilizing new devices in interventional cardiology.

DR. RILEY
Clinical cardiology.

DR. RUSSELL
Heart failure.

DR. SCHULMAN
Clinical trials; hypertension.

DR. SHAPIRO
Echocardiography.

DR. SILBER*
Acute coronary care; MRI.

DR. STRAHAN
Echocardiography.

DR. TANIO
Clinical cardiology.

DR. THIEMANN
Information systems; angioplasty.

DR. TOMASELLI
Cellular electrophysiology.

DR. TRAILL
Regional cardiac function; congenital heart disease.

DR. J. L. WEISS
Ultrasound imaging; ventricular function.

DR. R. G. WEISS
Cardiac metabolism; NMR.

DR. M. WILLIAMS*
Platelets and acute coronary syndromes.

DR. WITTSTEIN
Heart failure, clinical trials.

DR. WU
Echocardiography; MRI.

DR. ZIEGELSTEIN*
Intracellular PH vascular endothelial cells; endothelial Ca²⁺ homeostasis; effect of hemodynamic shear stress forces on endothelial cell signaling.

DR. ZIEMAN
Aging and heart disease.

*Johns Hopkins Bayview faculty

E 1. Clinical Clerkship in Cardiology. Drs. Blumenthal, Kasper, Jones, and Trill. Available all year. One-half or full quarter. Lottery; 2 month drop notice required.

Prerequisites: Medicine and Surgery Basic Clerkships. The student participates in the activities of the Cardiovascular Division, particularly the clinical service. Through inpatient consultations, the inpatient service, and the outpatient clinics, the student gains experience in the cardiac examination, the use and interpretation of non-invasive studies (electrocardiography, exercise testing, nuclear cardiology, and echocardiography), and invasive procedures (angiography, angioplasty, electrophysiologic studies).

E 1. Clinical Clerkship in Cardiology. (Johns Hopkins Bayview Medical Center). Drs. S. H. Gottlieb, Chandra, Ouyang and Shapiro. Available all year. One-half or full quarter. Lottery.

Prerequisites: Medicine and Surgery Basic Clerkships. The student participates in the activities of the Cardiovascular Division, particularly the clinical service. Through inpatient consultations, the inpatient service, and the outpatient clinics, the student gains experience in the cardiac examination, the use and interpretation of both non-invasive and invasive studies.

E 1. Clinical Clerkship in Coronary Intensive Care. Drs. Schulman, McLean, Gerstenblith, Weiss, and Wittstein. Available all year; maximum of two students. One-half quarter.

Prerequisites: Medicine and Surgery Basic Clerkships. The student participates in the daily activities of the Coronary Intensive Care Unit and works closely with the medical housestaff, cardiology fellow, and attending physician. The student gains experience in: the evaluation and management of critically ill cardiac patients; dysrhythmias; interpretation of electrocardiograms, echocardiograms, and other non-invasive studies; invasive procedures such as

line placement, circulation assist devices, angiography, angioplasty; electrophysiologic studies; and hemodynamic monitoring. Prior significant background in cardiac physiology and hemodynamics is recommended.

E 1. Clinical Clerkship in Coronary Intensive Care. (St. Agnes Hospital). Dr. R. Bahr. Available all year. One-half or full quarter. Requires permission of Dr. Lange.

Prerequisite: Medicine Basic Clerkship; Year IV students preferred.

The student works as an integral part of the medical team in the coronary care unit. By working alongside the medical resident, the student gains experience in: cardiopulmonary resuscitation; determining if patients require admission to the coronary care unit; managing the initial intensive care of critically ill patients; and non-invasive and invasive procedures used in diagnosis and hemodynamic and electrophysiologic monitoring. The student is also involved in the rehabilitation phase, in which the patient may require cardiac catheterization or cardiac surgery. The student becomes knowledgeable in the techniques and parameters used to monitor patients in the intensive care setting, and directs their care by close interaction with the nurses, housestaff and attending physicians. The students may write orders provided they are countersigned. There is also a wide range of research opportunities in pathology, clinicopathologic correlations, pacing, clinical trials, and pharmacology. The student has an excellent opportunity to participate in early cardiac care in a community setting with the chest pain emergency room.

E 2. Advanced Clinical Clerkship in Coronary Intensive Care. (Johns Hopkins Bayview Medical Center). Drs. Chandra and Ouyang. Available all year. One-half or full quarter. Lottery.

Prerequisites: Medicine and Surgery Basic Clerkships; Clerkship in Cardiology.

The student functions as a member of the medical team at the level of an intern, with the close supervision by the senior housestaff, cardiology fellow, and attending physician. Experience is gained in: the evaluation and management of critically ill cardiac patient; dysrhythmia diagnosis and management; the interpretation of non-invasive studies; invasive procedures such as line placement and hemodynamic monitoring; and cardiovascular pharmacology. A sound understanding of cardiac physiology and hemodynamics is desirable, and completion of a clerkship in medicine is required.

E 2. Advanced Clinical Clerkship in Cardiology. (Union Memorial Hospital). Drs. R. Ferguson, G. Moran, and staff. Available all year. One-half quarter. Lottery; 2-month drop notice required.

Prerequisite: Medicine Basic Clerkship.

The goal is to provide the student with a clinical experience in inpatient cardiology centered around the coronary care unit. Patients will be evaluated by the student as the primary physician functioning at an internship level. Patients will be followed into progressive care with the student participating in decisions relating to diagnosis and management as well as discharge planning. Emphasis will be placed upon daily teaching rounds, through which the student will be exposed to bedside teaching pro-

viding experience in auscultation and other means of diagnosis. An active laboratory, including cardiac catheterization, will provide adjunctive information on hospitalized patients. These are four-week rotations. Hours of participation are full time, along the same schedule as housestaff, with every fourth night call. The day begins at 8:00 a.m. with morning report. On-call rooms, food tickets, free parking passes, and a full-service library with Medline search and photocopying privileges are provided.

E 3. Preventive Cardiology. Drs. Blumenthal, Kwitovich, Lowenstein, and Post. Available Quarter 4 and Summer. Elective requires permission of Dr. Blumenthal. Only one student can be accommodated per quarter.

Prerequisites: Medicine Basic Clerkship and Clinical Epidemiology (Epidemiology 345.601)

This unique elective involves inpatient and outpatient clinical experiences, including participation in the Preventive Cardiology Center Clinic, participation in the Lipid Clinic, and participation in interpreting tests measuring subclinical stherosclerosis. In addition to regular conferences, students will learn about clinical research methods and risk factor reduction. We also offer participation in a number of community-based risk factor screening programs and in ongoing or new research projects in preventive cardiology. Interested students are encouraged to contact us with questions.

E 4. Practical Experience in the Physiology of Cardiovascular Disease. Dr. Lange and staff. Available as arranged through Dr. Lange, one student per year will be supported by the Alan P. Trimakas Memorial Fund.

Students are encouraged to initiate research work with faculty guidance within such clinical areas as the Coronary Care Unit, the Nuclear Cardiology Unit, the Heart Station and the Cardiac Catheterization Laboratory. There are outstanding opportunities for students to participate in basic research efforts. Students can productively engage in research activities dealing with left ventricular function, the physiology and biochemistry of ischemic heart disease, the pathophysiology of sudden death, and the pathophysiologic basis of cardiac disease.

ENDOCRINOLOGY AND METABOLISM DIVISION

DR. LADENSON, DIRECTOR

DR. BALL

Medullary thyroid carcinoma; multiple endocrine neoplasia; regulation of calcitonin gene expression.

DR. BROWN

Endocrine problems in HIV; diabetes mellitus.

DR. COOPER

Thyroid disorders; antithyroid drug pharmacology.

DR. DOBS

Hyperlipidemia and diabetes mellitus; gonadal disorders.

DR. GOLDEN

Diabetes mellitus and lipid disorders.

DR. JAN DE BEUR*

Metabolic bone disorders.

DR. LADENSON

Thyroid disorders; thyroid hormone therapy; endocrine health economic analysis.

DR. MAMMEN*

Thyroid disorders

DR. M. MILLER*

Thyroid disorders

DR. RODRIQUEZ*

Diabetes, lipid disorders.

DR. SALVATORI

Neuroendocrine and pituitary disorders.

DR. SAUDEK

Diabetes mellitus and islet cell tumors; insulin delivery systems.

DR. SELLMEYER*

Metabolic bone disorders.

DR. WAND

Neuroendocrine and pituitary disease; cellular mechanisms of addiction.

DR. XING

Thyroid cancer; pituitary disorders.

* Bayview faculty

E 1. Consultation Service in Endocrinology.

Director, Dr. Ladenson, Drs. Ball, Brown, Cooper, Dobs, Golden, Jan de Beur, Rodriguez, Salvatori, Saudek, Wand, and Xing. Available all year. One-half or full quarter; 1 or 2 students.

Prerequisite: Any Basic Clerkship.

This elective offers students an introduction to clinical endocrinology and metabolism by participating in the patient care and teaching activities of the division. Students see outpatients in daily ambulatory clinics (General Endocrine, Diabetes, Metabolic Bone Disease, Neuroendocrine-Pituitary, and Thyroid Clinics). They also perform inpatient endocrine consultations under supervision of a fellow and review them with the faculty on daily teaching rounds. In both settings, students perform the primary assessment.

In addition to attending all the division's regular conferences (Endocrine Grand Rounds, Journal Club, and Research Conference, Endocrine Pathology, Endocrine Surgery and Thyroid Tumor Center Conferences), students participate in a special lecture series targeted to their needs. This Core Endocrine Concepts seminar series (two per week) covers a range of core topics in clinical endocrinology and metabolism.

All students will have the opportunity of participating in the educational program in the Diabetes Center (JHOC-2nd Floor) for patients with diabetes. By special arrangement, students may pursue a clinical or laboratory research project under the preceptorship of a faculty member for a full quarter or longer.

Further details and application information can be found at www.jhu.edu/endocrinology.

GASTROENTEROLOGY DIVISION

DR. KALLOO, DIRECTOR

DR. ABRAHAM

Delivery of radioisotope to cancer cells by novel small peptides.

DR. AGARWAL

Understanding the molecular, cellular, and epigenetic features of esophageal and gastric adenocarcinomas.

DR. BAYLESS

Crohn's Disease; ulcerative colitis; genetics of inflammatory bowel disease.

DR. BRANT

Ulcerative colitis; genetics of inflammatory bowel disease; Crohn's Disease.

DR. CANTO

Endoscopic ultrasonography; therapeutic endoscopy; Barrett's esophagus; outcomes research in endoscopy.

DR. S. CHAKRAVARTI

Extracellular matrix changes in IBD, gene expression profiling using DNA microarray.

DR. CLARK

Swallowing disorders; esophageal disorders; gastroesophageal reflux disease; eosinophilic esophagitis; motility disorders.

DR. DONOWITZ

Diarrheal diseases; inflammatory bowel disease.

DR. DUDLEY-BROWN

Inflammatory bowel disease.

DR. DUNBAR

Barrett's esophagus; GERD, esophagitis; pancreatic disorders.

DR. GIARDIELLO

Colon cancer; polyps and colon cancer risk assessment.

DR. GIDAY

Pancreatic cancer; novel imaging methods and advanced endoscopy including ERCP and EUS.

DR. GOGGINS

Molecular biology of pancreatic cancer.

DR. S. GUGGINO

Physiology and pathophysiology of ion channels; cystic fibrosis.

DR. GURAKAR

Pre- and post-liver transplant; clinical and endoscopic management of liver diseases.

DR. HAMILTON

Acute and chronic viral, alcoholic, nonalcoholic, autoimmune, cholestatic, and drug-induced liver disease.

DR. KALLOO

Therapeutic endoscopy; pancreatitis; sphincter of Oddi motility disorders.

DR. KOTEISH

Liver regeneration with special focus on alcoholic liver disease and the role of hematopoietic stem cells in liver regeneration.

DR. KOVBASNJUK

Ion transport properties of ionophores in artificial bilayer lipid membranes; analytical and qualitative optical microscopy; quantitative fluorescence microscopy.

DR. LEE

GI and liver complications following bone marrow transplantation; molecular genetics of hepatocellular carcinoma; transcriptional regulation of the c-Myc oncoprotein.

DR. X. LI

Regulation of Na-Hz channels by lipid RAFTS; IBD research.

DR. Z. LI

Nutritional effects on hepatic innate immune system and their roles in liver injury and regeneration.

DR. MELTZER

Gastrointestinal cancer and precancer biomarker discovery, development, and validation; genomics, epigenomics, and bioinformatics; early detection of cancer; outcomes research in cancer and precancer.

DR. MEZEY

Alcoholic liver disease and fibrosis; liver transplantation.

DR. MILLIGAN

Pancreatic disease; general GI; endoscopy.

DR. MORI

Identification and characterization of novel tumor suppressor genes in gastric and colon cancers utilizing systematic genome-wide genetic and epigenetic screening methods. Mismatch-repair deficiency-associate cancers including HNPCC.

DR. MULLIN

The role of early intervention of nutritional support in the hospitalized setting to improve outcomes.

DR. OKOLO

ERCP; endoluminal stenting; interventional and innovative endoscopy; outcomes and decision analyses in gastroenterology; clinical epidemiology.

DR. POTTER

Effect of ethanol and its metabolites on the $\alpha 2(I)$ and $\alpha 1(I)$ collagen promoters; role of leptin on fibrogenesis; role of Kupffer cells; cytokines, retinoic acid, and leptin in stellate cell activation (transdifferentiation) and collagen production; hormonal regulation of rat class I alcohol dehydrogenase; transcriptional regulation of rat class I alcohol dehydrogenase promoter.

DR. RAVICH

Swallowing disorders; esophageal and gastroesophageal reflux; Barrett's esophagus.

DR. SARKAR

Signaling pathways of human intestinal Na⁺/H⁺ exchanger 2 (NHE3) regulation; transactivation of NHE3; knock-down NHE3 regulatory proteins by shRNA.

DR. TSE

Function and regulation of sodium/hydrogen exchange-2 isoform; molecular biology of nucleoside transporters: roles in nutrient and drug absorption.

DR. J. WANG

Gastrointestinal oncology; Barrett's esophagus.

DR. L. WANG

Liver fibrogenesis.

DR. WU

Gene expression regulation; IBD research

E 1. Clinical Clerkship in Gastroenterology. Drs. Giardiello, Bayless, Brant, Clarke, Donowitz, Giday, Hamilton, Harris, Jagannath, Kalloo, Koteish, Kwon, Z. Li, Mezey, and Mullen. Available all year. One month or longer.

Prerequisites: Medicine Basic Clerkship.

Students participate in evaluating inpatients and out-patients with a wide variety of gastroenterologic complaints and problems. Interpretation of radiologic procedures, biopsies, and tests of physiologic function is an integral part of the course. Students participate in ward rounds, the Inflammatory Bowel Disease Center, the weekly GI clinical conference, the bi-weekly GI seminar, journal club, and research conference. Circumscribed clinical investigation and clinical-pathologic correlation are possible by arrangement.

E 1. Clinical Clerkship in Gastroenterology. (Johns Hopkins Bayview Medical Center). Drs.

Mitchell and Nikoومانesh. Available all year. One-half quarter.

Prerequisites: Medicine Basic Clerkship.

This elective rotation offers a broad based exposure to clinical gastroenterology in consultation on inpatient services, in outpatient referrals to individual faculty, and in outpatient clinic. Experience in the use and interpretation in upper and lower tract endoscopy, motility studies and biopsies is provided. Attendance at weekly Clinical Pathology and G.I. Conference is required.

E 4. Research in Gastroenterology. Drs. Donowitz, Bayless, Guggino, Harris, Brant, Hendrix, Kalloo, and Tse. Available all year. Arrange with Dr. Donowitz.

Opportunities are available to participate in ongoing clinical and laboratory research projects and to participate in the design and execution of new projects. Areas of current research activity are molecular and cell biologic approaches to intestinal ion transport and epithelial cell differentiation, diarrheal disease mechanisms, inflammatory bowel disease, swallowing disorders, patch clamp studies of ion channels, fluorescence imaging of intracellular messengers, colonic control of gastric emptying, and experimental models of colon carcinogenesis, and differentiation.

E 4. Research in Gastroenterology. Johns Hopkins Bayview Medical Center. Drs. Lacy and Nikoومانesh. Available all year.

Lab and clinical research experiences are available studying gastrointestinal motility and myoelectric activity and associated disorders; treatment of obesity; and use of dietary fat replacers.

E 4. Research in Liver Disease. Drs. Koteish, Li, and Mezey. Available all year. Minimum of one quarter. Arrange with Dr. Mezey.

Opportunities are available to participate in ongoing laboratory and clinical research projects and to assist in the design and development of new projects in the general field of hepatic metabolism of alcohol and drugs.

E 5. Seminar in Intracellular Mediators in G.I. Diseases. Dr. Donowitz.

A year long, one hour a week journal club attended by faculty, fellows, and students with themes relating to regulation of absorption and secretion by intracellular intermediates.

GERIATRIC MEDICINE DIVISION

DR. DURSO, INTERIM DIRECTOR

DR. ANDERSON

Exercise, physiology, and weight management, obesity in older adults.

DR. ANKROM

Dementia and primary care.

DR. BARRON

Vital-productive aging among older adults.

DR. BELLANTONI

Geriatric medicine; osteoporosis.

DR. BENNETT

Clinical approaches to diarrheal disease and nutrition in institutionalized patients.

DR. L. BOULT

Subacute and chronic care of the elderly; history of medicine.

DR. BOYD
Clinical investigation.

DR. BURTON
New approaches to treating elderly patients at home; geriatrics education.

DR. CAYEA
Geriatric education.

DR. CHRISTMAS
Osteoporosis and hip fracture; subacute care.

DR. CORDTS
Primary care.

DR. CRENTSIL
Geriatric pharmacology.

DR. DURSO
Management of diabetes; urinary incontinence; community-based geriatrics.

DR. FEDARKO
Bone metabolism; tumor progression.

DR. FINUCANE
Ethical issues regarding health care decisions.

DR. GREENOUGH
Wound care and hydration in the institutionalized elderly; ventilator care.

DR. HAYASHI
House call program for elderly.

DR. LEFF
New approaches to treating elderly patients at home.

DR. LENG
Molecular biology of frailty.

DR. MCNABNEY
Health care delivery in a capitated model; community-based long-term care.

DR. MARTINEZ
Geriatric research.

DR. OH
Biomarkers of Alzheimer's disease.

DR. PARK
Education.

DR. SIMONSICK
Epidemiology and preventive gerontology.

DR. TAN
Geriatric research.

DR. VARADHAN
Biostatistical scientist.

DR. WALSTON
Rehabilitation; molecular mechanisms of frailty.

DR. WEISS
Gait disorders in older adults

DR. XUE
Biostatistical methodologies.

DR. YASAR
Dementia.

E 1. Clinical Clerkship in Geriatric Medicine.
Drs. Ankrom, Bellantoni, Bennett, L. Boulton, Boyd, Burton, Christmas, Durso, Finucane, Greenough, McNabney, and Walston. Available all year; two students per period. One-half quarter or longer.

Prerequisite: Medicine Basic Clerkship.

The course is designed to provide an in-depth exposure to geriatric medicine and gerontology. The student will work closely with members of the faculty in the following programs:

Geriatric Rehabilitation Unit: The student will work as a subintern gaining first-hand experience in managing patients with multiple health problems. The value of a multi-disciplinary approach to geriatric medicine will be emphasized, and the student

will have ample opportunity to learn to evaluate and treat many of the important problems in patients in a long-term care institution. There is no night call.

Physician House Call Program: The student will evaluate and follow a selected group of patients who are home-bound because of illness. This involvement will permit the student further exposure to a multidisciplinary team, and sensitize the student to this important mode of geriatric health care delivery.

Ambulatory Care: The student may elect to spend a portion of the time working with a member of the faculty in the Beacham Ambulatory Care Center on the Johns Hopkins Bayview Medical Center campus, or one of the division's other primary care sites- Johns Hopkins at White Marsh, or Johns Hopkins at Keswick.

Teaching Conference: The student will participate in the weekly clinical geriatrics rounds and seminars attended by faculty members, the clinical and research fellows, and the housestaff on geriatric medicine rotation.

Research Seminars: The student may participate in the divisional research seminars which often include presentations by visiting professors.

Each student may elect to emphasize one or more aspects of the program.

E 2. Research Elective in Geriatric Medicine and Gerontology. Drs. Andersen, Beamer, C. Boulton, Burton, Fedarko, Greenough, Leff, Leng, Simonsick, Walston and Yasar.

Electives are available providing participation in research projects utilizing molecular biology, cell biology, mechanisms of metastasis and clinical research tools to study type II diabetes, obesity, frailty, aphasia, dementia, osteoporosis, enteric infection and other areas of faculty research activity.

The Sol Goldman Student Award in Geriatric Medicine. A fund was established in 1986 by the Goldman family to honor the late Sol Goldman. Income from this fund is to be used to support a student in the School of Medicine who is interested in the special health needs and issues of older adults. One or two awards of \$1,000 are given annually to outstanding students who successfully complete an elective in geriatric medicine.

HEMATOLOGY DIVISION

DR. BRODSKY, DIRECTOR

DR. BRODSKY

Bone marrow failure disorder.

DR. DANG

Oncogene and cell proliferation.

DR. KICKLER

Immunohematology.

DR. LANZKRON

Anemias and other bleeding disorders, with emphasis on sickle cell disorders.

DR. MOLITERNO

Polycythemia vera.

DR. NESS

Transfusion practices.

DR. SPIVAK

Myeloproliferative disorders.

DR. STREIFF

Hemorrhagic and thrombotic disorders.

E 1. Clinical Clerkship in Hematology. Dr. Streiff (Course Director), Drs. Brodsky, Dang, Kickler, Lanzkron, McDevitt, Moliterno, Ness, Spivak, and Streiff. Available all year; limited to 3 students per half-quarter.

This course will provide the student with a broad exposure to clinical hematology. Students will evaluate inpatients and outpatients with a wide range of blood disorders under the direct supervision of the division faculty. Clinical experience is supplemented by regularly scheduled conferences and lectures. Formal instruction is provided in the preparation and interpretation of blood and marrow slides, performance of bone marrow examination aspiration and biopsy, with unlimited access to the division's collection of pathology specimens, teaching slides, library and journal collection. Students may also engage in an independent project.

E 1. Clerkship in Clinical Hematology and Medical Oncology. (Johns Hopkins Bayview Medical Center). Drs. Waterbury, Purtell, and Sharfman. Available all year. One-half quarter. Limited to one student.

Prerequisite: Medicine Basic Clerkship.

Senior elective in Hematology/Oncology in an academically-oriented community hospital setting. Students will participate on the inpatient consultation service as well as rounds with faculty on the inpatient Cancer Center. Students will also see patients in attendings' offices and in the ambulatory chemotherapy setting. Participation in weekly Tumor Board and weekly conferences are encouraged.

E 1. Clinical Clerkship in Hematology and Medical Oncology (Sinai Hospital). Dr. Noga. Available all year. One-half quarter.

Prerequisite: Medicine Basic Clerkship.

Senior elective in Hematology/Oncology in an academically-oriented community hospital setting. Students will participate on the inpatient consultation service as well as round with faculty on the inpatient Cancer Center. Students will also see patients in attendings' offices and in the ambulatory chemotherapy setting. Students are encouraged to participate in weekly Tumor Board and weekly conferences.

E 1. Advanced Clinical Clerkship in Hematology-Oncology (Union Memorial Hospital). Drs. Walker and Cooper. Available all year; limited to 2 students per four to six weeks.

Prerequisite: Medicine Basic Clerkship.

This elective exposes the student to hematology and oncology with an emphasis on outpatient activities. Students will learn diagnostic evaluation and management of hematologic and oncologic problems, together with the natural history of these illnesses. Instruction provided on chemotherapeutic agents and their associated indications and toxicities. Students will be involved in patient care and management. No night calls or weekends are expected. Students will also spend a half day a week in the outpatient hospice program, and one half day a week in the outpatient radiotherapy unit. Other activities include: lectures, weekly Journal Club, bi-weekly hematological slide course review, bi-weekly coagulation conference; weekly tumor

board presentation and daily outpatient hematology-oncology clinic activity.

ALLERGY AND CLINICAL IMMUNOLOGY DIVISION

DR. BOCHNER, DIRECTOR

DR. ADKINSON*

Drug hypersensitivity; immunotherapy; childhood asthma.

DR. BARNES*

Genetics and epidemiology of asthma.

DR. BINGHAM*

Clinical therapeutics in inflammatory arthritis; urticaria.

DR. BOCHNER*

Mechanisms of eosinophil and basophil recruitment and survival in allergic inflammation.

DR. CANNING*

Innervation of the airways.

DR. CASOLARO*

Molecular mechanisms of gene regulation in the immune system.

DR. CRETICOS*

Clinical trials in allergic diseases/asthma; immunotherapy; nasal/bronchial provocation to evaluate mechanisms and treatment of allergic disease/asthma.

DR. GAO*

Molecular genetics of asthma.

DR. GRIGORYEV*

Genomics of peripheral blood mononuclear cells in lung injury and asthma.

DR. HAMILTON*

Humoral immune response in allergic disease.

DR. HANSEL*

Genetic and environmental determinants of obstructive airway disease.

DR. HUANG*

Molecular and genetic mechanisms of allergic inflammation and asthma.

DR. HUBBARD

Mass spectroscopy of lipid mediators; core resource for quantitation of mediators, steroids and other compounds of interest to division investigators.

DR. KIM*

Epithelial cell function and host defense in chronic rhinosinusitis.

DR. KOLLARIK*

Influence of inflammation on the visceral nervous system.

DR. LIU*

Mechanisms of allergic inflammation and immune regulation in asthma; clinical trials of new therapies.

DR. MACDONALD*

IgE heterogeneity; histamine releasing factor (HRF); signal transduction in basophils of HRF-responders.

DR. MACGLASHAN*

Mechanism of signal transduction.

DR. MYERS*

Airway inflammation and neurobiology.

DR. OH*

Negative regulators in allergic airway inflammation

DR. SAINI*

Mast cell and basophil biology in allergic disease.

DR. SCHROEDER*
 Innate vs. adaptive immunity in regulating cellular responses.

DR. STELLATO*
 Expression of chemokines and chemokine receptor in respiratory epithelium; post-transcriptional regulation of chemokine gene regulation.

DR. UNDEM*
 Nerve inflammation interactions.

DR. VONAKIS*
 Signal transduction in mast cells and basophils.

DR. ZHENG*
 Transgenic mouse models of asthma and emphysema.

DR. ZHU*
 Transgenic mouse models of asthma.

* Bayview faculty

E 1. Clerkship in Allergy and Clinical Immunology. Dr. Creticos. Available all year. Minimum of one-half quarter.

Prerequisite: Medicine Basic Clerkship.

Students participate in the activities of the division, including: consultations requested on inpatients at the Johns Hopkins Bayview Medical Center and the Johns Hopkins Hospital; evaluation and management of inpatients at the Johns Hopkins Bayview Medical Center; evaluation of outpatients in the Asthma and Allergy Center; and training in the performance and interpretation of immunologic tests in clinical medicine. Students will attend divisional research and clinical conferences.

E 4. Practicum in Clinical Immunology. Drs. Bochner, Saini, and staff. Available all year. One-half quarter or longer.

Prerequisite: Second Year status.

Students may participate in short-term clinical or laboratory investigation projects under the supervision of one of the faculty. Students will attend divisional educational activities including research conferences, journal review sessions, and clinical rounds.

INFECTIOUS DISEASES DIVISION

DR. THOMAS, DIRECTOR

DR. ANDRADE
 HIV medicine and pharmacology.

DR. BALAGOPAL
 HIV and HEP,C pathogenesis.

DR. BARTLETT
 Anaerobic infections; antibiotic-associated diarrhea and colitis; HIV/AIDS.

DR. BISHAI
 Tuberculosis.

DR. BLANKSON
 HIV pathogenesis.

DR. BOLLINGER
 Host defense in HIV; tropical infections.

DR. CHAISSON
 Mycobacteria; HIV/AIDS.

DR. CHARACHE
 Bacterial-host interactions in human disease; antibiotic chemotherapy.

DR. CHEEVER
 Health research services.

DR. COSGROVE
 Infection control and antibiotic control.

DR. COX
 Hepatitis immune regulation.

DR. DORMAN
 TB and atypical mycobacteria.

DR. ERBELDING*
 Sexually transmitted diseases; HIV/AIDS.

DR. FLEXNER
 AIDS; Clinical pharmacology.

DR. GALLANT
 Epidemiology of HIV.

DR. GAYDOS
 Chlamydia pneumoniae and STDs.

DR. GEBU
 HCV and HIV databases.

DR. GRIFFIN
 Pathogenesis of viral infections of the central nervous system.

DR. GROSSET
 TB.

DR. GUPTA
 HIV and co-morbidities management research.

DR. HYNES
 STD's; tropical medicine.

DR. KARAKOUSIS
 Tuberculosis.

DR. KERULY
 Epidemiology and service utilization in HIV management.

DR. LUCAS
 HIV and substance abuse.

DR. MANABE
 Tuberculosis.

DR. MARAGAKIS
 Infection control.

DR. MARR
 Transplant.

DR. MCKENZIE*
 Travel medicine.

DR. NEOFYTOS
 Transplant.

DR. NUERMBERGER
 TB and pneumonia.

DR. PAGE
 International and immigrant health.

DR. PERL
 Hospital infection control.

DR. PHAM
 Pharmacology.

DR. QUINN
 Sexually transmitted disease; chlamydia; AIDS.

DR. RAY
 HIV; sequence analysis.

DR. ROMPALO*
 Sexually transmitted diseases.

DR. D. SACK
 Infections in travel.

DR. R. SACK
 Pathogenesis of diarrheal diseases; bacterial physiology; infections in travelers.

DR. SEARS
 Mechanisms of diarrhea.

DR. SILICIANO
 Immunology.

DR. SINHA
 International HIV.

DR. SUBRAMANIAN
 Transplant.

DR. SULKOWSKI

Hepatitis.

DR. THIO

Hepatitis.

DR. THOMAS

Hepatitis.

DR. ZENILMAN*

Sexually transmitted diseases.

* Bayview faculty

E 1. Clinical Clerkship in Infectious Diseases.

Drs. Bartlett, Chaisson, P. Charache, Francis, D. Griffin, Harrison, Horn, P. Murphy, Quinn, and Mann. Available all year. One-half quarter or longer; limited to 4 students per half quarter. Lottery elective.

Prerequisite: Medicine Basic Clerkship.

A clinically oriented clerkship devoted to the management of infectious diseases. Students answer consultation requests, review findings with fellows, and present cases to the attending on afternoon rounds held daily. There is extensive interaction with the microbiology laboratory, including group teaching sessions held 3-5 hours per week in bacteriology, virology, parasitology and mycology. Group teaching sessions are held weekly with Dr. Bartlett to discuss clinically oriented topics such as intraabdominal sepsis, pneumonia, antibiotics, fever of obscure origin, and so forth. Goals of the elective are to provide guidelines to an approach to patients with established or suspected infections on the medical and surgical services. Methods to establish an etiologic diagnosis and rational use of antibiotics are emphasized.

E 3. Tropical Medicine and International Health.

Drs. R. Bollinger, P. Charache, D. Sack, T. Simpson and T. Strickland. Open to second, third, and fourth year students; 2 weeks.

Prerequisite: Arrange with Dr. Karp.

A combined lecture/seminar introduction to the major pathogens of the developing world. The transmission, pathogenesis and control of parasites will be the primary focus but selected viral, bacterial and fungal agents of particular importance in the tropics will also be covered. Seminars and case presentations will touch upon nutrition and some of the socio-economic aspects of health care delivery as well as the approach to clinical problem solving in the tropics. Laboratory sessions will introduce students to the microscopic diagnosis of parasitic diseases.

E 2. Subinternship in Infectious Diseases-AIDS Service.

Drs. Bartlett, Gallant, Quinn and Sears. Available all year.

Prerequisite: Medicine Basic Clerkship.

A subinternship on the inpatient AIDS service. Students will evaluate and manage inpatients with acquired immunodeficiency syndrome or advanced HIV infection. The inpatient AIDS service is a multidisciplinary geographic unit with strong support from neurology, dermatology, pulmonary, renal, nutrition, occupational and physical therapy, and other specialties. Rotation includes daily work rounds, twice-weekly educational seminars, and extensive readings. At the completion of the rota-

tion, the student will be well acquainted with the diverse manifestations of HIV infection.

GENERAL INTERNAL MEDICINE DIVISION

DR. BRANCATI, DIRECTOR

DR. FLYNN, CLINICAL DIRECTOR

DR. ALVANZO

Substance use disorders and posttraumatic stress; physical, sexual, and/or emotional abuse and substance use disorders in women; screening and brief interventions for substance misuses.

DR. AMER

Vascular disease; atherosclerosis and inflammatory biomarkers.

DR. ANGELL

Consultations in internal medicine, Johns Hopkins Medicine International.

DR. APPEL

Randomized trials of cardiovascular prevention; lifestyle interventions; non-pharmacologic treatment of high blood pressure; nutrition; chronic kidney disease.

DR. ASHAR

Preventive medicine and alternative medicine.

DR. BASS

Evidence-based medicine; literature synthesis; technology assessment; medical editing; curriculum development.

DR. BEACH

Physician-patient relationships and communication; respect, bioethics, healthcare quality for vulnerable populations; HIV; sickle-cell disease.

DR. BECKER

Genetics/epidemiology of premature CVD; molecular and physiologic aspects of CVD risk; community-based CVD prevention; social/behavioral science; health disparities.

DR. BENNETT

Women's health, diabetes, and obesity.

DR. BERGER

Primary care; epidemiology; patient-doctor communication; medication adherence; philosophy of medicine; cultural competence; translation and medicine.

DR. BERKENBLIT

Improving resident training in HIV outpatient care; design and evaluation of an internet-based curriculum.

DR. BOULWARE

Clinical epidemiology of renal disease and transplantation; cost-effectiveness.

DR. BRANCATI

Epidemiology and prevention of type 2 diabetes and related conditions; randomized controlled trials; health disparities; diabetes care improvement.

DR. BROTMAN

Hospital medicine; perioperative medicine; hemostasis and thrombosis; the physiological stress response.

DR. BROWN

Obesity.

DR. CHANDER

Clinical epidemiology of HIV/AIDS and hepatitis C.

- DR. CHARLES-GREER**
Health disparities in chronic kidney disease; patient education.
- DR. CLARK**
Epidemiology and treatment of obesity; clinical epidemiology of fatty liver disease.
- DR. CLEVER**
Patient-physician communication; medical education.
- DR. CODORI**
Rapid HIV testing in emergency departments; MRSA prevalence in emergency departments; depression in medical students.
- DR. COFRANCESCO**
General internal medicine; medical education; HIVcare. HAART, HIV wasting and lipodystrophy.
- DR. COOPER**
Physician-patient communication; health disparities; primary care quality improvement.
- DR. DAUMIT**
Clinical epidemiology of mental disorders in primary care; CVD prevention in schizophrenia.
- DR. FELDMAN**
Resident education; evidence-based medicine; consult medicine.
- DR. FINKELSTEIN**
Health informatics; telemedicine; primary and secondary prevention; disease management; health outcomes research.
- DR. FITZGERALD**
Primary care; physician leadership.
- DR. FLYNN**
Ambulatory medical education; rheumatic disease; executive health.
- DR. FORD**
Primary care research; epidemiology and treatment of depression; internet health applications; physician health.
- DR. GELLER**
Informed consent; communication and decision-making; genetics; medical education; complementary and alternative medicine.
- DR. GIBBS**
Diversity in health.
- DR. GORDON**
Women's health; medical education; role of diet and exercise in wellness and chronic illness prevention.
- DR. GOYAL**
Effects of meditation on chronic pain and symptoms; stress and overall health; low-cost means to improve health in rural India; ethics.
- DR. HERZKE**
Resident and student education; infectious diseases, notably infection control; quality improvement.
- DR. HILL-BRIGGS**
Chronic disease self-management; disability; quality of life; minority health.
- DR. HUGHES**
Clinical bioethics, research ethics; palliative care; philosophy of medicine; ambulatory care.
- DR. HUIZINGA**
Clinical epidemiology of obesity and related conditions.
- MS. JENCKES**
Bioterrorism; HIV/AIDS; behavioral interventions; qualitative research methods.
- DR. LEVINE**
Community-based prevention of cardiovascular disease; behavioral aspects of prevention.
- DR. LEVY**
General internal medicine; genetics.
- DR. MARINOPOULOS**
Evidence-based medicine; university health; health care administration.
- DR. MARUTHUR**
Internal medicine; primary care; preventive medicine.
- DR. MATHIAS**
Genetics of asthma, allergy, and cardiovascular disease.
- DR. E. MILLER**
Hypertension; clinical trials; non-pharmacologic therapies; antioxidants.
- DR. R. MILLER**
Women's health; medical education.
- DR. R. MOORE**
Pharmacoepidemiology; outcomes research in HIV treatment; epidemiology of substance abuse and alcoholism.
- MS. MOY**
Cardiovascular disease and community based CVD prevention.
- DR. ODUYEBO**
Gastroenterology.
- DR. PEAIRS**
Women's health.
- DR. PRAKASA**
Cardiovascular medicine and women's health; genetics and echocardiography in arrhythmogenic right ventricular dysplasia.
- DR. PROKOPOWICZ**
General internal medicine; medical informatics; hypertension.
- DR. QAYYUM**
Systematic reviews; meta-analysis.
- DR. RANASINGHE**
Internal and preventive medicine; chronic disease epidemiology.
- DR. ROBINSON**
Evidence-based health care; health informatics.
- DR. ROWLAND-SEYMOUR**
Ambulatory care, prevention, and integrative medicine.
- DR. SCHLOTT**
Consultations in internal medicine.
- DR. SEGAL**
Clinical epidemiology of thrombosis and blood disorders.
- DR. SHIHAB**
Cardiovascular disease prevention and epidemiology; chronic disease in developing countries.
- DR. SHOCHET**
Patient-physician communication and skills assessment; patient-centered and relationship-centered care; behavior change and psychosocial issues in primary care; innovations in medical education; medical professionalism.
- DR. SIDDIQUI**
Clinical reasoning; preoperative medicine; international medicine.
- DR. SINGH**
Pharmacoepidemiology; drug safety; comparative effectiveness; health equity.
- DR. SISSON**
Ambulatory care; community outreach.

DR. SNYDER

Patient-reported outcomes assessment; quality of medical care; cancer; using patient-completed questionnaires in routine clinical practice.

DR. STEIN

Medical care of cancer patients; diabetes mellitus; obesity.

DR. STEWART

Medical education; preventive medicine; health outcomes.

DR. SUGARMAN

Philosophical and empirical research in biomedical ethics.

MS. SWARTZ

Project management; multi-center randomized controlled trials.

DR. THOMAS

Ambulatory care, prevention; rheumatic diseases.

DR. VAIDYA

Mechanisms of vascular dysfunction; assessment of cardiovascular risk factors.

DR. WANG

Longitudinal data analysis; statistical and epidemiologic methods.

MS. YANEK

Cardiovascular disease in families and risk factor modification.

DR. YEH

Epidemiology; diabetes; obesity; cancer; lung function.

DR. J. H. YOUNG

Genetic epidemiology; novel risk factors for CVD, hypertension, and insulin resistance.

DR. ZIKUSOKA

Genetics; cardiomyopathy.

E 1. Internal Medicine Consultation Service. Dr. Feldman and staff. Available all year; one-half or full quarter.

Prerequisites: Medicine Basic Clerkship; arrange with Dr. Feldman.

Students care for all types of patients seen in the Internal Medicine Consultation Service, including surgical, gynecological, and psychiatric patients with internal medicine problems. Particular emphasis is given to perioperative medicine and increasingly to ambulatory consultation in areas such as same day surgery, general internal medicine and ambulatory psychiatry service. The students evaluate the patients initially and then present the patient care problem(s) to the attending faculty and/or senior clinical fellows in internal medicine. Students follow the inpatients daily during their hospitalization and, with the attending or fellow, make additional recommendations for evaluation and management. Selected articles regarding assessment and consultation are provided. Near the end of the experience, the students present a case they have seen on the service and discuss the essential features of the case at the regular Consultation Service Rounds with all faculty and fellows. Students also spend up to 2 1/2 days each week in the faculty ambulatory care clinic seeing patients with the faculty. The clerkship is particularly appropriate for students interested in entering a field of surgery, anesthesiology, psychiatry, or internal medicine.

E 1. Clinical Preventive Medicine. Dr. Ford and staff.

Prerequisite: Completion of Clerkship in Medicine or Pediatrics

This elective is designed to introduce the medical students to the principles and practice of preventive medicine in the clinical as well as the community setting. The students and key faculty will be based in the Welch Center for Prevention, Epidemiology and Clinical Research. Didactic sessions and self-learning modules will be available on such topics as management of hypertension, dietary counseling, exercise and health, smoking cessation, cancer screening, prevention in pediatrics, injury control, and early detection and treatment of substance abuse and psychiatric disorders. Outpatient clinical opportunities include the hypertension clinic, and inpatient clinical opportunities include Preventive Cardiology consults. As an introduction to the specialty of preventive medicine, students may elect to participate in the activities of the Preventive Medicine Residency positions in local, state and federal health departments. Students are expected to complete a project and present results to the Welch Center Faculty at the completion of the elective.

E 2. Advanced Clerkship in Internal Medicine.

Drs. Ashar and Feldman. Available four quarters and summer (except July).

Prerequisite: Basic Medicine Clerkship.

Students can serve as subinterns on one of the Nelson/Baker Units, Osler firm services, the Polk unit (HIV), or the Hospitalist service. On most of these services students work under the supervision and tutelage of interns, residents, and the admitting physician. On the hospitalist service, students work directly with the attending hospitalist physicians. Patients are assigned to each subintern, who fulfills the responsibilities of a PGY-1. Didactic sessions with the course directors are also part of this clerkship. Registration is through the Office of the Registrar as a lottery elective.

E 2. Advanced Clinical Clerkship in Internal Medicine. (Good Samaritan Hospital Internal Medicine Service) Dr. Rogers and staff.

Prerequisite: Medicine Basic Clerkship

A mix of both outpatient and inpatient experiences which is designed to provide the student with a well-rounded view of General Internal Medicine. Students will serve as acting subinterns with direct patient care responsibilities on an inpatient general medical floor. They work with three medical interns under the direct supervision of a medical resident. Educational activities include attending rounds, daily conferences and morning report. In addition, each student spends at least two full afternoons per week evaluating ambulatory patients under the direct supervision of Drs. Carnivale and Rogers in a private office setting.

E 4. Community Chronic Disease Prevention in Urban Minority Populations. Dr. Becker and staff. Available all year; one half or full quarter (three week elective also available).

Prerequisite: None; first year students are welcome; experience tailored to the students level of prior experience.

Students participate in all aspects of a community program which provides screening and counseling for heart disease risk, hypertension, hyper-

lipidemia, smoking, diabetes, breast and cervical cancer, and visual anomalies in a variety of community sites in East Baltimore. Particular emphasis is placed on identification of high risk status, risk factor measurement and case management in high risk populations. An opportunity is also available to conduct independent precepted research.

Precepted clinical experiences include Lipid Research Clinic, Hypertension Clinic, Smoking Cessation Clinic, and Preventive Cardiology Clinic. Facilitated Access Clinics consist of Johns Hopkins Clinics where high risk individuals identified at community screenings enter the medical care system through a community-based center and receive diagnostic and follow-up care directed by medical students, house staff, and fellows under the preceptorship of preventive medicine experts. Students may also assist in the operations of three satellite prevention centers in East Baltimore neighborhoods.

E 5. Religion and Medicine. Drs. Corson and Ford. An adjunct to the Physician and Society course. Open to all four years of medical students.

OCCUPATIONAL MEDICINE DIVISION

DR. BERNACKI, DIRECTOR

DR. BERNACKI

Occupational epidemiology; cumulative trauma disorders.

MR. SCHAEFER

Occupational health and safety.

DR. SCHWARTZ

Lyme disease; occupational epidemiology.

DR. TAO

Occupational epidemiology.

DR. WEAVER

Biomarkers of occupational diseases.

E 1. Clinical Clerkship in Occupational Medicine. Drs. Bernacki, Schwartz, and Weaver. Available all year; one-half quarter or longer.

Prerequisite: Medicine Basic Clerkship.

Students participate in the clinical activities of the division. By evaluating patients with suspected occupational illness, students will expand their skills in medical history, physical assessment and differential diagnosis. The industrial setting from which the patient came will be evaluated and hazards quantified. The students will acquire new skills in clinical toxicology, industrial hygiene, and disability assessments. The emphasis during the course will be on a preventive approach to occupational medicine. Students may also participate in the clinical research activities of the division.

Students are invited to attend the regularly scheduled seminars and journal review sessions of the division.

See related courses in occupational medicine offered by the Department of Environmental Health Sciences in the School of Public Health.

CLINICAL PHARMACOLOGY DIVISION

DR. SHAPIRO, DIRECTOR

DR. FEROLI

Hospital pharmacy.

DR. FLEXNER

Anti-AIDS drugs.

MR. FUCHS

Topical HIV microbicides.

DR. HENDRIX

Drug development unit; phase I and II studies; antiviral drugs; chemoprophylaxis of infection; microbicides.

DR. HUBBARD

Mass spectrometric analysis of small molecules.

DR. LIETMAN

Antimicrobial chemotherapy; chemoprevention of infection.

DR. PARSONS

Qualitative analysis of drugs and metabolites in clinical samples

DR. PETTY

Clinical pharmacology; phase I and II studies of new drugs.

MS. ROCCO

Quality assurance and regulatory affairs.

DR. SCOCCA

Molecular studies of African trypanosomes.

DR. SHAPIRO

Antiparasitic chemotherapy.

Rational Therapeutics. Dr. Petty and other selected clinical faculty. Required of all fourth year medical students when at the Johns Hopkins Hospital. Select Thursdays; September - March, 8:30-10:00 a.m.

Prerequisite: Three years of medical school.

This course is designed to consolidate student skills in the selection and use of drugs commonly prescribed in medical practice. This course will build on the foundation of the second year pharmacology course and third year clinical clerkship experiences. The course focuses on therapeutic decision-making based upon pharmacologic principles. Clinical topics in therapeutics to be covered will challenge the students frequently during their internship and will demonstrate the rational application of core pharmacologic principles with general applicability to clinical situations throughout a medical career. Widely respected clinicians from various departments within the School of Medicine will present the therapeutic decision-making process for a given clinical topic during the first hour of the sessions. In the final half hour, the guest faculty will facilitate a practical case-oriented discussion with students to interactively solve a series of clinical problems using the therapeutic tools just presented.

E 1. 390.631.01 Principles of Drug Development. Dr. Flexner. First quarter; Wednesdays, 1:30-2:50 p.m.

Present principles underlying the drug development process from discovery through pre-clinical to all clinical phases. Regulatory issues (FDA faculty) and industry perspectives (pharmaceutical industry faculty) are included. Throughout the course students develop, write, and present detailed drug development plans and clinical protocols for new drugs. Evaluation based on course project writing and presentations. Final exam is presentation of proposal to FDA reviewers.

E 2. 330.807 Clinical Pharmacology Clinical Conference. Dr. T. Shapiro, staff and visiting lecturers. First through fourth quarters; Wednesdays, 12:00-1:00 p.m.; one credit.

Journal club and research seminars explore contemporary issues in the discovery, development,

and rational use of drugs. Required course for Clinical Pharmacology fellows.

E 3. 330.808 Principles of Clinical Pharmacology. Dr. Shapiro. Dates and times TBA; 1.5 credits.

Prerequisite: Permission of the instructor.

A series of fourteen lectures in DVD format taught by experts from around the country form the basis for a presentation/discussion course that covers the spectrum of clinical pharmacology; pharmacokinetics, drug metabolism and transport, assessment of drug effects, and drug therapy in special populations. One and one half hours for each lecture/discussion. Required course for Clinical Pharmacology fellows.

E 4. 330.809 Analytical Methods in Clinical Pharmacology. Dr. Hendrix. Dates and time TBA; 1.5 credits.

Prerequisite: Permission of the instructor.

A series of sixteen intensive one and one half hour small group session covering fundamental methods for compartmental and non-compartmental analysis of pharmacokinetic and pharmacodynamic data. Each topic is introduced with a teach-do-review sequence focusing on skill building exercises. Introduction to pharmacokinetic data analysis using Pharsight's WinNonlin software. Required course for Clinical Pharmacology fellows.

E 5. Clinical Pharmacology/Internal Medicine Elective. Dr. Petty. Available all year; one half quarter.

Prerequisite: Medicine Basic Clerkship.

This elective emphasizes the fundamentals of rational drug therapy in the context of a tertiary care hospital and primary care clinic. Students will participate in an outpatient primary care clinic at the Johns Hopkins Outpatient Center two half-days per week, as well as inpatient care of this clinic population when necessary. In addition, the student will participate in inpatient and outpatient consultations. Students will join in review sessions of questions posed to the Drug Information Center, and learn how to use various resources to answer these questions. Research conferences within the Clinical Pharmacology Division will be open to the student, and attendance at a weekly student journal club will be required. The student will be invited to attend the monthly Pharmacy and Therapeutics Committee meeting, and join the Hospital Pharmacologist and Drug Information Center staff in responding to questions and issues arising within the hospital.

RENAL DIVISION

DR. SCHEEL, DIRECTOR

DR. ANDERSON*

Chronic kidney disease.

DR. ATTA

Metabolic bone disease.

DR. BRIEFEL*

Chronic kidney disease.

DR. M. J. CHOI

Glomerular diseases; nephrolithiasis.

DR. FINE

Lupus; renal disease; glomerular disease.

DR. GERMINO

Autosomal dominant polycystic kidney disease.

DR. GIMENEZ

Calcium metabolism in renal disease; renal replacement therapy.

DR. KRAUS*

Transplantation.

DR. MYERS

Diabetes and kidney disease.

DR. RABB

Transplantation.

DR. SCHEEL

Renal vascular disease.

DR. SPECTOR*

Renal physiology; peritoneal dialysis.

DR. UGARTE

Transplantation.

DR. WATNICK

Hereditary kidney disease.

DR. ZACHARY*

Hemodialysis.

* Bayview faculty

E 1. Clinical Clerkship in Nephrology. Drs. Atta, Choi, Fine, Estrella, Germino, Myers, Scheel, Sperati, and Watnick. Available all year; two students. One-half or full quarter. Lottery; 2-month drop notice required.

Prerequisite: Medicine Basic Clerkship.

This clinical elective is designed to provide the student with practical clinical work in nephrology including: diagnostic evaluations on inpatients; participation in hemodialysis and the management of chronic kidney disease; management of renal transplantation. The student works closely with the fellow and attending physician on the renal service, rounds daily on inpatient consults (which average four per day), and follows patients.

PULMONARY AND CRITICAL CARE MEDICINE DIVISION

DR. KING, DIRECTOR

DR. BECKER*

Acute lung injury; lung transplantation.

DR. BOYLE

Adult cystic fibrosis, gene therapy; clinical cystic fibrosis research.

DR. BROWER

Critical care; adult respiratory distress syndrome.

DR. COLLOP

Sleep disorders; pulmonary and critical care medicine.

DR. CROW*

Molecular biology.

DR. DANOFF

Transcription genes, neuronal development, BAP135 protein.

DR. DIETTE

Asthma outcomes; quality of care, quality improvement.

DR. FESSLER

Cardiopulmonary interaction; intensive care.

DR. GIRGIS

Pulmonary hypertension, scleroderma, Raynaud's phenomenon, lung transplant.

DR. HASSOUN

Pulmonary hypertension; vascular remodeling; regulation of xanthine oxidoreductase in acute lung injury.

DR. HORTON
Interstitial lung disease; idiopathic pulmonary fibrosis; extra cellular matrix, chemokines.

DR. KING
Biology of water channels and water transport, medical education.

DR. LECHTZIN
Adult cystic fibrosis; amyotrophic lateral sclerosis and motor neuron disease.

DR. LIU*
Studies of asthma pathogenesis and therapy.

DR. MCDYER*
Lung transplantation; IL-2 receptor biology; autoimmune disease; innate/adaptive immunity.

DR. MERLO
Cystic fibrosis epidemiology; lung transplant.

DR. MOLLER*
Sarcoidosis; molecular and cellular immunology of lung diseases; mechanisms of T-cell activation.

DR. NEPTUNE
Receptor signaling, neutrophils.

DR. ORENS
Lung transplantation; emphysema; lung volume reduction surgery; exercise physiology.

DR. PEARSE*
Ischemia; reperfusion lung injury; airway smooth muscle hyperresponsiveness.

DR. POLOTSKY*
Metabolic abnormalities in obesity and sleep apnea.

DR. PUNJABI*
Clinical epidemiology; pulmonary and sleep medicine.

DR. RAND*
Behavioral pulmonology; patient compliance in asthma treatment; smoking cessation.

DR. SCHWARTZ*
Respiratory and upper airway physiology; sleep apnea.

DR. SEVRANSKY*
Sepsis; septic shock; weaning of chronically ventilated patients.

DR. SHAM*
Electrophysiology and calcium homeostasis in pulmonary and cardiac myocytes; smooth muscle ion transport.

DR. SHIMODA
Pulmonary vascular biology; oxidative stress; endothelial cell signaling.

DR. SMITH*
Sleep disordered breathing.

DR. SYLVESTER
Pulmonary vascular biology; medical intensive care.

DR. WISE*
Cardiopulmonary physiology; autoimmune pulmonary disease; chronic obstructive pulmonary disease.

DR. YUNG
Diagnosis of and therapy for early and advanced cancer; aerosolized cytokines.

DR. ZAIMAN
Pulmonary hypertension; vascular remodeling.

* Bayview faculty

E 1. Clinical Clerkship in Pulmonary Diseases and Clinical Pulmonary Physiology. Dr. Boyle

and staff. Available all year. One-half quarter or longer by prior arrangement.

Prerequisite: Medicine Basic Clerkship.

Students participate in the consultation service of the Respiratory Division at the Johns Hopkins Hospital. Students are responsible for evaluating, under the supervision of a fellow and an attending physician, patients with a wide variety of lung diseases, recommending diagnostic and therapeutic options, and following patients during the course of their pulmonary problems. Students attend radiology conferences and seminars of the division and may participate in the activities of the Pulmonary Function Laboratory.

E 1. Clinical Clerkship in Pulmonary Medicine.

(Johns Hopkins Bayview Medical Center) Drs. Terry and staff. Available all year. One-half quarter or longer by arrangement.

Prerequisite: Medicine Basic Clerkship.

Students participate in the clinical evaluation of patients and daily consultation rounds. They receive instruction in performing and interpreting pulmonary function and exercise testing. Additional experience is available in sleep disorders, inhalation challenge (asthma), environmental/occupational lung diseases and critical care medicine. Students may conduct short-term clinical or laboratory investigative projects.

RHEUMATOLOGY DIVISION

DR. ROSEN, DIRECTOR

DR. BATHON, DEPUTY DIRECTOR

DR. WIGLEY, ASSOCIATE DIRECTOR

DR. BAER

Evaluation and management of Sjogren's syndrome; metabolic myopathies and gout.

DR. BATHON*

Mechanics of inflammation and therapeutics in rheumatoid arthritis.

DR. BINGHAM

Clinical therapeutics of rheumatoid arthritis and osteoarthritis; oral health in rheumatic diseases; RA & OA clinical trial design.

DR. BIRNBAUM

Neurological manifestations of systemic rheumatic diseases.

DR. BOIN*

Translational research in scleroderma and related disorders.

DR. CHRISTOPHER-STINE*

Epidemiology and therapy of inflammatory myositis.

DR. GELBER*

Epidemiology of osteoarthritis and rheumatic disorders.

DR. GILES*

Cardiovascular morbidity and body composition in rheumatoid arthritis.

DR. GRADER-BECK

Translational research in systemic autoimmunity.

DR. HAQUE

Evaluation and management of inflammatory arthritis.

DR. HUMMERS*

Epidemiology and treatment of scleroderma.

DR. LEVINE*

Pathophysiology and therapy of systemic vasculitis.

DR. PETRI

Lupus; coronary artery disease in SLE; auto-immune pregnancy loss; antiphospholipid antibodies.

DR. ROSEN

Mechanisms of rheumatic disease.

DR. SEO

Disease activity and novel therapeutics of systemic vasculitis.

DR. WIGLEY*

Raynaud's phenomenon; scleroderma and related disorders.

DR. ZIMINSKI

Clinical and immunologic features of systemic inflammatory diseases (vasculitis, SLE); undifferentiated connective tissue disease.

* Bayview faculty

E 1. Clinical Clerkship in Rheumatology. Drs. Gelber and Rosen. One student at a time; available for two, three, or four week period.

Prerequisite: Medicine Basic Clerkship.

This elective teaches a general approach to the differential diagnosis of rheumatic diseases, the rheumatology physical exam, and principles of treatment of common rheumatic disorders. Students will actively participate in the in-patient consultation service at the Johns Hopkins Hospital by working with the fellows and attending rheumatology consultant. There will be significant opportunity for one-on-one teaching. Students will also attend journal clubs and teaching conferences.

E 2. Advanced Clinical Clerkship in Medicine/ Rheumatology. (Rheumatology Service at Good Samaritan Hospital) Dr. Ziminski. Available all year. One-half or full quarter.

Prerequisite: Medicine Basic Clerkship.

The student functions under the guidance of house-staff and attending physicians. Patients with multi-system connective tissue disorders and inflammatory joint disease are admitted to the Rheumatic Disease Unit with a broad array of problems including flare in the underlying disease process, complications of the disease and/or its therapy for inter-current illnesses.

Students will also see patients in the Rheumatology Outpatient Department with faculty supervision.

Students will be taught the approach/evaluation of patients presenting with musculoskeletal complaints, the appropriate history and physical examination, use of diagnostic studies, and approach to management. Students may also see rheumatology patients who are on the Orthopaedic and Physical medicine and Rehabilitation services to provide a multidisciplinary experience. Students also participate in the in-patient consult service, working with residents, fellows, and attending rheumatologist faculty.

The curriculum includes teaching rounds and clinical and research conferences/seminars to complement the clinical experience.

E 3. Advanced Ambulatory Clinical Clerkship in Musculoskeletal Medicine. Dr. Flynn and faculty members of the divisions of Rheumatology, Immunology and General Internal Medicine in the Department of Medicine, as well as the Departments of Orthopaedic Surgery and Physical Medicine and Rehabilitation. Two students per month.

Prerequisite: Satisfactory completion of Medicine Basic Clerkship, or courses completed elsewhere considered as equivalent.

This month-long clinical clerkship is designed for medical students interested in General Internal Medicine, Rheumatology, Rehabilitative Medicine, or Orthopaedics. The experience provides one-on-one and small group teaching for students with faculty members within the outpatient setting. Students will have the opportunity to work with faculty members of the Johns Hopkins University at the Outpatient Center, the Bayview Medical Center, Good Samaritan Hospital, and Johns Hopkins at Green Spring Station. Students will be involved in the evaluation of patients presenting in the outpatient setting for evaluation of musculoskeletal complaints. Students will be taught how to perform an appropriate history and physical examination of the musculoskeletal system as well as the determination of appropriate diagnostic evaluation and management. Participation in musculoskeletal medicine conferences as well as individualized musculoskeletal rounds will be expected. Students will develop a learning portfolio maintaining patient logs as well as demonstrate competency in musculoskeletal examination.

Molecular and Comparative Pathobiology

M. CHRISTINE ZINK

Professor of Molecular and Comparative Pathobiology, Professor of Pathology, Director of the Department of Molecular and Comparative Pathobiology

JANICE E. CLEMENTS

University Distinguished Service Professor of Molecular and Comparative Pathobiology, Professor of Neurology, Professor of Pathology, Joint Appointment in Molecular Biology and Genetics, Mary Wallace Stanton Professor for Faculty Affairs

ROBERT A. SQUIRE, Professor

ROBERT J. ADAMS, Associate Professor

SHEILA A. BARBER, Adjunct Associate Professor

CORY FLAGG BRAYTON, Associate Professor

DAVID L. HUSO

Associate Professor of Molecular and Comparative Pathobiology, Associate Professor of Oncology

JOSEPH LEONARD MANKOWSKI

Associate Professor of Molecular and Comparative Pathobiology, Associate Professor of Neurology, Associate Professor of Pathology

ANDREW S. MCCALLION

Associate Professor of Molecular and Comparative Pathobiology in Genetic Medicine, Research Associate in Medicine,

SARAH LOUISE POYNTON

Associate Professor of Molecular and Comparative Pathobiology, Associate Professor of Art as Applied to Medicine

R. MITCHELL BUSH, Assistant Professor

LUCY MINNICH CARRUTH, Adjunct Assistant Professor

CRAIG ANTHONY FLETCHER, Assistant Professor

KATHLEEN GABRIELSON, Assistant Professor

DAVID R.M. GRAHAM

Assistant Professor of Molecular and Comparative Pathobiology, Assistant Professor of Medicine

BAKTIAR O. KARIM, Assistant Professor

RICHARD J. MONTALI, Assistant Professor

SRINIVAS S. RAO, Adjunct Assistant Professor

DIANA G. SCORPIO, Assistant Professor

JULIE WATSON, Assistant Professor

MICHAEL RILEY WEED

Adjunct Assistant Professor of Behavioral Biology in the Department of Psychiatry, Adjunct Assistant Professor of Molecular and Comparative Pathobiology

DAWN S. RUBEN, Instructor

MICHAEL R. CRANFIELD, Lecturer

DAWN GOODMAN, Lecturer

LUCIO GAMA, Research Associate

ZHAOHAO LIAO, Research Associate

YI XU, Research Associate

The Department of Molecular and Comparative Pathobiology provides instruction and consultation in animal medicine, experimental techniques and comparative pathology, with emphasis on the study of disease processes in animals which relate to human health and biomedical research. Postdoctoral training is offered in laboratory animal medicine, comparative pathology and in retrovirus biology. The department is equipped with medical, surgical, pathology, diagnostic and research laboratories as well as a research farm with domestic and exotic animal species.

ELECTIVE OPPORTUNITIES—*Curricular*

Consultant: Dr. Zink. Elective courses must be approved by the preceptor; any member of the department may act as preceptor.

680.800 Research Activities:

Research interests represented in the Department of Molecular and Comparative Pathobiology are as follows:

DR. ADAMS

Primate biology; laboratory animal medicine.

DR. CLEMENTS

Molecular biology of lentiviruses; molecular basis of simian immunodeficiency virus disease.

DR. CRANFIELD

Zoo medicine.

DR. GABRIELSON

Cardiovascular toxicology.

DR. HUSO

Neurovirology; comparative pathology.

DR. MANKOWSKI

Viral pathogenesis; comparative pathology.

DR. POYNTON

Parasitology; protozoology; aquatic animal medicine.

DR. SCORPIO

Tick-borne infections; laboratory animal medicine.

DR. ZINK

Neurovirology; comparative pathology; viral pathogenesis.

680.700 Comparative Medicine Research Seminar Series. Dr. Zink and staff. One hour seminar; Fridays 1:00 p.m.; September through June.

One hour seminars given by faculty throughout the institution and outside guest speakers dealing with naturally occurring diseases of animals that relate to medical research and human disease, and with animal models of human disease.

680.701 Comparative Pathobiology and Genetically Engineered Mice. Dr. Huso and staff. Fourth quarter; alternate years. Lecture and laboratory 4 credits total.

Prerequisites: Courses in biology, histology and physiology or permission from course director

Lectures and laboratory (microscopy) introduction to comparative pathobiology of the major organ systems. Pathology and pathophysiology themes that are shared across many species are covered,

particularly those relevant to mouse genetic models and human disease.

680.702 LAM/PATH Integrated Problem Solving. Dr. Scorpio. All quarters; Fridays, 10:00-11:45 a.m.

A survey of the use of animals in research with emphasis on biologic, nutritional and disease factors which may interfere with interpretation of research data, cause loss of experiments or serve as hazards to public health. Humane and ethical aspects receive consideration also.

680.703 Animal Pathology Laboratory. Throughout the year. Credit to be arranged. Dr. Zink and staff.

Prerequisite: 680.701, or Pathology 300.600, or their equivalents.

A limited number of persons may serve as prosecutors on the animal pathology diagnostic service. This entails responsibility for gross and microscopic examination of diseased animals and tissues submitted for diagnosis by investigators within the Institutions, by practicing veterinarians, and by the Baltimore Zoo. Complete necropsy and histopathology laboratories are available and prosecutors work under close faculty supervision. Rotational assignments may vary according to schedules.

680.710 Clinical Conference in Laboratory Animal Medicine. Staff. All year; Fridays.

Weekly conferences in clinical laboratory animal medicine and clinical pathology. Attendance by comparative medicine and comparative pathology fellows is expected. The course is open to all other students, fellows and faculty.

680.711 Comparative Pathology Conference. Dr. Zink and Staff. One hour seminar, Fridays, 12:00; all four quarters.

This is a weekly one hour diagnostic slide conference which focuses on the discussion of histologic and electron microscopic examples of unknown cases drawn from a wide variety of animal species. Cases are available for study during the week preceding the conference. Participants describe the cases, give differential diagnoses, and discuss etiology and pathogenesis with the guidance of faculty members.

680.802 Journal Club for Laboratory Animal Medicine Board Review. Dr. Scorpio. All quarters; Friday 10:00 am.

680.803 Journal Club for Pathology Board Review. Dr. Zink and Staff. All quarters; Tuesday 12:00

680.804 Clinical Rounds Conference. Dr. Adams. All quarters.



Molecular Biology and Genetics

CAROL WIDNEY GREIDER

Daniel Nathans Professor and Director of Molecular Biology and Genetics, Professor of Oncology

JEF D. BOEKE

Professor of Molecular Biology and Genetics, Professor of Oncology

JEFFRY L. CORDEN, Professor

NANCY L. CRAIG

Professor of Molecular Biology and Genetics, Investigator of the Howard Hughes Medical Institute

STEPHEN V. DESIDERIO, Professor

RACHEL GREEN

Professor of Molecular Biology and Genetics, Investigator of the Howard Hughes Medical Institute

THOMAS J. KELLY, JR., Professor (on leave of absence)

DOUGLAS ELLIOTT KOSHLAND, Adjunct Professor

SE-JIN LEE, Professor

JEREMY NATHANS

Professor of Molecular Biology and Genetics, Professor of Neuroscience, Professor of Ophthalmology, Investigator of the Howard Hughes Medical Institute

DUOJIA PAN

Professor of Molecular Biology and Genetics, Professor of Oncology

RANDALL R. REED

Professor of Molecular Biology and Genetics, Professor of Neuroscience, Professor of Otolaryngology-Head and Neck Surgery

GERALDINE SEYDOUX

Professor of Molecular Biology and Genetics, Investigator of the Howard Hughes Medical Institute

HYUN S. SHIN

Professor of Molecular Biology and Genetics (on leave of absence), Joint Appointment in Medicine (on leave of absence)

HAMILTON O. SMITH

American Cancer Society Distinguished Research Professor Emeritus of Molecular Biology and Genetics

ALLAN C. SPRADLING, Adjunct Professor

BRENDAN P. CORMACK, Associate Professor

PAUL H. HARDY, JR.

Associate Professor Emeritus of Microbiology

ELIZABETH H. CHEN, Assistant Professor

SINISA URBAN, Assistant Professor

ROSANNA P. BAKER, Research Associate

THANH V. HUYNH, Research Associate

XIANGHONG LI, Research Associate

PAMELA BERNADETTE MELUH, Research Associate

AMIR RATTNER, Research Associate

YI XIE, Research Associate

WENLIAN XU, Research Associate (to 07/12/09)

DANIEL S. YUAN, Research Associate

YU-YI LIN, Visiting Scientist (from 10/16/09)

DAVID GORDON LONGSTAFF, Visiting Scientist

FACULTY ASSOCIATED WITH THE DEPARTMENT OF MOLECULAR BIOLOGY AND GENETICS HOLDING A PRIMARY APPOINTMENT IN:

The School of Medicine:

RHODA M. ALANI

Associate Professor of Oncology

MICHAEL A. BEER

Assistant Professor of Biomedical Engineering in Genetic Medicine

ARAVINDA CHAKRAVARTI

Professor of Medicine in Genetic Medicine

JANICE E. CLEMENTS

University Distinguished Service Professor of Molecular and Comparative Pathobiology

CHI VAN DANG

Johns Hopkins Family Professor for Oncology Research in the Department of Medicine

HARRY C. DIETZ

Victor A. McKusick Professor of Medicine and Genetics in the Department of Pediatrics

ANDREW P. FEINBERG

King Fahd Professor of Molecular Medicine in the Department of Medicine

GREGORY G. GERMINO

Adjunct Professor of Medicine

NICHOLAS KATSANIS

Adjunct Associate Professor of Ophthalmology in Genetic Medicine

ALEX LEO KOLODKIN

Professor of Neuroscience

JOSHUA T. MENDELL

Associate Professor of Pediatrics in Genetic Medicine

PAULA M. PITHA-ROWE

Professor of Oncology

ROBERT F. SILICIANO

Professor of Medicine

MARK J. SOLOSKI

Professor of Medicine

FORREST SPENCER

Associate Professor of Medicine in Genetic Medicine

DAVID L. VALLE

Professor of Pediatrics in Genetic Medicine

BERT VOGELSTEIN

Clayton Professor of Oncology

DONALD J. ZACK

Guerrieri Family Professor of Ophthalmology

The programs of instruction and training in the Department of Molecular Biology and Genetics are designed to meet the needs of: (a) students of Medicine, (b) candidates for doctoral degrees in Molecular Biology and Genetics and related medical sciences, and (c) postdoctoral students wishing to prepare for careers in teaching and research.

REQUIRED COURSE WORK FOR M.D. PROGRAM

Molecular Biology and Genetics—First Year

800.619 Scientific Foundations of Medicine. Dr. Jon Lorsch. M.-F., 8:00-1:00; Clinical Correlations, F., 2:00-3:30 p.m.

Biochemistry, Cell Biology, Genetics, and Pharmacology are fully integrated into a combined course of study presented by the basic science departments. The course provides a comprehensive, fully integrated coverage of the molecular basis of cellular metabolism and function. The course will emphasize small group learning and problem solving. The student will participate in "Journal Club", in which important papers in the front-line biomedical literature will be discussed. Clinical Correlations related to basic science concepts will be held at various days and times. Enrollment of non-medical students requires approval from the course director.

Prerequisites: Elementary courses in inorganic chemistry, organic chemistry, general biology, and general physics. At least one upper-level course in Biochemistry or Cell Biology is strongly recommended.

OTHER COURSES AND ELECTIVE OPPORTUNITIES—Curricular Consultant: *Dr. Carol Greider. Elective courses must be approved by the course director; any member of the department may act as preceptor.*

Molecular Biology and Genetics E

The elective courses described below are open to medical students in the second, third and fourth years, as well as to predoctoral and postdoctoral students. (For other elective courses in microbiology, immunology, or molecular biology, see catalogues of the School of Public Health and the School of Arts and Sciences.)

100.804 Topics in Macromolecular Structure and Function. Drs. Leahy, Amzel, Wade, and Lorsch. One hour per week throughout the academic year. W., 9:30-10:30. (Same as Biophysics 100.804)

This is a seminar course covering a variety of topics involving the structure and function of proteins and nucleic acids. Recent topics have included: protein folding, evolutionary significance of introns, protein-DNA interactions, solution structure of peptides, prospects for designing novel proteins, and two-dimensional NMR.

260.706 Fundamentals of Genetics. Drs. G. Seydoux. Second quarter; 17 lectures.

Prerequisite: Molecular Biology.

This short lecture course will cover fundamental principles of genetics, focusing primarily on model eukaryotes. Problem sets will be an integral learning tool in this course.

260.709 Molecular Biology and Genomics. Dr. Rachel Green and staff. Second quarter. M,W, F 9:00-10:30.

This interdisciplinary course covers the structure and properties of genes and genomes, the mechanism of fundamental biological information transfer

(replication, transcription, processing, and translation), the RNA world, chromosome structure and function, and mechanisms of genome instability. Open to students who have had course in organic chemistry, Biochemical and Biophysical Principles (100.710), and are taking Macromolecular Structure and Analysis (100.709) concurrently, or by special permission.

260.802 Special Studies and Research.

Opportunities to carry out special studies and research in various branches of molecular genetics, immunology, and microbiology will be made available not only to candidates for advanced degrees but also to other qualified students. Arrangements for such work must be made with individual members of the staff.

260.812 Great Experiments in Biology. Dr. Jeremy Nathans. Spring term; offered annually.

In this course, we will read approximately 20 classic papers in the biological sciences. The course aims to expose students to some of the great experiments from 1700 to the present, and the creative thinking that inspired them. Authors include Benjamin Franklin, Robert Koch, Selig Hecht, Stephen Kuffler, Lubert Stryer, Alec Jeffreies, and Avram Hershko.

Research interests represented in the Department of Molecular Biology and Genetics are as follows:

DR. BOEKE

Retrotransposition; silent chromatin; genomics.

DR. CHEN

Molecular mechanisms of myoblast fusion; drosophila developmental genetics.

DR. CORDEN

Regulation of eukaryotic gene expression.

DR. CORMACK

Microbial pathogenesis; chromatin silencing.

DR. CRAIG

Mechanism of transposition; protein-nucleic acid interactions.

DR. DESIDERIO

Signal transduction in lymphocytes; immunoglobulin gene rearrangement; genetic basis of innate immunity.

DR. GREEN

Ribosome function; molecular mechanisms of translation.

DR. GREIDER

Chromosome structure and function; telomere synthesis and length regulation.

DR. LEE

Growth and differentiation factors in mammalian development.

DR. J. NATHANS

Molecular biology of vision; developmental neurobiology.

DR. PAN

Molecular genetics of tumor suppressor genes and oncogenes.

DR. REED

Molecular basis of olfaction; mechanisms of neurogenesis.

DR. SEYDOUX

Establishment of embryonic polarity and germ cell fate.

DR. SHIN

Molecular biology of macrophage activation by endotoxin.

DR. URBAN

Proteolysis in membrane bilayers; cell signaling and malaria invasion.

PH 260.623 Fundamental Virology. (4 units) Drs. Clements and Griffin. First term.

Prerequisite: Basic knowledge of molecular and cellular biology.

Presents basic principles of molecular virology and viral diseases, such as structure, replication, and virus-host cell interactions for the major virus families, as well as viral pathogenesis, immune responses, transformation, and epidemiology. Studies molecular biology of selected human pathogens in detail as examples of virus-induced diseases. Student evaluation based on mid-term and final exams.

PH 260.624 Advanced Virology. (4 units) Drs. Clements and Kerr. Second term.

Prerequisite: PH 260.623.

Lectures and student presentations cover a wide range of current research areas, including the molecular biology and pathogenesis of herpes viruses, hepatitis viruses, emerging viruses, and unconventional agents. Discusses bacteriophage and baculoviruses and their use in vector biology, as well as viral vectors in gene therapy and antiviral agents. Student evaluation based on class participation and exams.

250.603 Principles of Immunology. Dr. Siliciano and staff; 8:00 a.m.-1:00 p.m. M., Tu., Th., F.; 8:00-11:00 a.m. W.

This course, a required part of the first year medical school curriculum, provides an introduction to the genetics, biochemistry, and cellular and developmental biology of the immune system. Medical relevance is highlighted through clinical correlations, and basic principles are demonstrated in teaching labs. The course also includes small group discussions and a journal club. The lecture portion of this course is repeated as part of Graduate Immunology (250.703).

250.702 Advanced Topics in Molecular Immunology. Drs. Desiderio and Sadegh-Naseri. First quarter, T., Th., 9:00-10:30 a.m. Third and fourth quarters.

An advanced lecture course addressing current experimental findings related to the molecular aspects of development, recognition and effector functions of the immune system. Open to students who have had Medicine 250.603 or equivalent, or by special permission.

250.703 Graduate Immunology. Dr. Scheherazade Sadegh-Naseri. Fourth quarter; T., Th., 9:00-10:30 a.m.

This is an introductory course designed to provide graduate students with a comprehensive survey of modern cellular and molecular immunology. The course consists predominantly of lectures but also includes discussion sessions focusing on important recent research papers. This course is open to all graduate students and postdoctoral fellows.

440.707 Molecular Mechanisms in Synaptic Transmission. Drs. Haganir, Worley, and Bergles. Third quarter, every other year. (Same as Neuroscience 440.707)

Prerequisite: Consent of course director.

An advanced seminar and reading course devoted to the molecular and cellular mechanisms underlying synaptic transmission and the regulation of synaptic plasticity. The molecular and cellular mechanisms involved in neurotransmitter release, postsynaptic signal transduction, and modulation of synaptic efficacy will be covered. The role of these processes in higher brain function, including learning and memory and synaptic development will be discussed.

GRADUATE PROGRAM—Students are accepted for graduate work leading to the degree of Doctor of Philosophy (see Graduate Programs).



Neurology

JUSTIN C. MCARTHUR

Professor of Neurology, Professor of Pathology,
Director of the Department of Neurology

MARILYN S. ALBERT

Professor of Neurology, Professor of
Neuroscience, Professor of Psychiatry

GREGORY KENT BERGEY, Professor

DANA BOATMAN

Professor of Neurology, Professor of
Otolaryngology-Head and Neck Surgery

JASON BRANDT

Professor of Psychiatry, Professor of Neurology

THOMAS M. BRUSHART

Thomas M. Brushart Professor of Hand Surgery
in the Department of Orthopedic Surgery (on
leave of absence to 10/31/09), Professor of
Neurology (on leave of absence to 10/31/09),
Professor of Plastic Surgery (on leave of
absence to 10/31/09)

PETER ARTHUR CALABRESI, Professor

VINAY CHAUDHRY, Professor

JANICE E. CLEMENTS

Mary Wallace Stanton Professor for Faculty
Affairs, University Distinguished Service,
Professor of Molecular and Comparative
Pathobiology, Professor of Neurology, Professor
of Pathology, Joint Appointment in Molecular
Biology and Genetics

NANCY ABBEY COLLOP

Professor of Medicine, Professor of Neurology

DAVID R. CORNBLATH

Professor of Neurology, Professor of
Neurological Surgery

TED DAWSON

Leonard and Madlyn Abramson Professor of
Neurodegenerative Diseases in the Department
of Neurology, Professor of Neuroscience

VALINA L. DAWSON

Professor of Neurology, Professor of
Neuroscience, Professor of Physiology

MARTHA BRIDGE DENCKLA

Professor of Neurology, Professor of Pediatrics,
Joint Appointment in Psychiatry

DANIEL B. DRACHMAN

W.W. Smith Charitable Trust Professor of
Immunology in the Department of Neurology,
Professor of Neuroscience

CHRISTOPHER J. EARLEY, Professor

JOHN M. FREEMAN

Professor Emeritus of Neurology, Professor
Emeritus of Pediatrics

GARY W. GOLDSTEIN

Professor of Neurology, Professor of Pediatrics

BARRY GORDON

The Therapeutic Cognitive Neuroscience
Professor of Neurology

JOHN W. GRIFFIN

University Distinguished Professor of Neurology,
Professor of Neuroscience, Professor of
Pathology

DANIEL F. HANLEY

Jeffrey and Harriet Legum Professor of Acute
Neurological Medicine in the Department of
Neurology, Professor of Anesthesiology and
Critical Care Medicine, Professor of Neurological
Surgery

ARGYE ELIZABETH HILLIS

Professor of Neurology, Professor of Physical
Medicine and Rehabilitation

RICHARD T. JOHNSON

University Distinguished Service Professor of
Neurology, Professor of Neuroscience

MICHAEL V. JOHNSTON

Professor of Neurology, Professor of
Pediatrics, Professor of Physical Medicine and
Rehabilitation

PETER W. KAPLAN, Professor

WALTER ERWIN KAUFMANN

Professor of Pathology, Professor of Neurology,
Professor of Pediatrics, Professor of Psychiatry,
Professor of Radiology

JOHN J. LATERRA

Professor of Neurology, Professor of
Neuroscience, Professor of Oncology

RONALD P. LESSER

Professor of Neurology, Professor of
Neurological Surgery

RUSSELL L. MARGOLIS

Professor of Psychiatry, Professor of Neurology

GUY MEAD MCKHANN

Professor of Neurology, Professor of
Neuroscience

NEIL R. MILLER

Frank B. Walsh Professor of Neuro-
ophthalmology in the Department of
Ophthalmology, Professor of Neurological
Surgery, Professor of Neurology

MAREK A. Z. MIRSKI

Professor of Anesthesiology and Critical Care
Medicine, Professor of Neurological Surgery,
Professor of Neurology

MARK E. MOLLIVER

Professor Emeritus of Neuroscience, Professor
Emeritus of Neurology

HAMILTON MOSES, III, Adjunct Professor

SAKKUBAI NAIDU

Professor of Neurology, Professor of Pediatrics

AVINDRA NATH

Professor of Neurology, Professor of
Neuroscience

ERNST F.L. NIEDERMEYER

Professor Emeritus of Neurological Surgery,
Professor Emeritus of Neurology

DONALD L. PRICE

Professor of Pathology, Professor of Neurology,
Professor of Neuroscience

SRINIVASA NAGA RAJA

Professor of Anesthesiology and Critical Care
Medicine, Professor of Neurology

GEORGE A. RICAURTE, Professor

GABRIELE V. RONNETT

Professor of Neuroscience, Professor of
Neurology

CHRISTOPHER A. ROSS
 Professor of Psychiatry, Professor of Neurology,
 Professor of Neuroscience, Professor of
 Pharmacology and Molecular Sciences

JEFFREY D. ROTHSTEIN
 Professor of Neurology, Professor of
 Neuroscience

NED CHARLTON SACKTOR, Professor

OLA A. SELNES, Professor

HARVEY S. SINGER
 Haller Professor of Pediatric Neurologic
 Diseases in the Department of Neurology,
 Professor of Pediatrics

NITISH V. THAKOR
 Professor of Biomedical Engineering, Professor
 of Neurology

GEORGE R. UHL
 Adjunct Professor of Neurology (from 10/01/09),
 Adjunct Associate Professor of Neurology (to
 09/30/09), Adjunct Professor of Neuroscience
 (from 10/01/09), Adjunct Associate Professor of
 Neuroscience (to 09/30/09)

JOHN A. ULATOWSKI
 Professor of Anesthesiology and Critical Care
 Medicine, Professor of Neurological Surgery,
 Professor of Neurology

EILEEN P.G. VINING
 Lederer Professor of Pediatric Epilepsy in
 the Department of Neurology, Professor of
 Pediatrics

PAUL A. WATKINS
 Professor of Neurology, Joint Appointment in
 Biological Chemistry

PAUL F. WORLEY
 Professor of Neuroscience, Professor of
 Neurology

DAVID S. ZEE
 Professor of Neurology, Professor of
 Neuroscience, Professor of Ophthalmology,
 Professor of Otolaryngology-Head and Neck
 Surgery

ERIC MATTHEW ALDRICH
 Associate Professor of Neurology, Joint
 Appointment in Physical Medicine and
 Rehabilitation

AMY J. BASTIAN
 Associate Professor of Neuroscience, Associate
 Professor of Neurology, Associate Professor of
 Physical Medicine and Rehabilitation

MARY ELIZABETH BLUE
 Associate Professor of Neurology, Associate
 Professor of Neuroscience

KAREN I. BOLLA
 Associate Professor of Neurology, Joint
 Appointment in Psychiatry

DAVID BUCHHOLZ, Associate Professor

PABLO A. CELNIK
 Associate Professor of Physical Medicine
 and Rehabilitation (from 10/01/09),
 Assistant Professor of Physical Medicine
 and Rehabilitation (to 09/30/09), Associate
 Professor of Neurology (from 10/01/09),
 Assistant Professor of Neurology (to 09/30/09)

ANNE MARIE COMI
 Associate Professor of Neurology, Associate
 Professor of Pediatrics

KATHERINE CONANT, Adjunct Associate
 Professor

ANDREA M. CORSE
 Associate Professor of Neurology, Associate
 Professor of Neurological Surgery

BARBARA J. CRAIN
 Associate Professor of Pathology, Associate
 Professor of Neurology, Associate Professor of
 Oncology

THOMAS O. CRAWFORD
 Associate Professor of Neurology, Associate
 Professor of Pediatrics

NATHAN E. CRONE, Associate Professor

LAURIE E. CUTTING, Associate Professor

JOHN E. DESMOND
 Associate Professor of Neurology, Joint
 Appointment in Neuroscience

PIOTR J. FRANASZCZUK, Associate Professor

NICHOLAS ROGER GAIANO
 Associate Professor of Neurology, Associate
 Professor of Neuroscience, Associate Professor
 of Oncology

PHILIPPE GAILLOUD
 Associate Professor of Radiology and
 Radiological Science, Associate Professor of
 Neurology, Assistant Professor of Neurological
 Surgery

SUZANNE GARTNER, Associate Professor (on
 leave of absence)

ROMERGRYKO G. GEOCADIN
 Associate Professor of Neurology, Associate
 Professor of Anesthesiology and Critical Care
 Medicine, Associate Professor of Neurological
 Surgery

ROBERT D. GERWIN, Associate Professor

NORMAN JAMES HAUGHEY, Associate Professor

S. DIANE HAYWARD
 Professor of Oncology, Professor of
 Pharmacology and Molecular Sciences,
 Associate Professor of Neurology

AHMET HOKE
 Associate Professor of Neurology, Associate
 Professor of Neuroscience

MIR AHAMED HOSSAIN, Associate Professor

JAMES H. KELLY
 Associate Professor of Otolaryngology-Head
 and Neck Surgery, Associate Professor of
 Neurology

DOUGLAS ANTHONY KERR, Associate Professor

VASSILIS E. KOLIATSOS
 Associate Professor of Pathology, Associate
 Professor of Neurology, Associate Professor of
 Psychiatry

GREGORY LEWIS KRAUSS, Associate Professor

GEOFFREY SHIU FEI LING
 Adjunct Associate Professor of Neurology,
 Adjunct Associate Professor of Anesthesiology
 and Critical Care Medicine

RAFAEL H. LLINAS, Associate Professor

JOSEPH LEONARD MANKOWSKI
Associate Professor of Molecular and Comparative Pathobiology, Associate Professor of Neurology, Associate Professor of Pathology

NICHOLAS J. MARAGAKIS, Associate Professor

LAURA MARSH
Associate Professor of Psychiatry, Associate Professor of Neurology

JOHN WOOD MCDONALD, III
Associate Professor of Neurology, Associate Professor of Physical Medicine and Rehabilitation

E. JEFFREY METTER, Associate Professor

GUO-LI MING
Associate Professor of Neurology, Associate Professor of Neuroscience

HOWARD MOSES, Associate Professor

STEWART H. MOSTOFSKY
Associate Professor of Neurology, Joint Appointment in Psychiatry

RICHARD J. O'BRIEN
Associate Professor of Neurology, Associate Professor of Neuroscience, Joint Appointment in Medicine

CARLOS A. PARDO-VILLAMIZAR
Associate Professor of Neurology, Assistant Professor of Pathology

MICHAEL J. POLYDEFKIS, Associate Professor

GERALD V. RAYMOND, Associate Professor

BARBARA SLUSHER, Visiting Associate Professor (from 09/01/09)

HONGJUN SONG
Associate Professor of Neurology, Associate Professor of Neuroscience

JOSEPH P. STEINER, Associate Professor

JUAN C. TRONCOSO
Professor of Pathology, Associate Professor of Neurology

KATHRYN R. WAGNER
Associate Professor of Neurology, Associate Professor of Neuroscience

HOWARD D. WEISS, Associate Professor

MARY ANN WILSON
Associate Professor of Neurology, Associate Professor of Neuroscience

ROBERT J. WITYK
Associate Professor of Neurology, Associate Professor of Medicine

ANDREW W. ZIMMERMAN
Associate Professor of Neurology, Associate Professor of Pediatrics, Associate Professor of Psychiatry

CLIFFORD G. ANDREW, Assistant Professor

JAISHRI O'NEILL BLAKELEY
Assistant Professor of Neurology, Assistant Professor of Neurological Surgery, Assistant Professor of Oncology

PRESTON C. CALVERT, Assistant Professor

NICHOLAS A. CAPOZZOLI, Assistant Professor

JUAN RICARDO CARHUAPOMA
Assistant Professor of Neurology, Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Neurological Surgery

LISA CHRISTOPHER-STINE
Assistant Professor of Medicine, Assistant Professor of Neurology

LORA L. CLAWSON, Assistant Professor

RONALD D. COHN
Assistant Professor of Pediatrics in Genetic Medicine, Assistant Professor of Neurology

CHRISTIANE SYLVIA COX, Assistant Professor

GERALD J. DAL PAN, Assistant Professor

SEYED ALI FATEMI
Assistant Professor of Neurology, Assistant Professor of Pediatrics

PERRY JAY FOREMAN, Assistant Professor

MAJID FOTUHI, Assistant Professor

CHARLENE E. GAMALDO
Assistant Professor of Neurology, Assistant Professor of Medicine

DHEERAJ GANDHI
Assistant Professor of Radiology, Assistant Professor of Neurological Surgery, Assistant Professor of Neurology

DEVIN SUMNER GARY, Assistant Professor

REBECCA F. GOTTESMAN, Assistant Professor

EDWARD S. GRATZ, Assistant Professor

STEPHEN ELLIOT GRILL, Assistant Professor

ADAM LINDSAY HARTMAN
Assistant Professor of Neurology, Assistant Professor of Pediatrics

WILLIAM JOSEPH HERRING, Assistant Professor

TONY WEI-HSIU HO, Assistant Professor

ROBERT E. HOESCH, Assistant Professor

LORI CHAFFIN JORDAN
Assistant Professor of Neurology, Assistant Professor of Pediatrics

CHRISTOPHE C. JOUNY, Assistant Professor

LUKE I. KAO, Assistant Professor

ADAM IAN KAPLIN
Assistant Professor of Psychiatry, Assistant Professor of Neurology

SANJAY C. KESWANI, Adjunct Assistant Professor

RAMESH K. KHURANA, Assistant Professor

ERIC H.W. KOSSOFF
Assistant Professor of Neurology, Assistant Professor of Pediatrics

PAWEL KUDELA, Assistant Professor

BENNETT LAVENSTEIN, Assistant Professor

WILLIAM LEAHY, Assistant Professor

NOAH LECHTZIN
Assistant Professor of Medicine, Assistant Professor of Neurology

THOMAS E. LLOYD, Assistant Professor

ANDREAS R.J. LUFT, Adjunct Assistant Professor

ANDREW L. MAMMEN
Assistant Professor of Neurology, Assistant Professor of Medicine

ALLEN S. MANDIR, Assistant Professor

ZOLTAN MARI, Assistant Professor
 SUSAN SIFFORD MCDERMOTT, Assistant Professor
 HENRY F. MCFARLAND, Assistant Professor
 ABHAY MOGHEKAR, Assistant Professor
 BRIAN E. MONDELL, Assistant Professor
 BRETT MICHAEL MORRISON, Assistant Professor
 BETH BRIANNA MURINSON, Assistant Professor
 DAVID EDWARD NEWMAN-TOKER
 Assistant Professor of Neurology, Assistant Professor of Otolaryngology-Head and Neck Surgery, Joint Appointment in Emergency Medicine, Joint Appointment in Health Sciences Informatics, Joint Appointment in Ophthalmology
 THIEN T. NGUYEN, Assistant Professor
 PAUL NYQUIST
 Assistant Professor of Neurology, Assistant Professor of Anesthesiology and Critical Care Medicine
 HANS ADRIAN PUTTGEN
 Assistant Professor of Neurology, Assistant Professor of Anesthesiology and Critical Care Medicine
 BRUCE A. RABIN, Assistant Professor
 DANIEL SALO REICH
 Adjunct Assistant Professor of Neurology (from 08/01/09), Adjunct Assistant Professor of Radiology (from 08/01/09)
 MARCIA RIBEIRO, Assistant Professor
 EVA KATHARINA RITZL, Assistant Professor
 JASON D. ROSENBERG, Assistant Professor
 JAMES RUBENSTEIN
 Assistant Professor of Neurology, Instructor in Pediatrics
 JEFFREY A. RUMBAUGH, Assistant Professor (to 10/31/09)
 RACHEL MARIE E. SALAS
 Assistant Professor of Neurology, Assistant Professor of Medicine
 JOSEPH MARK SAVITT, Assistant Professor
 ALENA V. SAVONENKO
 Assistant Professor of Pathology, Assistant Professor of Neurology
 PETER SCHILDER, Assistant Professor Emeritus
 FRANK F. SCHUSTER, Assistant Professor Emeritus
 JEHUDA P. SEPKUTY, Adjunct Assistant Professor
 VICTOR L. SEREBRUANY, Adjunct Assistant Professor
 MICHAEL JOSEPH SHAMBLOTT, Assistant Professor
 SUSAN J. SHAW, Adjunct Assistant Professor
 ALON SINAI, Adjunct Assistant Professor
 CONSTANCE L. SMITH-HICKS, Assistant Professor
 DAVID SOLOMON
 Assistant Professor of Neurology, Assistant Professor of Otolaryngology-Head and Neck Surgery

LYNN JACKSON SPEEDIE
 Associate Professor of Psychiatry, Assistant Professor of Neurology
 STEVEN JEFFREY STEINBERG, Assistant Professor
 ROBERT DAVID STEVENS
 Associate Professor of Anesthesiology and Critical Care Medicine (from 10/01/09), Assistant Professor of Anesthesiology and Critical Care Medicine (to 09/30/09), Assistant Professor of Neurological Surgery, Assistant Professor of Neurology
 MONIQUE F. STINS, Assistant Professor
 CHARLOTTE J. SUMNER, Assistant Professor
 TAKASHI TSUKAMOTO, Assistant Professor
 VICTOR C. URRUTIA, Assistant Professor
 ARUN VENKATESAN, Assistant Professor
 BRADFORD D. WINTERS
 Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Neurological Surgery, Assistant Professor of Neurology, Assistant Professor of Surgery
 MARK N. WU
 Assistant Professor of Neurology (from 08/01/09), Assistant Professor of Medicine (from 08/01/09)
 SARAH H. YING
 Assistant Professor of Neurology, Assistant Professor of Ophthalmology
 KATHLEEN M. ZACKOWSKI
 Assistant Professor of Physical Medicine and Rehabilitation, Assistant Professor of Neurology
 WENDY C. ZIAI
 Assistant Professor of Neurology, Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Neurological Surgery
 MERRILL ANSHER, Instructor
 RICHARD BABKES, Instructor
 DANIEL BECKER, Instructor
 AMANDA M. BROWN, Instructor
 JOSHUA BENJAMIN EWEN, Instructor
 JEROLD H. FLEISHMAN, Instructor
 ABRAHAM ALLAN GENUT, Instructor
 BRAEME S. GLAUN, Instructor
 ADRIAN J. GOLDSZMIDT, Instructor
 HILARY EILEEN GWYNN, Instructor
 ANDRES HURTADO, Instructor
 DEEPA MENON, Instructor
 JOHN NOLAN RATCHFORD, Instructor
 NICOLINE SCHIESS, Instructor
 SHULI XIA, Instructor
 ANGELO HOMAYOUN ALL
 Assistant Professor of Biomedical Engineering, Research Associate in Neurology
 RICHARD P. ALLEN, Research Associate
 VEERA VENKATA RATNAM BANDARU, Research Associate
 LENA BEZMAN, Research Associate
 MARTA BOSCH-MARCE, Research Associate
 LYNN ANNE BRISTOL, Research Associate

WEIRAN CHEN, Research Associate
 GIGI JASMINE EBENEZER, Research Associate
 MOHAMED H. FARAH, Research Associate
 ANNE E. GOCKE, Research Associate
 SERGIO J. GUTIERREZ, Research Associate
 LINA HU, Research Associate
 MELINA VIOLA JONES, Research Associate
 RICHARD OWEN JONES, Research Associate
 SHILPA D. KADAM, Research Associate
 HAN SEOK KO, Research Associate
 CHITRA KRISHNAN, Research Associate
 BACHCHU LAL, Research Associate
 GUANHAN LI, Research Associate (from
 09/26/09)
 WENXUE LI, Research Associate
 YUN LI, Research Associate
 ZHAO BO LI, Research Associate
 YIDENG LIANG, Research Associate
 YANG LU, Research Associate
 CHERIE L. MARVEL, Research Associate
 RUIFA MI, Research Associate
 ANN B. MOSER, Research Associate
 BAOHAN PAN, Research Associate
 ZHENG TONG PEI, Research Associate
 MASAYUKI SASAKI, Research Associate
 PAMELA TALALAY, Research Associate Emerita
 KYRANA TSAPKINI, Research Associate (from
 08/01/09)
 MARK J. VAAL, Research Associate
 TONGGUANG WANG, Research Associate
 XUEQING WANG, Research Associate
 WILLIAM R.S. WEBBER, Research Associate
 JIE YUAN, Research Associate
 PING-WU ZHANG, Research Associate
 SUMMER ACEVEDO, Visiting Scientist
 GREGORY F. BURTON, Visiting Scientist (to
 08/31/09)
 SEUNG HAN LEE, Visiting Scientist
 JOSE W. RODRIGUEZ, Visiting Scientist
 CHANGQING SHI, Visiting Scientist
 PIOTR SUFFCYNYSKI, Visiting Scientist

FACULTY ASSOCIATED WITH THE
 DEPARTMENT OF NEUROLOGY HOLDING A
 PRIMARY APPOINTMENT IN:

The Bloomberg School of Public Health:

M. DIANE E. GRIFFIN
 Professor of Molecular Microbiology and
 Immunology
 J. MARIE HARDWICK
 Professor of Molecular Microbiology and
 Immunology

Nervous System and Special Senses— First Year

1. Neurology. Director: Dr. Newman-Toker. Faculty from multiple departments. Offered fourth quarter (final 7 weeks).

This section of the new Genes to Society course integrates content across several clinical disciplines (neurology, neuropathology, neuroradiology, neurosurgery, ophthalmology, otolaryngology) with the fundamentals of basic neuroanatomy, neurophysiology, neuropharmacology, and molecular neuroscience. The section emphasizes the integration of content related to normal and abnormal functions of the nervous system and special sense organs focusing on the complex interplay between individuals and their environment (exploring links between genetic and individual human variation and societal influence on neurologic function).

Neurology—Second Year

1. Neurology. Drs. Newman-Toker, Cole, Eberhardt, and staff. Second quarter (final 2 weeks).

This block integrates clinical neurology content with the fundamentals of neuropathology, neuropathophysiology, neuropharmacology, and basic mechanisms of neurological disease.

Basic Neurology Clerkship—Second, Third or Fourth Year

1. Neurology Clerkship. Director: Dr. Newman-Toker. Offered as part of the required Psychiatry/Neurology Clerkship. Four quarters and summer.

Each student will spend four weeks on Clinical Neurology and four weeks on Clinical Psychiatry. Examination of the nervous system, formulation of clinical problems, and initial triage and management of patients with neurologic symptoms are stressed. Teaching occurs at the Johns Hopkins Hospital, Johns Hopkins Bayview Medical Center, and Sinai Hospital. All rotations include experiences in outpatient, inpatient consult, and inpatient ward neurology. Pediatrics may be requested as a focus for the inpatient ward experience.

ELECTIVE OPPORTUNITIES—Curricular

Consultant: Dr. Newman-Toker. Elective courses must be approved by the preceptor and the student's faculty advisor; any member of the department may act as preceptor.

Neurology E

The elective courses offered below are given in part for the instruction of house officers and fellows in Neurology. All courses are also open to students of the third and fourth years who wish more experience in clinical and basic neurology, and for students who propose ultimately to become neurologists.

E 1. Neurology Sub-Internship. Director: Dr. David Newman-Toker, 4-6 weeks, offered year round. Coordinator: Nancy Woodey (nlippi1@jhmi.edu, 410-955-0623)

Prerequisite: Basic Clerkships in Medicine and Neurology.

A clinical subinternship is offered on the adult deontology inpatient and services at The Johns Hopkins Hospital or at the Johns Hopkins Bayview Medical Center. Neurology subinterns must devote a minimum of four weeks to inpatient neurology during the subinternship.

E 2. Advanced Neurology Clerkship. Director: Dr. David Newman-Toker, 4-6 weeks, offered year round. Coordinator: Nancy Woodey (nlippi1@jhmi.edu, 410-955-0623).

Prerequisite: Basic Clerkship in Neurology.

Students may choose to focus on inpatient or outpatient adult neurology and may tailor their experience to their educational needs in consultation with the course director.

E 3. Advanced Pediatric Neurology Clerkship. Director: Dr. Eric Kossoff, 4-6 weeks, offered year round. Coordinator: Nancy Woodey (nlippi1@jhmi.edu, 410-955-0623)

Prerequisite: Basic clerkships in Neurology and Pediatrics.

An elective clerkship in Pediatric Neurology is offered on both inpatient and outpatient Pediatric Neurology services.

E 4. Pediatric Epilepsy Elective. Director: Dr. Adam Hartman, 4 weeks, offered year round. Coordinator: Nancy Woodey (nlippi1@jhmi.edu, 410-955-0623)

Prerequisite: Basic clerkships in Neurology and Pediatrics.

Students will gain a broad exposure to patients with epilepsy by spending time in the inpatient setting (Epilepsy Monitoring Unit), clinic (including Ketogenic Diet Clinic), education and patient management conferences, EEG reading sessions, and epilepsy surgeries.

E 5. Neuro Critical Care Elective. Director: Dr. J. Ricardo Carhuapoma, 4 weeks, offered year round. Coordinator: Nancy Woodey (nlippi1@jhmi.edu, 410-955-0623)

Prerequisite: Basic clerkship in Neurology.

E 6. Research.

Research interests represented in the Department of Neurology are as follows:

DR. ALBERT

Alzheimer's disease.

DR. CORNBATH

Neurology peripheral nerve disease and electromyography.

DR. T. DAWSON

Molecular mechanisms of neurodegenerative disease; neuronal cell death and survival.

DR. V. DAWSON

Molecular mechanisms of neurodegenerative disease.

DR. DRACHMAN

Neuromuscular diseases; neuroimmunology; gene transfer strategies for therapy of Myasthenia and ALS.

DR. EARLEY

Sleep-related disorders; sleep-wake dysfunctions; restless leg syndrome; circadian rhythm disorders.

DR. GAIANO

Molecular mechanisms regulating mammalian neural stem cells.

DR. GARTNER

Virologic studies of HIV infections of nervous system.

DR. GORDON

Neuropsychology.

DR. J. GRIFFIN

Disease of peripheral nerve.

DR. HANLEY

Brain injury outcomes; stroke; experimental neurosurgery.

DR. HILLIS

Neural basis of cognitive impairment and recovery after stroke.

DR. HOKE

Peripheral neuropathies; nerve regeneration and drug development for neuroprotection.

DR. JOHNSTON

Excitatory amines in cerebral anoxia.

DR. KOSSOFF

Ketogenic diet; hemispherectomy; infantile spasms; migraines; intractable epilepsy.

DR. LATERRA

Studies of brain tumors; neuro-oncology.

DR. LESSER

Epilepsy and electroencephalography.

DR. LLOYD

Neuroimmunology.

DR. McARTHUR

Therapies for HIV-associated dementia and sensory neuropathies; cutaneous innervation in diverse neuropathic states; multiple sclerosis, neurological infections.

DR. MURINSON

Pain; medical education; neuropathy; stiff-person syndrome.

DR. NATH

Immune disorders and infections of the nervous system.

DR. NEWMAN-TOKER

Clinical and health services research related to diagnosis and misdiagnosis of neurological symptoms and disorders in frontline healthcare settings such as the emergency department.

DR. SINGER

Pediatric movement disorders; neuroimmunology.

DR. SOLOMON

Vestibular ocular motor neurophysiology; biomechanics; gaze and postural stability during turning.

DR. SONG

Regulation and application of adult neural stem cells.

DR. SUMNER

Inherited motor neuron and peripheral nerve diseases.

DR. WITYK

Cerebrovascular disease; stroke; neuroradiology; critical care neurology.

DR. YING

MRI of cerebellar control of eye movements in hereditary ataxias.

DR. ZEE

Oculomotor and vestibular disorders.

Neuroscience

RICHARD L. HUGANIR

Professor of Neuroscience, Joint Appointment in Biological Chemistry, Investigator of the Howard Hughes Medical Institute, Director of the Department of Neuroscience

MARILYN S. ALBERT

Professor of Neurology, Professor of Neuroscience, Professor of Psychiatry

JAY M. BARABAN

Professor of Neuroscience, Professor of Psychiatry

JOSEPH V. BRADY

Professor of Behavioral Biology in the Department of Psychiatry, Professor of Neuroscience

PETER A. CAMPOCHIARO

George S. and Dolores D. Eccles Professor of Ophthalmology, Professor of Neuroscience

TED DAWSON

Leonard and Madlyn Abramson Professor of Neurodegenerative Diseases in the Department of Neurology, Professor of Neuroscience

VALINA L. DAWSON

Professor of Neurology, Professor of Neuroscience, Professor of Physiology

DANIEL B. DRACHMAN

W.W. Smith Charitable Trust Professor of Immunology in the Department of Neurology, Professor of Neuroscience

PAUL ALBERT FUCHS

John E. Bordley Professor of Otolaryngology-Head and Neck Surgery, Professor of Biomedical Engineering, Professor of Neuroscience

DAVID D. GINTY

Professor of Neuroscience, Investigator of the Howard Hughes Medical Institute

JOHN W. GRIFFIN

University Distinguished Professor of Neurology, Professor of Neuroscience, Professor of Pathology

ROLAND R. GRIFFITHS

Professor of Behavioral Biology in the Department of Psychiatry, Professor of Neuroscience

STEWART H.C. HENDRY, Professor

STEVEN S. HSIAO

Professor of Neuroscience, Professor of Biomedical Engineering

RICHARD T. JOHNSON

University Distinguished Service Professor of Neurology, Professor of Neuroscience

ALEX LEO KOLODKIN

Professor of Neuroscience, Joint Appointment in Molecular Biology and Genetics, Investigator of the Howard Hughes Medical Institute

JOHN J. LATERRA

Professor of Neurology, Professor of Neuroscience, Professor of Oncology

MIN LI

Professor of Neuroscience, Professor of Physiology

DAVID J. LINDEN, Professor

LEE J. MARTIN

Professor of Pathology, Professor of Neuroscience

MARK P. MATTSON, Professor

GUY MEAD MCKHANN
Professor of Neurology, Professor of Neuroscience

LLOYD B. MINOR

Andelot Professor of Laryngology and Otolaryngology, Professor of Biomedical Engineering, Professor of Neuroscience

MARK E. MOLLIVER

Professor Emeritus of Neuroscience, Professor Emeritus of Neurology

CRAIG MONTELL

Professor of Biological Chemistry, Professor of Neuroscience

VERNON B. MOUNTCASTLE

University Professor Emeritus of Neuroscience

AVINDRA NATH

Professor of Neurology, Professor of Neuroscience

JEREMY NATHANS

Professor of Molecular Biology and Genetics, Professor of Neuroscience, Professor of Ophthalmology

DONALD L. PRICE

Professor of Pathology, Professor of Neurology, Professor of Neuroscience

RANDALL R. REED

Professor of Molecular Biology and Genetics, Professor of Neuroscience, Professor of Otolaryngology-Head and Neck Surgery

DAVID A. ROBINSON

University Distinguished Service Professor Emeritus of Ophthalmology, University Distinguished Service Professor Emeritus of Biomedical Engineering, University Distinguished Service Professor Emeritus of Neuroscience

GABRIELE V. RONNETT

Professor of Neuroscience, Professor of Neurology

CHRISTOPHER A. ROSS

Professor of Psychiatry, Professor of Neurology, Professor of Neuroscience, Professor of Pharmacology and Molecular Sciences

JEFFREY D. ROTHSTEIN

Professor of Neurology, Professor of Neuroscience

DAVID K. RYUGO

Professor of Otolaryngology-Head and Neck Surgery, Professor of Neuroscience

MURRAY B. SACHS

University Distinguished Service Professor of Biomedical Engineering, Professor of Neuroscience, Professor of Otolaryngology-Head and Neck Surgery

RONALD L. SCHNAAR

Professor of Pharmacology and Molecular Sciences, Professor of Neuroscience

LAWRENCE P. SCHRAMM

Professor of Biomedical Engineering, Professor of Neuroscience

- REZA SHADMEHR**
Professor of Biomedical Engineering, Professor of Neuroscience
- SOLOMON H. SNYDER**
University Distinguished Service Professor of Neuroscience, University Distinguished Service Professor of Pharmacology and Molecular Sciences, University Distinguished Service Professor of Psychiatry
- GEORGE R. UHL**
Adjunct Professor of Neurology (from 10/01/09), Adjunct Associate Professor of Neurology (to 09/30/09), Adjunct Professor of Neuroscience (from 10/01/09), Adjunct Associate Professor of Neuroscience (to 09/30/09)
- RUDIGER VONDERHEYDT**, Professor
- XIAOQIN WANG**
Professor of Biomedical Engineering, Professor of Neuroscience, Professor of Otolaryngology-Head and Neck Surgery
- DEAN F. WONG**
Professor of Radiology and Radiological Science, Professor of Neuroscience, Joint Appointment in Psychiatry
- PHILIP CHUN-YING WONG**
Professor of Pathology, Professor of Neuroscience
- PAUL F. WORLEY**
Professor of Neuroscience, Professor of Neurology
- KING-WAI YAU**
Professor of Neuroscience, Professor of Ophthalmology
- ERIC D. YOUNG**
Professor of Biomedical Engineering, Professor of Neuroscience, Professor of Otolaryngology-Head and Neck Surgery
- DAVID T. YUE**
Professor of Biomedical Engineering, Professor of Neuroscience
- DONALD J. ZACK**
Guerrieri Family Professor of Ophthalmology, Professor of Neuroscience, Joint Appointment in Molecular Biology and Genetics
- DAVID S. ZEE**
Professor of Neurology, Professor of Neuroscience, Professor of Ophthalmology, Professor of Otolaryngology-Head and Neck Surgery
- AMY J. BASTIAN**
Associate Professor of Neuroscience, Associate Professor of Neurology, Associate Professor of Physical Medicine and Rehabilitation
- DWIGHT EDWARD BERGLES**
Associate Professor of Neuroscience, Assistant Professor of Otolaryngology-Head and Neck Surgery
- MARY ELIZABETH BLUE**
Associate Professor of Neurology, Associate Professor of Neuroscience
- MICHAEL J. CATERINA**
Associate Professor of Biological Chemistry, Associate Professor of Neuroscience
- CHARLES E. CONNOR, JR.**, Associate Professor
- NICHOLAS ROGER GAIANO**
Associate Professor of Neurology, Associate Professor of Neuroscience, Associate Professor of Oncology
- ELISABETH GLOWATZKI**
Associate Professor of Otolaryngology-Head and Neck Surgery, Associate Professor of Neuroscience
- AHMET HOKE**
Associate Professor of Neurology, Associate Professor of Neuroscience
- ALFREDO KIRKWOOD**, Associate Professor
- JAMES J. KNIERIM**, Associate Professor
- GUO-LI MING**
Associate Professor of Neurology, Associate Professor of Neuroscience
- ERNST NIEBUR**, Associate Professor
- RICHARD J. O'BRIEN**
Associate Professor of Neurology, Associate Professor of Neuroscience, Joint Appointment in Medicine
- JONATHAN PEVSNER**
Associate Professor of Neuroscience, Joint Appointment in Health Sciences Informatics
- MIKHAIL V. PLETNIKOV**
Associate Professor of Psychiatry, Associate Professor of Neuroscience
- IRVING MICHAEL RETI**
Associate Professor of Psychiatry, Associate Professor of Neuroscience
- AKIRA SAWA**
Associate Professor of Psychiatry, Associate Professor of Neuroscience
- SHANTHINI SOCKANATHAN**, Associate Professor
- HONGJUN SONG**
Associate Professor of Neurology, Associate Professor of Neuroscience
- KATHRYN R. WAGNER**
Associate Professor of Neurology, Associate Professor of Neuroscience
- MARY ANN WILSON**
Associate Professor of Neurology, Associate Professor of Neuroscience
- JIN ZHANG**
Associate Professor of Pharmacology and Molecular Sciences, Associate Professor of Neuroscience, Associate Professor of Oncology
- SETH BLACKSHAW**
Assistant Professor of Neuroscience, Joint Appointment in Ophthalmology
- ANGELIKA DOETZLHOFFER**, Assistant Professor
- XINZHONG DONG**, Assistant Professor
- DAVID FOSTER**, Assistant Professor
- NICHOLAS MARSH-ARMSTRONG**
Assistant Professor of Neuroscience, Joint Appointment in Ophthalmology
- MOLLIE K. MEFFERT**
Assistant Professor of Biological Chemistry, Assistant Professor of Neuroscience
- MARSHALL G. HUSSAIN SHULER**, Assistant Professor

KECHEN ZHANG

Assistant Professor of Biomedical Engineering,
Assistant Professor of Neuroscience

FENG-QUAN ZHOU

Assistant Professor of Orthopaedic Surgery,
Assistant Professor of Neuroscience

ANUTOSH CHAKRABORTY

Instructor in Neuroscience (from 09/01/09),
Research Associate in Neuroscience (to
08/31/09)

ROXANNE K. BARROW, Research Associate

MARLIN H. DEHOFF, Research Associate

TAKASHI HAYASHI, Research Associate (to
08/31/09)

LYNDA D. HESTER, Research Associate

JIAHUA HU, Research Associate

ZHI LI, Research Associate

DA-TING LIN, Research Associate

DONG-GEN LUO, Research Associate

KENJI MANDAI, Research Associate

JUNG HOON SHIN, Research Associate (to
09/30/09)

ADELE M. SNOWMAN, Research Associate

GARETH MICHAEL THOMAS, Research
Associate

BO XIAO, Research Associate

DESHENG XU, Research Associate

JIA XU, Research Associate

ANN M. FERRIE, Visiting Scientist

MASAHIRO FUKAYA, Visiting Scientist

EUN-KYOUNG KIM, Visiting Scientist

JUNO KIM, Visiting Scientist

CHEIL MOON, Visiting Scientist

HAIYAN SUN, Visiting Scientist

GIHAN I. TENNEKON, Visiting Scientist

ELIZABETH TRAN, Visiting Scientist

JIE ZHANG, Visiting Scientist

FACULTY ASSOCIATED WITH THE

DEPARTMENT OF NEUROSCIENCE HOLDING A
PRIMARY APPOINTMENT IN:

The School of Medicine:

JOHN E. DESMOND

Associate Professor of Neurology

FREDERICK A. LENZ

A. Earl Walker Professor of Functional
Neurosurgery

ALFREDO QUINONES-HINOJOSA

Associate Professor of Neurological Surgery

The Bloomberg School of Public Health:

JIOU WANG

Assistant Professor of Biochemistry and
Molecular Biology

The School of Arts and Sciences:

GREGORY F. BALL

Professor of Psychology

SUSAN COURTNEY

Assistant Professor of Psychology

HOWARD ELLIOTT EGETH

Professor of Psychology

ERIC FORTUNE

Assistant Professor of Psychology

MICHELA GALLAGHER

Professor of Psychology

SAMER S. HATTAR

Assistant Professor of Biology

PETER C. HOLLAND

Professor of Psychology

REJJI KURUVILLA

Assistant Professor of Biology

BARBARA LANDAU

Dick and Lydia Todd Faculty Development

Professor of Cognitive Science

MICHAEL MCCLOSKEY

Professor of Cognitive Science

BRENDA RAPP

Professor of Cognitive Science

AMY LYNNE SHELTON

Assistant Professor of Psychology

VEIT STUPHORN

Assistant Professor of Psychological and Brain
Studies

STEVEN YANTIS

Professor of Psychology

The Department of Neuroscience investi-
gates the nervous system using a variety of
approaches, including molecular biologic,
biophysical, biochemical, neurophysiological,
and anatomical strategies.

REQUIRED COURSE WORK FOR PH.D. PROGRAM

Neuroscience

ME440.712 Science, Ethics, and Society. Dr.
Marsh-Armstrong. Offered annually, one Wednes-
day per month, October-May.

Prerequisite: Consent of course director.

Science as a profession has undergone radical
changes in the last decade. Central issues include
mentoring, misconduct in science, preparedness
of graduate students and postdoctoral fellows for
careers in science, and the career choices cur-
rently available. To this end, this course will focus
on mentoring and issues of ethics and scientific
misconduct. Preparedness for a career in science
issues will be discussed in the context of funding
currently available to scientists and preparation
strategies involved in grant writing. In addition,
methods of oral presentation and slide preparation
will be discussed.

ME440.800 Neuroscience Research.

Research interests represented in the Department
of Neuroscience are as follows:

DR. ALBERT*

Cognitive processes in aging and
neurodegenerative disorders.

DR. BALL

Behavioral neuroendocrinology and
neuroethology.

- DR. BARABAN*
Molecular mechanisms of neuronal plasticity.
- DR. BASTIAN
Mechanisms of human movement disorders.
- DR. BERGLES*
Synaptic physiology; glutamate transporters and glial involvement in neuronal signaling.
- DR. BLACKSHAW
Molecular basis of cell specification in vertebrate retina and hypothalamus.
- DR. BLUE*
Neurotransmitter mechanisms in development and activity-dependent plasticity.
- DR. BRADY
Behavioral biology (physiology and pharmacology).
- DR. CAMPOCHIARO
Molecular aspects of retinal repair and regeneration.
- DR. CATERINA
Molecular mechanisms of thermosensation and nociception.
- DR. CONNOR*
Object synthesis in higher level visual cortex.
- DR. COURTNEY-FARUQUE
Functional organization of the neural system for human working memory.
- DR. T. DAWSON
Molecular mechanisms of neuronal cell death and signaling.
- DR. V. DAWSON
Molecular mechanisms of neuronal death and survival.
- DR. DESMOND
Cognitive neuroscience: cerebello-cerebellar circuits in learning and memory.
- DR. DOETZLHOFER
Cell fate specification and differentiation in the mammalian auditory system.
- DR. DONG
Molecular and genetic studies of pain-sensing neurons.
- DR. DRACHMAN
Nerve muscle interactions in health and disease.
- DR. EGETH
Preception and cognition; attention and attentional selectivity; eyewitness testimony.
- DR. FORTUNE
Neural basis of behavior; sensory processing; neuroethology.
- DR. FOSTER
Neural ensemble mechanisms of learning and memory.
- DR. FUCHS
Excitability and synaptic function in cochlear hair cells.
- DR. GAIANO*
Molecular regulation of stem cell maintenance, proliferation, and differentiation in the mammalian brain.
- DR. GALLAGHER
Neural mechanisms of memory and attention.
- DR. GINTY*
Growth and survival signals controlling nervous system development.
- DR. GLOWATZKI*
Synaptic transmission at hair cell synapses in the inner ear.
- DR. GRIFFIN
Cellular neurobiology of the peripheral nervous system.
- DR. GRIFFITHS
Behavioral pharmacology of drugs of abuse.
- DR. HATTAR
Physiological effects of light on mammals; role of the novel melanopsin containing retinal ganglion photoreceptors.
- DR. HENDRY*
Functional organization of primate visual system.
- DR. HOKE
Neurobiology of peripheral neuropathies; development and regeneration of the peripheral nervous system.
- DR. HOLLAND
Neural systems in learning, motivation, and attention.
- DR. HSHAO
Neurophysiology of the central nervous system.
- DR. HUGANIR*
Molecular mechanisms in the regulation of synaptic plasticity.
- DR. KIRKWOOD
Mechanisms of cortical modification.
- DR. KOLODKIN*
Molecular mechanisms of growth cone guidance.
- DR. KURUVILA*
Signaling and trafficking of growth factors in neuronal development.
- DR. LATERRA
CNS tumor biology and blood-brain barrier.
- DR. LENZ*
Neurophysiology and psychophysics of sensory and motor processing in the human forebrain.
- DR. LI
Signal transduction in the mammalian nervous system; structure and function of cell surface proteins.
- DR. LINDEN
Cellular substrates of memory.
- DR. MARSH-ARMSTRONG*
Gene regulation; development and disease of the vertebrate retina.
- DR. MATTSON
Cellular and molecular mechanisms of brain aging and neurodegenerative disorders.
- DR. MEFFERT
Transcriptional regulation of neuronal function in health and disease.
- DR. MING
Molecular mechanisms of neuronal navigation during development and in adulthood.
- DR. MINOR
Neurophysiology of the vestibular system.
- DR. MONTELL
Sensory signaling and TRP channels.
- DR. NATH*
Mechanisms of neurodegeneration in dementia due to HIV infection.
- DR. NATHANS
Molecular biology of the visual system.
- DR. NIEBUR*
Computational neuroscience.
- DR. O'BRIEN
Molecular aspects of synapse formation in the brain.

DR. O'HEARN
Mechanisms of neuronal injury: excitotoxicity; purkinje cell degeneration; neurodegenerative diseases: spinocerebellar ataxias.

DR. PEVSNER*
Molecular basis of neurological disorders.

DR. PLETNIKOV
Gene-environment interactions in neurodevelopmental disorders.

DR. PRICE
Neurobiology of degenerative brain diseases in animals and man.

DR. QUINONES-HINOJOSA*
Neural stem cells: their role in neurogenesis and pathogenesis.

DR. REED
Molecular mechanisms of signal transduction and neurogenesis in the olfactory system.

DR. RETI*
Behavioral neuroscience and its clinical applications.

DR. RONNETT*
Mechanisms of signal transduction in neuronal differentiation and olfaction.

DR. ROSS
Biology of neuropsychiatric disorders.

DR. ROTHSTEIN
Molecular mechanisms of neurodegeneration and transporters and their role in neurological disease.

DR. RYUGO
Anatomy and physiology of the auditory nervous system.

DR. SAWA*
Neurobiology of psychiatric illnesses.

DR. SCHNAAR
Cell surface molecules in neural cell-cell recognition; myelin maintenance; axon regeneration.

DR. SCHRAMM
Regulation of sympathetic neurons.

DR. SHADMEHR
Computational motor control and learning.

DR. SHELTON
Cognitive neuroscience; spatial cognition; learning and memory.

DR. SHULER*
Neural mechanisms of reward dependent learning.

DR. SNYDER*
Neurotransmitters, second messengers and drug action in the nervous system.

DR. SOCKANATHAN*
Cell fate specification in the central nervous system.

DR. SONG
Mechanisms of regulating adult neural stem cells of mammalian CNS.

DR. STUPHORN
Neurophysiological mechanisms of decision making and self-control.

DR. UHL
Molecular biology and genetics of drugs of abuse.

DR. VON DER HEYDT*
Neurophysiology of the visual system.

DR. WAGNER*
Muscle growth and regeneration.

DR. WANG
Neural basis of auditory perception and learning.

DR. WILSON*
Mechanisms of development, plasticity, and injury in the immature brain.

DR. D. WONG*
In vivo imaging (PT/SPECT/MR) of neuroreceptor systems in animal models and humans; methods development; applications to animals and humans; drug action studied by brain imaging.

DR. P.WONG*
Molecular mechanism and experimental therapeutic of neurodegenerative diseases.

DR. WORLEY*
Molecular mechanisms of neuronal plasticity.

DR. YANTIS
Cognitive neuroscience of vision.

DR. YAU*
Visual and olfactory sensory transduction.

DR. YOUNG
Auditory perception and neurophysiology; organization of central auditory system.

DR. YUE
Molecular physiology of calcium channels and calcium signaling.

DR. ZACK
Molecular approaches to the study of retinal development and disease.

DR. ZEE
Regulation of eye movements.

DR. J. ZHANG
Spatiotemporal regulation of protein kinases and second messengers.

DR. K. ZHANG
Theoretical neuroscience.

DR. ZHOU
Molecular mechanisms of axon growth and guidance during development CNS regeneration.

* Holds primary appointment in Neuroscience; all others hold primary appointments in another department.

ME440.801 Readings in Neuroscience. Dr. Dong. Tuesday, 1:00 all year.

Prerequisite: Consent of course director.

This course can be taken instead of ME440.811.

A weekly lunchtime talk on current literature topics of special interest. Graduate students receive close faculty guidance in preparing presentations.

ME440.802 Current Topics in Neuroscience. Dr. Foster. Thursday, 1:00; all year.

Prerequisite: Consent of course director.

Weekly lecture on current research by active researchers. Topics are chosen so that an overall balance of subjects in neuroscience are covered in the course of a year. Students receive a reading list before the seminar and will be given an opportunity to meet with outside speakers.

ME440.803 Teaching in Neuroscience. Staff. All quarters.

Prerequisite: Consent of instructor.

Designed for preparation to become a teaching assistant in any Neuroscience Course. When registering for this course, please indicate the course number for which you will serve as a teaching assistant.

ME440.810 Readings in Systems Neuroscience.

Drs. Stuphorn, and Niebur. All year; yearly.

This course can be taken instead of ME440.801.

The course will focus on neural mechanisms of perception, attention, learning and memory from the perspective of systems neuroscience and will be based on the current original literature.

ME440.811 Neuroscience and Cognition I. Dr. Blackshaw. First and second quarters yearly.

Prerequisites: Basic Cell and Molecular Biology (may be taken concurrently) or permission from course directors.

This is the first half of a four-quarter course on the cellular and molecular basis of neural function and the neural basis of perception, cognition, and behavior. Topics covered in this half include (1) development and structure of the nervous system, (2) cellular neurophysiology, (3) neural signaling and coding, and (4) audition, vocalization, and language. Lectures will be presented by faculty in the Neuroscience, Neurology, Biomedical Engineering, Psychology, and Cognitive Science departments. The course will also include discussion sections based on current literature and several neurotechniques sessions designed to familiarize students with current experimental approaches in cellular, systems, and molecular neuroscience. This course is required of all students in the Neuroscience Graduate Program. Students outside the program may take this course independent of Neuroscience and Cognition II.

ME440.812 Neuroscience and Cognition II. Dr. Bastian. Third and fourth quarters yearly.

Prerequisites: Basic Cell and Molecular Biology (may be taken concurrently) or permission from course directors.

This is the second half of a four-quarter course on the cellular and molecular basis of neural function and the neural basis of perception, cognition, and behavior. Topics covered in this half include (1) perception of objects, space, and self, (2) movement and balance, (3) learning and memory, (4) neurologic and psychiatric disorders, and (5) global function in the nervous system. Lectures will be presented by faculty in the Neuroscience, Neurology, Biomedical Engineering, Psychology, and Cognitive Science departments. The course will also have a laboratory component. This course is required of all students in the Neuroscience Graduate Program. Students outside the program may take this course independent of Neuroscience and Cognition I with permission from course directors.

OTHER COURSES AND ELECTIVE OPPORTUNITIES—*Curriculum Consultant:* Drs. David Ginty and Steven Hsiao.

In addition to the core courses, each student selects advanced electives offered by members of the Neuroscience Training Program or other departments at the Medical School. Students in the Neuroscience Training Program are required to complete six elective courses by the end of their second year. These may be a combination of small seminar-style elective courses in neuroscience, listed below,

and advanced courses in other fields relevant to their research interests, such as molecular biology, genetics, immunology, biochemistry, biomedical engineering, biostatistics, pharmacology, physiology, anatomy and computer science.

ME440.701 Diseases of the Brain. Dr. Ross. Fourth quarter, bi-yearly.

Prerequisites: Neuroscience Cognition I and II or consent of course director.

This course will consist of lectures and discussions concerning the application of molecular techniques in the study of neurologic and psychiatric illnesses. Specific diseases shall serve as examples for analysis of abnormal genes, protein products and neurotoxicity.

ME440.702 Cellular Substrates of Learning and Memory. Dr. Linden. Third quarter; bi-yearly.

Prerequisite: Consent of course director.

The search for the engram has proved to be one of the most fascinating and frustrating problems in contemporary biology. In this course we shall attempt to gain an understanding of the current state of the struggle through reading and discussion of original source materials from the literature. We shall examine attempts to find biochemical, electrophysiological and morphological changes in neural tissue during and following learning tasks, and attempts to interfere with or enhance learning and memory through genetic, electrophysiologic and pharmacologic manipulation. In addition, electrophysiological model systems of information storage such as long-term potentiation and long-term depression will be considered. Examples shall be taken from both the vertebrate and invertebrate literature. Prior coursework in electrophysiology is strongly recommended (Neuroscience and Cognition I is sufficient).

ME440.705 The Cellular and Molecular Basis of Neural Development. Drs. Ginty, Kolodkin and Sockanathan. Fourth quarter; every year.

Prerequisite: Completion of Neuroscience Cognition I or consent of course director.

A seminar and reading course devoted to the discussion of the cellular and molecular processes underlying neuronal development. Topics to be covered include neural induction, cell differentiation, neurotrophic factors and their mechanism of action, mechanisms of axonal growth and guidance, target recognition and synapse formation, and the basis of synaptic specificity. Students must have completed Neuroscience Cognition I and II.

ME440.707 Mechanisms of Synaptic Transmission. Drs. Bergles, Glowatzski and Worley. Fourth quarter; bi-yearly.

Prerequisite: Consent of course director.

A seminar and reading course devoted to the molecular mechanisms underlying synaptic transmission and the regulation of synaptic plasticity. The structure and function of neurotransmitter receptors, ion channels and synaptic vesicle proteins will be discussed. In addition, the molecular mechanisms involved in the control of synaptic transmission such as the trans-synaptic regulation of the function and expression of synaptic proteins will be examined.

ME440.709 Neuropharmacology. Drs. Baraban and Snyder. First quarter, bi-yearly. Three hours per week plus assigned reading.

Prerequisite: Consent of course director.

Classical studies elucidating the mechanisms of action of psychoactive substances led to seminal discoveries about how the brain works. Conversely, our ability to exploit modern advances in molecular neurobiology to treat neurological and psychiatric diseases will depend on successful development of new drugs based on these findings.

The instructors present an overview of the mechanisms of action of several, widely used drug classes and the broad range of methods used to elucidate their effects on the brain. Furthermore, students present papers describing recent advances in this dynamic field of research.

ME440.710 Molecular Mechanisms of Cell Death: Necrosis to Apoptosis. Drs. Ted and Valina Dawson. Second quarter; bi-yearly.

Prerequisite: Completion of Neuroscience Cognition I or consent of course directors.

This is a state-of-the-art course on molecular mechanisms of cell death. A multi-disciplinary approach spanning multiple organ systems will be utilized to illustrate key features of cell death programs. The course will highlight research ongoing at Johns Hopkins University as well as additional current advances in the molecular biology of cell death. Each week will be composed of a lecture reviewing critical features of a cell death pathway followed by journal review of recently published seminal papers. Topics will include anti-apoptotic proteins, intracellular proteases, p53, c-myc, excitotoxicity, free radicals, Fas, TNFa death programs, ER stress response and developmental programmed cell death.

ME440.715 Trends in the Neurobiology of Aging. Dr. Mattson. First quarter every other year.

As the average lifespan of humans increases, age-related dysfunction of the nervous system, and neurodegenerative disorders such as Alzheimer's and Parkinson's diseases, are becoming major concerns in our society. Recent advances in understanding the molecular and cellular underpinnings of nervous system aging and neurodegenerative disorders will be the focus of this course. Emerging findings of genetic and environmental factors that either promote successful brain aging or predispose to age-related neurological disorders, and elucidation of their underlying molecular and cellular mechanisms, will be emphasized. The course will consist of several introductory lectures and subsequent sessions in which hot topics in the field are discussed.

ME440.720 The Retinal Ganglion Cell. Dr. Marsh-Armstrong. Fourth quarter every other year.

The course will focus on one cell type: the retinal ganglion cell (RGC). From the perspective of cell biology, developmental biology, physiology, and pathobiology, RGCs share many features with other projection neurons, including a susceptibility to disease. Thus, this course will be directed not only at students who study the retina, but also to neurobiology students who want to take an in depth and holistic look at all aspects of neurobiology pertain-

ing to one particular neuron. The course will take a comprehensive approach to understanding from a cellular and molecular perspective all aspects about the life and death of RGCs. First, the course will cover the structure and function of RGCs: anatomy, morphology, and physiology of RGCs, focusing on the diversity of RGC subtypes and their interaction with various glial cells. Second, the course will cover the development of RGCs: how they are specified; how they differentiate; how they sprout processes; how their axons reach central targets; and RGC dependence on trophic support for survival. The third part of the course will focus on diseases affecting retinal ganglion cells, focusing principally on glaucoma, but also covering other optic neuropathies as well as the response of RGCs to axotomy. The disease section will draw similarities to other neurodegenerations, and will integrate information regarding the structure/function as well as development parts of the course.

The course will have the format of lectures on Mondays by experts in the field, followed by student led discussions on Wednesdays. The discussions will encourage students to critically evaluate the literature, to assess the strength and weaknesses offered by various hypotheses, and to identify important gaps in our current knowledge about these important cells.

ME440.721 Development and Function of Spinal Cord Circuitry. Drs. Kolodkin, Schramm, and Sockanathan. Summer; every other year.

This is a special topics course centered around understanding the generation, logic of neuronal connectivity in the spinal cord. Previous topics included an in-depth assessment of the corticospinal tract (CST), and used the CST as a focus for examining broader issues of axon guidance, axon sprouting and regeneration, and synaptic specificity. Future topics will include development and function of neuronal subtypes in the spinal cord, regeneration and degeneration of spinal circuitry, and integration of spinal circuits in the context of CNS and PNS function.

ME440.722 Visual System. Dr. Hendry. First and second quarter every year.

From outer segments of photoreceptors to the Fusiform Face Area of the cerebral cortex we have come to understand how the visual system works at each of many fundamental levels. This course examines the basis for perception of visible objects at each of these levels. We will use the secondary literature (scientific reviews) to accent the hard-won truths about visual system functional organization and to highlight ongoing controversies. Students will be lead through carefully chosen reviews in a series of lectures and written summaries prepared by faculty. Three exams and a final exam will test students not on their memorization of minutiae but on their understanding of fundamental principles.

ME440.803 Teaching in Neuroscience. Staff. All quarters.

Prerequisite: Consent of instructor.

Designed for preparation to become a teaching assistant in any Neuroscience Course. When registering for this course, please indicate the course number for which you will serve as a teaching assistant.

ME440.804 Directed Reading in Neuroscience. Staff. All quarters.

Directed, independent reading and discussion of current neuroscience literature in a personalized tutorial.

ME440.807 Topics in Somatosensory Research. Dr. Hsiao. Fourth Quarter; offered every year.

Prerequisite: Students must have completed a basic neuroscience course such as Neuroscience A or have permission from one of the instructors.

A seminar and reading course devoted to current research into information processing in the nervous system. Neural coding, the neural representation of images and information, and the neural mechanisms of pattern recognition, association, perception, memory and attention will be discussed. The investigation of information processing depends equally on psychophysical, neurophysiological and computational approaches; the course will draw from the literature in each of these areas.

ME440.808 Physiology of Sensory Transduction. Drs. Fuchs and Yau. Second quarter every other year

Prerequisite: Consent of instructor.

A seminar and reading course that covers current research in sensory transduction from a physiological perspective. Visual, chemical and auditory transductions will be covered.

ME440.813 Current Issues in Systems and Cognitive Neuroscience. Dr. Knierim. Fourth quarter every year.

Prerequisites: Neuroscience A or Neuroscience & Cognition II or permission from course directors. Must be taken concurrently with Readings in Systems Neuroscience, ME440.810.

The brain is an information processing system without parallel. It excels at recognizing objects and substances, reconstructing space, analyzing sound environments, controlling complex behaviors, and storing a lifetime's worth of events and experiences. The neural mechanisms underlying these abilities are studied by a large community of systems and cognitive neuroscientists. This research has generated a rapidly evolving field of high-profile discoveries and lively debates between competing laboratories. This course aims to convey a clear sense of this field by focusing on current experimental and conceptual controversies regarding organization and function in the vertebrate nervous system. Each week will focus on a different topic represented by two or more recent papers (selected by an instructor) reflecting opposing points of view. Students will present the papers informally and direct a debate over the relative merits of the conflicting viewpoints. The quarter-long course will be divided into 2-3 week sections covering different sensory, motor, or cognitive systems, in addition to com-

putational neuroscience. There will be one 2-hour debate each week, and participation in the 1-hour Systems Journal Club (Readings in Systems Neuroscience, ME440.810) will also be required.

ME440:814 Stem cells: Unit of Development and Unit of Regeneration. Drs. Ming and Song. Third quarter; bi-yearly.

This is a seminar and reading course devoted to the discussion of different type of stem cells. The course is designed to give a broad view of mammalian stem cells. The topics will range from pluripotent stem cells (embryonic stem cells and embryonic germ cells) to multipotent somatic stem cells (in brain, heart, blood, etc.) during development as well as in adult. We will cover the basic biology of these stem cells as well as bioengineering and application of these stem cells to potential treatments of human diseases. This elective course is limited to 20 (25) students

Elective Course Co-Sponsored by Wilmer Eye Institute and the Department of Neuroscience.

ME280.700 Cellular and Molecular Biology of Photoreceptors in Health and Diseases. Dr. Zack. Third quarter every year.

The course will present a multidisciplinary approach to the biology and pathology of photoreceptor cells. The first block of lectures will discuss the development, organization, cell biology and biochemistry of photoreceptor cells, and the metabolic bases of their susceptibility to injury; emphasis will be on vertebrate photoreceptors, but contributions from studies with invertebrates will also be included. The next block will be devoted to the photoreceptor microenvironment, including retinal pigment epithelial and Muller cells, the interphotoreceptor matrix, trophic factors and retinoids, light, oxygen and neuromodulators. The third block will be devoted to photoreceptor physiology, including the visual cycle, phototransduction, dark adaptation, spectral sensitivity and color mixture, electroretinography, and rod and cone response dynamics. The next section, dealing with pathology of photoreceptors and related outer retinal structures, will cover some hereditary diseases of known genetic origin, such as retinitis pigmentosa, gyrate atrophy, and abnormalities of color vision, as well as hereditary photoreceptor dystrophies of unknown origin. One lecture will be devoted to strategies for the search for genetic defects responsible for these diseases. After a discussion of macular degeneration and retinal detachment, the last block of lectures will review recent progress in the search for preventive and therapeutic approaches for these diseases, including the development of animal models, gene therapy, transplantation techniques, possible uses of stem cell therapy, and growth factor administration.

Oncology Center

WILLIAM G. NELSON

Professor of Oncology, Professor of Medicine, Professor of Pathology, Professor of Pharmacology and Molecular Sciences, Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Urology, Director of the Department of Oncology

RICHARD F. AMBINDER

James B. Murphy Professor of Oncology, Professor of Medicine, Professor of Pathology, Professor of Pharmacology and Molecular Sciences

ROBERT J. ARCECI

King Fahd Professor of Pediatric Oncology, Professor of Pediatrics

PEDRAM ARGANI

Professor of Pathology, Professor of Oncology

J. THOMAS AUGUST

University Distinguished Service Professor of Pharmacology, Professor of Oncology

CHARLES M. BALCH

Professor of Surgery, Professor of Dermatology, Professor of Oncology

PETER B. BARKER

Professor of Radiology and Radiological Science, Professor of Oncology

STEPHEN B. BAYLIN

Virginia and Daniel K. Ludwig Professor of Cancer Research in the Department of Oncology, Professor of Medicine

ZAVER M. BHUJWALLA

Professor of Radiology and Radiological Science, Professor of Oncology

KARIN J. BLAKEMORE

Professor of Gynecology and Obstetrics in Genetic Medicine, Professor of Oncology

JEFF D. BOEKE

Professor of Molecular Biology and Genetics, Professor of Oncology

MICHAEL J. BOROWITZ

Professor of Pathology, Professor of Oncology

HENRY BREM

Harvey Cushing Professor of Neurosurgery, Professor of Oncology, Joint Appointment in Ophthalmology

ROBERT E. BRISTOW

Professor of Gynecology and Obstetrics, Professor of Oncology

ROBERT A. BRODSKY

Edyth Harris Lucas and Clara Lucas Lynn Professor of Medicine, Professor of Oncology

PETER C. BURGER

Professor of Pathology, Professor of Neurological Surgery, Professor of Oncology

JOSEPH CALIFANO, III

Professor of Otolaryngology-Head and Neck Surgery, Professor of Oncology

JOHN L. CAMERON

University Distinguished Service Professor Alfred Blalock Professor of Surgery, Professor of Oncology

MICHAEL A. CARDUCCI

AEGON Professor of Prostate Cancer Research in the Department of Oncology, Professor of Urology

BENJAMIN S. CARSON

Benjamin S. Carson, Sr. M.D. and Dr. Evelyn Spiron, RN Professor of Pediatric Neurosurgery, Professor of Oncology, Professor of Pediatrics, Professor of Plastic Surgery

H. BALLENTINE CARTER

Professor of Urology, Professor of Oncology

JAMES F. CASELLA

Rainey Professor of Pediatric Hematology in the Department of Pediatrics, Professor of Oncology

ROBERT A. CASERO, JR., Professor

DANIEL W. CHAN

Professor of Pathology, Professor of Oncology, Professor of Radiology, Professor of Urology

ALEX YUANG-CHI CHANG, Professor

PATRICIA CHARACHE

Professor of Pathology, Professor of Medicine, Professor of Oncology

LIEPING CHEN

Professor of Oncology, Professor of Dermatology

MICHAEL A. CHOTI

Jacob C. Handelsman Professor of Abdominal Surgery, Professor of Oncology, Professor of Radiology

CURT I. CIVIN

Adjunct Professor of Oncology, Adjunct Professor of Pediatrics

DOUGLAS PAUL CLARK

Professor of Pathology, Professor of Oncology

DONALD S. COFFEY

Catherine Iola and J. Smith Michael Distinguished Professor of Urology, Professor of Oncology, Professor of Pathology, Professor of Pharmacology and Molecular Sciences

PHILIP ARTHUR COLE

E.K. Marshall and Thomas H. Maren Professor of Pharmacology, Professor of Oncology

C. NORMAN COLEMAN

Visiting Professor of Radiation Oncology and Molecular Radiation Sciences, Visiting Professor of Oncology

PAUL M. COLOMBANI

Robert Garrett Professor of Pediatric Surgery, Professor of Oncology, Professor of Pediatrics

CHARLES W. CUMMINGS

Distinguished Service Professor of Otolaryngology-Head and Neck Surgery, Professor of Oncology

CHI VAN DANG

Johns Hopkins Family Professor for Oncology Research in the Department of Medicine, Professor of Cell Biology, Professor of Oncology, Professor of Pathology, Joint Appointment in Molecular Biology and Genetics

NANCY E. DAVIDSON, Adjunct Professor

ANGELO M. DEMARZO

Professor of Pathology, Professor of Oncology, Professor of Urology

THEODORE L. DEWEESE
 Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Oncology, Professor of Urology

ADRIAN S. DOBS
 Professor of Medicine, Professor of Oncology

ROSS C. DONEHOWER
 Virginia and Daniel K. Ludwig Professor of Clinical Investigation of Cancer in the Department of Oncology, Professor of Medicine

GEORGE J. DOVER
 Given Foundation Professor of Pediatrics, Professor of Oncology, Joint Appointment in Medicine

MARIO A. EISENBERGER
 R. Dale Hughes Professor of Oncology, Professor of Urology

JONATHAN I. EPSTEIN
 Rose-Lee and Keith Reinhard Professor of Urologic Pathology, Professor of Oncology, Professor of Urology

DAVID S. ETTINGER
 Alex Grass Professor of Oncology, Professor of Gynecology and Obstetrics, Professor of Medicine, Professor of Otolaryngology-Head and Neck Surgery, Professor of Radiation Oncology and Molecular Radiation Sciences

ANDREW P. FEINBERG
 King Fahd Professor of Molecular Medicine in the Department of Medicine, Professor of Oncology, Joint Appointment in Molecular Biology and Genetics, Joint Appointment in Psychiatry

ELLIOT K. FISHMAN
 Professor of Radiology and Radiological Science, Professor of Oncology

ARLENE A. FORASTIERE
 Professor of Oncology, Professor of Otolaryngology-Head and Neck Surgery, Professor of Radiation Oncology and Molecular Radiation Sciences

FRANK JOHN FRASSICA
 Robert A. Robinson Professor of Orthopedic Surgery, Professor of Oncology

ALAN D. FRIEDMAN
 Professor of Oncology, Professor of Pediatrics

EDWARD W. GABRIELSON
 Professor of Pathology, Professor of Oncology

WINALD R. GERRITSEN, Adjunct Professor

JEAN-FRANCOIS H. GESCHWIND
 Professor of Radiology and Radiological Science, Professor of Oncology

ROBERT H. GETZENBERG
 Donald S. Coffey Professor of Urology, Professor of Oncology, Professor of Pharmacology and Molecular Sciences

FRANCIS M. GIARDIELLO
 John G. Rangos Sr. Professor of Adult Medicine in the Department of Medicine, Professor of Oncology, Professor of Pathology

D. WADE GIBSON
 Professor of Pharmacology and Molecular Sciences, Professor of Oncology

MICHAEL GOGGINS
 Professor of Pathology, Professor of Medicine, Professor of Oncology

ZIYA L. GOKASLAN
 Donlin M. Long Professor of Neurosurgery, Professor of Oncology, Professor of Orthopedic Surgery

STEVEN N. GOODMAN
 Professor of Oncology, Professor of Pediatrics

STEVEN D. GORE, Professor

CAROL WIDNEY GREIDER
 Daniel Nathans Professor and Director of the Department of Molecular Biology and Genetics, Professor of Oncology

CONSTANCE A. GRIFFIN
 Professor of Pathology, Professor of Oncology, Associate Professor of Medicine

STUART A. GROSSMAN
 Professor of Oncology, Professor of Medicine, Professor of Neurological Surgery

GARY S. HAYWARD
 Professor of Oncology, Professor of Pathology, Professor of Pharmacology and Molecular Sciences

S. DIANE HAYWARD
 Professor of Oncology, Professor of Pharmacology and Molecular Sciences, Associate Professor of Neurology

LEE J. HELMAN
 Professor of Oncology, Professor of Pediatrics

JAMES GORDON HERMAN, Professor

ALLAN D. HESS
 Professor of Oncology, Professor of Pathology

RALPH H. HRUBAN
 Professor of Pathology, Professor of Oncology

JOHN T. ISAACS
 Professor of Oncology, Professor of Urology

WILLIAM B. ISAACS
 William Thomas Gerrard, Mario Anthony Duhon and Jennifer and John Chalsty Professor of Urology, Professor of Oncology

ELIZABETH M. JAFFEE
 Dana and Albert "Cubby" Broccoli Professor of Oncology, Professor of Pathology

RICHARD J. JONES
 Professor of Oncology, Professor of Medicine

JUDITH E. KARP
 Professor of Oncology, Professor of Medicine

SCOTT E. KERN
 Professor of Oncology, Professor of Pathology

THOMAS S. KICKLER
 Professor of Pathology, Professor of Medicine, Professor of Oncology

KENNETH W. KINZLER, Professor

WAYNE M. KOCH
 Professor of Otolaryngology-Head and Neck Surgery, Professor of Oncology

FRANCIS P. KUHAJDA
 Professor of Pathology, Professor of Oncology, Joint Appointment in Biological Chemistry

ROBERT J. KURMAN
Richard W. Telinde Distinguished Professor of Gynecologic Pathology in the Department of Gynecology and Obstetrics, Professor of Oncology, Professor of Pathology

PAUL W. LADENSON
John Eager Howard Professor of Endocrinology and Metabolism in the Department of Medicine, University Distinguished Professor of Medicine, Professor of Oncology, Professor of Pathology, Professor of Radiology

MARIKKI K. LAIHO
Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Oncology

JOHN J. LATERRA
Professor of Neurology, Professor of Neuroscience, Professor of Oncology

STEVEN D. LEACH
Paul K. Neumann Professor of Pancreatic Cancer in the Department of Surgery, Professor of Cell Biology, Professor of Oncology

DANIEL J. LEAHY
Professor of Biophysics and Biophysical Chemistry, Professor of Oncology

RAYMOND E. LENHARD, JR.
Professor Emeritus of Oncology, Professor Emeritus of Medicine

HYAM I. LEVITSKY
Professor of Oncology, Professor of Medicine, Professor of Urology

JONATHAN S. LEWIN
Martin W. Donner Professor of Radiology, Professor of Biomedical Engineering, Professor of Neurological Surgery, Professor of Oncology

JUN LIU
Professor of Pharmacology and Molecular Sciences, Professor of Oncology

KIEREN ANNE MARR
Professor of Medicine, Professor of Oncology

BARRY ROSS MEISENBERG, Visiting Professor

STEPHEN J. MELTZER
Harry and Betty Meyerberg/Thomas R. Hendrix Professor of Gastroenterology in the Department of Medicine, Professor of Oncology

ELIZABETH ANNE MONTGOMERY
Professor of Pathology, Professor of Oncology, Professor of Orthopaedic Surgery

SUSUMU MORI
Professor of Radiology and Radiological Science, Professor of Oncology

BARRY D. NELKIN, Professor

WILLIAM G. NELSON
Marion I. Knott Director and Professor of Oncology, Professor of Medicine, Professor of Pathology, Professor of Pharmacology and Molecular Sciences, Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Urology

ALESSANDRO OLIVI
Professor of Neurological Surgery, Professor of Oncology

ALBERT H. OWENS, JR.
University Distinguished Service Professor Emeritus of Oncology, University Distinguished Service Professor Emeritus of Medicine

DUOJIA PAN
Professor of Molecular Biology and Genetics, Professor of Oncology

DREW M. PARDOLL
Martin D. Abeloff Professor of Oncology, Professor of Medicine, Professor of Pathology

GIOVANNI PARMIGIANI
Professor of Oncology (on leave of absence from 09/01/09), Joint Appointment in Health Sciences Informatics (on leave of absence from 09/01/09)

ALAN W. PARTIN
David Hall McConnell Professor of Urology, Professor of Oncology, Professor of Pathology

HERBERT MICHAEL PINEDO, Visiting Professor

PAULA M. PITHA-ROWE
Professor of Oncology, Joint Appointment in Molecular Biology and Genetics

DANIEL M. RABEN
Professor of Biological Chemistry, Professor of Oncology, Professor of Physiology

DANIELE RIGAMONTI
Salisbury Family Professor of Neurological Surgery, Professor of Oncology, Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Radiology and Radiological Science, Joint Appointment in Physical Medicine and Rehabilitation

GREGORY J. RIGGINS
Irving J. Sherman Research Professor of Neurosurgery, Professor of Oncology

JONATHAN SCHNECK
Professor of Pathology, Professor of Oncology, Associate Professor of Medicine

MARK P. SCHOENBERG
Bernard L. Schwartz Distinguished Professor of Urologic Oncology, Professor of Urology, Professor of Oncology

RICHARD DAVID SCHULICK
John L. Cameron Professor of Alimentary Tract Diseases in the Department of Surgery, Professor of Oncology, Associate Professor of Biomedical Engineering, Associate Professor of Gynecology and Obstetrics

CYNTHIA LOUISE SEARS
Professor of Medicine, Professor of Oncology

GREGG L. SEMENZA
C. Michael Armstrong Professor of Pediatrics, Professor of Biological Chemistry, Professor of Medicine, Professor of Oncology, Professor of Radiation Oncology and Molecular Radiation Sciences

SAUL J. SHARKIS, Professor

IE-MING SHIH
Professor of Pathology, Professor of Gynecology and Obstetrics, Professor of Oncology

DAVID SIDRANSKY
Professor of Otolaryngology-Head and Neck Surgery, Professor of Oncology, Professor of Pathology, Professor of Urology

DONALD SMALL
Kyle Haydock Professor of Oncology, Professor of Pediatrics

JAMES T. STIVERS
Professor of Pharmacology and Molecular Sciences, Professor of Oncology

SARASWATI SUKUMAR
Barbara B. Rubenstein Professor of Oncology, Professor of Pathology

LODE J. SWINNEN, Visiting Professor

SUZANNE LOUISE TOPALIAN
Professor of Surgery, Professor of Oncology

JEFFREY M. TRENT, Adjunct Professor

PAULUS JOANNES VAN DIEST, Adjunct Professor

PETER C.M. VAN ZIJL
Professor of Radiology and Radiological Science, Professor of Biophysics and Biophysical Chemistry, Professor of Oncology

HENDRIK M.W. VERHEUL, Adjunct Professor

RAPHAEL P. VISCIDI
Professor of Pediatrics, Professor of Oncology

GEORGIA B. VOGELSANG, Professor (to 09/30/09)

BERT VOGELSTEIN
Clayton Professor of Oncology, Professor of Pathology, Joint Appointment in Molecular Biology and Genetics, Investigator of the Howard Hughes Medical Institute

ERIC CARL VONDERHEID
Professor of Dermatology, Professor of Oncology

T. PHILLIP WAALKES, Professor Emeritus

RICHARD L. WAHL
Henry N. Wagner Jr., M.D. Professor of Nuclear Medicine in the Department of Radiology, Professor of Oncology

KRISTIN L. WEBER
Virginia M. and William Percy Professor of Orthopaedic Surgery, Professor of Oncology

WILLIAM H. WESTRA
Professor of Pathology, Professor of Oncology, Professor of Otolaryngology-Head and Neck Surgery, Associate Professor of Dermatology

MOODY D. WHARAM, JR.
Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Neurological Surgery, Professor of Oncology, Professor of Pediatrics, Professor of Radiology

JOHN WAI-CHIUI WONG
Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Oncology

TZYY-CHOUU WU
Professor of Pathology, Professor of Gynecology and Obstetrics, Professor of Oncology

STEPHEN C. YANG
Arthur B. and Patricia B. Modell Professor of Thoracic Surgery, Professor of Oncology

MARTHA ALLEN ZEIGER
Professor of Surgery, Professor of Oncology

WILLIAM H. ZINKHAM
Distinguished Service Professor Emeritus of Pediatrics and Oncology

RHODA M. ALANI
Associate Professor of Oncology, Associate Professor of Dermatology, Joint Appointment in Molecular Biology and Genetics

DEBORAH K. ARMSTRONG
Associate Professor of Oncology, Associate Professor of Gynecology and Obstetrics

DMITRI ARTEMOV
Associate Professor of Radiology and Radiological Science, Associate Professor of Oncology

DOUGLAS W. BALL
Associate Professor of Medicine, Associate Professor of Oncology

ATUL BEDI
Associate Professor of Otolaryngology-Head and Neck Surgery, Associate Professor of Oncology

DAVID M. BERMAN
Associate Professor of Pathology, Associate Professor of Oncology, Assistant Professor of Urology

IVAN BORRELLO, Associate Professor

HAYDEN GRANT BRAINE
Associate Professor Emeritus of Oncology, Associate Professor Emeritus of Medicine

MALCOLM VERNON BROCK
Associate Professor of Surgery, Associate Professor of Oncology

FRED BUNZ
Associate Professor of Radiation Oncology and Molecular Radiation Sciences, Associate Professor of Oncology

MARCIA IRENE FOO CANTO
Associate Professor of Medicine, Associate Professor of Oncology

ALLEN R. CHEN
Associate Professor of Oncology, Associate Professor of Pediatrics

LINZHAO CHENG
Associate Professor of Gynecology and Obstetrics, Associate Professor of Oncology, Assistant Professor of Medicine

KENNETH J. COHEN
Associate Professor of Oncology, Associate Professor of Pediatrics

ANDREA L. COX
Associate Professor of Medicine (from 10/01/09), Assistant Professor of Medicine (to 09/30/09), Associate Professor of Oncology (from 10/01/09), Assistant Professor of Oncology (to 09/30/09)

BARBARA J. CRAIN
Associate Professor of Pathology, Associate Professor of Neurology, Associate Professor of Oncology

SAMUEL RAY DENMEADE
Associate Professor of Oncology, Associate Professor of Pharmacology and Molecular Sciences, Associate Professor of Urology

PRASHANT DESAI
Associate Professor of Oncology (from 10/01/09), Assistant Professor of Oncology (to 09/30/09)

CHARLES G. DRAKE
Associate Professor of Oncology, Assistant Professor of Urology

MARK DOUGLAS DUNCAN
Associate Professor of Surgery, Associate Professor of Oncology

CHARLES G. EBERHART
Associate Professor of Pathology, Associate Professor of Oncology, Associate Professor of Ophthalmology

LEISHA ANN EMENS, Associate Professor

JAMES R. ESHLEMAN
Associate Professor of Pathology, Associate Professor of Oncology

JOHN H. FETTING, III
Associate Professor of Oncology, Associate Professor of Medicine, Assistant Professor of Psychiatry

DEBORAH ANNE FRASSICA
Associate Professor of Radiation Oncology and Molecular Radiation Sciences, Associate Professor of Oncology

EPHRAIM J. FUCHS, Associate Professor

NICHOLAS ROGER GAIANO
Associate Professor of Neurology, Associate Professor of Neuroscience, Associate Professor of Oncology

MAURA LIANNE GILLISON, Adjunct Associate Professor

CHRISTOPHER D. GOCKE
Associate Professor of Pathology, Associate Professor of Oncology

LOUISE B. GROCHOW
Associate Professor of Oncology, Associate Professor of Medicine

MISOP HAN
Associate Professor of Urology, Associate Professor of Oncology, Associate Professor of Oncology

FREDERICK H. HAUSHEER, Adjunct Associate Professor

RICHARD F. HEITMILLER
Associate Professor of Surgery, Associate Professor of Oncology

CHARLES STEVEN HESDORFFER
Associate Professor of Medicine, Associate Professor of Oncology

MANUEL HIDALGO, Adjunct Associate Professor

PENG HUANG, Associate Professor

DAVID L. HUSO
Associate Professor of Molecular and Comparative Pathobiology, Associate Professor of Oncology

CHRISTINE A. IACOBUZIO-DONAHUE
Associate Professor of Pathology, Associate Professor of Surgery, Associate Professor of Oncology

MICHAEL A. JACOBS
Associate Professor of Radiology and Radiological Science, Associate Professor of Oncology

GEORGE ISSA JALLO
Associate Professor of Neurological Surgery, Associate Professor of Oncology, Associate Professor of Pediatrics

JIN JEN, Associate Professor

NAGI F. KHOURI
Associate Professor of Radiology and Radiological Science, Associate Professor of Oncology

KAREN E. KING
Associate Professor of Pathology, Associate Professor of Oncology

LAWRENCE R. KLEINBERG
Associate Professor of Radiation Oncology and Molecular Radiation Sciences, Associate Professor of Neurological Surgery, Associate Professor of Oncology

JEANNE KOWALSKI, Associate Professor

MICHAEL A. KRAUT
Associate Professor of Radiology and Radiological Science, Associate Professor of Neurological Surgery, Associate Professor of Oncology

PRAKASH KULKARNI
Visiting Associate Professor of Urology, Visiting Associate Professor of Oncology

DANIEL A. LAHERU, Associate Professor

JULIE ROBIN LANGE
Associate Professor of Surgery, Associate Professor of Oncology, Assistant Professor of Dermatology

CHRISTOPH LENGAUER, Adjunct Associate Professor

MARK JAMES LEVIS
Associate Professor of Oncology, Associate Professor of Medicine

VICTOR LEVITSKY, Associate Professor

LEO LUZNIK, Associate Professor

ANIRBAN MAITRA
Associate Professor of Pathology, Associate Professor of Oncology

WILLIAM H. MATSUI, Associate Professor

SHANNATH L. MERBS
Associate Professor of Ophthalmology, Associate Professor of Oncology

CAROLE B. MILLER, Associate Professor

KATHLEEN M. MURPHY
Associate Professor of Pathology (to 12/31/09), Associate Professor of Oncology (to 12/31/09)

GEORGES JABBOURE NETTO
Associate Professor of Pathology, Associate Professor of Oncology, Associate Professor of Urology

JOHN NICHOLAS, Associate Professor

STEPHEN J. NOGA
Associate Professor of Oncology (to 07/31/09), Associate Professor of Pathology (to 07/31/09)

MICHAEL F. OCHS
Associate Professor of Oncology, Joint Appointment in Health Sciences Informatics

AKHILESH PANDEY
Associate Professor of Biological Chemistry in Genetic Medicine, Associate Professor of Oncology, Associate Professor of Pathology

NICKOLAS PAPAPOULOS, Associate Professor

BEN HO PARK, Associate Professor

TIMOTHY MICHAEL PAWLIK
Associate Professor of Surgery, Associate Professor of Oncology

ROBERTO PILI
Adjunct Associate Professor of Oncology

MARTIN GILBERT POMPER
Professor of Radiology and Radiological Science, Professor of Pharmacology and Molecular Sciences, Professor of Radiation Oncology and Molecular Radiation Sciences, Associate Professor of Oncology, Joint Appointment in Psychiatry

JONATHAN D. POWELL
Associate Professor of Oncology, Associate Professor of Pharmacology and Molecular Sciences

ALFREDO QUINONES-HINOJOSA
Associate Professor of Neurological Surgery, Associate Professor of Oncology, Joint Appointment in Neuroscience

VENU RAMAN
Associate Professor of Radiology, Associate Professor of Oncology

STUART CAMPBELL RAY
Associate Professor of Medicine, Associate Professor of Oncology, Joint Appointment in Health Sciences Informatics

LINDA M.S. RESAR
Associate Professor of Medicine, Associate Professor of Oncology

RICHARD B. S. RODEN
Associate Professor of Pathology, Associate Professor of Gynecology and Obstetrics, Associate Professor of Oncology

RONALD RODRIGUEZ
Associate Professor of Urology, Associate Professor of Oncology, Associate Professor of Radiation Oncology and Molecular Radiation Sciences

CHARLES MICHAEL RUDIN, Associate Professor

GIUSEPPE SANGUINETI
Associate Professor of Radiation Oncology and Molecular Radiation Sciences, Associate Professor of Oncology, Associate Professor of Otolaryngology-Head and Neck Surgery

ALAN F. SCOTT
Associate Professor of Medicine in Genetic Medicine, Associate Professor of Oncology

ERIC J. SEIFTER
Associate Professor of Medicine, Associate Professor of Oncology

GARY R. SHAPIRO, Visiting Associate Professor

WILLIAM H. SHARFMAN
Associate Professor of Oncology, Associate Professor of Dermatology

B. DOUGLAS SMITH, Associate Professor

DUANE THOMAS SMOOT, Associate Professor

LORI J. SOKOLL
Associate Professor of Pathology, Associate Professor of Oncology, Associate Professor of Urology

VERED STEARNS, Associate Professor

CORNELIA LIU TRIMBLE
Associate Professor of Gynecology and Obstetrics, Associate Professor of Oncology, Associate Professor of Pathology

EDWARD LLOYD TRIMBLE
Associate Professor of Gynecology and Obstetrics, Associate Professor of Oncology

BRUCE JEFFREY TROCK
Associate Professor of Urology, Associate Professor of Oncology

THEODORE N. TSANGARIS
Associate Professor of Oncology

ANTHONY P. TUFARO
Associate Professor of Plastic Surgery, Associate Professor of Oncology

ELSKEN VAN DER WALL, Visiting Associate Professor

VICTOR E. VELCULESCU, Associate Professor

ROBERT W. VELTRI
Associate Professor of Urology, Associate Professor of Oncology

JON DAVID WEINGART
Associate Professor of Neurological Surgery, Associate Professor of Oncology

ANTONIO CARLOS WOLFF, Associate Professor

MICHAEL MINGZHAO XING
Associate Professor of Medicine, Associate Professor of Oncology

JIN ZHANG
Associate Professor of Pharmacology and Molecular Sciences, Associate Professor of Neuroscience, Associate Professor of Oncology

SHIBIN ZHOU, Associate Professor

NISHANT AGRAWAL
Assistant Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Oncology

NITA AHUJA
Assistant Professor of Surgery, Assistant Professor of Oncology

ROBERT ALBERT ANDERS
Assistant Professor of Pathology, Assistant Professor of Oncology

MARY Y. ARMANIOS, Assistant Professor

NILOFER S. AZAD, Assistant Professor

LAVINA D. BHARWANI, Assistant Professor

JAISHRI O'NEILL BLAKELEY
Assistant Professor of Neurology, Assistant Professor of Neurological Surgery, Assistant Professor of Oncology

JAVIER BOLANOS-MEADE, Assistant Professor

G. STEVEN BOVA
Assistant Professor of Pathology, Assistant Professor of Oncology, Joint Appointment in Health Sciences Informatics, Assistant Professor of Urology

JULIE R. BRAHMER, Assistant Professor

PATRICK BROWN
Assistant Professor of Oncology, Assistant Professor of Pediatrics

KATHLEEN HELEN BURNS
Assistant Professor of Pathology, Assistant Professor of Oncology

HETTY EILEEN CARRAWAY, Assistant Professor

PAUL CELANO
Assistant Professor of Oncology, Assistant Professor of Gynecology and Obstetrics

STEPHEN J. CHANOCK
Assistant Professor of Oncology, Lecturer in Pediatrics

AKHIL CHOPRA, Adjunct Assistant Professor

GARY IRVIN COHEN, Assistant Professor

JOHN D. CONROY, JR., Assistant Professor

LESLIE COPE, Assistant Professor

DAVID PETER COSGROVE, Assistant Professor

ALAN P. B. DACKIW
Assistant Professor of Surgery, Assistant Professor of Oncology

LUIS A. DIAZ, JR., Assistant Professor

BARISH H. EDIL
Assistant Professor of Surgery, Assistant Professor of Oncology

MICHAEL A. ERDEK
Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Oncology

ANDREW J. EWALD
Assistant Professor of Cell Biology, Assistant Professor of Oncology

ERIC C. FORD
Assistant Professor of Radiation Oncology and Molecular Radiation Sciences, Assistant Professor of Oncology

SONIA FRANCO
Assistant Professor of Radiation Oncology and Molecular Radiation Sciences, Assistant Professor of Oncology

WAYNE A. I. FREDERICK, Adjunct Assistant Professor

SUSAN LYN GEARHART
Assistant Professor of Surgery, Assistant Professor of Oncology

ROBERT L. GIUNTOLI, II
Assistant Professor of Gynecology and Obstetrics, Assistant Professor of Oncology

HANS JOERG HAMMERS, Assistant Professor

CHRISTINE L. HANN, Assistant Professor

JOSEPH M. HERMAN
Assistant Professor of Radiation Oncology and Molecular Radiation Sciences, Assistant Professor of Oncology, Assistant Professor of Surgery

MOHAMMAD OBAIDUL HOQUE
Assistant Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Oncology, Assistant Professor of Urology

WEN-SON HSIEH, Assistant Professor

CAROL ANN HUFF
Assistant Professor of Oncology, Assistant Professor of Medicine

CHIEN-FU HUNG
Assistant Professor of Pathology, Assistant Professor of Gynecology and Obstetrics, Assistant Professor of Oncology

SANJAY RAJ JAIN, Adjunct Assistant Professor (from 07/26/09)

YOON-YOUNG JANG, Assistant Professor

ROSALYN ANNE JUERGENS
Assistant Professor of Oncology, Assistant Professor of Medicine (from 08/01/09)

MIHOKO KAI
Assistant Professor of Radiation Oncology and Molecular Radiation Sciences, Assistant Professor of Oncology

YVETTE L. KASAMON
Assistant Professor of Oncology, Assistant Professor of Medicine

SAEED R. KHAN
Adjunct Assistant Professor of Oncology, Adjunct Assistant Professor of Radiology

YOUNG JUN KIM
Assistant Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Oncology (from 08/01/09)

ALISON PATRICIA KLEIN
Assistant Professor of Oncology, Assistant Professor of Pathology

SCOTT LEE KOMINSKY
Assistant Professor of Orthopedic Surgery, Assistant Professor of Oncology

SOPHIE M. LANZKRON
Assistant Professor of Medicine, Assistant Professor of Oncology

JOSH DAVID LAURING, Assistant Professor

DUNG THI LE, Assistant Professor

NANETTE J. LIEGEOIS-KWON
Assistant Professor of Dermatology (to 09/30/09), Assistant Professor of Oncology, Assistant Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Plastic Surgery

MICHAEL LIM
Assistant Professor of Neurological Surgery, Assistant Professor of Oncology

DAVID M. LOEB
Assistant Professor of Oncology, Assistant Professor of Pediatrics

GILBERTO DE LIMA LOPES, JR., Assistant Professor

JUN LUO
Assistant Professor of Urology, Assistant Professor of Oncology

SHAWN E. LUPOLD
Assistant Professor of Urology, Assistant Professor of Oncology

CRYSTAL L. MACKALL
Assistant Professor of Oncology, Assistant Professor of Pediatrics

SHANTHI MARUR
Assistant Professor of Oncology (from 09/01/09), Instructor in Oncology (to 08/31/09)

MICHAEL A. MCDEVITT
Assistant Professor of Medicine, Assistant Professor of Oncology

TODD R. MCNUTT
Assistant Professor of Radiation Oncology and Molecular Radiation Sciences, Assistant Professor of Oncology

ALAN K. MEEKER
Assistant Professor of Pathology, Assistant Professor of Oncology, Assistant Professor of Urology

CAREN L. FREEL MEYERS

Assistant Professor of Pharmacology and
Molecular Sciences, Assistant Professor of
Oncology

SARA ISABEL PAI

Assistant Professor of Otolaryngology-Head and
Neck Surgery, Assistant Professor of Oncology
(from 08/01/09)

ARVIND P. PATHAK

Assistant Professor of Radiology and
Radiological Science, Assistant Professor of
Oncology

IDO PAZ-PRIEL, Assistant Professor

CRAIG DOUGLAS PEACOCK, Assistant Professor

KEITH W. PRATZ, Assistant Professor

MICHAEL J. PURTELL, Assistant Professor

JIANG QIAN

Assistant Professor of Ophthalmology, Assistant
Professor of Oncology

RAJANI K. RAVI

Assistant Professor of Otolaryngology-Head and
Neck Surgery, Assistant Professor of Oncology

MICHELLE A. RUDEK, Assistant Professor

EDWARD M. SCHAEFFER

Assistant Professor of Urology, Assistant
Professor of Oncology

DANIEL M. SCIUBBA

Assistant Professor of Neurological Surgery,
Assistant Professor of Oncology, Assistant
Professor of Orthopaedic Surgery

STUART E. SELONICK

Assistant Professor of Medicine, Assistant
Professor of Oncology

CLAIRE SNYDER

Assistant Professor of Medicine, Assistant
Professor of Oncology

DANNY Y. SONG

Assistant Professor of Radiation Oncology
and Molecular Radiation Sciences, Assistant
Professor of Oncology, Assistant Professor of
Urology

HEATHER J. SYMONS, Assistant Professor

KATHERINE ANNE THORNTON, Assistant
Professor

LI-HUI TSENG, Visiting Assistant Professor

CHRISTOPHER B. UMBRIGHT

Assistant Professor of Surgery, Assistant
Professor of Oncology, Assistant Professor of
Pathology

HAO WANG, Assistant Professor (from 08/31/09)

TIAN-LI WANG

Assistant Professor of Gynecology and
Obstetrics, Assistant Professor of Oncology

DAVID NEIL WATKINS, Assistant Professor

STANLEY P. WATKINS, JR., Assistant Professor

KATHARINE ASHLEY WHARTENBY, Assistant
Professor

SARAH WHEELAN, Assistant Professor

BRIGITTE C. WIDEMANN

Assistant Professor of Oncology, Assistant
Professor of Pediatrics

CHRISTOPHER L. WOLFGANG

Assistant Professor of Surgery, Assistant
Professor of Oncology

JEAN-PAUL WOLINSKY

Assistant Professor, Assistant Professor of
Oncology

SRINIVASAN YEGNASUBRAMANIAN, Assistant
Professor

KIYOSHI YOSHIMURA

Assistant Professor of Surgery, Assistant
Professor of Oncology

REX CHIN-WEI YUNG

Assistant Professor of Medicine, Assistant
Professor of Oncology

CYNTHIA ANN ZAHNOW, Assistant Professor

ELIAS THOMAS ZAMBIDIS

Assistant Professor of Oncology, Assistant
Professor of Pediatrics

RICHARD C. ZELLARS

Assistant Professor of Radiation Oncology
and Molecular Radiation Sciences, Assistant
Professor of Oncology

LEI ZHENG, Assistant Professor

HENG ZHU

Assistant Professor of Pharmacology and
Molecular Sciences, Assistant Professor of
Oncology

ILENE S. BROWNER

Instructor in Oncology, Joint Appointment in
Medicine

JASON FARRAR, Instructor

CHRISTOPHER JORDAN GAMPER, Instructor

KRISTINE GLUNDE

Assistant Professor of Radiology and
Radiological Science, Instructor in Oncology

SUSHANT KACHHAP, Instructor

MARSHALL A. LEVINE, Instructor

LUIGI MARCHIONNI, Instructor

RAJESH KUMAR NV

Instructor in Oncology (from 09/01/09),
Research Associate in Oncology (to 08/31/09)

TATIANA MICHELLE PROWELL, Instructor

W. THOMAS PURCELL, Instructor

P. GREGORY RAUSCH, Instructor

KATHRYN RUBLE, Instructor

MEIR SHAMAY, Instructor

MARGARET SHOWEL, Instructor

EMILIA ALBESIANO, Research Associate

RAVI KUMAR ANCHOORI, Research Associate

TODD D. ARMSTRONG, Research Associate

JENNIFER E. AXILBUND, Research Associate

CHARLES RICHARD BAFFI, Research Associate

ROBERT M. BEATY, Research Associate

BARBARA ANNE BIEDRZYCKI, Research
Associate

CHUANG-JIUN CHIOU, Research Associate

MICHAEL I. COLLECTOR, Research Associate

YING CUI, Research Associate

JANICE M. DAVIS-SPROUL, Research Associate

MARY JO FACKLER, Research Associate

DEXUE FU, Research Associate

AMY LYNNE GOODRICH, Research Associate
 YIPING HE, Research Associate
 CRAIG M. HOOKER, Research Associate
 FRANCK HOUSSEAU, Research Associate
 LANQING HUANG, Research Associate
 VARALAKSHMI KATURI, Research Associate
 SANJAY KHARE, Research Associate (to
 10/05/09)
 CAROL KOBRIN, Research Associate
 HIROYUKI KONISHI, Research Associate
 FERDYNAND J. KOS, Research Associate
 M. VICTOR LEMAS, Research Associate
 LI LI, Research Associate
 GANGLING LIAO, Research Associate
 JIANYONG LIU, Research Associate
 FARIDEH MAJIDI, Research Associate
 TRACY MURRAY-STEWART, Research Associate
 SUZANNE AMATO NESBIT, Research Associate
 KIMBERLY ANN NOONAN, Research Associate
 FAN PAN, Research Associate
 KLAUS B. PIONTEK
 Research Associate in Oncology (from
 09/01/09), Research Associate in Medicine (to
 08/31/09)
 LU QIN, Research Associate
 GORDON R. SANDFORD, Research Associate
 VICTORIA J. SINIBALDI, Research Associate
 SUROJIT SUR, Research Associate
 JANET RUTH WALCZAK, Research Associate
 ALLEN B. WILLIAMS, Research Associate
 SHENG YAO, Research Associate
 XIAOBU YE, Research Associate
 RAY-WHAY CHIU YEN, Research Associate
 HONG YU, Research Associate
 WEI (WAYNE) YU, Research Associate
 YANXING YU, Research Associate
 HUAFENG ZHANG, Research Associate
 YONGGANG ZHANG
 Research Associate in Radiation Oncology
 and Molecular Radiation Sciences, Research
 Associate in Oncology
 MING ZHAO, Research Associate
 GEFENG (GLORIA) ZHU, Research Associate
 JIANCHAO ZONG, Research Associate
 CRAIG A. DIONNE, Visiting Scientist
 MASAHIRO FUJIMURO, Visiting Scientist
 TAKASHI SATO, Visiting Scientist
 QUN ZHOU, Visiting Scientist

FACULTY ASSOCIATED WITH THE ONCOLOGY
 CENTER HOLDING A PRIMARY APPOINTMENT IN:

The School of Medicine:

PAUL M. NESS
 Professor of Pathology

The Bloomberg School of Public Health:

TERRI H. BEATY
 Professor of Epidemiology

SHYAM S. BISWAL
 Associate Professor of Environmental Health
 Sciences
 THOMAS A. BURKE
 Professor of Health Policy and Management
 SYDNEY MORSS DY
 Assistant Professor of Health Policy and
 Management
 JEAN G. FORD
 Associate Professor of Epidemiology
 PATTI E. GRAVITT
 Associate Professor of Epidemiology
 JOHN D. GROOPMAN
 Professor of Environmental Health Sciences
 J. MARIE HARDWICK
 Professor of Molecular Microbiology and
 Immunology
 DAVID ROBERT HOLTGRAVE
 Professor and Chair of Health Behavior and
 Society
 HAN-YAO HUANG
 Adjunct Assistant Professor of Epidemiology
 HEE-SOON JUON
 Associate Professor of Health Behavior and
 Society
 NORMA KANAREK
 Associate Professor of Environmental Health
 Sciences
 THOMAS W. KENSLER
 Professor of Environmental Health Sciences
 ANN CARROLL KLASSEN
 Associate Professor of Health Policy and
 Management
 THOMAS A. LAVEIST
 Professor of Health Policy and Management
 ELIZABETH A. PLATZ
 Associate Professor of Epidemiology
 SEKHAR POTHIREDDY
 Associate Professor of Environmental Health
 Sciences
 RAJIV N. RIMAL
 Associate Professor of Health Behavior and
 Society
 DEBRA L. ROTER
 Professor of Health Behavior and Society
 KEERTI V. SHAH
 Professor of Molecular Microbiology &
 Immunology
 KATHERINE CLEGG SMITH
 Associate Professor of Health Behavior and
 Society
 FRANCES STILLMAN
 Associate Professor of Epidemiology
 PAUL T. STRICKLAND
 Professor of Environmental Health Sciences
 MICHAEL A. TRUSH
 Professor of Environmental Health Sciences
 KALA VISVANATHAN
 Associate Professor of Epidemiology
 VIRGINIA MARIE WEAVER
 Associate Professor of Environmental Health
 Sciences

JAMES D. YAGER, JR.
Professor of Environmental Health Sciences

The School of Nursing:
FANNIE GASTON-JOHANSSON
Professor of Nursing

SHARON JEAN OLSEN
Assistant Professor of Nursing

JANE C. SHIVNAN
Instructor in Nursing

JENNIFER A. WENZEL
Assistant Professor of Nursing

The G.W.C. Whiting School of Engineering:

JEFFREY J. GRAY
Associate Professor of Chemical and
Biomolecular Engineering

JUSTIN HANES
Associate Professor of Chemical and
Biomolecular Engineering

KONSTANTINOS KONSTANTOPOULOS
Professor of Chemical and Biomolecular
Engineering

DENIS WIRTZ
Professor of Chemical and Biomolecular
Engineering

The Oncology Center is concerned with research and education in cancer and related disorders and the application of new knowledge to improve the care of patients with these diseases. Multidisciplinary approaches are emphasized.

REQUIRED COURSEWORK FOR M.D. PROGRAM

First Year

250.612 Genes to Society/Hematology and Oncology. Dr. Michael Borowitz

ELECTIVE OPPORTUNITIES—*Curricular Consultants:* Drs. Ambinder, Baylin, Civin, Cohen, Donehower, Isaacs, Nelson, and Pardoll. Elective courses must be approved by the preceptor; any member of the Center faculty may act as preceptor.

E1. Seminar Course: Biology of Cancer. Drs. David Berman and Patrick Brown (course directors). Fourth quarter, two hours per week. Offered every other year; alternates with E2.

Selected timely topics are considered in some detail. Emphasis is placed on the fundamental processes underlying oncogenesis in man, the pathophysiological mechanisms responsible for clinical manifestations, and factors affecting the course of neoplastic diseases.

E2. Seminar Course: New Approaches to Cancer Prevention and Therapy. Drs. David Berman and Patrick Brown (course directors.) Fourth quarter, two hours per week. Alternates with E1.

Selective timely topics relative to novel diagnostic and treatment techniques being developed for the management of neoplastic diseases. Emphasis placed on illuminating chemical and biologic basis

of therapeutic and translational impact on clinical practice.

E3. Translational Research Conference. Drs. Drake and Zahnow (course directors.) Four quarters. Wed., 12:00-1:00 p.m.

Lectures by the faculty and visiting oncologists focus on topics of current interest.

E5. Introduction to Cancer Research.

All year; minimum of four weeks; positions are based on limited availability and not guaranteed.

Interested and properly qualified students are encouraged to collaborate in clinical and laboratory research projects with members of the staff. Students will participate in research seminars and related teaching sessions. Interested students should contact the following faculty coordinators whose areas of research interest are indicated. Interviews will be arranged with staff members to develop a mutually agreed-upon plan of study and research.

DR. AMBINDER
Molecular virology; lymphoma.

DR. ARCECI
Molecular and developmental biology; cytokine signaling and chromatin structure; epigenetics, leukemia/histiocytosis.

DR. ARMANIOS
Biology of aging; telomere syndromes; pulmonary fibrosis; solid tumors.

DR. ARMSTRONG
Gynecologic cancer, breast cancer; high dose therapy.

DR. AZAD
Phase I studies and drug development; GI cancers (colon & liver).

DR. BAYLIN
Epigenetic abnormalities in cancer.

DR. BOLANOS-MAEDA
Graft-versus-host disease; bone marrow transplant.

DR. BORRELLO
Multiple myeloma immunotherapy; myeloid derived suppressor cells; marrow infiltrating lymphocytes.

DR. BRAHMER
Lung cancer; novel therapeutics; mesothelioma; lung cancer prevention.

DR. BREM
Neuro-oncology; neurosurgery and immunotherapy.

DR. BRODSKY
Experimental hematopoiesis in bone marrow failure disorders.

DR. BROWN
Molecularly targeted therapies for childhood leukemias.

DR. BROWNER
Geriatric and general oncology.

DR. CARDUCCI
Urologic cancer; novel therapies.

DR. CARRAWAY
Epigenetic therapy of leukemias.

DR. CASERO
Polyamine metabolism; molecular pharmacology and drug development.

DR. CHAN
Diagnostic markers for lung cancer.

- DR. CHEN
Bone marrow transplantation; immunotherapy.
- DR. COFFEY
Cell structure and function.
- DR. COHEN
Pediatric neuro-oncology.
- DR. COPE
Methods for analysis of gene expression data.
- DR. COSGROVE
GI cancer (hepato-biliary); drug development; Phase 1 studies
- DR. DANG
Molecular biology of oncogenes.
- DR. DENMEADE
Novel therapies for prostate cancer; urologic oncology.
- DR. DESAI
Molecular genetics of herpes simplex virus assembly and morphogenesis.
- DR. DIAZ
GI cancers; novel therapies.
- DR. DONEHOWER
Early clinical trials of cancer therapies; G-I.
- DR. DRAKE
Vaccines; T cell tolerance; prostate cancer.
- DR. EISENBERGER
Urologic oncology, prostate cancer.
- DR. EMENS
Breast cancer; tumor immunotherapy; targeted therapy.
- DR. ETTINGER
Investigational new drug studies; lung cancer; sarcoma.
- DR. FARRAR
Molecular basis of inherited bone marrow failure syndromes; epigenetic abnormalities in cancer.
- DR. FETTING
Breast cancer.
- DR. FORASTIERE
Head and neck cancer; esophageal cancer.
- DR. FORD
Risk factors for lung cancer; determinants of cancer disparities.
- DR. FRIEDMAN
Hematopoiesis; leukemogenesis; inflammation and cancer.
- DR. FUCHS
Tumor immunology, T-cell activation and tolerance; immunotherapy.
- DR. GOODMAN
Clinical trials design.
- DR. GORE
Epigenetics in cancer therapeutics; drug development in hematologic malignancies; adult leukemia and myelodysplastic syndrome.
- DR. GRIFFIN
Solid tumor cytogenetics.
- DR. GROOPMAN
Environmental carcinogenesis.
- DR. GROSSMAN
Neuro-oncology.
- DR. HAMMERS
GU cancer; novel therapeutics.
- DR. HANN
Lung cancer; novel therapeutics.
- DR. G. HAYWARD
Viral oncology; cytomegalovirus; Kaposi's sarcoma.
- DR. S. HAYWARD
Viral oncology; Kaposi's sarcoma associated herpes virus; Epstein-Barr virus.
- DR. HERMAN
Abnormal DNA methylation of tumor suppressor genes.
- DR. HESS
Bone marrow transplantation, graft versus host disease, immunological reconstitution.
- DR. HUFF
Multiple myeloma.
- DR. ISAACS
Experimental therapeutics for prostate cancer.
- DR. JAFFEE
Develop vaccine approaches that bypass mechanisms of immune tolerance in mice and patients.
- DR. JANG
Stem cells and microenvironment.
- DR. JONES
Bone marrow transplantation; hematopoiesis.
- DR. JEURGENS
Translational investigation in lung and esophageal cancer; novel therapeutics.
- DR. KACHHAP
DNA repair; metastasis; prostate cancer.
- DR. KARP
Experimental therapy of leukemias; modulation cell cycle kinetics; infection management in compromised hosts.
- DR. KASAMON
Lymphoma and immunotherapy.
- DR. KERN
Genetics of pancreatic cancer.
- DR. KINZLER
Molecular genetics of human cancer.
- DR. KLEIN
Genetic epidemiology; pancreatic cancer; cancer epidemiology; statistical genetics
- DR. KOWALSKI
Non-parametric analysis of high dimensional data.
- DR. LAHERU
G-I; drug development.
- DR. LATERRA
Microvascular morphogenesis; neurooncology.
- DR. LAURING
Breast cancer genetics; drug target identification; somatic cell knock outs
- DR. LE
GI cancers; immunotherapy.
- DR. LEE
Head and neck cancer; hyperthermia.
- DR. LEVIS
Molecular biology of leukemia, molecularly targeted cancer therapy.
- DR. H. LEVITSKY
Tumor immunity; cellular therapy
- DR. V. LEVITSKY
Cancer and viral immunology.
- DR. LOEB
Transcriptional regulation; translational research related to sarcoma therapy.
- DR. LUZNIK
Adoptive immunotherapy of cancer; allogeneic bone marrow transplantation.
- DR. MARCHIONNI
Cancer genomics and computational biology.
- DR. MARUR
VAD oncology (head and neck).

DR. MATSUI
Hematologic malignancies and cancer stem cells.

DR. MCDEVITT
Genetics and epigenetics of myeloid malignancies and myeloproliferative disorders; hematology.

DR. NELKIN
Molecular biology of endocrine tumors.

DR. NELSON
Molecular mechanisms of drugs for urological cancer prevention and treatment.

DR. NICHOLAS
Signal transducing cytokines and receptors of human herpesvirus-8.

DR. PADOPOULOS
Molecular genetics of human neoplasia.

DR. PARDOLL
Dendritic cell biology; T cell regulation.

DR. PARK
Breast cancer genetics drug target identification; somatic cell knockouts.

DR. PAZ-PIREL
Transcription regulation in normal hematopoiesis and leukemia.

DR. PEACOCK
Lung development and cancer.

DR. POWELL
T-cell activation and tolerance; BMT immunotherapy.

DR. PURTELL
Lung cancer, particularly in the elderly.

DR. RAVI
Apoptosis; signal transduction.

DR. RUDEK
Drug development; clinical pharmacology.

DR. RUDIN
Lung cancer; novel therapeutics; apoptotic regulation.

DR. SHAPIRO
Geriatric oncology; medical ethics.

DR. SHARFMAN
Malignant melanoma; general oncology.

DR. SHARKIS
Regenerative medicine; stem cell biology.

DR. SIDRANSKY
Molecular genetics of human tumors; head and neck cancers.

DR. SMALL
Molecular biology of leukemia; development of molecularly targeted therapy for cancer.

DR. SMITH
Myeloid malignancies (AML, CML, MOS); cancer stem cell biology.

DR. SPIVAK
Hematology research; erythropoiesis.

DR. STEARNS
Breast cancer.

DR. SUKUMAR
Molecular genetics of breast cancer.

DR. SWINNEN
Lymphoma; viral oncology; neoplasia and immunodeficiency; EBV.

DR. SYMONS
Immunobiology of bone marrow transplantation.

DR. THORNTON
Sarcoma (adult); novel therapies.

DR. VELCULESCU
Molecular genetics of colorectal cancer.

DR. VISVANATHAN
Breast cancer.

DR. VOGELSTEIN
Genomic alterations in human cancer.

DR. WHARTENBY
Immunology and gene therapy.

DR. WOLFF
Breast cancer; novel therapies.

DR. YEGNASUBRAMANIAN
Molecular genetics and epigenetics of cancer; DNA methylation.

DR. ZAHNOW
Molecular biology of mammary gland development and breast cancer.

DR. ZAMBIDIS
Developmental biology of hematopoietic stem cells; embryonic stem cell biology; leukemia stem cells.

DR. ZHENG
GI cancers (pancreatic; colon, and liver); vaccines and immunotherapy; molecularly targeted therapies.

DR. S. ZHOU
Combination bacteriolytic therapy for cancer.

E6. Advanced Clinical Study.

A limited number of opportunities are available for advanced study. Students will participate in the evaluation, care and follow-up of selected patients under the guidance of a preceptor and attend ward rounds, case conferences and other related teaching sessions. Students are encouraged to undertake a circumscribed investigative project of their own choosing.

Clinical clerkships on inpatient and consultation services are available to medical students who have completed their basic clinical courses.

Postdoctoral fellowships are available to physicians who have completed two or more years of general house staff training and desire subspecialty education in oncology.

(a) MEDICAL ONCOLOGY. Dr. Donehower

A half-quarter elective is offered to acquaint students with the principles and practice of oncology. Each student will serve as an advanced clinical clerk on an inpatient unit. Students make rounds with the attending physician daily. Appropriate readings are recommended. Attendance is required at Oncology Center Grand Rounds and the Translational Research Conference.

(b) HEMATOLOGIC MALIGNANCIES. Dr. Ambinder.

A half-quarter elective is offered to acquaint students with the diagnosis and treatment of leukemia, lymphoma, and myeloma. Students will serve as advanced clinical clerks on an inpatient unit and make rounds with an attending physician daily. Appropriate readings are recommended.

(c) PEDIATRIC ONCOLOGY. Drs. Small and Cohen.

Special opportunities are available for the study of leukemia and the combined clinical management of a wide variety of solid neoplasms of childhood.

(d) SURGICAL ONCOLOGY.

A broad spectrum of neoplasms is seen in the general hospital setting. Special opportunities exist for the study of breast cancer and the changing role of surgery in the multidisciplinary management of neoplastic diseases.

E11. Oncology Center Grand Rounds. Dr. Herman (course director). Four quarter; Fri., 8:00 a.m. - 9:00 a.m.

Case presentations are emphasized that illustrate the principles of diagnosis and management of cancer-related problems. Monthly morbidity and mortality review of recent cases.

510.705 Viral Oncology. Dr. John Nicholas. January-April; Mondays 3-4:30p.m.

Prerequisite: Basic knowledge of molecular and cellular biology.

The Viral Oncology course is offered by the Viral Oncology Program of the Department of Oncology. The course addresses in a systematic and comprehensive way the significance of viruses to malignant diseases and the molecular mechanisms underlying virus-induced cellular transformation. Subject matter will be covered in a series of lectures and research-type seminars given by investigators (at Hopkins and from other institu-

tions) actively involved in research on the viruses and molecular mechanisms in question. These seminars and lectures will allow the presentation of the results of current research and provide the more general background information required to understand the context and significance of these findings. The focus will be on human viruses and disease, but key non-human viruses that have provided insights into the ways in which viruses subvert normal cellular control processes and that provide models for human viral malignancies will also be discussed. Course lectures will cover HTLV-I, polyomaviruses, adenoviruses, papillomaviruses, hepatitis viruses and herpesviruses and the major mechanisms regulating cell growth and apoptosis that these viruses target. Research seminars will present recent findings from studies of a subset of human cancer viruses. The course will be of benefit to research and clinical students alike, covering a field that has had and is continuing to have a huge impact on cellular and molecular biology in addition to clinical science.



Ophthalmology

PETER JOHN MCDONNELL, III

William Holland Wilmer Professor of
Ophthalmology, Director of the Department of
Ophthalmology

NEIL M. BRESSLER

James P. Gills Professor of Ophthalmology

SUSAN B. BRESSLER

Julia G. Levy, Ph.D., Professor of Ophthalmology

PETER A. CAMPOCHIARO

George S. and Dolores D. Eccles Professor of
Ophthalmology, Professor of Neuroscience

DANIEL FINKELSTEIN, Professor

DAVID STEVEN FRIEDMAN, Professor

MORTON F. GOLDBERG

Joseph E. Green Professor of Macular
Degeneration and Other Retinal Diseases in the
Department of Ophthalmology

JOHN D. GOTTSCH

Margaret C. Mosher Professor of Ophthalmology

WILLIAM R. GREEN

Professor Emeritus of Ophthalmology, Professor
Emeritus of Pathology

DAVID L. GUYTON

Zanvyl Krieger Professor of Pediatric
Ophthalmology

JAMES TAHARA HANDA

Robert B. Welch M.D. Professor of
Ophthalmology

BARBARA S. HAWKINS, Professor Emerita

NICHOLAS T. ILIFF

Charles E. Iliff, III M.D. Professor of
Ophthalmology, Professor of Plastic Surgery

HENRY D. JAMPEL

Odd Fellows Professor of Ophthalmology

JONATHAN C. JAVITT, Adjunct Professor

GERARD A. LUTTY

G. Edward and G. Britton Durrell Professor of
Ophthalmology

ROBERT W. MASSOF

Professor of Ophthalmology

NEIL R. MILLER

Frank B. Walsh Professor of Neuro-
ophthalmology in the Department of
Ophthalmology, Professor of Neurological
Surgery, Professor of Neurology

JEREMY NATHANS

Professor of Molecular Biology and Genetics,
Professor of Neuroscience, Professor of
Ophthalmology

ARNALL PATZ

William Holland Wilmer Professor Emeritus of
Ophthalmology and University Distinguished
Service Professor Emeritus

IRVIN P. POLLACK, Professor Emeritus

ROBERT A. PRENDERGAST

Professor Emeritus of Ophthalmology, Professor
Emeritus of Pathology

HARRY A. QUIGLEY

A. Edward Maumenee Professor of
Ophthalmology

MICHAEL X. REPKA

Professor of Ophthalmology, Professor of
Pediatrics

DAVID A. ROBINSON

University Distinguished Service Professor
Emeritus of Ophthalmology, University
Distinguished Service Professor Emeritus
of Biomedical Engineering, University
Distinguished Service Professor Emeritus of
Neuroscience

OLIVER D. SCHEIN

Burton E. Grossman Professor of
Ophthalmology

RICHARD D. SEMBA

W. Richard Green Professor of Ophthalmology

ARTHUR M. SILVERSTEIN

Odd Fellows Professor Emeritus of
Ophthalmic Immunology in the Department of
Ophthalmology, Joint Appointment Emeritus in
History of Medicine

ALFRED SOMMER

Professor of Ophthalmology

WALTER J. STARK, JR.

Boone Pickens Professor of Ophthalmology

KHALID FUAD TABBARA, Adjunct Professor

MARK O. M. TSO

Professor of Ophthalmology, Professor of
Pathology

DAVID L. VALLE

Professor of Pediatrics in Genetic Medicine,
Professor of Ophthalmology, Joint Appointment
in Medicine, Joint Appointment in Molecular
Biology and Genetics

SHEILA WEST

El-Maghraby Professor of Preventive
Ophthalmology

CHARLES PAT WILKINSON, Professor

KING-WAI YAU

Professor of Neuroscience, Professor of
Ophthalmology

DONALD J. ZACK

Guerrieri Family Professor of Ophthalmology,
Professor of Neuroscience, Joint Appointment in
Molecular Biology and Genetics

DAVID S. ZEE

Professor of Neurology, Professor of
Neuroscience, Professor of Ophthalmology,
Professor of Otolaryngology-Head and Neck
Surgery

RAN ZEIMER

Morton F. Goldberg Professor of Ophthalmology

ESEN KARAMURSEL AKPEK, Associate
Professor

SELWA A.F. AL-HAZZAA, Adjunct Associate
Professor

ASHLEY BEHRENS, Associate Professor

SHUKTI CHAKRAVARTI

Associate Professor of Medicine, Associate
Professor of Ophthalmology, Assistant Professor
of Cell Biology

ROY S. CHUCK

Associate Professor of Ophthalmology
(to 07/31/09), Occupying the Tom Clancy
Professorship in Ophthalmology

GISLIN DAGNELIE, Associate Professor
 CATHY W. DIBERNARDO, Associate Professor
 ELIA DUH, Associate Professor
 DONALD DEAN DUNCAN, Associate Professor
 JAMES P. DUNN
 Associate Professor of Ophthalmology,
 Occupying the Eugene de Juan Professorship
 in Ophthalmic Education in the Department of
 Ophthalmology
 CHARLES G. EBERHART
 Associate Professor of Pathology, Associate
 Professor of Oncology, Associate Professor of
 Ophthalmology
 RICHARD A. FARRELL, Associate Professor
 PETER L. GEHLBACH
 Associate Professor of Ophthalmology,
 Associate Professor of Biomedical Engineering
 EMILY W. GOWER, Associate Professor
 W. JACKSON ILIFF, Associate Professor
 ALLAN D. JENSEN, Associate Professor
 ALBERT S. JUN, Associate Professor
 JAMES W. KARESH, Associate Professor
 NICHOLAS KATSANIS
 Adjunct Associate Professor of Ophthalmology
 in Genetic Medicine, Joint Appointment in
 Molecular Biology and Genetics
 DAVID L. KNOX, Associate Professor
 IRENE C. KUO, Associate Professor
 MAURICE E. LANGHAM, Associate Professor
 Emeritus
 RUSSELL MCCALLY, Associate Professor
 SHANNATH L. MERBS
 Associate Professor of Ophthalmology,
 Associate Professor of Oncology
 BEATRIZ MUNOZ, Associate Professor
 QUAN DONG NGUYEN, Associate Professor
 ALAN L. ROBIN, Associate Professor
 PREM SAGAR SUBRAMANIAN, Associate
 Professor
 JENNIFER ELIZABETH THORNE, Associate
 Professor
 STANLEY A. VINORES, Associate Professor
 SUSAN VITALE, Adjunct Associate Professor
 ROBERT S. WEINBERG, Associate Professor
 ROBERT B. WELCH, Associate Professor
 Emeritus
 STEWART M. WOLFF, Associate Professor
 Emeritus
 INGRID E. ZIMMER-GALLER, Associate Professor
 DONALD A. ABRAMS, Assistant Professor
 LISA S. ABRAMS, Assistant Professor
 RICHARD ALAN ADLER, Assistant Professor
 ALEX AZAR, Assistant Professor
 WILLIAM R. BITMAN, Assistant Professor (to
 11/19/09)
 AVA K. BITTNER, Assistant Professor
 MICHAEL V. BOLAND
 Assistant Professor of Ophthalmology, Joint
 Appointment in Health Sciences Informatics
 MARIA VALERIA CANTO SOLER, Assistant
 Professor
 ANTHONY CHARLES CASTELBUONO, Assistant
 Professor
 STAN L. COLEMAN, Assistant Professor
 MARY LOUISE Z. COLLINS, Assistant Professor
 SALVATORE A. D'ANNA, Assistant Professor
 STUART R. DANKNER, Assistant Professor
 DIANA VAN DO, Assistant Professor
 JAMES R. DUKE, Assistant Professor Emeritus
 MICHAEL J. ELMAN, Assistant Professor
 NORIKO ESUMI, Assistant Professor
 DEAN STEVEN GLAROS, Assistant Professor
 DAVID B. GLASSER, Assistant Professor
 EDWARD J. GOLDMAN, Assistant Professor
 JUDITH E. GOLDSTEIN
 Assistant Professor of Ophthalmology,
 Assistant Professor of Physical Medicine and
 Rehabilitation
 BORIS L. GRAMATIKOV, Assistant Professor
 MICHAEL P. GRANT, Assistant Professor
 LORI L. GROVER, Assistant Professor
 JOSEPH B. HARLAN, JR., Assistant Professor
 MARC J. HIRSCHBEIN, Assistant Professor
 EARL D.R. KIDWELL, JR., Assistant Professor
 RICHARD J. KOLKER, Assistant Professor
 ALFRED KRONTHAL, Assistant Professor
 SCOTT E. LABORWIT, Assistant Professor
 JOHN GREGORY LADAS, Assistant Professor
 HONG LAI
 Assistant Professor of Radiology, Assistant
 Professor of Ophthalmology
 HENRY ALEXANDER LEDER, Assistant Professor
 VANESSA LIMAWARARUT, Assistant Professor
 JOHN S. MINKOWSKI, Assistant Professor
 BASIL S. MORGAN, Assistant Professor
 ELLIOTT HOWARD MYROWITZ, Assistant
 Professor
 PEGGY R. ORR, Assistant Professor
 ELBA M. PACHECO, Assistant Professor
 CAMERON F. PARSА, Assistant Professor (to
 12/31/09)
 LEONARD M. PARVER, Assistant Professor
 JIANG QIAN
 Assistant Professor of Ophthalmology, Assistant
 Professor of Oncology
 SARAS RAMANATHAN, Assistant Professor
 PRADEEP RAMULU, Assistant Professor
 HARRY G. RANDALL, Assistant Professor
 RONALD C. RICHTER, Assistant Professor
 VIVIAN RISONONDO-STANKOVICH, Assistant
 Professor
 RICHARD T. SCHOLZ, Assistant Professor
 GAIL F. SCHWARTZ, Assistant Professor
 ADRIENNE WILLIAMS SCOTT, Assistant
 Professor
 GERAMI D. SEITZMAN, Assistant Professor
 STEVEN H. SHERMAN, Assistant Professor

DEBASISH SINHA, Assistant Professor
 SHARON D. SOLOMON
 Assistant Professor of Ophthalmology,
 Occupying the Katherine Graham Professorship
 in Ophthalmology
 JENNIFER UNJOO SUNG, Assistant Professor
 JOHN TILYNN THOMPSON, Assistant Professor
 TINGHUI WU, Assistant Professor (on leave of
 absence to 09/14/09)
 HOWARD S. C. YING, Assistant Professor
 SARAH H. YING
 Assistant Professor of Neurology, Assistant
 Professor of Ophthalmology
 J. SAMUEL ZIGLER, JR., Assistant Professor
 SULEIMAN S. ALIBHAI, Instructor
 RAYA ARMALY, Instructor
 M. BARRY BLUM, Instructor
 GARY H. CASSEL, Instructor
 LIUDMILA CEBOTARU, Instructor
 ALEXANDER CHRISTOFF, Instructor
 KAREN DUNLAP, Instructor
 IVAN H. GARCIA, Instructor
 NADER G. GARY, Instructor
 NINA GLASNER, Instructor
 JEREMY GOLDMAN, Instructor
 LENARD H. HAMMER, Instructor
 MARC A. HONIG, Instructor
 JOSEPHINE O. IBIRONKE, Instructor (to
 09/30/09)
 SANJAY RAMKRISHNA KEDHAR, Instructor
 BRIAN C. LERNER, Instructor
 RENEE A. LERNER, Instructor
 SUDEEP PRAMANIK, Instructor (from 11/01/09)
 EVA MARIA RORER, Instructor
 JEROME ROSS, Instructor
 PATRICIA L. SCHMOKE, Instructor
 ALLEN E. SILVER, Instructor
 LEE ALISON SNYDER, Instructor
 JONATHAN DAVID SOLOMON, Instructor
 LEON STRAUSS, Instructor
 RICHARD M. SUSEL, Instructor
 JEFFREY LAWRENCE WEXLER, Instructor
 SARAH ANIS, Assistant
 ANNA BORDELON, Assistant
 YASSINE J. DAOUD, Assistant
 ROBERT W. DAVIS, Assistant
 ADAM D. JACOBOWITZ, Assistant
 MUGE R. KESEN, Assistant
 BEN J. KIM, Assistant
 JOHN J. KOO, Assistant
 AISHA ANN MACEDO, Assistant (from 07/06/09)
 ALEXIS G. MALKIN, Assistant
 BRYAN D. PROPES, Assistant
 AKRIT SODHI, Assistant
 DIVYA SRIKUMARAN, Assistant
 KALLIOPI STASI, Assistant (to 07/06/09)
 ALLEN FOSTER, Lecturer

CYNTHIA A. BERLINCKE, Research Associate
 IMRAN A. BHUTTO, Research Associate
 JAMES T. DEREMEIK, Research Associate
 ALING DONG, Research Associate
 RAQUEL FORMICA, Research Associate
 TIMOTHY P. FRIEL, Research Associate
 DUANE R. GERUSCHAT, Research Associate
 DAVID GREEN, Research Associate
 PAUL N. HOFFMAN, Research Associate
 LILI LU, Research Associate
 MARY ELLEN PEASE, Research Associate
 SYED MAHMOOD SHAH, Research Associate (to
 07/15/09)
 JIKUI SHEN, Research Associate
 KURT A. SIMONS, Research Associate
 RUTH ASHERY-PADAN, Visiting Scientist (to
 08/01/09)
 WALID KHALED BARBOUR, Visiting Scientist
 DONALD L. CHAMPAGNE, Visiting Scientist

FACULTY ASSOCIATED WITH THE
 DEPARTMENT OF OPHTHALMOLOGY HOLDING
 A PRIMARY APPOINTMENT IN:

The School of Medicine:

SETH BLACKSHAW
 Assistant Professor of Neuroscience
 HENRY BREM
 Harvey Cushing Professor of Neurological
 Surgery
 NICHOLAS MARSH-ARMSTRONG
 Assistant Professor of Neuroscience
 DAVID EDWARD NEWMAN-TOKER
 Assistant Professor of Neurology

The Bloomberg School of Public Health:

MARIE DIENER-WEST
 Professor of Biostatistics
 KEVIN D. FRICK
 Associate Professor of Health Policy and
 Management
 JOANNE KATZ
 Professor of International Health
 JAMES M. TIELSCH
 Professor of International Health
 KEITH PARKER WEST, JR.
 Professor of International Health

ELECTIVE OPPORTUNITIES—*Curricular
 Consultant:* Dr. Bert Jun. Elective courses
 must be approved by the preceptor; any mem-
 ber of the department can act as preceptor.

Ophthalmology E

The elective courses offered below are given in part
 for the instruction of house officers and fellows in
 Ophthalmology. All courses are also open to stu-
 dents of the third and fourth years who wish more
 experience in clinical and medical ophthalmology,
 and for students who propose ultimately to become
 ophthalmologists. Elective E5 is open to students of
 the second, third, and fourth years.

E 1. Staff Conference. Dr. Peter McDonnell and staff. Th., 7:30-9.

Presentation and discussion of cases in Patz Lecture Room.

E 3. Clinical Neuro-ophthalmology. Dr. Neil Miller. Each quarter. First Thursday at Grand Rounds 7:30 - 9:00 a.m., plus one lecture per month. Patz Lecture Room.

E 5. Ophthalmic Pathology. Dr. Eberhart. Time to be arranged.

Students will participate in the routine operations of the eye pathology laboratory. The basics of ocular anatomy and histology and clinico-pathologic correlation of ocular diseases and ocular manifestations of systemic diseases are stressed.

E 6. Clinical Elective. Drs. Albert Jun, Esen Akpek, and staff. Available first half of each quarter and in June.

Reading assignments about patients examined each day, attendance at daily lectures, and reading to prepare for daily tutorial sessions. Supervised clinical experience in retinal vascular disease, macular disease, cataract, corneal disease, strabismus, glaucoma, neuromedical ophthalmology, contact lenses, ophthalmic plastic surgery, retractive surgery and general eye clinic. Attendance at private offices of part time Wilmer faculty. Library research and oral report on topic of choice. Tutorial sessions with faculty members will be held if 3 or more students are on the rotation.

E 8. Advanced Work and Research. By arrangement with the staff.

Research interests represented in the Department of Ophthalmology are as follows:

DR. AKPEK

Allergic and immunologic eye diseases mostly associated with systemic problems.

DR. BREM

Angiogenesis research and controlled drug delivery research.

DR. N. BRESSLER

Clinical research of macular disease.

DR. S. BRESSLER

Clinical research in retinal vascular and macular diseases, fluorescein angiography, OCT, laser photo-coagulation, photodynamic therapy, and anti-VEGF treatment. Opportunity to become proficient in ophthalmoscopy and to carry out a clinical research project on some aspect of retinal disease.

DR. CAMPOCHIARO

Cell and molecular biology of the retinal pigment epithelium. Retinal wound repair. Retinal degeneration. Pathogenesis of retinal and choroidal neovascularization.

DR. DAGNELIE

Retinal prosthesis and vision test development.

DR. EBERHART

Ophthalmic pathology.

DR. GEHLBACH

Gene therapy vector creation and use; animal models of disease involving the retinal and choroids; cell and molecular biology of ocular angiogenesis.

DR. GOLDBERG

Sickle cell eye disease.

DR. GOLDSTEIN

Visual impairment assessment and rehabilitation.

DR. GOTTSCH

Cataract and intraocular lens implantation, contact lenses, ocular immunology, in particular immune aspects of corneal transplant rejection.

DR. GROVER

Vision impairment and rehabilitation.

DR. GUYTON

Ophthalmic instrumentation, especially related to ophthalmic optics and strabismus.

DR. JAMPEL

Glaucoma and glaucoma surgery.

DR. MASSOF

Vision psychophysics and electrophysiology.

DR. MILLER

Clinical neuro-ophthalmology.

DR. POLLACK

Clinical studies in glaucoma.

DR. QUIGLEY

Experimental optic nerve studies.

DR. RAMANATHAN

Cataract surgery with intraocular lens implantation and resident education.

DR. ROBIN

Clinical aspects of glaucoma and glaucoma surgery; new drug development; ophthalmic epidemiology; adherence and utilization of ophthalmic health care.

DR. SCHEIN

Cataract and corneal surgery, ocular surface disease, ophthalmic epidemiology, and technology assessment.

DR. SEMBA

Eye diseases in developing countries. Vitamin A Deficiency.

DR. STARK

Cataract and intraocular lens implantation, contact lenses, ocular immunology, in particular immune aspects of corneal transplant rejection.

DR. TIELSCH

Ophthalmic epidemiology.

DR. WEST

Trachoma and ocular infections in developing countries, vision and aging, population studies of cataract and age-related macular degeneration.

DR. ZEE

Neurophysiology of ocular motility and neurology of eye-movement disorders.

E 11. Wilmer Retinal Division Weekly Medical/Surgical Teaching Conference. Dr. N. Bressler and staff. Monday; 7:30 a.m. to 8:30 a.m. in Maumenee conference room #501. Available to students taking clinical research elective in Wilmer Retina Division.

E 17. Clinical Neuro-Ophthalmology. Dr. Miller. Available all year; minimum of 4 weeks.

Prerequisites: Preferably neurology (or neurosurgery) and ophthalmology general electives; special considerations will be made for some students who have only taken one of the above.

Patients with neuro-ophthalmological disorders are evaluated. Literature concerning specific syndromes encountered will be discussed.

E 21. Cataract and Intraocular Lens Implantation. Drs. Stark and Gottsch. To be arranged.

Cataract and intraocular lens implantation, contact lenses, ocular immunology, in particular immune aspects of corneal transplant rejection. Students interested in these subjects are encouraged to meet with listed faculty to obtain more information about the possibilities for research electives.

E 24. Ophthalmic Instrumentation. Drs. Guyton and Simons. To be arranged.

Development and testing of ophthalmic instrumentation, especially related to ophthalmic optics and strabismus. To be arranged through Dr. Guyton at 410-955-8314.

E 25. Vision Psychophysics and Electrophysiology. Drs. Grover, Bittner, Massof, and Dagnelie. To be arranged.

Weekly research seminar and supervised research project. Special interest of the faculty include low vision and quantitative measuring of retinal function in common retinal disorders including macular degeneration, diabetic retinopathy, branch and central retinal vein occlusion, and retinitis pigmentosa.

E 26. Clinical Research in Medical Retinal Disease. Dr. S. Bressler. One student per 9 weeks.

Prerequisites: Ophthalmology Clerkship plus elective, or elective alone.

This elective includes reviewing pertinent literature in a specific area of medical retinal disease, reviewing patient records and/or clinical examinations to evaluate specific questions in regard to that condition, acquisition of basic and advanced ophthalmologic examination skills, interpretation of fluorescein angiography, examining patients with preceptor in her clinical practice one full day per week, and manuscript preparation.

E 27. Clinical Research of Macular Diseases. Dr. N. Bressler. One full quarter; offered all year.

Prerequisite: One month Ophthalmology elective.

This elective includes selecting a specific clinical research question, designing a study to answer that question, reviewing pertinent literature, examining study patient's histories and ocular examinations, refining ophthalmic examination skills and interpretation of imaging studies of the retina, working with a preceptor in his clinical practice.

E 30. Oculoplastic Surgery. Drs. Merbs, Grant, and Iliff. Available all year; contact 410-955-1112.

The one month elective in Oculoplastic surgery provides clinical and surgical experience for the medical student in this subspecialty. Three days a week will be spent in clinic and two days in the operating room. At all times the student will be directly supervised by one of the attending preceptors. In the clinic there will be the opportunity to observe the evaluation and management of patients presenting with all aspects of Oculoplastic disease including trauma, neoplasia, aging, and congenital defects involving the ocular adnexae seen. There will be opportunity to do portions of the workups and then present to the preceptor(s). In the operating room, there will be observation of surgical techniques and opportunity to scrub in and assist on cases. The student will be assigned a library research project due at the end of the rotation as a PowerPoint presentation. The project will be on an Oculoplastic issue, disease, or surgery of interest to the student.

E 31. Ophthalmology Informatics (Computers in Ophthalmology). Dr. Boland. Available all year; any one term; contact boland@jhmi.edu, 410-502-4074.

Prerequisites: Technical background appropriate to the planned project, if necessary.

This elective affords the student the opportunity to work with faculty from ophthalmology in the field of medical informatics. The student will be allowed to develop either a research project or practical experience focused on the use of computers and information technology in ophthalmology. Examples of possible projects include: development of user interfaces for electronic patient records; computer-aided analysis and/or diagnosis of ophthalmic images; assessment of information needs in ophthalmology; assessment of the impact of information technology on ophthalmology; development and assessment of electronic patient education material; and development and assessment of clinician decision support. Students will be expected to generate a formal report describing their project and will be evaluated on their ability to plan and carry out that project.



Pathology

JAY BROOKS JACKSON

Baxley Professor of Pathology, Director of the Department of Pathology

RICHARD F. AMBINDER

James B. Murphy Professor of Oncology, Professor of Medicine, Professor of Pathology, Professor of Pharmacology and Molecular Sciences

GRANT J. ANHALT

Professor of Dermatology, Professor of Pathology

PEDRAM ARGANI

Professor of Pathology, Professor of Oncology

FREDERIC B. ASKIN, Professor

WILLIAM M. BALDWIN, III, Adjunct Professor

JOHN K. BOITNOTT, Professor

MICHAEL J. BOROWITZ

Professor of Pathology, Professor of Oncology

PETER C. BURGER

Professor of Pathology, Professor of Neurological Surgery, Professor of Oncology

KAREN C. CARROLL

Professor of Pathology, Joint Appointment in Medicine

DARRYL CARTER, Adjunct Professor

DANIEL W. CHAN

Professor of Pathology, Professor of Oncology, Professor of Radiology, Professor of Urology

PATRICIA CHARACHE

Professor of Pathology, Professor of Medicine, Professor of Oncology

SAMUEL CHARACHE

Professor Emeritus of Medicine, Professor Emeritus of Pathology

DOUGLAS PAUL CLARK

Professor of Pathology, Professor of Oncology

JANICE E. CLEMENTS

Mary Wallace Stanton Professor for Faculty Affairs, University Distinguished Service, Professor of Molecular and Comparative Pathobiology, Professor of Neurology, Professor of Pathology, Joint Appointment in Molecular Biology and Genetics

DONALD S. COFFEY

Catherine Iola and J. Smith Michael Distinguished Professor of Urology, Professor of Oncology, Professor of Pathology, Professor of Pharmacology and Molecular Sciences

CAROLYN CORLIES COMPTON, Adjunct Professor

SUSAN W. CRAIG

Professor of Biological Chemistry, Professor of Pathology

CHI VAN DANG

Johns Hopkins Family Professor for Oncology Research in the Department of Medicine, Professor of Cell Biology, Professor of Oncology, Professor of Pathology, Joint Appointment in Molecular Biology and Genetics

ANGELO M. DEMARZO

Professor of Pathology, Professor of Oncology, Professor of Urology

J. STEPHEN DUMLER, Professor

JONATHAN I. EPSTEIN

Rose-Lee and Keith Reinhard Professor of Urologic Pathology, Professor of Oncology, Professor of Urology

YENER S. EROZAN, Professor

SUSAN H. SHAKIN ESHLEMAN, Professor

MARY GLENN FOWLER, Professor

EDWARD W. GABRIELSON

Professor of Pathology, Professor of Oncology

FRANCIS M. GIARDIELLO

John G. Rangos Sr. Professor of Adult Medicine in the Department of Medicine, Professor of Oncology, Professor of Pathology

MICHAEL GOGGINS

Professor of Pathology, Professor of Medicine, Professor of Oncology

WILLIAM R. GREEN

Professor Emeritus of Ophthalmology, Professor Emeritus of Pathology

CONSTANCE A. GRIFFIN

Professor of Pathology, Professor of Oncology, Associate Professor of Medicine

JOHN W. GRIFFIN

University Distinguished Professor of Neurology, Professor of Neuroscience, Professor of Pathology

ROBERT G. HAMILTON

Professor of Medicine, Professor of Pathology

ULRIKE M. HAMPER

Professor of Radiology and Radiological Science, Professor of Pathology, Professor of Urology

GARY S. HAYWARD

Professor of Oncology, Professor of Pathology, Professor of Pharmacology and Molecular Sciences

ROBERT H. HEPTINSTALL

University Distinguished Service Professor Emeritus of Pathology

ALLAN D. HESS

Professor of Oncology, Professor of Pathology

GARY S. HILL, Adjunct Professor

RALPH H. HRUBAN

Professor of Pathology, Professor of Oncology

GROVER M. HUTCHINS

Professor of Pathology, Joint Appointment in Art as Applied to Medicine

ELIZABETH M. JAFFEE

Dana and Albert "Cubby" Broccoli Professor of Oncology, Professor of Pathology

JONATHAN PETER JAROW

Professor of Urology, Professor of Pathology

WALTER ERWIN KAUFMANN

Professor of Pathology, Professor of Neurology, Professor of Pediatrics, Professor of Psychiatry, Professor of Radiology

SCOTT E. KERN

Professor of Oncology, Professor of Pathology

THOMAS S. KICKLER

Professor of Pathology, Professor of Medicine, Professor of Oncology

- HARVEY G. KLEIN**
Adjunct Professor of Pathology, Adjunct
Professor of Medicine
- FRANCIS P. KUHAJDA**
Professor of Pathology, Professor of Oncology,
Joint Appointment in Biological Chemistry
- ROBERT J. KURMAN**
Richard W. Telinde Distinguished Professor
of Gynecologic Pathology in the Department
of Gynecology and Obstetrics, Professor of
Oncology, Professor of Pathology
- PAUL W. LADENSON**
John Eager Howard Professor of Endocrinology
and Metabolism in the Department of Medicine,
University Distinguished Professor of Medicine,
Professor of Oncology, Professor of Pathology,
Professor of Radiology
- SHENGHAN LAI**
Professor of Pathology, Professor of Radiology,
Joint Appointment in Medicine
- RISA BERMAN MANN**, Professor Emerita
- LEE J. MARTIN**
Professor of Pathology, Professor of
Neuroscience
- JUSTIN C. MCARTHUR**
Professor of Neurology, Professor of Medicine,
Professor of Pathology
- EDWARD F. MCCARTHY, JR.**
Professor of Pathology, Professor of Orthopedic
Surgery
- WILLIAM G. MERZ**
Professor of Pathology, Joint Appointment in
Dermatology
- ELIZABETH ANNE MONTGOMERY**
Professor of Pathology, Professor of Oncology,
Professor of Orthopaedic Surgery
- WILLIAM G. NELSON**
Marion I. Knott Director and Professor of
Oncology, Professor of Medicine, Professor
of Pathology, Professor of Pharmacology and
Molecular Sciences, Professor of Radiation
Oncology and Molecular Radiation Sciences,
Professor of Urology
- PAUL M. NESS**
Professor of Pathology, Professor of Medicine,
Joint Appointment in Oncology
- G. JOHAN OFFERHAUS**
Visiting Professor of Medicine, Visiting Professor
of Pathology
- DREW M. PARDOLL**
Martin D. Abeloff Professor of Oncology,
Professor of Medicine, Professor of Pathology
- ALAN W. PARTIN**
David Hall McConnell Professor of Urology,
Professor of Oncology, Professor of Pathology
- ROBERT A. PRENDERGAST**
Professor Emeritus of Ophthalmology, Professor
Emeritus of Pathology
- DONALD L. PRICE**
Professor of Pathology, Professor of Neurology,
Professor of Neuroscience
- LORRAINE C. RACUSEN**, Professor
- BRIGITTE MARIA RONNETT**
Professor of Pathology, Professor of Gynecology
and Obstetrics
- NOEL R. ROSE**
Professor of Pathology, Joint Appointment in
Medicine
- ANTONY ROSEN**
Mary Betty Stevens Professor of Medicine,
Professor of Pathology
- DOROTHY L. ROSENTHAL**
Professor of Pathology, Professor of Gynecology
and Obstetrics
- ALFRED P. SANFILIPPO**, Adjunct Professor
- JONATHAN SCHNECK**
Professor of Pathology, Professor of Oncology,
Associate Professor of Medicine
- IE-MING SHIH**
Professor of Pathology, Professor of Gynecology
and Obstetrics, Professor of Oncology
- DAVID SIDRANSKY**
Professor of Otolaryngology-Head and Neck
Surgery, Professor of Oncology, Professor of
Pathology, Professor of Urology
- MARK J. SOLOSKI**
Professor of Medicine, Professor of Pathology,
Joint Appointment in Molecular Biology and
Genetics
- CHARLES STEENBERGEN, JR.**, Professor
- SARASWATI SUKUMAR**
Barbara B. Rubenstein Professor of Oncology,
Professor of Pathology
- GEORGE H. THOMAS**
Professor of Pediatrics in Genetic Medicine,
Professor of Pathology, Joint Appointment in
Medicine
- JUAN C. TRONCOSO**
Professor of Pathology, Associate Professor of
Neurology
- MARK O. M. TSO**
Professor of Ophthalmology, Professor of
Pathology
- BERT VOGELSTEIN**
Clayton Professor of Oncology, Professor of
Pathology, Joint Appointment in Molecular
Biology and Genetics
- THOMAS J. WALSH**, Adjunct Professor
- WILLIAM H. WESTRA**
Professor of Pathology, Professor of Oncology,
Professor of Otolaryngology-Head and Neck
Surgery, Associate Professor of Dermatology
- JERRY A. WINKELSTEIN**
Professor Emeritus of Pediatrics, Professor
Emeritus of Medicine, Professor Emeritus of
Pathology
- PHILIP CHUN-YING WONG**
Professor of Pathology, Professor of
Neuroscience
- TZYY-CHOUU WU**
Professor of Pathology, Professor of Gynecology
and Obstetrics, Professor of Oncology
- JOHN H. YARDLEY**
University Distinguished Service Professor of
Pathology
- M. CHRISTINE ZINK**
Professor of Molecular and Comparative
Pathobiology, Professor of Pathology

SYED ZULFIQAR ALI
Associate Professor of Pathology, Associate Professor of Radiology

SERENA MARIA BAGNASCO, Associate Professor

NORMAN J. BARKER
Associate Professor of Pathology, Associate Professor of Art as Applied to Medicine

DAVID M. BERMAN
Associate Professor of Pathology, Associate Professor of Oncology, Assistant Professor of Urology

BELUR S. BHAGAVAN, Associate Professor

CAROL L. BUREK, Associate Professor

PATRIZIO P. CATUREGLI
Associate Professor of Pathology, Joint Appointment in Medicine

BARBARA J. CRAIN
Associate Professor of Pathology, Associate Professor of Neurology, Associate Professor of Oncology

BARBARA DETRICK, Associate Professor

CHARLES G. EBERHART
Associate Professor of Pathology, Associate Professor of Oncology, Associate Professor of Ophthalmology

JAMES R. ESHLEMAN
Associate Professor of Pathology, Associate Professor of Oncology

MOSTAFA M. FRAIG, Visiting Associate Professor

PATRICIA J. GEARHART
Adjunct Professor of Medicine, Adjunct Associate Professor of Pathology, Adjunct Associate Professor of Surgery

CHRISTOPHER D. GOCKE
Associate Professor of Pathology, Associate Professor of Oncology

DENNIS JOHN GRAB
Associate Professor of Pathology, Associate Professor of Pediatrics

LAURA A. GUAY
Associate Professor of Pathology, Associate Professor of Pediatrics

RICHARD L. HUMPHREY
Associate Professor of Pathology, Associate Professor of Medicine

CHRISTINE A. IACOBUZIO-DONAHUE
Associate Professor of Pathology, Associate Professor of Surgery, Associate Professor of Oncology

JACQUELINE MARIE JUNKINS-HOPKINS
Visiting Associate Professor of Dermatology, Visiting Associate Professor of Pathology

KAREN E. KING
Associate Professor of Pathology, Associate Professor of Oncology

VASSILIS E. KOLIATSOS
Associate Professor of Pathology, Associate Professor of Neurology, Associate Professor of Psychiatry

MICHAEL K. LEE, Adjunct Associate Professor

ANIRBAN MAITRA
Associate Professor of Pathology, Associate Professor of Oncology

JOSEPH LEONARD MANKOWSKI
Associate Professor of Molecular and Comparative Pathobiology, Associate Professor of Neurology, Associate Professor of Pathology

ROBERT E. MILLER
Associate Professor of Pathology, Associate Professor of Biomedical Engineering, Joint Appointment in Health Sciences Informatics

KATHLEEN M. MURPHY
Associate Professor of Pathology (to 12/31/09), Associate Professor of Oncology (to 12/31/09)

GEORGES JABBOURE NETTO
Associate Professor of Pathology, Associate Professor of Oncology, Associate Professor of Urology

STEPHEN J. NOGA
Associate Professor of Oncology (to 07/31/09), Associate Professor of Pathology (to 07/31/09)

AKHILESH PANDEY
Associate Professor of Biological Chemistry in Genetic Medicine, Associate Professor of Oncology, Associate Professor of Pathology

GARY R. PASTERNAK
Adjunct Associate Professor of Pathology, Adjunct Associate Professor of Medicine

TRISH M. PERL
Professor of Medicine, Associate Professor of Pathology

RICHARD B. S. RODEN
Associate Professor of Pathology, Associate Professor of Gynecology and Obstetrics, Associate Professor of Oncology

E. RENE RODRIGUEZ, Adjunct Associate Professor (to 08/05/09)

SCHEHERAZADE SADEGH-NASSERI
Associate Professor of Pathology, Associate Professor of Biophysics and Biophysical Chemistry

HUA SHAN, Associate Professor

SHEILA SHETH
Associate Professor of Radiology and Radiological Science, Associate Professor of Pathology

LORI J. SOKOLL
Associate Professor of Pathology, Associate Professor of Oncology, Associate Professor of Urology

CORNELIA LIU TRIMBLE
Associate Professor of Gynecology and Obstetrics, Associate Professor of Oncology, Associate Professor of Pathology

ALEXANDRA VALSAMAKIS, Associate Professor

RUSSELL VANG
Associate Professor of Pathology, Assistant Professor of Gynecology and Obstetrics

ZHEN ZHANG, Associate Professor

ROBERT ALBERT ANDERS
Assistant Professor of Pathology, Assistant Professor of Oncology

DENISE A BATISTA, Assistant Professor

G. STEVEN BOVA
Assistant Professor of Pathology, Assistant Professor of Oncology, Joint Appointment in Health Sciences Informatics, Assistant Professor of Urology

KATHLEEN HELEN BURNS

Assistant Professor of Pathology, Assistant Professor of Oncology

DANIELA CIHAKOVA, Assistant Professor

WILLIAM CLARKE, Assistant Professor

CHERYL DESCIPIO

Assistant Professor of Pathology (from 09/01/09), Assistant Professor of Gynecology and Obstetrics (from 09/01/09)

DONALD W. EDLOW, Assistant Professor

SHELDON M. GLUSMAN, Assistant Professor

MARC K. HALUSHKA, Assistant Professor

ABDEL-RAHIM A. HAMAD

Assistant Professor of Pathology, Assistant Professor of Medicine

CHIEN-FU HUNG

Assistant Professor of Pathology, Assistant Professor of Gynecology and Obstetrics, Assistant Professor of Oncology

PETER BELA ILLEI, Assistant Professor

ALISON PATRICIA KLEIN

Assistant Professor of Oncology, Assistant Professor of Pathology

MARIA TERESA LEE, Assistant Professor

QING KAY LI, Assistant Professor

TONG LI, Assistant Professor

TAMARA LEVIN LOTAN, Assistant Professor

ALAN K. MEEKER

Assistant Professor of Pathology, Assistant Professor of Oncology, Assistant Professor of Urology

G. WILLIAM MOORE, Adjunct Assistant Professor

PATRICE JEAN-LUC MORIN, Adjunct Assistant Professor

HIND NASSAR, Assistant Professor

DOLORES B. NJOKU

Associate Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Pathology, Assistant Professor of Pediatrics

MATHIAS OELKE, Assistant Professor

CARLOS A. PARDO-VILLAMIZAR

Associate Professor of Neurology, Assistant Professor of Pathology

NICOLE M. PARRISH, Assistant Professor

EDWARD A. RATOVITSKI

Associate Professor of Dermatology, Associate Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Medicine, Assistant Professor of Pathology

MEGAN ELIZABETH RELLER, Assistant Professor

STEFAN RIEDEL, Assistant Professor

ARIELLA M. ROSENGARD, Adjunct Assistant Professor

KATE ROTHKO, Adjunct Assistant Professor

WILLIAM JACOB SAVAGE, Assistant Professor

ALENA V. SAVONENKO

Assistant Professor of Pathology, Assistant Professor of Neurology

DUNCAN SCOTT STEARNS, Adjunct Assistant Professor

JANIS MARIE TAUBE

Assistant Professor of Dermatology (from 08/01/09), Assistant Professor of Pathology (from 08/01/09)

JAGAN N. THUPARI, Adjunct Assistant Professor

JOHN R. TICEHURST, Assistant Professor

CHRISTOPHER B. UMBRIGHT

Assistant Professor of Surgery, Assistant Professor of Oncology, Assistant Professor of Pathology

MILENA VUICA-ROSS, Assistant Professor

GARY RAY WARNOCK

Associate Professor of Dermatology (to 09/04/09), Assistant Professor of Pathology (to 09/04/09)

BARBARA A. WASOWSKA, Assistant Professor

ANNA YEMELYANOVA, Assistant Professor

HUI ZHANG, Assistant Professor

ELI E. BAR, Instructor

SHAHNAZ BEGUM, Instructor

JOSE CARLOS GARCIA-GARCIA, Instructor

DAI JUN LI, Instructor

ZAHRA MALEKI, Instructor

ESTHER S. OH

Assistant Professor of Medicine, Instructor in Pathology, Joint Appointment in Psychiatry

MARY G. RIPPLE, Instructor

MICHAEL BLAKE STREIFF

Associate Professor of Medicine, Instructor in Pathology

JONATHAN DAVID CUDA, Assistant

MEREDITH A. LAKEY, Assistant

MICHAEL THOMAS O'MALLEY, Assistant

JASON YOUNG PARK, Assistant

AHREN C. RITTERSHAUS, Assistant

CHANJUAN SHI, Assistant (from 01/01/10)

SILVIA SKRIPENOVA, Assistant

DONALD CRAVER SWING, JR., Assistant

NICHOLAS J. BELITSOS

Assistant Professor of Medicine, Lecturer in Pathology

TASHA ZEMRUS GREENBERG, Lecturer

JEFFREY S. IDING, Lecturer

MOIRA P. LARSEN, Lecturer

JAMES LARON LOCKE, Lecturer

DIANA WEEDMAN MOLAVI, Lecturer

JOAN WHITEHOUSE-GIBBLE, Lecturer

JOAN GLICK BIELER, Research Associate

PATRICIA L. BRIGHT, Research Associate

HUAIBIN CAI, Research Associate

ALICIA ROSE GABLE, Research Associate

HIROAKI KIMURA, Research Associate

BONNIE S. KING, Research Associate

TATIANA MELNIKOVA, Research Associate

MAHNAZ MOTEVALLI, Research Associate

SHIWEN PENG, Research Associate

OLGA PLETNIKOVA, Research Associate

WENJING TONG, Research Associate

DIMITRIOS CHATZIDIMITRIOU, Visiting Scientist

JIE (JANE) ZENG, Visiting Scientist

FACULTY ASSOCIATED WITH THE
DEPARTMENT OF PATHOLOGY HOLDING A
PRIMARY APPOINTMENT IN:

The School of Medicine:

WILLIAM RAMSES BISHAI
Professor of Medicine

The Bloomberg School of Public Health:

ARTHUR M. DANNENBERG, JR.
Professor of Environmental Health Sciences

DELISA FAIRWEATHER

Assistant Professor of Environmental Health
Sciences

The School of Arts and Sciences:

MICHAEL AARON EDIDIN
Professor of Biology

REQUIRED COURSE WORK FOR M.D. DEGREE

First Year

Scientific Foundations of Medicine/Introduction to Genes to Society and Pathobiology.

In the final week of Scientific Foundations, students spend two hours a day learning fundamentals of pathology and pathobiology with lecture and virtual microscope.

Second Year

1. Introduction to Pathology. Drs. McCarthy, Steenbergen, and staff. Quarters 1-3.

The introductory course is based upon previous studies in the courses of anatomy, biochemistry, physiology, and cells and tissues and correlates pathology with the on-going instruction in human pathophysiology, pharmacology, and clinical skills. This includes occasional combined sessions with these courses. The first part of the course deals mainly with general pathology, the second part of the course with the pathology of organ systems. The structural, functional and chemical changes occurring in the common diseases of man are discussed on the basis of general principles of the reaction to injury and of prototype disorders.

While the various areas of general and systemic pathology are introduced and critically surveyed in lectures given to the whole class, much of the teaching is carried out in seminar form and in small groups, which throughout the course are guided by permanently assigned instructors. The relationships between morphologic changes, functional alterations and clinical manifestations of disease are stressed, and the application of research to the study of disease is constantly pointed out and illustrated. Small groups focus on both anatomic and clinical laboratory pathology. Special areas of pathology are also introduced.

A large collection of typical examples of diseases represented by preserved specimens with their case records, color photomicrographs and a loan collection of histologic preparations is available to the student for the study of the more common disorders. Online resources are also available, includ-

ing photomicrographs, lecture notes, and links to resources on the world wide web. Brief mentored experiences in surgical pathology, and either microbiology or transfusion medicine are required. Attendance at one autopsy is also required.

2. Clinical-Pathological Conferences. Dr. Argani and staff. First and second quarter; Wed; 12-1. Offered to students in the second, third, and fourth years.

The clinical course and differential diagnosis of recent well-studied cases are correlated with underlying pathologic changes.

OTHER COURSES AND ELECTIVE OPPORTUNITIES—*Curricular Consultants:* Drs. Crain and Racusen. Elective programs must be approved by the preceptor; any member of the department may act as preceptor.

Pathology E

E 1. Lectures in Pathology for Graduate Students. (300.700) Drs. Jackson, Racusen and staff.

This course consists of the lecture portion of Introduction to Pathology (300.600).

E 2. Advanced Work and Special Research. (300.701)

Opportunity is offered to pursue advanced work or research in pathological anatomy, experimental pathology, and laboratory medicine.

Research interests represented in the Department of Pathology are as follows:

DR. ALI

Cytopathology; digital photoimaging; web-based teaching tools.

DR. ANDERS

Liver biology and gastrointestinal pathology.

DR. ARGANI

Breast cancer; gallbladder and bile duct carcinomas; pediatric renal tumors.

DR. ASKIN

Pulmonary disease, placental pathology, and pediatric neoplasia.

DR. BATISTA

Clinical cancer cytogenetics; post-natal cytogenetics and array comparative genomic hybridization; delineation of genetic syndromes.

DR. BEGUM

Research focusing on cancer genetics and epigenetics, particularly lung and head and neck cancer; viral infection related to human cancer.

DR. BERMAN

Cancer stem cells; developmental biology of the prostate; urothelial injury repair; bladder cancer; genitourinary pathology.

DR. BHAGAVAN

Adult and pediatric gastrointestinal diseases.

DR. BOITNOTT

Liver disease, morphology and informatics.

DR. BOROWITZ

Leukemia and lymphoma, especially pediatric leukemia; flow cytometry.

DR. BOVA

Metastatic prostate cancer molecular genetics; integrated clinical-genomic database technology.

- DR. BUREK
Clinical immunology; autoimmunity; autoimmune disease.
- DR. BURGER
Neuropathology; neuro-oncology.
- DR. CARROLL
Diagnostic test development and evaluation for bacterial and fungal pathogens with emphasis on healthcare associated infections.
- DR. CATUREGELI
Autoimmune diseases; thyroiditis; hypophysitis; mouse models.
- DR. D. CHAN
Tumor markers; proteomics; immunoassay.
- DR. P. CHARACHE
Medical microbiology; molecular diagnosis of human pathogens.
- DR. CLARK
Molecular cytopathology.
- DR. CLARKE
Therapeutic drug monitoring; clinical toxicology; pharmacogenomics; drug assay development.
- DR. CRAIN
Neurodegenerative diseases; autopsy pathology.
- DR. A. M. DANNENBERG JR.
Pathogenesis of allergic and infectious diseases; the inflammatory process; tuberculosis.
- DR. DEMARZO
Molecular pathogenesis of prostate cancer.
- DR. DESCIPIO
Delineation of cryptic chromosomal rearrangements and how they relate to human structural birth defects.
- DR. DETRICK
Clinical immunology; cytokine biology in immune diseases; immunology of the eye.
- DR. DUMLER
Study of vector-borne infections including tick-borne diseases caused by Rickettsia, Ehrlichia/ Anaplasma, Borrelia, and those caused by other vectors such as malaria and trypanosomiasis.
- DR. EBERHART
Pathogenesis of brain and eye tumors.
- DR. EPSTEIN
Genitourinary pathology.
- DR. EROZAN
Pulmonary and gastrointestinal cytopathology.
- DR. J. ESHLEMAN
Early detection of pancreatic cancer; genes causing familial pancreatic cancer; novel molecular therapeutic and diagnostic tools for cancer.
- DR. S. ESHLEMAN
Role of HIV-1 genetic diversity in transmission and drug resistance.
- DR. FOWLER
Prevention and treatment of pediatric and HIV infection.
- DR. FRAIG
Pulmonary pathology, especially interstitial lung disease; diagnostic cytopathology.
- DR. GABRIELSON
Molecular pathology of breast cancer and lung cancer.
- DR. GOCKE
Molecular diagnostics and hematopathology.
- DR. GOGGINS
Pancreatic cancer, particularly early detection; cancer genetics; cancer epigenetics.
- DR. GRIFFIN
Tumor cytogenetics, clinical cancer genetics.
- DR. HAMAD
Regulation of organ specific autoimmunity and mucosal tolerance by the Fas pathway.
- DR. G. HILL
Clinico-pathologic studies of renal disease.
- DR. HRUBAN
Cancer of the pancreas.
- DR. HUMPHREY
Diagnostic immunology; dysproteinemias.
- DR. HUNG
Cancer vaccine; immunotherapy; DNA vaccine.
- DR. HUTCHINS
Human cardiovascular, pulmonary, and pediatric diseases.
- DR. IACOBUZIO-DONAHUE
Metastasis; cancer genetics; cancer genomics; gastrointestinal pathology.
- DR. ILLEI
Pulmonary pathology including pathology of lung transplants; immunohistochemistry and in situ hybridization of solid tissue tumors.
- DR. JACKSON
HIV, transfusion transmitted viruses.
- DR. KAUFMANN
Neurobiology of genetic mental retardation and autism including molecular-neurobehavioral correlations and the use of relevant experimental models.
- DR. KERN
Molecular biology of cancer; gastrointestinal diseases.
- DR. KICKLER
Hemostasis/thrombotic disorders.
- DR. KING
Apheresis, transfusion medicine, and immunoematology; alloimmunization and immune hemolysis.
- DR. KOLIATSOS
Neural injury and repair; stem cell therapies for neural injury; brain-behavior correlations in chronic brain injury.
- DR. KUHAJDA
Lipid synthesis and cancer and cancer diagnostics and therapeutics; breast and prostate tumors.
- DR. KURMAN
Cervical, ovarian, endometrial, and trophoblastic neoplasia.
- DR. LAI
Data mining; statistical modeling; subclinical atherosclerosis; epidemiology of HIV infection; drug abuse; cardiovascular complication of drug abuse and HIV infection; HIV prevention and intervention.
- DR. M. LEE
Cytokines; retinal vasculitis; multiple myeloma.
- DR. Q. (KAY) LI
Circulating tumor cells and molecular biology of cancer.
- DR. T. LI
Molecular biology of neurobiological diseases.
- DR. LOTAN
Cellular migration in prostate development, prostate cancer and prostate cancer metastasis; genitourinary pathology.
- DR. MAITRA
Pancreatic cancer; experimental therapeutics; mouse models; nanotechnology.

- DR. MALEKI**
Pathologic processes that can cause precancerous lesions to progress to invasive tumors; evaluation of tumor cells in metastases after extensive adjuvant therapy; translational use of immunocyto- and histo-chemistry that can be used as a diagnostic, therapeutic, and/or prognostic measure in patient care.
- DR. MANKOWSKI**
Comparative pathology and viral pathogenesis; neuroimmunology.
- DR. L. J. MARTIN**
Amyotrophic lateral sclerosis; Parkinson's Disease; mitochondria, Alzheimer's Disease, stroke; pediatric brain ischemia; cell death; apoptosis-necrosis continuum; motor neuron disease.
- DR. MCCARTHY**
Bone pathology.
- DR. MEEKER**
Molecular pathology and telomere biology of prostate and other cancers.
- DR. MERZ**
Medical mycology.
- DR. MILLER**
Computer applications in laboratory diagnosis; web-based teaching and clinical systems.
- DR. MONTGOMERY**
Surgical pathology, focusing on gastrointestinal and soft tissue pathology.
- DR. NESS**
Transfusion medicine; immune hemolysis; transfusion alternatives; clinical trials in transfusion recipients; blood donor epidemiology studies.
- DR. NETTO**
Surgical pathology; urologic pathology; molecular diagnostic pathology; prognostic and therapeutic biomarkers in urologic malignancies.
- DR. OELKE**
Human T cell immunology; adoptive T cell transfer; cancer research.
- DR. PARRISH**
Mycobacterial biochemistry; drug development.
- DR. PRICE**
Neuronal degeneration and regeneration; axonal transport; biology of synapses and their involvement in diseases; genetically engineered models of neurodegenerative diseases, particularly Alzheimer's disease, Parkinson's disease, motor neuron disease; pathogenic mechanism; validation of targets for treatment; experimental therapeutics.
- DR. RACUSEN**
Renal failure; native kidney pathology; transplant pathology of the kidney and pancreas.
- DR. RATOVITSKI**
Molecular biology of growth and differentiation; signal transduction cytokines, receptors, nitric oxide synthase in cancer, cardiovascular disease, inflammation; RNA transcription and RNA processing in developmental skin and craniofacial disorders.
- DR. RELLER**
Diagnostic test development in rickettsial diseases and parasitology; epidemiology and diagnosis of acute febrile illness, enteric diseases, and parasitology.
- DR. RIEDEL**
Epidemiology of emerging bacterial resistance; mechanisms and laboratory detection of antimicrobial resistance; correlation of antimicrobial consumption data and resistance blood culture technology and diagnosis of sepsis; the clinical impact of laboratory testing and the development and evaluation of novel diagnostic methods in clinical microbiology.
- DR. RODEN**
Cervical cancer; ovarian cancer; papillomavirus; vaccine development; virology.
- DR. RONNETT**
Gynecologic pathology.
- DR. ROSE**
Autoimmunity; autoimmune disease.
- DR. ROSENTHAL**
Cytopathology.
- DR. SADEGH-NASSERI**
Memory T cells longevity and survival; mechanisms of T cell tolerance; molecular mechanisms of antigen presentation; structure and function of MHC protein.
- DR. SAVONENKO**
Cognitive deficits in animal models of Alzheimer's, Parkinson's, and schizophrenia; testing experimental treatments for these diseases: their mechanisms, safety, and side effects.
- DR. SCHNECK**
Basic mechanisms controlling T-cell mediated immune responses; cell engineering; adoptive immunotherapy; cellular microarray-based high-throughput analysis of immune responses.
- DR. SHAN**
Transfusion medicine, hemapheresis and HIV testing.
- DR. SHIH**
Molecular genetics and functional genomics of gynecologic cancers; cancer stem cell research; development of new targeted therapy in ovarian cancer; molecular etiology of cancer.
- DR. SOKOLL**
Clinical chemistry; tumor markers; immunoassays.
- DR. STEENBERGEN**
Cardiac pathology; myocardial ischemia/ reperfusion injury and cardioprotection.
- DR. TRONCOSO**
Neuropathology of normal aging; Alzheimer's, Parkinson's and Huntington's disease; stereological quantitation of neurons in hippocampus and substantia nigra; neuropathology of transgenic models of neurodegenerative disorders; immunotherapy of animal models of Alzheimer's disease.
- DR. VALSAMAKIS**
Molecular diagnosis of infectious diseases; hepatitis B diagnostics; hepatitis C diagnostics; respiratory virus diagnostics.
- DR. VUICA**
Chromosome instability; yeast genetics; hematologic malignancies.
- DR. WASOWSKA**
Molecular mechanisms of antibody and complement-mediated allograft rejection in human and mouse models, interactions of macrophage complement and Fc receptors with their ligands; endothelial cell injury.

DR. WESTRA

Head and neck pathology; thyroid neoplasia; biomarkers in the early detection and surveillance of human tumors.

DR. WONG

Molecular mechanisms, experimental therapeutics, and mouse models of Alzheimer's and motor neuron diseases.

DR. WU

Cancer immunotherapy for HPV associated malignancies and other gynecological cancers; molecular pathology and DNA vaccines.

DR. Z. ZHANG

Bioinformatics; biomarker discovery; computational methods for expression data analysis; biomarkers for ovarian cancer; in vitro diagnostic multivariate index assay.

DR. ZINK

HIV; SIV; pathogenesis; virology; pathology; neurology; animal models.

E 3. Autopsy Pathology (The Johns Hopkins Hospital). Dr. Crain. Throughout year except July and August; one quarter.

Prerequisite: Completion of Introduction to Pathology (300.600).

Students are trained to function as first year house officers on the autopsy service. They become responsible for work-up and final sign-out of their cases and in other respects participate fully in the life of the department. There are informal case conferences at the autopsy table and at multihedged microscopes. Students present cases at departmental and interdepartmental conferences. Brief supplementary exposures to surgical pathology and forensic pathology are offered to interested students. The elective can be taken year round by third and fourth year students. Additionally, the elective is made available to second year students in the fourth and summer quarters as a special lottery elective option.

E 4. Surgical Pathology. (Johns Hopkins Bayview Medical Center) Dr. Askin and staff. All year; one quarter or half-quarter.

Prerequisite: Completion of Introduction to Pathology (300.600).

This course offers an opportunity to see and experience at first hand a wide spectrum of activities in anatomic pathology. Students will rotate in Surgical Pathology, functioning at the level of a first year resident in pathology. He or she will perform gross dissections, dictate clinical summaries, review microscopic sections and sign out the surgical pathologic material under senior staff supervision.

E 6. Surgical Pathology (The Johns Hopkins Hospital). Dr. Westra. Throughout year; one half quarter, or longer by arrangement.

Prerequisite: Completion of Introduction to Pathology (300.600).

Students are trained in the techniques of general surgical pathology and then become responsible for the gross description, gross dissection, and microscopic examination of their assigned cases. Students are supervised by faculty members and senior residents, and they participate in all conference activities in the division. The elective exposes the student to a variety of modern techniques

employed in the pathologic diagnosis of medical and surgical diseases and increases their awareness and understanding of the role played by surgical pathology in patient management. There are opportunities for exposure to other diagnostic pathology services (e.g., cytopathology and neuropathology)

E 7. Pathology Clerkship for M.D./Ph.D. Students. (300.712) Dr. Berman and staff. Full or half quarter; arrange with course director. (Not offered in fourth quarter)

Prerequisite: Limited to M.D./Ph.D. students.

M.D./Ph.D. students returning to clinical studies will have the opportunity to gain first-hand experience with clinical concepts through surgical, autopsy, and/or clinical pathology. Students will work closely with house staff and faculty in performing autopsies and/or in evaluating clinical specimens. Rotations will be tailored to the investigative and clinical interests of the student. As with the Autopsy Prosectorship (E3), the overall experience will provide a transition to clinical work which incorporates exposure to clinical problems, as well as an opportunity to review the basic medical sciences from a practical patient-oriented point of view.

E 8. Gynecologic Pathology. Drs. Kurman, Wu, Vang, Ronnett, and Shih. All year, permission of Instructor.

Students observe and participate in the gross and histologic assessment of gynecologic pathology specimens under the supervision of residents, fellows, and attending physicians.

E 9. Ophthalmic Pathology. Dr. Charles Eberhart. All year. (Same as Ophthalmology E5)

Clinicopathologic correlation of ocular diseases, degenerative changes of the eye, and ocular manifestations of systemic diseases are stressed.

E 10. Forensic Pathology. Dr. Fowler and staff. All year; four and one-half weeks or one quarter.

Prerequisite: Completion of Introduction to Pathology (300.600)

Students acquire first-hand knowledge of legal medicine and the investigation of sudden, unexpected, and violent deaths by actively participating in all regular functions of the Office of the Chief Medical Examiner (near the University of Maryland Medical Center). Emphasis is placed on medical-legal autopsy techniques and preparation of a medical-legal protocol. Students can participate in on-the-scene investigations and observe staff members giving testimony in court. Students attend rounds, lectures and seminars, and also have opportunities to participate in research projects conducted by staff members.

E 11. Animal Pathology Laboratory. (680.703) Dr. Zink and staff. All year. (Offered jointly with the Department of Molecular and Comparative Pathobiology.)

Prerequisites: Principles of Animal Pathology 680.701, Pathology 300.600, or their equivalent and courses in human/animal histology.

A limited number of persons may serve as prosecutors on the animal pathology diagnostic service. This entails responsibility for gross and microscopic examination of diseased animals and tissues

submitted for diagnosis by investigators within the Institutions, the Baltimore Zoo, and by practicing veterinarians. Complete necropsy and histopathology laboratories are available and prosectors work under close supervision. Rotational assignments may vary according to schedules.

E 13. Diagnostic Cytopathology. Dr. Clark and staff. All year, by prior approval. One quarter or summer or as a 1-3 week elective. Second, third, and fourth year students.

Prerequisite: Completion of Introduction to Pathology (300.600)

An opportunity to become acquainted with the clinical significance in health and in disease of morphologic changes in cells and other elements of the cellular specimen. The materials utilized are specimens from the Johns Hopkins Hospital Diagnostic Service, including pap tests and biopsies from the Fine Needle Aspiration Service. There will be active correlation of the clinical, morphologic, and histologic findings with the ward, clinic, Surgical Pathology, Autopsy Pathology, and follow-up information.

E 16. Laboratory Medicine: Effective Use of the Clinical Laboratory. Dr. Borowitz and staff. Tutorial (by arrangement).

This elective course is designed primarily for junior and senior medical students. The course emphasizes the appropriate use of the clinical laboratory in both diagnosis and management, using didactic presentations, case discussions, and demonstrations of laboratory technology.

E 20. Medical Mycology. (300.703) Dr. Merz.

Third quarter; Tu/Th., 8:30. Limited to 16 students.

This course is available as an elective part of the curriculum of the School of Medicine. It is also open to students of public health and to other graduate students.

This course is given to provide an in-depth view of the mycotic infections of man. Each of the mycoses will be discussed and compared according to its specific microbiology, clinical presentations, immunology, epidemiology and therapy. The laboratory section of the course will provide the student with samples of each fungus, specimen, and tissue sections to enable them to identify the important fungal pathogens. Newer diagnostic procedures will be stressed.

E 21. Medical Microbiology. (300.713) Dr. K. Carroll. All year; four weeks. Limit of two students per quarter.

Laboratory diagnosis of infectious diseases and therapeutic monitoring of antimicrobial agents.

This course will emphasize all facets of diagnostic testing. The student will review specimen collection guidelines as they pertain to microbiology samples. Diagnostic methods and specific technologies for detection of a broad range of clinically significant pathogens will be learned. Susceptibility testing methods including special antibiotic studies will be covered. A major objective is to provide correlation of laboratory information with disease presentations in patients through a dynamic interface with healthcare providers and other divisions within the Department of Pathology. Learning objectives are fulfilled through bench rotations in the laboratory,

daily work rounds, didactics and interdisciplinary conferences.

E 22. Special Studies in Research on Tissue Injury, Inflammation, and Repair. (PH 188.840)

Dr. A.M. Dannenberg, Jr. (given jointly at the Bloomberg School of Public Health) A tutorial for one to twenty students, in the fourth quarter, Wednesdays from 3:30-5:00 p.m. Next offered Spring 2011.

This tutorial covers the biochemical and pathophysiological mechanisms of acute and chronic inflammation, including immediate and delayed hypersensitivity and the response to physical, chemical, and microbial tissue damage. The course discusses cell membrane function, capillary permeability, histamine, kinins, plasmin, complement, liposonoids, blood clotting, chemotaxis, and other inflammatory mediators produced by various blood cells.

E 23. Principles of Bacterial Infection. (PH 260.622) (3 units) Dr. Dannenberg and faculty.

Fourth quarter. Enrollment minimum of 8 (credit). Jointly offered with the departments of Molecular Microbiology and Immunology, Environmental Health Sciences and Epidemiology. Next offered Spring 2010 from 3:30-5:00 p.m. on Tuesdays and Thursdays in the Bloomberg School of Public Health.

Introduces major bacterial and rickettsial infections of man, emphasizing their transmission, pathogenesis, and control. Considers bacterial virulence and host resistance; dysentery, typhoid fever, and cholera; syphilis and gonorrhea; Lyme disease; pneumococcal, staphylococcal, and streptococcal infections; typhus; Rocky Mountain spotted fever; plague, anthrax, brucellosis, and tularemia; tuberculosis; leprosy; infections with anaerobic bacteria; mycoplasma infections; and Legionnaires' disease.

E 24. Gastrointestinal Pathology. Drs. Eshleman, Iacobuzio-Donahue, Maitra, Goggins, Montgomery, Hruban, Anders, Klein, Boitnott, Bhagavan, and Torbenson. All year; permission of instructors.

Prerequisite: Completion of Introduction to Pathology 300.600 or approved equivalent.

Diagnostic gastrointestinal pathology and clinical conferences with gastroenterology, and gastrointestinal surgery. Opportunities for research projects on colorectal, esophageal, pancreatic, and hepatobiliary neoplasia and inflammatory diseases of the gastrointestinal tract.

E 25. Clinical Chemistry. Dr. Chan and staff. Offered all year with prior arrangement.

This course will provide an introduction to the clinical and research activities of the Clinical Chemistry Division. Clinical aspects will focus on the analytical methods, quality assurance and the clinical interpretation of biochemical, immunological, and proteomics tests. Laboratories include: automated chemistry, critical care, emergency department, immunoassay for hormones and tumor markers, toxicology, and therapeutic drug monitoring. Research aspects will focus on clinical proteomics through interaction with the biomarker discovery laboratory. Students will meet with individual faculty members, attend laboratory meetings, rotate in the laboratories and be involved in research projects.

E 26. Graduate Immunology: The Immune Response. (PH 260.717) (3 units) Dr. Rose and faculty. Fourth term. Enrollment minimum of 6.

Prerequisite: 260.611-260.612, ME 600, ME 603, or consent of instructor.

Presents advanced topics in the immunological system; the cellular basis of the immune response; effector functions of antibody, lymphocytes, and macrophages; regulation of the immune response; and immunological diseases. Lectures and readings develop a well-rounded view of the interrelated elements comprising the immune system. Student evaluation based on a paper.

E 28. Research Opportunities in HIV. Drs. Jackson, Eshleman, Shan and staff. Quarters 1-4; scheduled on an individual basis.

Medical students and graduate students interested in virology of HIV may participate in one of the on-going research projects in the HIV Specialty Laboratory or the HIV genotyping laboratory. The areas of research include HIV diagnostics, drug resistance, mother-to-child transmission, prevention and disease monitoring.

300.801 Readings in Genetics and Molecular and Cellular Biology. Drs. Scott Kern and Philip C. Y. Wong. 1 hour per week, first and second semester.

This course is designed to acquaint students with seminal literature in the fields of genetics, molecular biology, and cellular biology. Students will be assigned readings and required to discuss the major findings. Through discussion, the student will gain insights into the basic principles of modern-day biological sciences.



Pediatrics

GEORGE J. DOVER

Given Foundation Professor of Pediatrics, Professor of Oncology, Joint Appointment in Medicine, Director of the Department of Pediatrics

HOOVER ADGER, Professor

MARILEE C. ALLEN, Professor

BLANCHE PEARL ALTER, Visiting Professor

ROBERT J. ARCECI

King Fahd Professor of Pediatric Oncology, Professor of Pediatrics

SAUL W. BRUSILOW, Professor Emeritus

ARLENE MANNS BUTZ, Professor

HUGH G. CALKINS

Nicholas J. Fortuin, M.D. Professor of Cardiology in the Department of Medicine, Professor of Pediatrics

DUKE E. CAMERON

James T. Dresher, Sr. Professor of Cardiac Surgery, Professor of Pediatrics

BENJAMIN S. CARSON

Benjamin S. Carson, Sr. M.D. and Dr. Evelyn Spiron, RN Professor of Pediatric Neurosurgery, Professor of Oncology, Professor of Pediatrics, Professor of Plastic Surgery

JAMES F. CASELLA

Rainey Professor of Pediatric Hematology in the Department of Pediatrics, Professor of Oncology

MICHAEL F. CATALDO

Professor of Behavioral Biology in the Department of Psychiatry, Professor of Pediatrics

ARAVINDA CHAKRAVARTI

Professor of Medicine, Professor of Pediatrics, Joint Appointment in Molecular Biology and Genetics

SUBROTO B. CHATTERJEE, Professor

TINA LEE CHENG, Professor

BARTON CHILDS, Professor Emeritus

CURT I. CIVIN

Adjunct Professor of Oncology, Adjunct Professor of Pediatrics

BERNARD A. COHEN

Professor of Dermatology, Professor of Pediatrics

PAUL M. COLOMBANI

Robert Garrett Professor of Pediatric Surgery, Professor of Oncology, Professor of Pediatrics

GARRY R. CUTTING

Aetna U.S. Healthcare Professor of Medical Genetics in the Department of Pediatrics, Professor of Medicine

CATHERINE DEANGELIS, Professor

MARTHA BRIDGE DENCKLA

Professor of Neurology, Professor of Pediatrics, Joint Appointment in Psychiatry

HARRY C. DIETZ

Victor A. McKusick Professor of Medicine and Genetics in the Department of Pediatrics, Associate Professor of Medicine, Assistant Professor of Neurological Surgery, Joint Appointment in Molecular Biology and Genetics, Investigator of the Howard Hughes Medical Institute

ANNE L.K. DUGGAN, Professor

JONATHAN MARK ELLEN, Professor

BARBARA FIVUSH, Professor

JOHN M. FREEMAN

Professor Emeritus of Neurology, Professor Emeritus of Pediatrics

ALAN D. FRIEDMAN

Professor of Oncology, Professor of Pediatrics

ESTELLE B. GAUDA, Professor

JOHN P. GEARHART

Professor (Pediatric) of Urology, Professor of Pediatrics

GAIL GELLER

Professor of Medicine in Genetic Medicine, Professor of Pediatrics

GARY W. GOLDSTEIN

Professor of Neurology, Professor of Pediatrics, Director of the Kennedy Krieger Institute

STEVEN N. GOODMAN

Professor of Oncology, Professor of Pediatrics

LEON GORDIS, Professor

WILLIAM B. GUGGINO

Professor of Physiology, Professor of Pediatrics

J. ALEX HALLER, JR.

Professor Emeritus of Pediatric Surgery, Professor Emeritus of Emergency Medicine, Professor Emeritus of Pediatrics

ADA HAMOSH, Professor of Pediatrics in Genetic Medicine

JAMES C. HARRIS, JR.

Professor of Psychiatry, Professor of Pediatrics

LEE J. HELMAN

Professor of Oncology, Professor of Pediatrics

NEIL A. HOLTZMAN, Professor Emeritus

ETHYLIN W. JABS

Adjunct Professor of Pediatrics, Adjunct Professor of Medicine, Adjunct Professor of Plastic Surgery

MICHAEL V. JOHNSTON

Professor of Neurology, Professor of Pediatrics, Professor of Physical Medicine and Rehabilitation

JEAN S. KAN

Helen B. Taussig Professor Emerita of Pediatrics

WALTER ERWIN KAUFMANN

Professor of Pathology, Professor of Neurology, Professor of Pediatrics, Professor of Psychiatry, Professor of Radiology

RICHARD IAN KELLEY, Professor

KWANG SIK KIM, Professor

PETER O. KWITEROVICH, JR.

Professor of Pediatrics, Professor of Medicine

BETH L. LAUBE

Professor of Pediatrics, Joint Appointment in Medicine, Joint Appointment in Radiology

EDWARD EARLE LAWSON, Professor
HOWARD M. LEDERMAN
Professor of Pediatrics, Joint Appointment in
Medicine
MICHAEL A. LEVINE
Visiting Professor of Pediatrics
PAUL S. LIETMAN
Professor of Medicine, Professor of Pediatrics,
Professor of Pharmacology and Molecular
Sciences
JOHN W. LITTLEFIELD
Professor Emeritus of Physiology, Professor
Emeritus of Pediatrics
GERALD M. LOUGHLIN, Visiting Professor
JULIA A. MCMILLAN, Professor
BARBARA R. MIGEON, Professor of Pediatrics in
Genetic Medicine
CLAUDE J. MIGEON, Professor
STEPHEN M. MILNER
Professor of Plastic Surgery, Professor of
Dermatology (from 09/01/09), Professor of
Pediatrics
SAKKUBAI NAIDU
Professor of Neurology, Professor of Pediatrics
DAVID G. NICHOLS
Professor of Anesthesiology and Critical Care
Medicine, Professor of Pediatrics, Mary Wallace
Stanton Professor of Education
LAWRENCE M. NOGEE, Professor
LESLIE P. PLOTNICK
Professor of Clinical Care and Research of
Pediatric Endocrinology in the Department of
Pediatrics
SALLY RADOVICK
Lawson Wilkins Professor of Pediatric
Endocrinology in the Department of Pediatrics
MICHAEL X. REPKA
Professor of Ophthalmology, Professor of
Pediatrics
MARK A. RIDDLE
Professor of Psychiatry, Professor of Pediatrics
BERYL J. ROSENSTEIN, Professor
PETER C. ROWE
Sunshine Natural Wellbeing Foundation
Professor of Chronic Fatigue Syndrome
and Related Disorders in the Department of
Pediatrics
RICHARD R. RUBIN
Professor of Medicine, Professor of Pediatrics
KATHLEEN B. SCHWARZ, Professor
HENRY M. SEIDEL, Professor Emeritus
GREGG L. SEMENZA
C. Michael Armstrong Professor of Pediatrics
in Genetic Medicine, Professor of Biological
Chemistry, Professor of Medicine, Professor of
Oncology, Professor of Radiation Oncology and
Molecular Radiation Sciences
JANET R. SERWINT
Rear Admiral Ray R. and Laura H. Connor
Professor of Pediatrics
BRUCE K. SHAPIRO, Professor
HARVEY S. SINGER
Haller Professor of Pediatric Neurologic
Diseases in the Department of Neurology,
Professor of Pediatrics
DONALD SMALL
Kyle Haydock Professor of Oncology, Professor
of Pediatrics
KIRBY D. SMITH, Professor of Pediatrics in
Genetic Medicine
GEORGE H. THOMAS
Professor of Pediatrics in Genetic Medicine,
Professor of Pathology, Joint Appointment in
Medicine
DAVID L. VALLE
Professor of Pediatrics in Genetic Medicine,
Professor of Ophthalmology, Joint Appointment
in Medicine, Joint Appointment in Molecular
Biology and Genetics, Investigator of the
Howard Hughes Medical Institute
CRAIG ALAN VANDER KOLK
Professor of Plastic Surgery, Professor of
Pediatrics
EILEEN P.G. VINING
Lederer Professor of Pediatric Epilepsy in
the Department of Neurology, Professor of
Pediatrics
RAPHAEL P. VISCIDI
Professor of Pediatrics, Professor of Oncology
MOODY D. WHARAM, JR.
Professor of Radiation Oncology and Molecular
Radiation Sciences, Professor of Neurological
Surgery, Professor of Oncology, Professor of
Pediatrics, Professor of Radiology
MODENA E. WILSON, Adjunct Professor
JERRY A. WINKELSTEIN
Professor Emeritus of Pediatrics, Professor
Emeritus of Medicine, Professor Emeritus of
Pathology
FREDERIC E. WONDISFORD
Professor of Pediatrics, Professor of Physiology,
Joint Appointment in Medicine
ROBERT A. WOOD, Professor
MYRON YASTER
Richard J. Traytsman Professor of
Anesthesiology and Critical Care Medicine,
Professor of Pediatrics
ROBERT H. YOLKEN
Theodore and Vada Stanley Distinguished
Professor of Neurovirology in the Department of
Pediatrics, Joint Appointment in Psychiatry
PAMELA L. ZEITLIN
Professor of Pediatrics, Joint Appointment in
Physiology
WILLIAM H. ZINKHAM
Professor Emeritus of Pediatrics, Distinguished
Service Professor Emeritus of Pediatrics and
Oncology, Professor Emeritus of Oncology
HAROLYN M. E. BELCHER, Associate Professor
IVOR D. BERKOWITZ
Associate Professor of Anesthesiology and
Critical Care Medicine, Associate Professor of
Pediatrics
CORRINE D. BOEHM, Associate Professor of
Pediatrics in Genetic Medicine
JAMES B. BRAYTON, Associate Professor

JOEL I. BRENNER, Associate Professor
 PRESTON WHITE CAMPBELL, III, Visiting Associate Professor
 GEORGE T. CAPONE, Associate Professor
 ALLEN R. CHEN
 Associate Professor of Oncology, Associate Professor of Pediatrics
 JAMES R. CHRISTENSEN
 Associate Professor of Physical Medicine and Rehabilitation, Associate Professor of Pediatrics
 KENNETH J. COHEN
 Associate Professor of Oncology, Associate Professor of Pediatrics
 ANNE MARIE COMI
 Associate Professor of Neurology, Associate Professor of Pediatrics
 JAMES P. CONNAUGHTON
 Associate Professor Emeritus of Psychiatry, Associate Professor Emeritus of Pediatrics
 DAVID W. COOKE, Associate Professor
 VIRGINIA L. CORSON
 Associate Professor of Gynecology and Obstetrics in Genetic Medicine, Associate Professor of Pediatrics
 THOMAS O. CRAWFORD
 Associate Professor of Neurology, Associate Professor of Pediatrics
 CARMEN CUFFARI, Associate Professor
 CECILIA T. DAVOLI, Associate Professor
 EMILY J. ERBELDING
 Associate Professor of Medicine, Associate Professor of Pediatrics
 ALLEN DALE EVERETT, Associate Professor
 SUSAN LYNN FURTH, Associate Professor
 EMILY GERMAIN-LEE, Associate Professor
 JOAN PAGE GERRING
 Associate Professor of Psychiatry, Associate Professor of Pediatrics
 ARLENE C. GERSON, Associate Professor
 ARCHIE S. GOLDEN, Associate Professor
 DENNIS JOHN GRAB
 Associate Professor of Pathology, Associate Professor of Pediatrics
 LAURA A. GUAY
 Associate Professor of Pathology, Associate Professor of Pediatrics
 EUGENIE S. HEITMILLER
 Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Pediatrics
 ALEXANDER H. HOON, JR., Associate Professor
 KATHY LYNN HUDSON, Associate Professor of Pediatrics in Genetic Medicine
 MEHBOOB ALI HUSSAIN
 Associate Professor of Pediatrics, Associate Professor of Biological Chemistry, Associate Professor of Medicine
 NANCY HUTTON, Associate Professor
 GEORGE ISSA JALLO
 Associate Professor of Neurological Surgery, Associate Professor of Oncology, Associate Professor of Pediatrics
 LAUREN M. JANSSON, Associate Professor
 ALAIN JOFFE, Associate Professor
 GREGORY JAMES KATO, Associate Professor
 RICHARD M. KATZ, Associate Professor
 ALAN M. LAKE, Associate Professor
 MAUREEN A. LEFTON-GREIF
 Associate Professor of Pediatrics, Associate Professor of Otolaryngology-Head and Neck Surgery
 CHRISTOPH ULRICH LEHMANN
 Associate Professor of Pediatrics, Associate Professor of Dermatology, Joint Appointment in Health Sciences Informatics
 HAROLD P. LEHMANN
 Associate Professor of Health Sciences Informatics, Associate Professor of Pediatrics
 PAUL H. LIPKIN, Associate Professor
 RANJIV IGNATIUS MATHEWS
 Associate Professor of Urology, Associate Professor of Pediatrics
 ELIZABETH C. MATSUI, Associate Professor
 JANE E. MCGOWAN, Visiting Associate Professor
 SHARON MCGRATH-MORROW, Associate Professor
 JOSHUA T. MENDELL
 Associate Professor of Pediatrics in Genetic Medicine, Joint Appointment in Molecular Biology and Genetics
 MARLENE R. MILLER, Associate Professor
 SALLY E. MITCHELL
 Professor of Radiology and Radiological Science, Associate Professor of Pediatrics
 PETER JOSEPH MOGAYZEL, JR., Associate Professor
 ANNE M. MURPHY, Associate Professor
 ALICIA NEU, Associate Professor
 FRANCES J. NORTHINGTON, Associate Professor
 MARIA M. OLIVA-HEMKER
 Associate Professor of Pediatrics, Occupying the Stermer Family Professorship in Pediatric Inflammatory Bowel Disease in the Department of Pediatrics
 LAWRENCE C. PAKULA, Associate Professor
 DEBORAH PERSAUD, Associate Professor
 FRANK S. PIDCOCK
 Associate Professor of Physical Medicine and Rehabilitation, Associate Professor of Pediatrics
 RICHARD J. REDETT
 Associate Professor of Plastic Surgery, Associate Professor of Pediatrics
 RICHARD E. RINGEL, Associate Professor
 ALEJANDRO RODRIGUEZ, Associate Professor Emeritus
 LEWIS HARTLEY ROMER
 Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Biomedical Engineering, Associate Professor of Cell Biology, Associate Professor of Pediatrics
 SAUL D. ROSKES, Associate Professor
 JOSE M. SAAVEDRA, Associate Professor

DANIEL J. SAFER
Associate Professor of Psychiatry, Associate Professor of Pediatrics

ANN O. SCHEIMANN, Associate Professor

KENNETH C. SCHUBERTH, Associate Professor

ALLEN D. SCHWARTZ, Associate Professor

DONALD H. SHAFFNER, JR.
Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Pediatrics

ARNOLD T. SIGLER, Associate Professor Emeritus

EDWARD M. SILLS, Associate Professor

KEITH J. SLIFER
Associate Professor of Psychiatry, Associate Professor of Pediatrics

PHILIP JOEL SPEVAK
Associate Professor of Pediatrics, Joint Appointment in Medicine

RAYMOND ARTHUR STURNER, Associate Professor

TIMOTHY R. TOWNSEND, Associate Professor

DAVID E. TUNKEL
Associate Professor of Otolaryngology-Head and Neck Surgery, Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Pediatrics

ALLEN R. WALKER, Associate Professor

ALAN S. WAYNE, Visiting Associate Professor

JERRIANN M. WILSON, Associate Professor Emerita

ANDREW W. ZIMMERMAN
Associate Professor of Neurology, Associate Professor of Pediatrics, Associate Professor of Psychiatry

ANDREW ABRAMOWITZ, Assistant Professor

ALLISON LORNA AGWU
Assistant Professor of Pediatrics, Joint Appointment in Medicine

JENNIFER F. ANDERS, Assistant Professor

RENATA GAYLE ARRINGTON-SANDERS,
Assistant Professor

RUTH S. ASHMAN, Assistant Professor

MEREDITH ATKINSON, Assistant Professor

KARLA JEAN AU YEUNG, Assistant Professor

SUSAN WRIGHT AUCOTT, Assistant Professor

MEGAN BAIR-MERRITT, Assistant Professor

MICHAEL ANTHONY BARONE, Assistant Professor

EMILY BARRON-CASELLA, Assistant Professor

EDWARD L. BARTLETT, JR., Assistant Professor

BARBARA B. BELL, Assistant Professor

MELANIA MARIA BEMBEA
Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Pediatrics

MICHAEL T. BERNSTEIN, Assistant Professor

NIRANJAN BHAT, Assistant Professor

SCOTT M. BLACKMAN, Assistant Professor

RAVIT BOGER, Assistant Professor

LAUREN L. BOGUE, Assistant Professor

RENEE DENISE BOSS, Assistant Professor

CAROLYN BETH BOYLAN, Assistant Professor

KENNETH BRADY
Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Pediatrics

TAMMY M. BRADY, Assistant Professor

LORRAINE V.J. BRANDO, Assistant Professor

DENNIS A. BROOKS, Assistant Professor

PATRICK BROWN
Assistant Professor of Oncology, Assistant Professor of Pediatrics

JAMES R. BUCK
Assistant Professor of Surgery, Assistant Professor of Pediatrics

JANINE ELIZABETH BULLARD, Assistant Professor

DAVID GORDON BUNDY, Assistant Professor

MICHAEL G. BURKE, Assistant Professor

TERESA MARY CARLIN
Assistant Professor of Emergency Medicine, Assistant Professor of Pediatrics

AARON EDWARD CHEN, Assistant Professor

JEFFREY M. CHINSKY, Assistant Professor

SAMUEL S. CHONG
Assistant Professor of Pediatrics, Joint Appointment in Gynecology and Obstetrics

ALAN H. COHEN, Adjunct Assistant Professor

RONALD D. COHN
Assistant Professor of Pediatrics in Genetic Medicine, Assistant Professor of Neurology

JOSEPH MICHAEL COLLACO, Assistant Professor

THOMAS A. CORSON
Assistant Professor of Medicine, Assistant Professor of Pediatrics

ELIZABETH A. CRISTOFALO, Assistant Professor

MICHAEL CROCETTI, Assistant Professor

JANE ELEANOR CROSSON, Assistant Professor

ANIL DARBARI, Assistant Professor

SARA A. DIVALL, Assistant Professor

RACHEL ANNE BARNES DODGE, Assistant Professor

KIMBERLY FLOY DOHENY, Assistant Professor

PAMELA K. DONOHUE, Assistant Professor

TIMOTHY F. DORAN, Assistant Professor

ROBERT A. DUDAS, Assistant Professor

JEFFREY JOHN FADROWSKI, Assistant Professor

SEYED ALI FATEMI
Assistant Professor of Neurology, Assistant Professor of Pediatrics

LEONARD S. FELDMAN
Assistant Professor of Medicine, Assistant Professor of Pediatrics

JANICE FINKELSTEIN, Assistant Professor

YOLANDA M. FORTENBERRY
Assistant Professor of Pediatrics, Assistant Professor of Biological Chemistry

PATRICIA D. FOSARELLI, Assistant Professor

CLAIR A. FRANCOMANO
Associate Professor of Medicine, Assistant
Professor of Pediatrics

MAUREEN MARIE GILMORE, Assistant Professor

KURT GLASER
Assistant Professor Emeritus of Psychiatry,
Assistant Professor Emeritus of Pediatrics

WILLIAM CHRISTOPHER GOLDEN, Assistant
Professor

MITCHELL ALAN GOLDSTEIN, Assistant
Professor

MARY P. L. GOMELLA, Assistant Professor

ANTHONY LAWRENCE GUERRERIO, JR,
Assistant Professor

PAMELA ANN GUERRERIO, Assistant Professor

MERAL GUNAY-AYGUN, Assistant Professor

JENNIFER PARDO HABASHI, Assistant Professor

ANN CAROL HALBOWER, Adjunct Assistant
Professor

ADAM LINDSAY HARTMAN
Assistant Professor of Neurology, Assistant
Professor of Pediatrics

NICOLA C. HO, Assistant Professor

THOMAS M. HOLCOMB, Assistant Professor
Emeritus

KATHRYN W. HOLMES, Assistant Professor

JULIE ELIZABETH HOOVER-FONG, Assistant
Professor of Pediatrics in Genetic Medicine

BARBARA J. HOWARD, Assistant Professor

STEPHANIE C. HSU, Adjunct Assistant Professor

ELIZABETH ANNE HUNT
Assistant Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Pediatrics

STACEY LYNN ISHMAN
Assistant Professor of Otolaryngology-Head and
Neck Surgery, Assistant Professor of Pediatrics

SANJAY JAIN
Assistant Professor of Pediatrics, Assistant
Professor of Radiology (from 08/01/09)

JACKY M. JENNINGS, Assistant Professor

SARA B. JOHNSON, Assistant Professor

SHEREE M. JOHNSON, Visiting Assistant
Professor

CATHERINE H. JONES, Assistant Professor

LORI CHAFFIN JORDAN
Assistant Professor of Neurology, Assistant
Professor of Pediatrics

THEODORE H. KAISER
Assistant Professor of Psychiatry, Assistant
Professor of Pediatrics

BILL G. KAPOGIANNIS, Assistant Professor

WIKROM W. KARNSAKUL, Assistant Professor

JEFFREY RENN KEEFER, Assistant Professor

TRACY MEICHA KING, Assistant Professor

ARNOLD S. KIRSHENBAUM, Assistant Professor

ERIC H.W. KOSSOFF
Assistant Professor of Neurology, Assistant
Professor of Pediatrics

ROBERT KIMBALL KRITZLER, Assistant
Professor

ARNOLD F. LAVENSTEIN, Assistant Professor
Emeritus

PAUL A. LAW, Assistant Professor

CARLTON K. K. LEE, Assistant Professor

MARY L. O'CONNOR LEPPERT, Assistant
Professor

ERIC BENJAMIN LEVEY, Assistant Professor

AMY FELDMAN LEWANDA, Assistant Professor

SAMUEL M. LIBBER, Assistant Professor

NIKEEA COPELAND LINDER, Assistant Professor

DAVID M. LOEB
Assistant Professor of Oncology, Assistant
Professor of Pediatrics

MEREDITH BUONANNO LOVELESS
Assistant Professor of Gynecology and
Obstetrics, Assistant Professor of Pediatrics

CRYSTAL L. MACKALL
Assistant Professor of Oncology, Assistant
Professor of Pediatrics

GUSTAVO H.B. MAEGAWA, Assistant Professor of
Pediatrics in Genetic Medicine

MOHAMMAD MAISAMI
Assistant Professor of Psychiatry, Assistant
Professor of Pediatrics

ARIK V. MARCELL, Assistant Professor

MOHAMED K. MARDINI, Assistant Professor

BARRY S. MARX, Assistant Professor

DEBRA JH MATHEWS, Assistant Professor

REBECCA E. MATSAKIS, Assistant Professor

TERI METCALF MCCAMBRIDGE, Assistant
Professor

BRIAN M. MCGINLEY, Assistant Professor

JOSEPH D. MCINERNEY, Visiting Assistant
Professor

GABRIELLE LYNN MCLEMORE, Adjunct
Assistant Professor

AARON MICHAEL MILSTONE, Assistant
Professor

DAVID J. MONROE, Assistant Professor

ERIC T. MOOLCHAN, Visiting Assistant Professor

MARGARET R. MOON, Assistant Professor

KRISTEN L. NELSON
Assistant Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Pediatrics

THERESA T.H. NGUYEN, Assistant Professor

WILLIAM A. NIERMANN, Assistant Professor

DOLORES B. NJOKU
Associate Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Pathology, Assistant Professor of Pediatrics

C. JEAN OGBORN, Assistant Professor

SANDE OKELO, Assistant Professor

SUSAN R. PANNY, Assistant Professor

SHRUTI MAKARAND PARANJAPE, Assistant
Professor

AMBADAS PATHAK, Assistant Professor Emeritus

LYDIA L. PAULI, Assistant Professor Emerita

SARAH POLK, Assistant Professor

ELIZABETH W. PUGH, Assistant Professor

ANN E. PULVER
Professor of Psychiatry, Assistant Professor of Pediatrics

PATRICIA M. QUIGLEY, Assistant Professor

SHERVIN RABIZADEH, Adjunct Assistant Professor

WILLIAM J. RAVEKES, Assistant Professor

SHERYL L. RIMRODT, Assistant Professor

SARVEN SABUNCIYAN, Assistant Professor

JANET NAGEL SCHEEL, Assistant Professor

KAREN SCHNEIDER, Assistant Professor

MICHAEL E. SHERLOCK, Assistant Professor

NICOLE ANN SHILKOFKI
Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Pediatrics

CHARLES I. SHUBIN, Assistant Professor

YIN YAO SHUGART, Assistant Professor

GEORGE KELLY SIBERRY, Assistant Professor

ERICA M.S. SIBINGA, Assistant Professor

ULGAN I. SILA, Assistant Professor

GLENN M. SILBER, Assistant Professor

BARRY SCOTT SOLOMON, Assistant Professor

ALVIN A. STAMBLER, Assistant Professor Emeritus

LAURA MARIE STERNI, Assistant Professor

JOHN J. STROUSE
Assistant Professor of Pediatrics, Assistant Professor of Medicine

SANGEETA DILEEP SULE
Assistant Professor of Pediatrics, Instructor in Medicine

CLIFFORD MITSUO TAKEMOTO, Assistant Professor

SHIV DARIUS TANDON, Assistant Professor

CHRISTIANE THEDA, Visiting Assistant Professor

DARCY A. THOMPSON, Assistant Professor

WILLIAM REID THOMPSON, III, Assistant Professor

RACHEL JOHNSON THORNTON, Assistant Professor

MARIA TRENT, Assistant Professor

DAVID N. TUCHMAN, Assistant Professor

LUCA A. VRICELLA
Associate Professor of Cardiac Surgery, Assistant Professor of Pediatrics

J. RONALD WALCHER, Assistant Professor

TAO WANG, Assistant Professor of Pediatrics in Genetic Medicine

BRIGITTE C. WIDEMANN
Assistant Professor of Oncology, Assistant Professor of Pediatrics

AMY B. WISNIEWSKI, Assistant Professor

ANDREW WOLFE
Assistant Professor of Pediatrics, Assistant Professor of Physiology

ELIAS THOMAS ZAMBIDIS
Assistant Professor of Oncology, Assistant Professor of Pediatrics

AGLAI A ZELLOS, Visiting Assistant Professor

KAREN PAUL ZIMMER, Assistant Professor

SHAHID AZIZ, Instructor

ERIC DARIUS BALIGHIAN, Instructor

SYLVIA CHEN BANK, Instructor

HOWARD J. BIRENBAUM, Instructor

DEBORAH GISRIEL BITTAR, Instructor

LUCIEN VANDY BLACK, Instructor

STUART D. BLUMENTHAL, Instructor

KAREN A. BRODERICK, Instructor

MARIA KARAPELOU BROWN, Instructor

ARUNA CHANDRAN, Instructor

MARJORIE ANN FESSLER, Instructor

JASON FIXLER, Instructor

JAMES E. FRAGETTA, Instructor

NICOLE JEAN GABLE, Instructor

TRAVIS FRANCIS GANUNIS, Instructor

JASON GOLDSTEIN, Instructor

LING HE, Instructor

MICHELLE L. HEARNS, Instructor

ALVIN W. HECKER, Instructor

SHEILA MOHAJER HOFERT, Instructor (from 08/01/09)

AVRIL MELISSA HOUSTON, Instructor

RENEE P. HOWARD, Instructor

SYBIL ANN KLAUS, Instructor

ANTONIE DEBRA KLINE, Instructor

SITARAMMA KOTTAPALLI, Instructor

JOANNE P. LANZO, Instructor

BART L. LOEYS, Instructor in Pediatrics in Genetic Medicine

DOMINIQUE NOE LONG, Instructor

KELVIN D. MACDONALD, Instructor

YVONNE MARK, Instructor

POOJA MARRIA, Instructor

PAMELA A. MATSON, Instructor

KATHLEEN L. MCDONALD, Instructor

SUSAN REBECCA MCFARLAND, Instructor

ELIZABETH C. MCFARLANE, Instructor

RYAN S. MILLER, Instructor

ALLAN J. MONFRIED, Instructor

SUSAN K. MORIARTY, Instructor

ROSE M. MULAİKAL, Instructor

CLAYTON N. NORTON, Instructor Emeritus

JEANNE S. NUNEZ, Instructor

THOMAS P. O'BRIEN, Instructor

PROINNSIAS O'CROININ, Instructor Emeritus

J. CROSSAN O'DONOVAN, Instructor

ELIZABETH KAY OLIVERA, Instructor

DONNA F. PARKER, Instructor

WILLIAM S. PARKER, Instructor

CLARISSA L. PARRISH, Instructor

JAMIE J. PERRY, Instructor

ANTHONY PINTO, Instructor

SUZANNE PRESTWICH, Instructor

SHIRLEY E. REDDOCH, Instructor

BARRY J. REINER, Instructor

CHRISTOPHER JOSEPH ROMERO, Instructor
JAMES RUBENSTEIN
Assistant Professor of Neurology, Instructor in
Pediatrics
ERIC DANIEL RUBIN, Instructor
ROSE MARIE SAMANIEGO, Instructor
JOHN B. SARATSIOTIS, Instructor Emeritus
ARDELE G. SHEFCHEK, Instructor
JANET VOLK SIDDIQUI, Instructor
ANIKET R. SIDHAYE
Instructor in Pediatrics, Instructor in Medicine
GEORGETTE A. SIMS, Instructor
MICHELE SINGER, Instructor
HERMON W. SMITH, Instructor
R. SCOTT STRAHLMAN, Instructor
JADE MARIE TAN, Instructor
NIK TCHOPEV
Instructor in Pediatrics, Instructor in Medicine
ALICE HO TSAI, Instructor
JACKSON T. TSAI, Instructor
MARTHA LUZ VELEZ, Instructor
SIEW-JYU WONG, Instructor
JUN YANG, Instructor
LAUREL G. YAP, Instructor
JACKLYNN R. KRICK, Assistant
HARDIN A. PANTLE
Assistant in Emergency Medicine, Assistant in
Pediatrics
PATRICIA SMOUSE, Assistant
KULWANT S. AHLUWALIA, Lecturer
ROBERT J. ANCONA, Lecturer
JAMES R. BANKS, Lecturer
JOHN A. BOSCIA, Lecturer
STEVEN E. CAPLAN, Lecturer
STEPHEN J. CHANOCK
Assistant Professor of Oncology, Lecturer in
Pediatrics
TRACEY CLARK, Lecturer
BARBARA A. DUFFY, Lecturer
ANTHONY G. DURMOWICZ, Lecturer
GREGORY FERNANDOPULLE
Assistant Professor of Psychiatry, Lecturer in
Pediatrics
GRACE K. GELLETTY, Lecturer
GHISLAINE GODENNE
Associate Professor Emerita of Psychiatry,
Lecturer Emerita in Pediatrics
DENNIS L. HEADINGS, Lecturer
STEPHEN A. HOLVE, Lecturer
DIANA C. HU, Lecturer
WALTER T. HUGHES, JR., Lecturer
MICHAEL E. LANGBAUM, Lecturer
MARY J. MARCIN, Lecturer
JOHN D. NEWMAN, Visiting Lecturer
DAVID A. SALIKOF, Lecturer
ARTURO Q. SANTOS, Lecturer
MELISSA MARKS SPARROW, Lecturer
WILLARD E. STANDIFORD, Lecturer

DAVID YAGER, Lecturer
JULIE YEH, Lecturer
MOHSEN ZIAI, Lecturer
GENILA M. BIBAT, Research Associate
GABRIEL CIVALLERO, Research Associate
GEORG BENEDIKT EHRET, Research Associate
in Pediatrics in Genetic Medicine
DIANE L. FRANKENFIELD, Research Associate
ZONGMING FU, Research Associate
GEORGE R. KIM
Research Associate in Pediatrics, Research
Associate in Health Sciences Informatics
LISA ELINOR KRATZ, Research Associate
JESSICA KIELY LAW, Research Associate
EMILY G. SEVERANCE, Research Associate
DAVID W. WEST, Research Associate
CHAVONNE DANIELLE LENOIR, Visiting Scientist
KYE-SHIK SHIM, Visiting Scientist (from 09/01/09)
OM VIR SINGH, Visiting Scientist

FACULTY ASSOCIATED WITH THE
DEPARTMENT OF PEDIATRICS HOLDING A
PRIMARY APPOINTMENT IN:

The School of Medicine:

THEODORE A. BARAMKI
Associate Professor of Gynecology and
Obstetrics

JANE E. BENSON
Assistant Professor of Radiology and
Radiological Science

R. BLAINE EASLEY
Assistant Professor of Anesthesiology and
Critical Care Medicine

The Bloomberg School of Public Health:

SUSAN P. BAKER
Professor of Health Policy and Management

DAVID M. BISHAI
Associate Professor of Population, Family and
Reproductive Health

ROBERT W.M. BLUM
Professor and Chair of Population, Family and
Reproductive Health

TERRY R. BROWN
Professor of Biochemistry and Molecular Biology

BENJAMIN CABALLERO
Professor of International Health

DONALD A. CORNELLY
Professor Emeritus of Maternal and Child Health

BERNARD GUYER
Professor of Population, Family and
Reproductive Health

NEAL A. HALSEY
Professor of International Health

RUTH A. KARRON
Professor of International Health

CYNTHIA SCHAFFER MINKOVITZ
Professor of Population, Family and
Reproductive Health

WILLIAM JOHN MOSS
Associate Professor of Epidemiology

DAVID M. PAIGE

Professor of Population, Family and
Reproductive Health

ANDREA J. RUFF

Associate Professor of International Health

MATHURAM SANTOSHAM

Professor of International Health

BARBARA H. STARFIELD

Professor of Health Policy and Management

MARK C. STEINHOFF

Professor of International Health

INA BURROWS STEPHENS

Associate in International Health

STEPHEN P. TERET

Professor of Health Policy and Management

LAWRENCE S. WISSOW

Professor of Health Policy and Management

The School of Arts and Sciences:

LEON A. ROSENBERG

Professor of Education

The Kennedy Krieger Institute:

MICHAEL BENDER

Professor of Education

The School of Nursing

CYNDA HYLTON RUSHTON

Associate Professor of Nursing

REQUIRED WORK

Pediatrics—Second Year

1. Introduction to Health and Disease in Infants and Children. (Instruction takes place in the course Introduction to Medicine: Clinical Skills.) Dr. Barone. Groups of students will attend seminars and practical work sessions to consider the following topics:

- Extension of history taking and physical diagnosis. Application of clinical skills to diagnosis of diseases in the pediatric age group.
- Physical diagnosis—newborn.
- Maturation of the cardiorespiratory system physical, radiologic, and laboratory changes with age.
- Techniques for gathering sensitive and confidential information from patients.

Pediatrics—Second, Third or Fourth Year

1. Pediatrics. Dr. Barone, Clerkship Coordinator. Nine week course that may be taken at any time from the last quarter of the second year through the third quarter of the fourth year. This clerkship is designed to provide the student with basic principles and skills in pediatrics. It includes both inpatient and outpatient work.

ELECTIVE OPPORTUNITIES—Curricular Consultant: Dr. Barone. Elective courses must be approved by the preceptor; any member of the department may act as preceptor.

These courses are open to students from the second, third and fourth years, unless otherwise noted.

Certain of these courses will be given in the alternate year only.

Pediatrics E

E 1. Subinternship in the Department of Pediatrics. Drs. Barone, Goldstein, and Solomon.

Inpatient Pediatrics: A subinternship experience on a ward service in the Children's Center, with primary responsibility for patients admitted to that service. Supervised by the SAR on that service, with night shift responsibilities. This course will enhance the student's knowledge of pediatrics and provide responsibility appropriate to the level of subintern. Evaluation will be performed by ward attending and senior residents.

Emergency Medicine: Evaluation and treatment of children presenting to the Pediatric Emergency Department. Duties to approximate the workload of a pediatric intern. Presentation of a 10-15 minute talk (student's choice) is required.

Harriet Lane Clinic: The acute care Harriet Lane team sees pediatric patients aged birth to 21 years for acute complaints, newborn visits and immunizations. Each day begins with an hour long lecture on a topic relevant to primary care pediatrics. The subintern will perform histories and physical exams, present to the senior resident, fellow or faculty attending, participate in decisions regarding treatment plans, and communicate with the patient's primary care provider and subspecialist consultants as necessary. The subintern will work closely with our social workers, nurses, child life specialists, legal advocate and mental health counselors in providing care to our patients. The student will also have the opportunity to join the lactation consultant during a breastfeeding clinic session. The subintern will also participate in the monthly case conference and journal club.

On completion of the required clerkship a limited number of students may serve as substitute interns for approximately 1/2 quarter on the pediatric wards of Johns Hopkins Hospital during the academic year.

E 2. Introduction to Pediatric Intensive Care. Dr. Shaffner and staff. Four and one half week rotation. Limited to two students.

Designed for students planning a career in either pediatrics or a pediatric surgery specialty. This course encourages students to become familiar with problems of critically sick infants and children. Both basic pathophysiology and pharmacology will be stressed. Students will be expected to have already completed their pediatric rotation and to be prepared to help contribute to the care of these patients.

E 3. Research Activities. Dr. Dover and staff. Four quarters.

Students are encouraged to carry out investigations in areas of interest to members of the department as follows:

DR. ADGER

Adolescent medicine (including sexually transmitted diseases, substance abuse, alcohol-drug prevention).

DR. ALLEN

Assessment and follow-up of high risk neonates and premature infants, focusing on neurodevelopmental disabilities.

DR. CHATTERJEE

Investigating the function of human plasma low density lipoprotein receptor; tumor necrosis factor x- sphingolipids and sphingolipid breakdown products in cellular regulation, drug induced nephrotoxicity in man and the nature of pathogenesis induced by bacterial toxins, programmed cell death (apoptosis), and neuronal development.

DR. COHEN

Clinical investigations in pediatric dermatology.

DR. COLOMBANI

Effect of cyclosporine on susceptible T-lymphocytes early in immune response.

DR. CUTTING

Molecular genetic approach to cystic fibrosis and retinal neurotransmission.

DR. DUGGAN

Health services evaluation; home visiting programs for at-risk families; school health programs.

DR. FIVUSH

Clinical trials in pediatric renal transplantation; humoral immunity/vaccine response in pediatric renal patients (including chronic renal insufficiency, dialysis, and transplant patients).

DR. FROSCH

Psychiatric aspects of acute physical injury in children; pediatric psychopharmacology; pediatric psychiatric genetics.

DR. GEARHART

Cellular function of bladder muscle on children with bladder exstrophy.

DR. HUTTON

Pediatric and HIV infection (including vertical transmission, diagnosis and treatment and psychosocial and ethical issues).

DR. KWITEROVICH

Genetic, nutritional, and biochemical studies of disorders of lipoprotein metabolism.

DR. LEDERMAN

Basic research in immunology; role of fever in host defense; lymphokine production and action; immunodeficiency diseases (primary and acquired).

DR. MCGRATH-MORROW

Growth factors in fetal lung development.

DR. B. MIGEON

Molecular basis for parental imprinting and X inactivation.

DR. C. MIGEON

Steroids: production, metabolism, and mode of action; abnormalities of sex differentiation.

DR. NEU

Clinical trials in pediatric renal transplantation; humoral immunity/vaccine response in pediatric renal patients (including chronic renal insufficiency, dialysis, and transplant patients).

DR. OGBORN

Injury treatment and prevention; trauma systems; minor injury outcomes; quality assurance and patient satisfaction in the emergency department.

DR. PLOTNICK

Hormonal control of growth in children; clinical diabetes management.

DR. RIDDLE

Pediatric psychopharmacology.

DR. ROSENBERG

Psychodiagnostic procedures.

DR. ROSENSTEIN

Clinical trials and epidemiology of cystic fibrosis.

DR. ROWE

Clinical epidemiology and clinical trials of common pediatric disorders; chronic fatigue syndrome; hemolytic uremic syndrome.

DR. SERWINT

General pediatrics (including feeding issues; nursing caries, prenatal pediatric visits; health services research; lead toxicity; influenza disease; patient termination).

DR. SHAPIRO

In-depth interdisciplinary approaches to the evaluation, diagnosis, and management of children, adolescents, and young adults with attention deficit hyperactivity disorder.

DR. SINGER

Neurobiological studies of synaptic neurochemistry in development, animal models of human diseases, and in-vitro model of human tumors; clinical and neurobiological studies relating to Tourette syndrome.

DR. VALLE

Molecular biology of human genetic diseases especially inborn errors of metabolism, peroxisomal disorders and retinal degeneration.

DR. WALKER

Emergency medicine (especially substance abuse; organization of emergency services; child abuse; performance improvement).

DR. WALKUP

Psychopharmacology of child psychiatric disorders.

DR. YOLKEN

Infectious diseases.

DR. ZEITLIN

Role of chloride channels in fetal lung development; fetal and neonatal gene therapy for cystic fibrosis.

E 4. Pediatric Hematology. Dr. Casella. All quarters, time to be arranged.

Clinical and laboratory experience in pediatric hematology, including assignments in clinic, ward rounds, training in morphologic hematology, and attending research and clinical seminars and conferences. Only one student accepted for a minimum of four weeks and a maximum of eight weeks' experience.

E 5. Pediatric Endocrinology. Dr. Plotnick. All quarters; limited to 3 or 4 students for each 4 week period.

This elective offers the student an intensive outpatient exposure to a wide variety of endocrine problems in children and adolescents. The student will gain an understanding of normal growth and sexual maturation and how these patterns are affected by endocrine disorders at different ages. Also, the outpatient management of complex chronic disease on a long-term basis is emphasized. Students have the same clinical responsibilities as residents and fellows. A research conference and clinical conference are held weekly throughout the academic year. Disorders seen include pituitary, thyroid,

bone/mineral, adrenal, growth, puberty, gonad and sexual differentiation abnormalities, and diabetes.

E 6. Advanced Clerkship in Pediatric Oncology. Dr. Cohen and staff. Time to be arranged; all quarters.

Students will have the opportunity to become familiar with pediatric oncology patient care during this one month inpatient-based rotation. The elective includes exposure and education to a wide-range of oncologic conditions and complications. Students will have the opportunity to participate in the management of children with hematologic malignancies and solid tumors. In addition, students can participate in the management of pediatric bone marrow transplantation patients. Students primarily manage selected inpatients with resident, fellow, and attending supervision. Students may have the opportunity to see consults in concert with the inpatient team and to follow the progress of patients as they transition to the outpatient setting.

E 7. Child and Adolescent Psychiatry. Dr. Frosch and staff. To be arranged.

This course offers the opportunity to observe and participate in a variety of clinical-teaching settings, including inpatient child and adolescent units, day hospital, consultation liaison service, outpatient specialty clinics (affective disorders, anxiety disorders, developmental neuropsychiatric disorders, psychosomatic disorders) as well as community psychiatric programs including outpatient services, community liaison, and school based programs. The student will learn about a variety of psychiatric presentations of children, adolescents, and their families and the range of psychotherapeutic interventions available. In addition, students have the opportunity to participate in a large number of ongoing research projects within the division. The elective is tailored to meet individual interests.

E 8. Pediatric Infectious Diseases. Dr. Kim and staff. All quarters; limited to one or two students.

Consultation service seeing a variety of ward, intensive care, oncologic, transplantation, neonatal and HIV-infected patients. The service also serves as primary attending on select inpatients such as meningitis. Students have primary responsibility for selected patients and will accompany the faculty on daily consultation rounds as well as participating in daily "plate rounds" in the microbiologic laboratories. Students will select a topic to study and present to the division faculty in an informal conference.

E 9. Pediatric Cardiology. Dr. Brenner and staff. All year.

Students actively participate on the service working primarily with the cardiologist on call for the month. Students attend a weekly schedule of divisional conferences and teaching seminars; videotape, tapeslide and computer interactive learning resources are available.

Emphasis is placed on the following areas: acquisition of basic skills of cardiovascular assessment in infants and children; understanding the hemodynamic principles of pressure, flow and resistance, and relating them to the clinical picture and the findings at cardiac catheterization; overview of the natural history of common congenital and acquired heart

disease in infancy, childhood and adolescence; introduction to electrocardiography and twodimensional color and Doppler echocardiography.

E 10. Developmental Disabilities in School Aged Children. Dr. Shapiro and Kennedy Krieger Institute Staff. September – May; four weeks.

Participate in the interdisciplinary evaluation, diagnosis and management of developmental disabilities in school aged children in outpatient settings. The student will develop working competence in the neurodevelopmental assessment of school aged children and an understanding of cognitive and central processing disorders.

Clinical activities will be precepted and the clerk will participate in a didactic program that focuses on issues related to developmental disabilities. Opportunities will be provided for the clerk to observe evaluations in community settings as well as in the outpatient clinics.

E 11. Adolescent Medicine. Dr. Trent. Half quarter; not available June or July).

Prerequisite: Core Clerkship in Pediatrics and Ob/Gyn.

Students will gain increased experience working with adolescents (ages 10-21 years). Time is primarily spent in the Adolescent Clinic with additional clinical opportunities at the Baltimore City school-based clinics, and an adolescent substance abuse treatment program. Clinical interviewing skills are emphasized, and there is a weekly didactic seminar series. A case presentation or literature review is required during the month.

E 12. Pediatric Gastroenterology and Nutrition. Dr. Cuffari and staff. All quarters.

Prerequisite: Core clerkship in Pediatrics preferred.

Students will receive exposure to children with a wide variety of pediatric gastrointestinal, hepatic and/or pancreatic disorders as well as disorders of under and over nutrition. Students will round daily with ward team beginning at 8 a.m. from CMSC 9, M-F.

Additionally, students will be expected to participate in various divisional outpatient clinics, including General GI/Inflammatory Bowel Disease Clinic Tuesday 9 a.m.-12 p.m. and/or 1-4 pm; , General GI/ Clinic on Thurs. 8-12 a.m and Liver clinic on Friday 9 a.m.-12 p.m. Clinic is in the David M. Rubenstein Children's Health Building, Lower Level.

Students are also encouraged to participate in various divisional teaching sessions. on Wednesdays from 12 – 2 pm. Students will be asked to present an interesting case on the last Wednesday of their rotation.

E 13. Clinical Clerkship in Pediatric Dermatology. Drs. Cohen and Puttgen. All quarters.

This is an intensive clinical experience in Pediatric Dermatology. The student will participate in outpatient clinics, inpatient consults, dermatology rounds, and grand rounds. Students are also encouraged to design and complete clinical research projects and contribute to the online image resource dermatlas.org.

E 14. Developmental Pediatrics-Kennedy Krieger Institute. Dr. Shapiro and Kennedy Krieger staff. All quarters; one month.

The goal of this elective is to provide the student with an overview to neurodevelopmental disabilities including cerebral palsy, autism, intellectual disability, attention deficit hyperactivity disorder and other disorders of communication and learning. Students will actively participate in the diagnostic and interdisciplinary evaluation and management of infants, children, and adolescents with neurodevelopmental disorders. Directed readings, lectures, and regular meetings with a faculty preceptor will be used to increase the student's knowledge of principles of development, specific diagnostic entities, brain-behavior relationships, and current issues in care. This elective is recommended for those students who are considering careers in pediatrics, neurology, genetics, psychiatry, or psychiatry.

E 15. Clinical Clerkship in Pediatric Epilepsy. Dr. Hartman. All year.

This elective will give the student experience in the "trenches" of managing pediatric epilepsy. Participation in clinic with the preceptors on Tuesday and Thursday afternoons 1-5 p.m., or in a more structured and intensive experience including ward duty. There also is experience reading EEGs both outpatient and in the epilepsy monitoring unit. The student can also spend time with ketogenic diet patients and in epilepsy surgery cases as available.

E 16. Clinical Clerkship in Full-Term Nursery. Dr. Golden. All year; four weeks.

Clinical experience in the care of full-term and near-term newborns, including both normal and "at-risk" infants. Student will be expected to follow newborns and families throughout the nursery stay. On completion of the clerkship, the student should be able to: perform a newborn physical exam, including assessment of gestational age; recognize normal patterns of transition at birth; recognize risk factors for and signs of abnormal transition; identify many normal variants and abnormal findings; understand the diagnosis and management of common neonatal problems (such as jaundice, suspected sepsis, feeding problems, congenital infections, drug withdrawal, skin rashes); understand important issues in counseling parents regarding care of the newborn. Students will have the opportunity to attend deliveries with the pediatric house staff and participate in resuscitation, if interested.

E 17. Research in Pediatric Allergy. Dr. Eggleston and Dr. R. Wood. All year; nine weeks.

The student may participate in a variety of ongoing research on allergic disease in asthmatic children. Current projects include basic research on the immunochemistry of animal allergens and assessment of hypersensitivity based on sera and basophils, environmental (indoor) allergens, as well as clinical research on the human response to measured concentrations of airborne allergens.

A multidisciplinary center for the study of home environment in determining the severity of asthma in children offers many exciting research opportunities

E 18. General Pediatrics and Adolescent Medicine Clinical Research. Dr. Ellen. Nine weeks minimum.

Prerequisite: Basic Clerkship in Pediatrics

Opportunities are available for studies to participate in ongoing clinical research projects within the Division of General Pediatrics, which includes the Harriet Lane Primary Care Clinic, Adolescent Medicine, Intensive Primary Care Clinic (primary care services for children with HIV infection), and a health services research group. Students may be involved in developing critical literature reviews or pre-testing research instruments, in collecting data through interview or chart review, or in analyzing data, depending on the student's interests and previous experience and the stage of the project. Students who choose this elective will increase their depth of knowledge in at least one pediatric content area.

E 19. Healthcare Issues in Homeless Children Dr. K. Schwarz. All year; three weeks. Available to Johns Hopkins School of Medicine students; two students per quarter.

Prerequisite: Basic Clerkship in Pediatrics

There are currently ~2500 homeless children in Baltimore City. Recent studies of homeless East Baltimore families by the elective faculty demonstrate low hepatitis B vaccine coverage, high rates of obesity, and frequent exposure to domestic violence. These findings are consistent with existing literature which documents that homeless children have poorer overall health than their housed peers. The purpose of this service-based learning curriculum is for medical students to develop the knowledge, skills and attitudes necessary to address the complex healthcare needs of homeless families. The elective will be for three weeks and will be offered by pediatric and nursing school faculty with experience in urban health, children's health consequences of domestic violence and homelessness, in collaboration with the Director of the Ark (a day care for homeless children), the Director of residential programs at House of Ruth Maryland (a domestic violence shelter), and the Director of neighborhood services of HEBCAC (Historic East Baltimore Community Action Coalition), Inc. The elective will begin with an orientation session with the faculty; the student will pick one subject around which to develop healthcare education which he/she will provide at the 3 sites (such as nutritional counseling, HBV prevention, etc). Students will spend mornings at The Ark and afternoons at the House of Ruth, learning firsthand about health issues of homeless children, and will work collaboratively with these organizations to implement a health education program. One afternoon/week at the House of Ruth will be spent doing pre-school physical examinations under the supervision of a pediatric faculty member. HEBCAC, our primary community collaborator which is well known for its consistent, exemplary advocacy for the homeless, will teach the students about how to develop and execute this type of community-based health advocacy project. The student will present his/her work formally to the faculty group at the conclusion of the elective. It is our hope that this educational, hands-on experience will empower and motivate the students to continue to advocate for these vulnerable children throughout their careers.

E 20. Pediatric Intensive Care Elective Dr. Shilkofski. Two to four weeks; one student per rotation.

Prerequisite: Basic Clerkship in Pediatrics. Clinical preceptorship in anesthesiology recommended, but not required.

The course is designed for students planning a career in anesthesiology, pediatrics, or a pediatric surgery specialty and encourages students to become familiar with problems of critically ill infants and children. Basic pathophysiology and pharmacology will be stressed. Students should be prepared to help contribute to the care of these patients on rounds and are expected to attend daily didactic sessions and in-depth case discussions for residents and students held by the PICU faculty and fellows. Night float call with the resident they are "paired" with is optional but encouraged. Students will be expected to give a case presentation on a critical care topic of their choice at the end of the rotation.

E 21. Clinical Research Elective in Pediatric Infectious Diseases Dr. K. Kim. All year; nine weeks.

Clinical research opportunities are available on a range of topics related to the pathogenesis, epidemiology, diagnosis and management of infectious diseases, patient care (including HIV-infected children), outcome assessment, critical pathways, antibiotic utilization, and vaccine-related issues.

E 22. Laboratory Elective in Pediatric Infectious Diseases Dr. K. Kim. All year; one quarter or longer.

Laboratory projects on the biology of the blood-brain barrier in central nervous system infections, inflammation, and on HIV. Laboratory skills include tissue culture, assays for microbial interaction with the blood-brain barrier, recombinant protein expression systems, microbial genetics, microarrays, proteomics, PAGE, 2D gels and Western blots, ELISA assays, signal transduction pathways including Ca signaling and protein biochemistry.

E 23. Advanced Clerkship in Pediatric Oncology Dr. K. Cohen. All year.

Prerequisite: Basic Clerkship in Pediatrics

Students will have the opportunity to become familiar with pediatric oncology patient care during this one month inpatient-based rotation. The elective includes exposure and education to a wide-range of oncologic conditions and complications. Students will have the opportunity to participate in the management of children with hematologic malignancies and solid tumors. In addition, students can participate in the management of pediatric bone marrow transplantation patients. Students primarily manage selected inpatients with resident, fellow, and attending supervision. Students may have the opportunity to see consults in concert with the inpatient team and to follow the progress of patients as they transition to the outpatient setting.



Pharmacology and Molecular Sciences

PHILIP ARTHUR COLE

E.K. Marshall and Thomas H. Maren Professor of Pharmacology, Professor of Oncology, Director of the Department of Pharmacology and Molecular Sciences

DARRELL R. ABERNETHY

Professor of Medicine, Professor of Pharmacology and Molecular Sciences

RICHARD F. AMBINDER

James B. Murphy Professor of Oncology, Professor of Medicine, Professor of Pathology, Professor of Pharmacology and Molecular Sciences

J. THOMAS AUGUST

University Distinguished Service Professor of Pharmacology, Professor of Oncology

DONALD S. COFFEY

Catherine Iola and J. Smith Michael Distinguished Professor of Urology, Professor of Oncology, Professor of Pathology, Professor of Pharmacology and Molecular Sciences

ROBERT J. COTTER

Professor of Pharmacology and Molecular Sciences, Professor of Biophysics and Biophysical Chemistry

CHARLES W. FLEXNER

Professor of Medicine, Professor of Pharmacology and Molecular Sciences

ROBERT H. GETZENBERG

Donald S. Coffey Professor of Urology, Professor of Oncology, Professor of Pharmacology and Molecular Sciences

D. WADE GIBSON

Professor of Pharmacology and Molecular Sciences, Professor of Oncology

GARY S. HAYWARD

Professor of Oncology, Professor of Pathology, Professor of Pharmacology and Molecular Sciences

S. DIANE HAYWARD

Professor of Oncology, Professor of Pharmacology and Molecular Sciences, Associate Professor of Neurology

CRAIG WALTER HENDRIX

Professor of Medicine, Professor of Pharmacology and Molecular Sciences

JAMES EARL KING HILDRETH

Adjunct Professor of Pharmacology and Molecular Sciences

PAUL S. LIETMAN

Professor of Medicine, Professor of Pediatrics, Professor of Pharmacology and Molecular Sciences

JUN LIU

Professor of Pharmacology and Molecular Sciences, Professor of Oncology

WILLIAM G. NELSON

Marion I. Knott Director and Professor of Oncology, Professor of Medicine, Professor of Pathology, Professor of Pharmacology and Molecular Sciences, Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Urology

MARTIN GILBERT POMPER

Professor of Radiology and Radiological Science, Professor of Pharmacology and Molecular Sciences, Professor of Radiation Oncology and Molecular Radiation Sciences, Associate Professor of Oncology, Joint Appointment in Psychiatry

CECIL H. ROBINSON, Professor Emeritus

CHRISTOPHER A. ROSS

Professor of Psychiatry, Professor of Neurology, Professor of Neuroscience, Professor of Pharmacology and Molecular Sciences

RONALD L. SCHNAAR

Professor of Pharmacology and Molecular Sciences, Professor of Neuroscience

THERESA A. SHAPIRO

Wellcome Professor of Clinical Pharmacology in the Department of Medicine, Professor of Pharmacology and Molecular Sciences

SOLOMON H. SNYDER

University Distinguished Service Professor of Neuroscience, University Distinguished Service Professor of Pharmacology and Molecular Sciences, University Distinguished Service Professor of Psychiatry

JAMES T. STIVERS

Professor of Pharmacology and Molecular Sciences, Professor of Oncology

PAUL TALALAY

John Jacob Abel Distinguished Service Professor of Pharmacology and Experimental Therapeutics

SAMUEL RAY DENMEADE

Associate Professor of Oncology, Associate Professor of Pharmacology and Molecular Sciences, Associate Professor of Urology

SYLVAIN DORE

Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Pharmacology and Molecular Sciences

WALTER C. HUBBARD

Associate Professor of Medicine, Associate Professor of Pharmacology and Molecular Sciences

BRENT G. PETTY

Associate Professor of Medicine, Associate Professor of Pharmacology and Molecular Sciences

JONATHAN D. POWELL

Associate Professor of Oncology, Associate Professor of Pharmacology and Molecular Sciences

DOUGLAS N. ROBINSON

Associate Professor of Cell Biology, Associate Professor of Pharmacology and Molecular Sciences

AMINA S. WOODS, Adjunct Associate Professor

PAUL MICHAEL YEN

Associate Professor, Associate Professor of Pharmacology and Molecular Sciences

JIN ZHANG

Associate Professor of Pharmacology and Molecular Sciences, Associate Professor of Neuroscience, Associate Professor of Oncology

ALBENA TODOROVA DINKOVA-KOSTOV

Assistant Professor of Pharmacology and Molecular Sciences, Assistant Professor of Medicine

CAREN L. FREEL MEYERS

Assistant Professor of Pharmacology and Molecular Sciences, Assistant Professor of Oncology

SIMONA STAGER, Assistant Professor

SEAN DIXON TAVERNA, Assistant Professor

HENG ZHU

Assistant Professor of Pharmacology and Molecular Sciences, Assistant Professor of Oncology

JED W. FAHEY, Research Associate

YOU SANG HWANG, Research Associate

JUN SEOP JEONG, Research Associate

HUA LIU, Research Associate

DEBORAH A. MCCLELLAN

Research Associate in Health Sciences Informatics, Research Associate in Pharmacology and Molecular Sciences

DAVID J. MEYERS, Research Associate

QIANG NI, Research Associate

PAUL TAN, Research Associate

SHRIDHAR BHAT, Visiting Scientist

MAREK CEBRAT, Visiting Scientist

KENYON M. EVANS-NGUYEN, Visiting Scientist (to 07/31/09)

ALAN P. KOZIKOWSKI, Visiting Scientist

BARRY J. MARGULIES, Visiting Scientist

ERNESTO TORRES DE AZEVEDO MARQUES, Visiting Scientist

KATHRYN E. MURATORE, Visiting Scientist

KEYKAVOUS PARANG, Visiting Scientist

KERRY ANN PICKIN PAUMI, Visiting Scientist

KUI SHEN, Visiting Scientist

HIROYUKI SUGANUMA, Visiting Scientist

FACULTY ASSOCIATED WITH THE DEPARTMENT OF PHARMACOLOGY AND MOLECULAR SCIENCES HOLDING A PRIMARY APPOINTMENT IN:

The Bloomberg School of Public Health:

J. MARIE HARDWICK

Professor of Molecular Microbiology and Immunology

THOMAS W. KENSLER

Professor of Environmental Health Sciences

REQUIRED COURSE WORK FOR M.D. DEGREE

First Year

Scientific Foundations of Medicine/Pharmacology. Dr. Cole.

This eight day section introduces students to a history of pharmacology, and fundamental principles of pharmacokinetics, drug development, autonomic pharmacology, molecular imaging, and alternative and complementary medicine.

Second Year

330.600 Pharmacology. Drs. Cole, Lietman, and staff. First, second and third quarters. Schedule integrated with Pathophysiology and Pathology.

A series of lectures and small group sessions designed to illustrate the principles of drug action and to introduce students to the clinically important classes of drugs. The course presumes familiarity with biochemistry, genetics, microbiology, molecular biology, cellular biology and physiology. The course is integrated into the second year medical curriculum with an introductory section focusing on drug interactions with enzymes and receptors, drug design, drug metabolism, and pharmacokinetics followed by sections with the various classes of drugs considered by organ system in an integrated manner with both pathophysiology and pathology. The small group sessions offer an extended interaction with one faculty member on a topic selected by the student.

Fourth Year

Rational Therapeutics. Dr. Petty, Division of Clinical Pharmacology and other selected clinical faculty. Required of all fourth year medical students. Second and fourth Thursdays; Sept.-March, 8:30-10:00 a.m. No prerequisite.

This course is designed to consolidate student skills in the selection and use of drugs commonly prescribed in medical practice. This course will build on the foundation of the second year pharmacology course and third year clinical clerkship experiences. The course focuses on therapeutic decision-making in the context of clinical problems based upon pharmacologic principles. Clinical topics in therapeutics to be covered will challenge the students frequently during their internship and will demonstrate the rational application of core pharmacologic principles with general applicability to clinical situations throughout a medical career. Widely respected clinicians from various departments within the School of Medicine will present the therapeutic decision-making process for a given clinical topic during the first hour of the sessions. In the final hour, the guest faculty will facilitate a practical case-oriented discussion with students to interactively solve a series of clinical problems using the therapeutic tools just presented.

OTHER COURSES AND ELECTIVE OPPORTUNITIES—Curricular Consultant:

Dr. Cole. Elective courses must be approved by the preceptor; any member of the department may act as preceptor.

Pharmacology

330.709 Organic Mechanisms in Biology. Dr. Stivers. Wed/Fri; Nov-Jan; 9:00-10:30 a.m. Required course for Pharmacology graduate students.

This fifteen-lecture course deals with the chemical mechanisms of enzymes. It is intended to illustrate how catalysis in biological systems can be understood using principles derived from organic reaction mechanisms.

330.710 Mechanisms in Bioorganic Chemistry. Dr. Meyers. April and May, 9:00-10:30 a.m. Required course for Pharmacology graduate students.

This nine-lecture course deals with the chemical mechanisms of enzymes, and builds on the basic principles of catalysis and organic reaction mechanisms that are presented in the course "Organic Mechanisms in Biology." The course will emphasize the chemical and biophysical tools that are used in this research area, and will focus on recent research in which chemical methods have been used to activate, inhibit, or alter the specificity of enzymes.

330.707 Graduate Pharmacology. Drs. Schnaar and Zhang. Offered January through May.

This spring semester course is designed for second year graduate students and will cover basic pharmacology concepts as well as specific drug classes related to diseases. The first half of the course includes lectures on receptors, enzymes, pharmacokinetics and drug metabolism, combinatorial chemistry, and drug design. The second half of the course includes lectures on therapeutic agents used in infectious diseases, cancer, cardiovascular diseases, endocrine disorders, inflammation, and psychiatric illness. There will be two exams. In addition, a series of tutorials on specialty topics will be given concurrently for small groups.

330.711 Virology. Dr. Hardwick. March & April; 9:00-10:30 a.m. Unlimited enrollment.

This virology course will focus on the molecular biology of virus infections, the unique strategies by which viruses alter cellular functions and the consequences of these cellular alterations on viral pathogenesis. Detailed analyses of well-studied human pathogens such as HIV, human papilloma virus, Epstein-Barr virus and influenza virus will be contrasted to newly emerging viruses such as West Nile, Ebola and SARS. Topics covered include mechanisms of replication and assembly, persistence versus apoptosis, immune evasion, host-host transmission, cell transformation, vaccines/therapeutics, and virus evolution. Grades will be determined by short quizzes/problems and a final exam.

330.801 Research. By arrangement with the staff, qualified students at various stages of their scientific development may be admitted to collaborate in research projects with members of the staff. Required course for graduate students.

330.802 Topics in Pharmacology. Staff and visiting lecturers. One hour per week, Wednesdays at 4:00 p.m. Required course for graduate students.

330.804 Role of Chromatography Mass Spectrometry in Biomedical Research. Monday and Wednesday from 10:00 a.m. to 11:00 a.m. Drs. Cotter and Woods.

This course will cover instrumentation methods and applications of high performance liquid chromatography and mass spectrometry.

330.805 Introduction to Clinical Pharmacology and Medicine. Dr. Ambinder. April. Limited to five students at a time.

The course will last for eight consecutive days and will meet from 7:30 a.m. until 10:30 a.m. each day. Students will make rounds on a clinical service, discuss drug usage and related clinical issues, research one drug related issue in depth and write a brief paper on the subject. Course enrollment is limited to four. Course usually offered twice a year—late fall and spring or summer. Graduate school pharmacology or physiology is a prerequisite. Dr. Ambinder must approve prospective students. Contact Dr. Ambinder at 5-8839 for meeting place.

260.623 Virology. (4 units) Dr. Griffin. First term.

Discusses cellular, molecular, genetic, and immunological principles that govern viral infection. A survey of main virus groups will be presented with detailed discussion of several representative human pathogens. Topics will include viral pathogenesis, viral carcinogenesis, vaccination against viral infection, and the use of viruses as tools in molecular and cell biology. Interactions of viral and host cell processes will be emphasized. A weekly core session devoted to discussion of current virological literature will be included. Student evaluation based on participation in core discussions, a mid-term, and a final examination.

260.624 Advanced Virology. (4 units) Dr. Kerr. Third term.

Includes lectures on a diverse collection of viruses with emphasis on molecular biology and pathogenesis. Approximately 50 percent of the course content will consist of student presentations and discussion of primary literature. Student evaluation is based on class participation and exams.

390.631 Principles of Drug Development. (2 units) First term. Dr. Flexner. Jointly offered with the School of Public Health.

Prerequisite: Consent of instructor.

Presents principles underlying the drug development process from discovery through pre-clinical to all clinical phases. Regulatory issues (FDA faculty) and industry perspectives (pharmaceutical industry faculty) are included. Throughout the course students develop, write and present detailed drug development plans and clinical protocols for new drugs. Evaluation is based on course project writing and presentations. The final exam is the presentation of a proposal to FDA reviewers.

The research interests in the Department of Pharmacology are as follows:

DR. AMBINDER

Virology and human cancer; antiviral therapy; antitumor therapy; lymphoma pathogenesis and treatment; immunological approaches to virus-associated malignancies.

DR. AMZEL

3-D structure of proteins: immunoglobulins and other binding proteins; ATP synthase; monooxygenases and dioxygenases quinone reductase.

- DR. AUGUST**
Genetic immunotherapy of infectious diseases and cancer by targeting DNA encoded antigen chimeras to MHCII; MHC II antigen presentation; development of DNA vaccines; immune tolerance.
- DR. COFFEY**
Nuclear structure and DNA organization in normal and cancer cells.
- DR. COLE**
Chemical and biochemical approaches in the study of signal transduction, circadian rhythm, and gene regulation.
- DR. COTTER**
Development of new analytical techniques and instrumentation for mass spectrometry; applications of mass spectrometry to the structural analysis of peptides, glycopeptides, and glycolipids.
- DR. DENMEADE**
Targeted therapies for cancer; prodrugs; proteases; peptide libraries.
- DR. DINKOVA-KOSTOVA**
Protection against cancer- mechanisms and strategies; structure-activity relation of protective agents; inflammation and cancer; skin cancer prevention.
- DR. DORE**
Battling neurodegenerative disorders: stroke, Alzheimer, and aging.
- DR. FLEXNER**
Basic and clinical pharmacology of antiretroviral drugs; HIV protease inhibitors and entry inhibitors.
- DR. GETZENBERG**
Cancer biomarkers; proteomic analysis of nuclear structure; nanotechnology.
- DR. GIBSON**
Herpes virus proteins: studies of their expression, structure, and function using genetic, biochemical, biophysical, and immunological approaches.
- DR. GREENBERG**
Chemical and biochemical approaches to the study of DNA damage and repair.
- DR. GREIDER**
Telomerase and telomere length regulation.
- DR. HARDWICK**
Molecular mechanisms of programmed cell death.
- DR. D. HAYWARD**
Epstein-Barr virus and Kaposi's sarcoma virus; viral latency and tumorigenesis; mechanisms of virus induced cell proliferation; viral mediated epigenetic modification of cell gene expression; notch and wnt pathways.
- DR. G. HAYWARD**
Pathways of herpesvirus gene regulation; cell cycle control and latency; interaction of viral immediate-early transcriptional transactivators with nuclear subdomains; chemokines and molecular piracy by KSHV; role of herpesviruses in vascular disease.
- DR. HENDRIX**
Anti-infective drugs; chemoprevention of infectious diseases.
- DR. HUGANIR**
Molecular mechanisms in the regulation of synaptic plasticity.
- DR. ISAACS**
Understanding the molecular genetic events responsible for initiation and progression of prostate cancer, with particular interest in inherited susceptibility to prostate cancer.
- DR. JAFFEE**
Analysis of antitumor immune responses against human tumors; identification of the targets of tumor-specific cytotoxic T cells.
- DR. KENSLER**
Molecular mechanisms of chemical carcinogenesis; Nrf2 signalling; cancer chemoprevention.
- DR. KINZLER**
Molecular genetics of cancer; translational cancer research.
- DR. LIU**
Chemical biology and molecular biology; use of small molecules as probes to elucidate mechanisms of signal transduction; angiogenesis and cell proliferation.
- DR. MEYERS**
Organic and medicinal chemistry; chemical biology: drug delivery mechanisms in bacteria; development of antibiotic prodrug strategies; study of bacterial isoprenoid biosynthesis; combinatorial biosynthesis; development of potential therapeutic agents.
- DR. NELSON**
Molecular mechanisms of prostatic carcinogenesis; epigenetic alterations in cancer; new approaches to prostate cancer prevention and treatment.
- DR. PITHA-ROWE**
Effects of viral infection on expression of cellular (cytokines and chemokines and their receptors) and viral (HIV-1, HHV-8) genes; targeted antiviral and anticellular therapy (gene transfer, ribozymes); breast cancer: role of c-erbB-2.
- DR. POMPER**
In vivo molecular and cellular imaging; radiopharmaceutical development; targeted cancer imaging and therapy; functional brain imaging.
- DR. POSNER**
Organic and medicinal chemistry aimed toward rational design and synthesis of new compounds for effective and safe chemotherapy of malaria and cancer.
- DR. POWELL**
Mechanisms of T cell activation and tolerance.
- DR. ROBINSON**
Understanding cytokinesis and cell shape control.
- DR. ROSS**
Neuropsychiatric disorders.
- DR. RUDIN**
Molecular mechanisms of apoptosis; roles of apoptosis in carcinogenesis and therapeutic resistance; novel therapeutic development in animal models of cancer.
- DR. SCHNAAR**
Cell interactions in the nervous system.
- DR. SHAPIRO**
Clinical pharmacology; molecular mechanisms of antiparasitic drug action; effects of topoisomerase inhibitors on DNA of trypanosomes; structure-activity of antimalarial artemisinins.

DR. SILICIANO

HIV latency, evolution, and persistence; HIV treatment and drug resistance; pharmacology of HIV drugs.

DR. SNYDER

Molecular basis of neural signal transduction.

DR. STAGER

Immunoparasitology; CD8+ T-cells; Leishmania; vaccination.

DR. STIVERS

Molecular mechanisms of enzymatic DNA repair, DNA topoisomerase mechanism; NMR studies of enzymes and nucleic acids; enzyme inhibition and engineering.

DR. TALALAY

Molecular mechanisms in chemical and dietary protection against mutagens and carcinogens.

DR. TAVERNA

Histone and chromatin modifications; epigenetics and gene function; identification of histone binding modules; small RNA directed gene silencing.

DR. TOWNSEND

Organic and bioorganic chemistry: biosynthesis of natural products and biomimetic synthesis; elucidation of protein function; molecular biology of secondary metabolism and engineering of biosynthetic systems to practical ends; study of the role and inhibition of fatty acid synthesis in human cancer, tuberculosis, and obesity.

DR. VOGELSTIEIN

Molecular genetics of human cancer.

DR. ZHANG

Cell signaling; kinases and phosphatases; chemotaxis; live-cell imaging; fluorescent proteins and reporters; chemical biology.

DR. ZHU

Signal transduction; protein network; host-pathogen interaction; biomarker identification.

DIVISION OF CLINICAL PHARMACOLOGY

This Division is operated jointly by the Department of Pharmacology and Molecular Sciences and the Department of Medicine as a closely integrated unit. (See page 188 for description of activities.)

GRADUATE PROGRAM—Students are accepted for graduate work leading to the degree of Doctor of Philosophy. An integrated program leading to both the M.D. and Ph.D. degrees is also available to medical students who are interested in combined medical and scientific training (see Graduate Programs)



Physical Medicine and Rehabilitation

JEFFREY B. PALMER

Lawrence Cardinal Shehan Professor of Physical Medicine and Rehabilitation, Professor of Functional Anatomy and Evolution, Professor of Otolaryngology-Head and Neck Surgery, Director of the Department of Physical Medicine and Rehabilitation

BARBARA J. DELATEUR

Lawrence Cardinal Shehan Professor Emerita of Physical Medicine and Rehabilitation

REBECCA Z. GERMAN

Professor of Physical Medicine and Rehabilitation, Professor of Functional Anatomy and Evolution

ARGYE ELIZABETH HILLIS

Professor of Neurology, Professor of Physical Medicine and Rehabilitation

MICHAEL V. JOHNSTON

Professor of Neurology, Professor of Pediatrics, Professor of Physical Medicine and Rehabilitation

EIICHI SAITOH, Adjunct Professor

JAY R. SHAPIRO, Professor

AMY J. BASTIAN

Associate Professor of Neuroscience, Associate Professor of Neurology, Associate Professor of Physical Medicine and Rehabilitation

PABLO A. CELNIK

Associate Professor of Physical Medicine and Rehabilitation (from 10/01/09), Assistant Professor of Physical Medicine and Rehabilitation (to 09/30/09), Associate Professor of Neurology (from 10/01/09), Assistant Professor of Neurology (to 09/30/09)

JAMES R. CHRISTENSEN

Associate Professor of Physical Medicine and Rehabilitation, Associate Professor of Pediatrics

JAMES A. FAUERBACH

Associate Professor of Medical Psychology in the Department of Psychiatry, Associate Professor of Physical Medicine and Rehabilitation, Joint Appointment in Surgery

JOHN WOOD MCDONALD, III

Associate Professor of Neurology, Associate Professor of Physical Medicine and Rehabilitation

FRANK S. PIDCOCK

Associate Professor of Physical Medicine and Rehabilitation, Associate Professor of Pediatrics

KENNETH H. C. SILVER, Associate Professor

STEPHEN T. WEGENER, Associate Professor

RICHARD DAVID ZOROWITZ, Associate Professor

LAURA LEE ADAMS, Assistant Professor

NKIRUKA U. ARENE, Assistant Professor

KATHLEEN D. BRADY, Assistant Professor

MARTIN B. BRODSKY, Assistant Professor

MARY JO FISHBURN, Assistant Professor

JUDITH E. GOLDSTEIN

Assistant Professor of Ophthalmology, Assistant Professor of Physical Medicine and Rehabilitation

MARLIS GONZALEZ-FERNANDEZ, Assistant Professor

FELICIA HILL-BRIGGS

Associate Professor of Medicine, Assistant Professor of Physical Medicine and Rehabilitation

IANESSA A. HUMBERT, Assistant Professor

AARON N. JUNI, Assistant Professor (from 09/08/09)

KATHLEEN BECHTOLD KORTTE, Assistant Professor

KOICHIRO MATSUO, Adjunct Assistant Professor

ROBERT SAMUEL MAYER, Assistant Professor

DALE M. NEEDHAM

Assistant Professor of Medicine, Assistant Professor of Physical Medicine and Rehabilitation

HANY R. NOSIR, Adjunct Assistant Professor

JOSEPH C. ORLANDO

Assistant Professor of Plastic Surgery, Assistant Professor of Physical Medicine and Rehabilitation

SARA PALMER, Assistant Professor

CATHY A. PELLETIER, Assistant Professor

JOSEPH P. PELLION, Assistant Professor

CRISTINA L. SADOWSKY, Assistant Professor

CYNTHIA F. SALORIO, Assistant Professor

WILLIAM M. STIERS, Assistant Professor

STACY J. SUSKAUER, Assistant Professor

DONNA CLARK TIPPETT

Assistant Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Physical Medicine and Rehabilitation

PEGAH TOURADJI, Assistant Professor

MELISSA KATRINA TROVATO, Assistant Professor

JANET E. TURNER, Assistant Professor

MARK ALLEN YOUNG, Assistant Professor

KATHLEEN M. ZACKOWSKI

Assistant Professor of Physical Medicine and Rehabilitation, Assistant Professor of Neurology

ALVIN KANDANATT ANTONY, Instructor

GLENDALIZ BOSQUES, Instructor

LISA CULP, Instructor

DORIANNE RACHELLE FELDMAN, Instructor (from 10/01/09)

SUSAN E. HOPKAMP, Instructor

MARK STEPHEN HOPKINS, Instructor

LAURA BOYLE JAWEED, Instructor

EDWARD M. LAND, Instructor

ALBERT C. RECIO, Instructor

LAUREN T. SHAPIRO, Instructor

KELLY SHOWALTER, Instructor

LANA WARREN, Instructor

MOHAMMAD H. YAVARI RAD, Instructor

MOLLY E. CAMPION, Assistant

JENNIFER M. ZANNI, Lecturer

XIAOFENG JIA

Research Associate in Biomedical Engineering,
Research Associate in Physical Medicine and
Rehabilitation

WENDY S. SHORE, Research Associate

FACULTY ASSOCIATED WITH THE
DEPARTMENT OF PHYSICAL MEDICINE
AND REHABILITATION HOLDING A PRIMARY
APPOINTMENT IN:

The School of Medicine:

ERIC MATTHEW ALDRICH

Associate Professor of Neurology

DANIELE RIGAMONTI

Salisbury Family Professor of Neurological
Surgery

The Bloomberg School of Public Health:

ELLEN J. MACKENZIE

Professor of Health Policy and Management

ELECTIVE OPPORTUNITIES—*Curricular Consultant*: Dr. Mayer. Elective courses must be approved by the preceptor; any member of the department may act as preceptor.

E 1. Advanced Clerkship in Chronic Disease and Disability: Improving Quality of Life. Drs. Mayer, Finucane, Pidcock and staff. Offered all year for half quarter. Ten students per half quarter.

Prerequisite: Basic Clerkship in Medicine or Pediatrics

Over 100 million Americans suffer from one or more chronic diseases; over 35 million have severe disability as a result. These will be your patients in the future, irrespective of what specialty you ultimately choose. The goal of this rotation is that all students should possess the knowledge, skills, and attitudes to provide care for persons with chronic diseases and disabilities. The clerkship will focus on issues of chronic disease and disability in a variety of clinical settings, and will have concurrent didactic work, discussion groups, and simulation experiences on an inpatient rehabilitation unit, visits to a sub-acute or chronic care facility, outpatient clinics which emphasize care of disabled and chronically ill patients, and home visits. Inpatient acute care will be de-emphasized. Students will participate in interdisciplinary team meetings and patient/family conferences. Clinical sites will include Johns Hopkins Hospital (general adult rehabilitation), Johns Hopkins Bayview (geriatrics), and Kennedy Krieger (pediatric disabilities). There will be home visits, discussion groups, and simulation exercises. Grading will use participation passports, internet modules, and 360 degree evaluations. There are no

overnight call duties. This clerkship will be required for class of 2012.

E 2. Advanced Clerkship in Rehabilitation Research. Dr. Mayer and staff.

Students are invited to participate with faculty in the conduct of research relevant to rehabilitation.

Research interests included in the Department of Physical Medicine and Rehabilitation Program are as follows:

DR. CELNICK

Transcranial magnetic stimulation in stroke.

DRS. GERMAN, HUMBER, and PALMER

Physiology of swallowing.

DR. GONZALEZ-FERNANDEZ

Stroke rehabilitation.

DR. MAYER

Quality improvement in physical medicine and rehabilitation.

DRS. MCDONALD and SADOWSKY

Exercise in long-term spinal cord injury.

DR. STIERS

Professional training outcomes.

DR. WEGENER

Pain management following musculoskeletal injury; improving psychosocial outcomes after traumatic injury.

E 3. Clinical Clerkship in Rehabilitation Medicine. Dr. Mayer and staff. Offered all year for half quarter or three weeks.

Prerequisite: At least a second-year student beginning the fourth quarter.

This elective is intended for students considering a career in physical medicine and rehabilitation. Students will care for inpatients on the Good Samaritan Hospital (stroke or spinal cord) or Johns Hopkins Hospital (complex medical) inpatient rehabilitation units. They will also care for outpatients in musculoskeletal medicine, electrodiagnosis, spasticity, prosthetics and pain clinics. There is flexibility in selecting subspecialty interests. Objectives of the course are to increase knowledge and proficiency in the following areas: Basic clinical skills, such as history taking, physical examination, and general knowledge pertaining to inpatient care; diagnosis, pathophysiology and treatment of certain conditions in which severe physical disability is a prominent feature; the contributions of non-physician health professions required for the comprehensive care of certain patients; the importance of patient and family education in reducing the cost of disability and preventing recurrent hospitalization for health crisis.

E 4. Pediatric Rehabilitation. Dr. Pidcock and staff. Two students per half quarter.

Prerequisite: Pediatrics.

Students will rotate at Kennedy Krieger Institute. They will focus on care of children with disabilities.

Physiology

WILLIAM B. GUGGINO

Professor of Physiology, Professor of Pediatrics,
Director of the Department of Physiology

WILLIAM SCOTT AGNEW

Professor of Physiology

VALINA L. DAWSON

Professor of Neurology, Professor of
Neuroscience, Professor of Physiology

MARK DONOWITZ

George LeBoff Professor for Research in
Digestive Diseases in the Department of
Medicine, Professor of Physiology

ANN L. COX HUBBARD

Professor of Cell Biology, Professor of
Physiology, Joint Appointment in Medicine

MIN LI

Professor of Neuroscience, Professor of
Physiology

JOHN W. LITTLEFIELD

Professor Emeritus of Physiology, Professor
Emeritus of Pediatrics

SVETLANA LUTSENKO, Visiting Professor

PETER C. MALONEY, Professor

DANIEL M. RABEN

Professor of Biological Chemistry, Professor of
Oncology, Professor of Physiology

RAJINI RAO, Professor

ROGER H. REEVES, Professor of Physiology in
Genetic Medicine

CHARLES M. WIENER

Professor of Medicine, Professor of Physiology

FREDERIC E. WONDISFORD

Professor of Pediatrics, Professor of Physiology,
Joint Appointment in Medicine

THOMAS B. WOOLF

Professor of Physiology, Assistant Professor of
Biomedical Engineering, Joint Appointment in
Biophysics and Biophysical Chemistry

SANDRA E. GUGGINO

Associate Professor of Medicine, Associate
Professor of Physiology

JAN H. HOH, Associate Professor

STEVEN MICHAEL CLAYPOOL, Assistant
Professor

ANDREW WOLFE

Assistant Professor of Pediatrics, Assistant
Professor of Physiology

GUANG WILLIAM WONG, Assistant Professor

JIE CHENG, Research Associate

SHEILA M. CHERRY, Research Associate

LAURA M. KALLAY, Research Associate

ANN MARIE LAWLER, Research Associate

DONNA L. VOGEL, Research Associate

JERRY M. WRIGHT, Research Associate

WILLIAM FREDERICK HEINZ, Visiting Scientist

CHRISTIAN JAMES KETCHUM

Visiting Scientist in Physiology, Visiting Scientist
in Cell Biology

FACULTY ASSOCIATED WITH THE
DEPARTMENT OF PHYSIOLOGY HOLDING A
PRIMARY APPOINTMENT IN:

The School of Medicine:

ARTIN A. SHOUKAS

Professor of Biomedical Engineering

PAMELA L. ZEITLIN

Professor of Pediatrics

The Bloomberg School of Public Health:

ROBERT S. FITZGERALD

Professor of Environmental Health Sciences

The department provides instruction in cellular, organ, and human physiology for graduate students in physiology, and elective opportunities for research in physiology. These courses are open to qualified students at the School of Medicine, house staff, fellows, and members of the staff.

REQUIRED COURSE WORK FOR Ph.D. PROGRAM

First Year

360.720 Organ Physiology. Dr. W. Guggino and associates. Fourth quarter; nine weeks

The Organ Physiology Course is an integrative course, bringing together diverse disciplines in an effort to understand the functioning of living organisms. The course utilizes a variety of innovative educational methods. These methods range from eLecture learning to traditional/taped lectures, labs, small group discussions, textbook readings, speakers, and other methods which all focus on heightening the students' learning experience. The course aims to provide an initial basic understanding of the many different aspects of the internal structure and function of the body, which includes Respiratory, Renal, Gastrointestinal, Cardiovascular, Endocrinology, and Reproductive Physiology. The various organ systems of the body will be discussed in sequence in the lectures, but the interaction of these systems in the living animal must constantly be kept in mind. Students will be presented a comprehensive survey of many of the complex interrelationships that exist between the structure and function of cells and organs. Above all, the course seeks to identify the mechanisms by which an organism maintains the processes that we regard as characteristic of life. The investigations of these mechanisms range from the molecular level to studies of human subjects. In this course, we can consider only a selected sample from the broad range of physiological science, emphasizing topics that provide a basis for later independent study. Also, objective should be to not only talk about what is known, but also discuss what is not known.

360.728 Pathways and Regulation. Drs. Rajini Rao, William Wong, and associates. Third quarter; nine weeks.

This course will cover the principles of membrane transport, bioenergetics, metabolic pathways, cell cycle, and cell death with particular emphasis on regulatory mechanisms including receptor-medi-

ated signaling, small GTPases, lipid molecules, kinases, and phosphatases.

OTHER COURSES AND ELECTIVE OPPORTUNITIES— *Elective courses must be approved by the Director of the Cellular and Molecular Physiology Graduate Program.*

Physiology E

360.800 Research.

Interested and qualified students may arrange to work with members of the staff in certain investigations or to begin independent work under supervision.

The research interests represented in the Department of Physiology are as follows:

DR. CLAYPOOL

Mitochondrial biology; lipid metabolism; charactering Barth syndrome; cardiolipin and protein structure/function.

DR. DAWSON

Molecular mechanisms of neuronal death and survival.

DR. DONOWITZ

Molecular biology and epithelial transport and signal transduction.

DR. S. GUGGINO

Physiology and pathophysiology of ion channels in non excitable cells.

DR. W. GUGGINO

Genetic disorders associated with defective fluid and electrolyte movement; ion channel and epithelial transport physiology.

DR. HOH

Macromolecular and cellular biophysics; using synthetic microenvironments to probe cell structure and function.

DR. HUBBARD

Cooper homeostatis and polarity of epithelial cells.

DR. LI

Signal transduction in the mammalian nervous system; structure and function of cell surface proteins.

DR. MALONEY

Structure and function of membrane transporters; secondary carriers of the MFS; ABC transporter ATPases; reconstitution of membrane transporter function; CFTR and cystic fibrosis.

DR. RABEN

Biochemistry and chemistry of lipids and lipid metabolizing enzymes involved in signaling cascades.

DR. RAO

Molecular and cellular functions of novel ion transporters from yeast to human.

DR. REEVES

Molecular genetic basis of Down syndrome using genetic approaches in humans and animal model systems.

DR. SHOUKAS

Systems analysis of the circulatory systems.

DR. WIENER

Medical education, pulmonary circulation and hypoxia, respiratory muscle function in neuromuscular diseases.

DR. WOLFE

Reproductive neuroendocrinology; developmental biology; GnRH neuron; molecular regulation of gene expression; mouse models

DR. WONDISFORD

Transcriptional regulation of the anterior pituitary, adipocyte, and pancreatic beta cell by nuclear hormone receptor, cAMP, and insulin signaling pathway; molecular mechanisms linking obesity and type II diabetes.

DR. WONG

Identification and molecular characterization of novel secreted factors involved in obesity and diabetes.

DR. WOOLF

Molecular dynamics simulation of membrane proteins; lipid interactions of structure; function relationships for membrane proteins and structure prediction and refinement for membrane proteins.

DR. ZEITLIN

Role of the cystic fibrosis transmembrane conductance regulator in lung development; neonatal gene therapy of cystic fibrosis using adeno associated virus; pharmacological therapy for cystic fibrosis.

183.683.01 Mechanisms of Cardiopulmonary Control. Dr. Robert Fitzgerald.

Focus of this seminar will be on control of the respiratory and cardiovascular systems. The various receptors, central integration, and effector mechanisms of the two systems will be discussed, examining their roles under resting conditions (e.g., factors involved in respiratory rhythmicity at rest), awake, asleep, anesthetized. Attention will be paid to how the two sub-systems interact and influence each other. Didactic material will be blended with student-led discussion of pertinent journal articles and monographic literature.

183.642.01 The Cardiopulmonary System under stress. Dr. Robert Fitzgerald.

This seminar is a sequel to the Mechanisms of Cardiopulmonary Control; it will attend to physiological stresses such as acclimatization to altitude and exercise and to toxicological stresses such as TB, oxidative stress such as occurs in ventilator-induced lung injury and pulmonary inflammation; emotional stress will also be considered. Didactic material will be blended with student-led discussion of pertinent journal articles.

GRADUATE PROGRAM—Students are accepted for graduate work leading to the degree of Doctor of Philosophy (see Graduate Programs).

Psychiatry and Behavioral Sciences

J. RAYMOND DEPAULO

Henry Phipps Professor of Psychiatry, Director of the Department of Psychiatry and Behavioral Sciences

MARILYN S. ALBERT

Professor of Neurology, Professor of Neuroscience, Professor of Psychiatry

NANCY A. ATOR

Professor of Behavioral Biology

JAY M. BARABAN

Professor of Neuroscience, Professor of Psychiatry

GEORGE E. BIGELOW

Professor of Behavioral Biology

JOSEPH V. BRADY

Professor of Behavioral Biology, Professor of Neuroscience

JASON BRANDT

Professor of Psychiatry, Professor of Neurology

WILLIAM R. BREAKEY, Professor Emeritus

ROBERT K. BROONER

Professor of Medical Psychology, Assistant Professor of Gynecology and Obstetrics

MAGGIE BRUCK, Professor

MICHAEL F. CATALDO

Professor of Behavioral Biology, Professor of Pediatrics

RICHARD A. CHASE, Adjunct Professor

EDWARD JACKSON CONE, Adjunct Professor

PAUL T. COSTA, JR.

Professor of Behavioral Biology

JOEL ELKES

University Distinguished Service Professor Emeritus of Psychiatry

BERNARD T. ENGEL

Professor of Behavioral Biology

MARSHAL F. FOLSTEIN, Professor

SUSAN E. FOLSTEIN, Professor

ROLAND R. GRIFFITHS

Professor of Behavioral Biology, Professor of Neuroscience

JAMES C. HARRIS, JR.

Professor of Psychiatry, Professor of Pediatrics

JENNIFER A. HAYTHORNTHWAITE, Professor

JACK E. HENNINGFIELD

Adjunct Professor of Behavioral Biology

RUDOLF HOEHN-SARIC, Professor Emeritus

STEVEN R. HURSH

Adjunct Professor of Behavioral Biology

KAY REDFIELD JAMISON, Professor

ROLLEY E. JOHNSON, Adjunct Professor

WALTER ERWIN KAUFMANN

Professor of Pathology, Professor of Neurology, Professor of Pediatrics, Professor of Psychiatry, Professor of Radiology

ZAVEN S. KHACHATURIAN, Adjunct Professor

CONSTANTINE G. LYKETSOS

Elizabeth Plank Althouse Professor of Alzheimer's Research in Psychiatry and Behavioral Sciences

RUSSELL L. MARGOLIS

Professor of Psychiatry, Professor of Neurology

MICHELE M. M. MAZZOCCO, Professor

UNA DEIRDRE MCCANN, Professor

MARY E. MCCAUL

Professor of Behavioral Biology, Associate Professor of Medicine

PAUL R. MCHUGH

University Distinguished Service Professor of Psychiatry

ALLAN F. MIRSKY, Adjunct Professor

TIMOTHY H. MORAN

Paul R. McHugh Professor of Motivated Behaviors in the Department of Psychiatry

GERALD NESTADT, Professor

GODFREY D. PEARLSON, Professor

DAVID PICKAR, Adjunct Professor

ANN E. PULVER

Professor of Psychiatry, Assistant Professor of Pediatrics

PETER V. RABINS

Professor of Psychiatry, Joint Appointment in Medicine

MARK A. RIDDLE

Professor of Psychiatry, Professor of Pediatrics

CHRISTOPHER A. ROSS

Professor of Psychiatry, Professor of Neurology, Professor of Neuroscience, Professor of Pharmacology and Molecular Sciences

CHESTER W. SCHMIDT, JR., Professor

KENNETH SILVERMAN, Professor

PHILLIP R. SLAVNEY

Eugene Meyer III Professor Emeritus of Psychiatry

GWENN S. SMITH, Visiting Professor

SOLOMON H. SNYDER

University Distinguished Service Professor of Neuroscience, University Distinguished Service Professor of Pharmacology and Molecular Sciences, University Distinguished Service Professor of Psychiatry

MAXINE L. STITZER

Professor of Behavioral Biology

ERIC C. STRAIN, Professor

GLENN J. TREISMAN

Professor of Psychiatry, Professor of Medicine

BENEDETTO VITIELLO, Adjunct Professor

GARY S. WAND

Alfredo Riviere and Norma Rodriguez de Riviere Professor of Endocrinology in the Department of Medicine, Professor of Psychiatry

THOMAS N. WISE, Professor

STEPHEN R. ZUKIN

Visiting Professor of Psychiatry, Visiting Professor of Radiology and Radiological Science

ANDREW F. ANGELINO, Associate Professor

DIMITRIOS AVRAMOPOULOS, Associate Professor of Psychiatry in Genetic Medicine

ELIZABETH H. AYLWARD, Associate Professor
 SUSAN S. BASSETT, Associate Professor
 FRED S. BERLIN, Associate Professor
 SHENG BI
 Associate Professor of Psychiatry (from 10/01/09), Assistant Professor of Psychiatry (to 09/30/09)
 O. JOSEPH BIENVENU, Associate Professor
 JOSEPH S. BIERMAN, Associate Professor
 MICHAEL ROBERT CLARK
 Associate Professor of Psychiatry, Joint Appointment in Otolaryngology-Head and Neck Surgery
 JAMES P. CONNAUGHTON
 Associate Professor Emeritus of Psychiatry, Associate Professor Emeritus of Pediatrics
 LINO COVI, Associate Professor
 ISER GUILLERMO DELEON, Associate Professor
 LEONARD R. DEROGATIS, Associate Professor
 DAVID H. EDWIN
 Associate Professor of Medical Psychology
 WALTER EHRLICH, Associate Professor Emeritus
 GEORGE S. EVERLY, JR., Associate Professor
 PETER J. FAGAN
 Associate Professor of Medical Psychology
 JAMES A. FAUERBACH
 Associate Professor of Medical Psychology, Associate Professor of Physical Medicine and Rehabilitation, Joint Appointment in Surgery
 JOAN PAGE GERRING
 Associate Professor of Psychiatry, Associate Professor of Pediatrics
 GOLDA S. GINSBURG, Associate Professor
 GHISLAINE GODENNE
 Associate Professor Emerita of Psychiatry, Lecturer Emerita in Pediatrics
 ANGELA SARAH GUARDA, Associate Professor
 LOUIS P. HAGOPIAN, Associate Professor
 STEPHEN J. HEISHMAN
 Adjunct Associate Professor of Behavioral Biology
 ROBERT D. HIENZ
 Associate Professor of Behavioral Biology
 JEFFREY S. JANOFSKY, Associate Professor
 GEETHA JAYARAM, Associate Professor
 HENDREE EVELYN JONES
 Associate Professor of Behavioral Biology, Associate Professor of Gynecology and Obstetrics
 MICHAEL J. KAMINSKY, Associate Professor
 MICHAEL KIDORF, Associate Professor
 VAN L. KING, Associate Professor
 VASSILIS E. KOLIATSOS
 Associate Professor of Pathology, Associate Professor of Neurology, Associate Professor of Psychiatry
 ELLEN LADENHEIM, Associate Professor
 REBECCA LANDA, Associate Professor
 JOHN R. LIPSEY, Associate Professor
 DEAN MACKINNON, Associate Professor
 ERNEST MARK MAHONE, Associate Professor
 LAURA MARSH
 Associate Professor of Psychiatry, Associate Professor of Neurology
 ALLAN R. MCCLARY
 Associate Professor Emeritus of Psychiatry, Instructor in Medicine
 MELVIN GORDON MCINNIS, Adjunct Associate Professor
 FRANCIS J. MCMAHON, Visiting Associate Professor
 JON K. MEYER, Associate Professor
 MIRIAM Z. MINTZER, Associate Professor
 FRANCIS MARK MONDIMORE, Associate Professor
 RICK OSTRANDER, Associate Professor
 LEE C. PARK, Associate Professor Emeritus
 MIKHAIL V. PLETNIKOV
 Associate Professor of Psychiatry, Associate Professor of Neuroscience
 JAMES B. POTASH
 Associate Professor of Psychiatry, Occupying the Arlene and Robert Kogod Professorship in Mood Disorders, Joint Appointment in Medicine
 KENZIE L. PRESTON
 Visiting Associate Professor of Behavioral Biology
 ANNELLE B. PRIMM, Associate Professor
 VANI A. RAO, Associate Professor
 JONAS R. RAPPEPORT, Associate Professor Emeritus
 WILLIAM G. REINER
 Associate Professor of Psychiatry, Associate Professor of Urology
 IRVING MICHAEL RETI
 Associate Professor of Psychiatry, Associate Professor of Neuroscience
 ROBERT P. ROCA, Associate Professor
 ALAN J. ROMANOSKI, Associate Professor
 ADAM ROSENBLATT, Associate Professor
 DANIEL J. SAFER
 Associate Professor of Psychiatry, Associate Professor of Pediatrics
 AKIRA SAWA
 Associate Professor of Psychiatry, Associate Professor of Neuroscience
 THOMAS E. SCHLAEPFER, Associate Professor
 DAVID J. SCHRETLEN
 Associate Professor of Medical Psychology, Associate Professor of Radiology
 WAYNE SILVERMAN, Visiting Associate Professor
 SYLVIA G. SIMPSON, Associate Professor
 KEITH J. SLIFER
 Associate Professor of Psychiatry, Associate Professor of Pediatrics
 MICHAEL T. SMITH, Associate Professor
 LYNN JACKSON SPEEDIE
 Associate Professor of Psychiatry, Assistant Professor of Neurology
 JOSEPH H. STEPHENS, Associate Professor Emeritus
 DACE S. SVIKIS
 Associate Professor of Behavioral Biology

KAREN L. SWARTZ
Associate Professor of Psychiatry (from 10/01/09), Assistant Professor of Psychiatry (to 09/30/09)

MARK L. TEITELBAUM, Associate Professor Emeritus

ELAINE TIERNEY, Associate Professor

JOHN T. WALKUP, Associate Professor

ROBERT F. WARD, Associate Professor

ANDREW C. WARREN, Associate Professor

ELISE M. WEERTS
Associate Professor of Behavioral Biology

ANDREW W. ZIMMERMAN
Associate Professor of Neurology, Associate Professor of Pediatrics, Associate Professor of Psychiatry

LAUREN ABRAMSON
Assistant Professor of Medical Psychology

SUSAN AJA, Assistant Professor

LARRY E. ALESSI, Assistant Professor

ADRIANNA AMARI, Assistant Professor

ALLAN A. ANDERSON, Assistant Professor

ALKA ANEJA, Assistant Professor

BRIAN STEPHEN APPELBY, Assistant Professor

ROBERTA L. BABBITT, Assistant Professor

SHANNON RAE BARNETT, Assistant Professor

CHARLES DENNIS BARTON, JR., Assistant Professor

MELISSA Q.H. BECK, Assistant Professor

JOHN T. BEETAR, Assistant Professor

EMILE A. BENDIT, Assistant Professor

BETTY E. SMITH BLACK, Assistant Professor

GABRIELLE LEVINE BLACKMAN, Assistant Professor

DAVID MARK BLASS, Assistant Professor

MARY JANE BLAUSTEIN, Assistant Professor Emerita

MICHAEL A. BOGROV, Assistant Professor

CARRIE S.W. BORRERO, Assistant Professor

LYNN G. BOWMAN, Assistant Professor

DANIEL L. BUCCINO, Assistant Professor

DEJAN B. BUDIMIROVIC, Assistant Professor

LUIS F. BUENAVER, Assistant Professor

VINCE D. CALHOUN, Assistant Professor

C. PATRICK CARROLL, Assistant Professor

NICOLA GERARDO CASCELLA, Assistant Professor

RAMAN CHAHAL, Assistant Professor

MARGARET CHISOLM, Assistant Professor

ANN-MARIE CODORI
Assistant Professor of Medical Psychology

JANELLE W. COUGHLIN, Assistant Professor

DAVID COWIE, Assistant Professor

TODD SCOTT COX, Assistant Professor

JENNIFER L. CROCKETT, Assistant Professor

CRYSTAL DEVITO, Assistant Professor

FAITH B. DICKERSON, Assistant Professor

SUSAN DOSREIS, Assistant Professor

ALBERT E. DREYFUS, Assistant Professor Emeritus

WENZHEN DUAN, Assistant Professor

ROBERT R. EDWARDS, Adjunct Assistant Professor

MONIQUE ERNST, Visiting Assistant Professor

ANITA SMITH EVERETT, Assistant Professor

ANDREW G. FEINBERG, Assistant Professor

GREGORY FERNANDOPULLE
Assistant Professor of Psychiatry, Lecturer in Pediatrics

JOHN H. FETTING, III
Associate Professor of Oncology, Associate Professor of Medicine, Assistant Professor of Psychiatry

MARC FISHMAN, Assistant Professor

MELINDA D. FITTING
Assistant Professor of Medical Psychology

MICHAEL R. FOX, Assistant Professor

EMILY J. FROSCH, Assistant Professor

GERARD GALLUCCI, Assistant Professor

JOHN GARTNER, Assistant Professor

MARK R. GINSBERG
Assistant Professor of Psychiatry, Joint Appointment in Medicine

PETER GIROLAMI, Assistant Professor

KURT GLASER
Assistant Professor Emeritus of Psychiatry, Assistant Professor Emeritus of Pediatrics

SHELDON D. GLASS, Assistant Professor

FERNANDO S. GOES, Assistant Professor

BERNADETTE CULLEN GOGGINS
Assistant Professor of Psychiatry (on leave of absence to 07/06/09)

MELISSA C. GOLDBERG, Assistant Professor

DAVID W. GOODMAN, Assistant Professor

AMY K. GOODWIN
Assistant Professor of Behavioral Biology

NANCY GRACE, Assistant Professor

MARCO A. GRADOS, Assistant Professor

CHARLES S. GULOTTA
Assistant Professor of Behavioral Biology

SHARON FRANCES HANDEL, Assistant Professor

ANNETTE L. HANSON, Assistant Professor

JOYCE NOLAN HARRISON, Assistant Professor

RICHARD HAZLETT
Assistant Professor of Medical Psychology

BRUCE HERSHFIELD, Assistant Professor

RICKY REGINA HIRSCHHORN, Adjunct Assistant Professor

EVANNE V. LOH HOEHN-SARIC, Assistant Professor

CHRISTINE F. HOHMANN, Assistant Professor

HENRY H. HOLCOMB
Assistant Professor of Psychiatry, Assistant Professor of Radiology and Radiological Science

SUSAN E. HOLMES, Assistant Professor

CHARLES CHONG-HWA HONG, Assistant Professor

WILLIAM T. HOWARD, Assistant Professor
 JEFFREY H. HSU, Assistant Professor
 WAYNE P. HUNT, Assistant Professor
 HEIDI E. HUTTON, Assistant Professor
 JOHN SHEPPARD JEFFREYS, Assistant Professor
 MATTHEW W. JOHNSON, Assistant Professor
 DEIRDRE M. JOHNSTON, Assistant Professor
 SUNGWOO KAHNG, Assistant Professor
 THEODORE H. KAISER
 Assistant Professor of Psychiatry, Assistant Professor of Pediatrics
 BARBARA J. KAMINSKI
 Assistant Professor of Behavioral Biology
 ATSUSHI KAMIYA, Assistant Professor
 ADAM IAN KAPLIN
 Assistant Professor of Psychiatry, Assistant Professor of Neurology
 ELIZABETH KASTELIC, Assistant Professor
 WENDY G. KATES, Assistant Professor
 HAYDEN O. KEPLEY, Assistant Professor
 THOMAS W. KOENIG, Assistant Professor
 NICHOLAS A. KOZAUER, Assistant Professor
 PATRICIA F. KURTZ, Assistant Professor
 MICHAEL J. LABELLARTE, Assistant Professor
 JUSTINE JULIA LARSON, Assistant Professor
 HOCHANG BENJAMIN LEE, Assistant Professor
 MELISSA ANN LEE, Assistant Professor
 MICHELLE KIM LEFF, Adjunct Assistant Professor
 SUSAN W. LEHMANN, Assistant Professor
 GREGORY K. LEHNE
 Assistant Professor of Medical Psychology
 BERNARD LIBERMAN
 Assistant Professor of Medical Psychology
 STEVEN E. LINDAUER, Assistant Professor
 JOHN TIMOTHY LITTLE, Adjunct Assistant Professor
 GORDON S. LIVINGSTON, Assistant Professor
 PAULA J. LOCKHART, Assistant Professor
 THOMAS LYNCH, Assistant Professor
 STEVEN R. MACHLIN, Assistant Professor
 GINA M. MAGYAR-RUSSELL, Adjunct Assistant Professor
 MOHAMMAD MAISAMI
 Assistant Professor of Psychiatry, Assistant Professor of Pediatrics
 CHRISTOPHER M. MARANO, Assistant Professor
 PAMELA MATHY, Assistant Professor
 MARSDEN MCGUIRE, Assistant Professor
 MICHELLE M. MIELKE, Assistant Professor
 LESLIE R. MILLER, Assistant Professor
 MARK MOLLENHAUER, Assistant Professor
 CYNTHIA SHELTON MUNRO
 Assistant Professor of Medical Psychology
 DAVID NEUBAUER, Assistant Professor
 KARIN JANE NEUFELD, Assistant Professor
 JULIE R. NEWMAN-TOKER, Assistant Professor
 FREDERICK NUCIFORA, JR., Assistant Professor
 GARY W. NYMAN, Assistant Professor
 JULIA T. O'CONNOR
 Assistant Professor of Behavioral Biology
 THOMAS P. O'TOOLE, Adjunct Assistant Professor
 THOMAS J. OGLESBY, Assistant Professor
 CHIADI U. ONYIKE, Assistant Professor
 CYNTHIA S. OSBORNE, Assistant Professor
 THEODOSIA PACLAWSKYJ, Assistant Professor
 MARYLAND PAO, Assistant Professor
 JENNIFER PAYNE, Assistant Professor
 JESSICA M. PEIRCE, Assistant Professor
 MICHELLE A. POIRIER, Assistant Professor
 GREGORY M. PONTONE, Assistant Professor
 MARK J. READER
 Assistant Professor of Medical Psychology
 SARAH A.J. READING, Assistant Professor
 GRAHAM W. REDGRAVE, Assistant Professor
 SHAUNA PENCER REINBLATT, Assistant Professor
 GINA S. RICHMAN, Assistant Professor
 PAUL R. RIVKIN, Assistant Professor
 PAUL E. ROBERTS, Assistant Professor
 PAUL B. ROSENBERG, Assistant Professor
 DAVID M. ROTH
 Assistant Professor of Medical Psychology
 DOBRILA D. RUDNICKI, Assistant Professor
 BETTY JO SALMERON, Adjunct Assistant Professor
 JACK F. SAMUELS, Assistant Professor
 QUINCY MILES SAMUS, Assistant Professor
 CHRISTINE A. SANNERUD
 Assistant Professor of Behavioral Biology
 PATRICIA B. SANTORA, Assistant Professor
 CHARLES SAVAGE, Assistant Professor Emeritus
 MICHAEL W. SCHLUND, Assistant Professor
 ROBERT K. SCHRETER, Assistant Professor
 CLARENCE G. SCHULZ, Assistant Professor
 THOMAS G. SCHULZE, Adjunct Assistant Professor
 JOSEPH M. SCHWARTZ, Assistant Professor
 THOMAS W. SEDLAK, JR., Assistant Professor
 EVERETT R. SIEGEL, Assistant Professor
 BETH S. SLOMINE
 Assistant Professor of Medical Psychology
 LEX B. SMITH, Assistant Professor Emeritus
 WANLI SMITH, Assistant Professor
 CYNTHIA D. STEELE, Assistant Professor
 MARTIN IRWIN STEINBERG, Assistant Professor
 KENNETH B. STOLLER, Assistant Professor
 EDWARD L. SUAREZ-MURIAS, Assistant Professor Emeritus
 GEETHA SUBRAMANIAM, Assistant Professor
 KELLIE LOUISE TAMASHIRO, Assistant Professor
 CHRISTIANE TELLEFSEN, Assistant Professor
 STUART A. TIEGEL, Assistant Professor

PATRICK TODD TRIPLET
Assistant Professor of Psychiatry, Joint Appointment in Emergency Medicine

L. MICHELLE TUTEN, Assistant Professor

ANNIE UMBRICH
Assistant Professor of Psychiatry, Joint Appointment in Medicine

JOHN C. URBAITIS, Assistant Professor

VARSHA VAIDYA, Assistant Professor

RYAN VANDREY, Assistant Professor

STUART R. VARON, Assistant Professor

ROMA A. VASA, Assistant Professor

VIRGINIA SUSAN VILLANI, Assistant Professor

LEE ELIZABETH WACHTEL, Assistant Professor

H. RICHARD WARANCH
Assistant Professor of Medical Psychology

JULIANNA WARD, Assistant Professor

DEBBIE L. WEAVER, Assistant Professor

MICHAEL RILEY WEED
Adjunct Assistant Professor of Behavioral Biology, Adjunct Assistant Professor of Molecular and Comparative Pathobiology

HOLLY C. WILCOX, Assistant Professor

VIRGINIA LEA WILLOUR, Assistant Professor

WILLIAM C. WIMMER, Assistant Professor

JAMES B. WIRTH, Assistant Professor

CONRAD JUNG LIANG WONG
Adjunct Assistant Professor of Behavioral Biology

BARBARA YOUNG, Assistant Professor Emerita

T. ANDREW ZABEL, Assistant Professor

BRIAN MICHAEL ZIMNITZKY, Assistant Professor

AKINWANDE A. AKINTOLA, Instructor

SAADIA ALIZAI-COWAN, Instructor

SUSAN ELAINE BAILEY, Instructor

ALVA SAYRS BAKER, III, Instructor

MARCELO BATKIS, Instructor

C. ELIZABETH BEASLEY, Instructor

AZIN ELIZABETH BEKHRAD, Instructor

SHAREN BISSON, Instructor

LOIS BLUM, Instructor

ERIC BOELTER, Instructor

TRACEE BURROUGHS, Instructor

KATHRYN B. DE MEDEIROS, Instructor

ANTHONY LOUIS DEFULIO, Instructor

MELISSA DEMORE, Instructor

ANTHONY J. DROBNICK, Instructor

CAROLINE MCDONALD DUPONT, Instructor

STEPHANIE DURRUTHY, Instructor

JACQUELYN DUVAL-HARVEY, Instructor

MARY CHEFFINGS EATON, Instructor

GREGORY CHARLES FEY, Instructor

KENNETH E. FLIGSTEN, Instructor

DANIEL J. FREEDENBURG
Instructor in Psychiatry, Joint Appointment in Medicine

NEERAJ GANDOTRA, Instructor

STEPHEN B. GOLDBERG, Instructor

ANNA MARIE GONZAGA, Instructor

MELVA ISADORA GREEN, Instructor

FLORENCE HACKERMAN, Instructor

ELLEN HALLE, Instructor

LINDA SMITH HELLMANN, Instructor

LEANNA J. HERMAN, Instructor

ARTHUR MCLEAN HILDRETH, Instructor

STEPHEN A. HIRSCH, Instructor

LAUREN R. HODAS, Instructor

TANA L. HOPE, Instructor

LISA SIMONE HOVERMALE, Instructor

VANESSA HOWELLS, Instructor

JOHN MICHAEL HUETE, Instructor

ALLESIA PAIGE JACKSON, Instructor

MARIFLOR S. JAMORA, Instructor

HEATHER K. JENNETT, Instructor

NA YOUNG JI, Instructor

MILAN K. JOSHI, Instructor

PEARL KATZ, Instructor

COURTNEY PIERCE KEETON, Instructor

BARBARA A. KIM, Instructor

ANGELA KIM-LEE, Instructor

LISLE R. KINGERY, Instructor

HAZEN G. KNIFFIN, JR., Instructor

CHRIS KRAFT, Instructor

JEANNIE-MARIE SHEPPARD LEOUSAKOS,
Instructor (from 09/01/09)

ROBERT A. LESSEY, Instructor

THOMAS H. LEY, Instructor

DORA D. LOGUE, Instructor

MARIA DEL CARME LOPEZ-ARVIZU, Instructor

RAJNEESH MAHAJAN, Instructor

PAMELA BELMONTE MAHON, Instructor

CYNTHIA R. MAJOR, Instructor

KARL W. MCINTOSH, Instructor

JENNIFER M. MEUCHEL, Instructor

DINAH MILLER, Instructor

LYNN M. OSWALD, Instructor

JENNIFER TEITELBAUM PALMER, Instructor

SUSAN PERKINS-PARKS, Instructor

ANTONIS POLITIS, Instructor

ADEBOWALE ADEDAYO POPOOLA, Instructor

MICHAEL D. POTASH, Instructor Emeritus

LISA C. REICHENBACH, Instructor

BEATRICE M. ROBBINS, Instructor

MARIA FRANCESCA RODOWSKI, Instructor

PATRICIA ROY, Instructor

ERIC SAMSTAD, Instructor

GEETA SARPHARE, Instructor

NICOLA C. SATER, Instructor

LAURA JEAN SEIDEL, Instructor

CYNTHIA A. SMITH, Instructor

MILENA H. SMITH, Instructor

PAUL LEVI SOTO, Instructor

MATT W. SPECHT, Instructor

MEENAKSHI SUMAN, Instructor

BOGLARKA SZABO, Instructor
 CAROL F. TANKARD, Instructor
 JACOB TENDLER, Instructor
 S. MARC TESTA, Instructor
 KATHRYN THOMAS, Instructor
 TONYA DENISE TUGGLE, Instructor
 ELIZABETH TURIN, Instructor
 H. THOMAS UNGER, Instructor Emeritus
 TRACY D. VANNORS DALL, Instructor
 REBECCA GAYE VAURIO, Instructor
 JOHN P. WITT, Instructor
 ERICKA L. WODKA, Instructor
 LISA A. WUYEK, Instructor
 NANCY YOUNAN, Instructor
 MOHAMMED YOUNUS, Instructor
 ALBERT A. ZACHIK, Instructor
 NICCOLO D. DELLA PENNA, Assistant
 HELENE S. GOLDBERG, Assistant
 JANICE E. HEDBLUM, Assistant
 ALEXANDER MACKENZIE
 Assistant in Medical Psychology
 NORMAN ROBERTSON, Assistant
 LINDA ROGERS, Assistant
 SAEED SALEHINIA, Assistant
 NICHOLAS P. SCHWEIZER, Assistant
 DYANNE SIMPSON, Assistant
 DAVID ANDREW TOMPKINS, Assistant
 ARNOLD E. ANDERSEN, Lecturer
 ELIZABETH M. GALIK, Lecturer
 LINDA HOVANEC, Lecturer
 GERALD D. KLEE, Lecturer Emeritus
 CARMEL ROQUES, Lecturer
 STEVEN S. SHARFSTEIN, Lecturer
 JOSEPH G. HENNESSEY, Research Associate
 KATHERINE CULLINAN HOLMAN, Research Associate
 KOKO ISHIZUKA, Research Associate (from 09/01/09)
 JEFFREY C. MCCAGH, Research Associate
 ANN S. MORRISON, Research Associate
 TAMARA RATOVITSKI, Research Associate
 BARBARA W. SCHWEIZER, Research Associate
 KRISTIN MARIE WILCOX, Research Associate (from 09/01/09)
 GESINE MARQUARDT, Visiting Scientist

FACULTY ASSOCIATED WITH THE DEPARTMENT OF PSYCHIATRY AND BEHAVIORAL SCIENCES HOLDING A PRIMARY APPOINTMENT IN:

The School of Medicine:
 KAREN I. BOLLA
 Associate Professor of Neurology
 GAIL L. DAUMIT
 Associate Professor of Medicine
 MARTHA BRIDGE DENCKLA
 Professor of Neurology

ANDREW P. FEINBERG
 King Fahd Professor of Molecular Medicine in the Department of Medicine
 JOHN A. FLYNN
 D. William Schlott, M.D. Professor of Clinical Medicine
 DANIEL E. FORD
 David M. Levine Professor of Medicine
 STEWART H. MOSTOFSKY
 Associate Professor of Neurology
 ESTHER S. OH
 Assistant Professor of Medicine
 MARTIN GILBERT POMPER
 Professor of Radiology and Radiological Science
 CYNTHIA S. RAND
 Professor of Medicine
 MARVIN M. SCHUSTER
 Janssen/Strauss-Halbreich Professor Emeritus of Digestive and Motility Disorders in the Department of Medicine
 DEAN F. WONG
 Professor of Radiology and Radiological Science
 ROBERT H. YOLKEN
 The Theodore and Vada Stanley Distinguished Professor of Neurovirology in the Department of Pediatrics
 The Bloomberg School of Public Health:
 JOHN C.S. BREITNER
 Professor of Mental Hygiene
 ROSA M. CRUM
 Professor of Epidemiology
 MARY F. CWIK
 Assistant Scientist in International Health
 WILLIAM W. EATON
 Professor of Mental Hygiene
 MARGARET E. ENSMINGER
 Professor of Health Behavior and Society
 SHEPPARD G. KELLAM
 Professor Emeritus of Mental Hygiene
 PHILIP LEAF
 Professor of Mental Hygiene
 LAWRENCE S. MAYER
 Adjunct Professor of Mental Hygiene
 OLIVER LEE MCCABE, III
 Adjunct Professor of Mental Health
 RAMIN MOJTABAI
 Associate Professor of Mental Health
 GEORGE W. REBOK
 Professor of Mental Hygiene
 ANNE W. RILEY
 Professor of Population, Family, and Reproductive Health
 DONALD M. STEINWACHS
 Professor of Health Policy and Management
 LAWRENCE S. WISSOW
 Professor of Health Behavior and Society
 PETER P. ZANDI
 Assistant Professor of Mental Health
 The School of Education:

LEON A. ROSENBERG
Professor of Education

The G.W.C. Whiting School of Engineering

PATRICK E. BARTA
Associate Research Professor of Imaging
Science

The School of Nursing:

DEBORAH GROSS
Professor of Nursing

REQUIRED WORK FOR M.D. DEGREE

Psychiatry—First Year

Clinical Foundations of Medicine. Dr. Shochet, Course Director; Dr. MacKinnon, personal/social history taking and mental status examination.

In this segment of the Clinical Foundations course, students will learn and observe the application of methods of rapport-building, observation, and information-gathering. They will practice the assembly of clinical information into a detailed and organized personal history, and will discuss in a small group setting the mental status of a patient as observed in a live, demonstration interview.

Genes to Society/Brain, Mind, Behavior. Dr. MacKinnon and staff.

In this course, students will encounter the higher functions of the brain as they relate to the clinical problems that bring people to psychiatric attention. The course begins with consciousness, altered consciousness, and the pharmacological manipulation of consciousness through anesthesia. The remainder of the course takes students through the three major domains of mental life: cognitive, affective, and executive functioning, with a focus on the systems, disorders, and general modes of treatment of problems with memory, emotion, and behavior. In small groups, students will gain practice with direct interview of psychiatric patients, and will apply the clinical information they gather to case formulation. Thus students will learn to apply clinical reasoning to mental illnesses that combine abnormal brain functioning, maladaptive behavior, trait vulnerabilities, and adverse life experience.

Psychiatry—Second, Third, or Fourth Year

Psychiatry Clerkship. Dr. Lehmann (course director), and staff. Given as part of the required Psychiatry/Neurology/Ophthalmology Clerkship. Four quarters and summer.

The Psychiatry Clerkship is one part of a nine week quarter integrating Psychiatry (four weeks), Neurology (four weeks), and Ophthalmology (four days). The clerkship consists of a four-week clinical experience and a series of lectures and case conferences. It may be taken at any time from the fourth quarter of the preclinical through the third quarter of the fourth year, although students are strongly encouraged to take it as early as possible.

Students serve as clerks in the Meyer building or at the Johns Hopkins Bayview Medical Center Acute Psychiatric Unit or in general hospital psychiatry. Several patients are assigned to each student who takes the initial history and follows the patients' course under supervision of both an attending and

a resident. Students also see patients in specialty outpatient settings. They attend departmental rounds, a series of weekly lectures and case conferences, and see acute mental illness while working on-call in the psychiatric area of the emergency room. Principles of diagnosis, psychopathology, etiology, treatment, and prognosis are presented in lectures, case conferences, mental status exam demonstrations, and ward work with attendings and residents. Course goals can be summarized as "making psychiatry real" for students through clinical exposure and practical, care-centered teaching. Specific learning objectives are: 1) developing the professionalism, responsibility, empathy, and consistency essential to superior clinical practice; 2) acquiring a core body of knowledge regarding major psychiatric disorders and treatments; 3) mastering the mental status exam; 4) learning to formulate cases with sophisticated, broad reasoning about mental life. Teaching builds on the preclinical course in behavioral medicine, neuroscience foundations, and psychiatric methodology.

ELECTIVE OPPORTUNITIES—Curricular

Consultants: Drs. MacKinnon and Lehmann. Elective courses must be approved by the preceptor; any member of the department may act as preceptor.

Elective work may be done within the Johns Hopkins Medical Institutions or under the supervision of Hopkins' faculty in affiliated institutions in the Baltimore area. In addition, students may request sponsorship of the department for an assignment to another medical school in the United States or abroad.

In addition to training programs in research and clinical psychiatry, the department offers elective seminars and independent study projects.

It is the policy of the Department of Psychiatry and Behavioral Sciences to maintain flexibility in its elective programs, and to attempt, as much as possible, to design programs that meet the needs of the individual students.

Dr. MacKinnon is the coordinator of electives for first and second year students. Dr. Lehmann coordinates electives for third and fourth year students. Students are invited to discuss their interests and needs with them, or with any member of this department they may wish to consult.

Although there are numerous clinical and research electives available in the department, they should not be considered as prerequisites for residency training in psychiatry.

For those students who are confident that they will do a psychiatry residency, it is suggested they complete a subinternship in psychiatry, as well as devote a majority of their elective time to broaden and deepen their education in the other basic science and clinical areas. Elective time in psychiatry for these students will allow them to clarify their

choice and to develop new areas of interest in that field.

The subinternship experience is good for students who wish to find out if they will like psychiatry as a career before making decisions about entering the field. It is also quite helpful for students who are not going into psychiatry, but realize a broadened clinical experience in this field would be useful in their chosen specialty. Students who may be interested in training in psychiatry should consult Dr. Susan Lehmann (410-955-5514) as early as possible to discuss their educational plans.

The elective programs described on the following pages are representative of opportunities for elective work that are available in this department, but many other opportunities can be developed through direct collaboration of individual students and individual faculty members.

E 2. Clinical Research on the Behavioral Pharmacology of Drug Abuse and Dependence. Drs. Bigelow, Griffiths, and Stitzer.

Research experience in human laboratory or treatment clinic concerning human drug abuse and the subjective and behavioral effects of abused drugs, including opioids, cocaine, sedatives, ethanol, tobacco, caffeine, marijuana and hallucinogens, and of medications that modify their effects or use.

E 6. Forensic Psychiatry. Drs. Oglesby and Janofsky.

The course will consist of an experience at the Johns Hopkins Hospital and the Medical Service of the Circuit Court for Baltimore City. Experience in criminal forensic psychiatry will involve examination of both juvenile and adult offenders for competency, criminal responsibility and sentencing recommendations. The civil forensic psychiatry experience will include opportunities to attend civil commitment hearings, competency determinations and determinations of psychic injury. Visits to courtrooms and various correctional institutions are included along with reading and discussion. Optional supervised activity at Maryland's maximum security forensic hospital is available.

E 11. Geriatric Psychiatry. Dr. Rabins.

The psychiatric disorders which the elderly experience are similar to those of younger people but unique in some ways. Students will have direct patient care responsibility for both inpatients and outpatients as well as have opportunities to do research.

E 13. Assessment and Treatment of Sexual Disorders. Dr. Berlin.

Students will attend a weekly assessment clinic, as well as a weekly teaching session, and can follow the progress of patients in treatment. Many of the patients have sexual disorders such as pedophilia and exhibitionism and some receive weekly injections of antiandrogenic medication.

E 15. Genetics and Epigenetics of Mood Disorders. Dr. Potash.

Our work focuses on identifying genes that confer risk for developing major depression and bipolar disorder. The work has several facets including assessment of people with these illnesses and their families, laboratory experiments using DNA from these volunteers, and analysis of the clinical and genetic information obtained. We currently have two projects involving new clinical assessments for bipolar disorder and one for major depression. In the lab we perform DNA sequencing experiments to find new variations within potential disease genes, association experiments to test the DNA sequence variations in large numbers of samples, and epigenetics studies to determine whether particular genes are abnormally regulated. Our data analysis projects have been particularly focused on examining clinical features of illness such as psychotic symptoms, for example, that might correlate with patterns seen in patients' DNA, and thus distinguish genetically important disease subtypes. Student participation could be in any phase of these projects, including clinical ascertainment, lab experiments, or data analysis.

E 30. Subinternship in Psychiatry. Dr. Lehmann.

Subinternship on any of the Meyer Inpatient or Outpatient Psychiatry Units (affective disorders, eating disorders, motivated behavior disorders, neuropsychiatry disorders, short stay, general, geriatric, chronic pain, community psychiatry, or day hospital) may be arranged.

E 46. Neuropsychology of Drug Abuse. Dr. Heishman.

Clinical research on the reinforcing and cognitive effects of abused drugs, with a nicotine and tobacco. We investigate autonomic and subjective responses to smoking cues, self-administration of cigarette puffs, genetics of nicotine reinforcement, and cognitive effects of nicotine and tobacco withdrawal. Students can participate in various aspects of protocol design, subject testing, and data interpretation. Research is conducted at National Institute on Drug Abuse located on JH Bayview campus.

E 49. Human Behavioral Pharmacology of Novel Sedatives and Hallucinogens. Dr. Griffiths.

Opportunity to participate in ongoing human research characterizing behavioral, cognitive, subjective, and physiological effects of novel sedative compounds and hallucinogens. Compounds of interest include GHB, ketamine, dextromethorphan, psilocybin, and the classical benzodiazepines.

E 55. Symptom Patterns in Adolescent Depressed Patients Seeking Outpatient Consultation. Dr. Kastelic.

Systematic assessment of symptoms and recurrence patterns will be ascertained in a consecutive sample of patients seeking consultation in the Adolescent Affective Disorders Consultation Clinic. Previous studies of these patients suggest that seasonal and behavioral variations of depression and responses to it are related to particular subtypes of bipolar and unipolar disorders.

E 57. Neuro-Imaging and Psychiatric Illness. Drs. Bassett and Reading.

Offers the opportunity to work with a research group exploring the relationship between a variety

of structural and functional brain diseases, and new quantitative brain imaging methods, including PET, functional and structural MRI, and Diffusion Tensor Imaging (DTI). This elective allows the choice of several projects examining associations between clinical psychiatric, cognitive and risk variables and the quantified brain changes mentioned above. Students with computer programming skills are especially welcome.

E 59. HIV Psychiatry Service. Dr. Treisman.

Outpatient clinic, inpatient consults and evaluation clinic for HIV-infected patients with psychiatric disorders. Clinical research with HIV-infected patients.

E 60. Research in Molecular Neurobiology of Brain Diseases. Dr. Ross.

The laboratory studies genes expressed in the brain as a means of better understanding brain function and neuropsychiatric disorders. We study the neurodegenerative diseases Huntington's disease and Parkinson's disease by focusing on the relevant gene products such as Huntington, Alpha-Synuclein, and LRRK2, and their interactions. We use biochemical methods, cell culture approaches, and generation of transgenic mouse models in order to better understand the diseases and to develop targets for experimental therapeutics. We are also studying the role of candidate genes in schizophrenia, including DISC1, neuroregulin, Ankyrin G, L-type calcium channels, and others. Clinical studies are done in collaboration with clinical investigators in the Department of Psychiatry. Students can learn the basics of molecular cloning techniques and cell culture and mouse model approaches while studying clinically relevant genes expressed in brain, and can participate in the development of experimental therapeutics.

E 61. Child and Adolescent Psychiatry. Dr. Frosch.

Elective experiences are individually designed to meet students' needs and interests. Options include working in outpatient specialty clinics, inpatient services, participating in consultations to Pediatrics, joining a team in the Community Mental Health Center, and research opportunities in clinical treatment studies.

E 63. Clinical Neuropsychiatry. Dr. Rabins.

Students rotate on the clinical services of the geriatrics/neuropsychiatry section. They are exposed to patients with a broad range of cognitive, affective, and behavioral disturbances in the context of neurologic disease such as stroke, Huntington's disease, dementia, Alzheimer's.

E 64. Clinical Research in Neuropsychiatric Disorders. Dr. Ross.

The Baltimore Huntington's Disease Center (BHDC) follows a large number of patients with HD on a longitudinal basis and conducts multi-disciplinary research into the clinical features, genetic aspects and neurobiology of HD. Students will have the opportunity to participate in clinical research projects, neuroimaging studies, neuropathological studies, or correlation of the causative mutation (the expanding triplet repeat) with clinical features. We pioneered the study of individuals ("presymptomatic") with the HD gene mutation who don't yet

have clinical features of the disease in order to determine when and where brain changes begin in order to design preventive interventions. In parallel basic science investigations, we are studying cell and mouse models of HD and other brain diseases. In collaborative studies, we also are studying brain imaging and clinical features of schizophrenia. Other topics of interest can be arranged individually. The goal is to develop novel therapeutic interventions for brain diseases.

E 66. Neuropsychiatry. Dr. Lyketsos.

The subinternship in neuropsychiatry rotates the senior or advanced medical student through the several inpatient, outpatient, and nursing home teaching components of the neuropsychiatry service. The focus is clinical intended to develop expertise in evaluation, differential diagnosis, workup and treatment. Patients with the most common neuropsychiatric disorders are seen, including dementia, Alzheimer's, Parkinson's, Huntington's, stroke, MS, PSP, traumatic brain injury, AIDS, and others.

E 67. Neuropsychiatry Research. Dr. Lyketsos.

Students are exposed to the various ongoing neuropsychiatry research projects of the department. These include studies in neuroimaging, epidemiology, nursing home research, clinical trials, and outcome studies. Students choose and develop one project of their own to complete during the rotation.

E 68. Molecular Neurobiology and Neuropsychiatric Disorders. Dr. Margolis.

A variety of efforts are underway in the Laboratory of Genetic Neurobiology to find and study genetic causes of neurological disorders, particularly those involving abnormal movement s and neurodegeneration. A major theme of the lab is the role of unstable DNA in human disease. Current projects focus on the role of RNA in neurotoxicity, the impact of bidirectional transcription at disease loci, and the discovery of new disease mutations. Students will have the opportunity to develop and analyze cell and animal models, to search for new disease mutations and for genetic factors modifying disease phenotype, and potentially to participate in field trips to characterize families with previously undescribed diseases.

E 70. Huntington's Disease Clinic. Dr. Rosenblatt.

The Baltimore Huntington's Disease Center follows a large number of cases on a longitudinal basis and conducts multidisciplinary research. A clinical clerkship could include evaluation of new cases and follow-up, weekly multidisciplinary clinic meeting, state hospital and nursing home visits, and a tutorial with directed readings. A clerkship could be combined with a broader experience in neuropsychiatry in other clinics, or an experience in clinical research.

E 72. Research in Eating Disorders. Drs. Guarda and Redgrave. Minimum of 6 weeks or half day/week for a whole semester.

Opportunity for clinical research on eating disorders, primarily anorexia nervosa and bulimia nervosa. Experience may involve interviewing or outcome studies, chart reviews and clinical work with patients.

E 73. Subinternship on Mood Disorders Inpatient Service. Dr. Swartz.

Senior students will evaluate and treat depressed patients and bipolar patients under the supervision of the mood disorder attending psychiatrist (i.e., a group of six psychiatrists whose clinical and research focuses on mood disorders).

E 80. Clinical Research in Parkinson's Disease. Dr. Marsh

Students will be exposed to clinical research methods used in studies on motor, cognitive, and psychiatric aspects of Parkinson's Disease. Students will assist with subject evaluations and data collection. Independent research projects are possible if there is an interest.

E 82. Clinical Research in Schizophrenia. Drs. Margolis and Reading.

Schizophrenia is a devastating disorder of the brain characterized by hallucinations, delusions, and disordered thought, affecting 0.5-1% of the world population. Recent developments in epidemiology, phenotypic analysis, neuroimaging, molecular genetics, and neuropathology have, for the first time, provided the tools for understanding the pathobiology of schizophrenia and developing rational therapeutics. Students will have the opportunity to work with investigators of the Johns Hopkins Schizophrenia Program to gain experience with one or more of these approaches as applied to schizophrenia. Elective activities will focus on participation in the design and implementation of research projects and direct contact with patients and control populations. Students will also engage in a critical review of the relevant literature, and attend schizophrenia teaching rounds.

E 83. Molecular Genetics of Schizophrenia. Dr. Margolis.

Schizophrenia is a devastating disorder of the brain characterized by hallucinations, delusions, and disordered thought, affecting 0.5-1% of the world population. Recent advances in understanding the schizophrenia phenotype and in molecular genetics provide considerable optimism that we now have the tools for finding and characterizing the genetic risk factors for schizophrenia. Students will have the opportunity to work at the bench in the Laboratory of Genetic Neurobiology to gain experience with contemporary strategies for finding and characterizing genetic risk factors. Current projects emphasize copy number variation in the human genome as a rich source of genetic variation that may contribute to the risk of schizophrenia and other complex disorders. Other efforts take advantage of families with multiple affected members to find rare mutations in promising candidate genes. Students will also engage in a critical review of the relevant literature, and will have the opportunity to attend schizophrenia clinical and teaching rounds.

E 84. Subinternship in Schizophrenia. Drs. Margolis and Cascella.

Prerequisite: Basic clerkships in Psychiatry and Internal Medicine.

Students will have the opportunity to function in the capacity of a resident, taking primary responsibilities for the care of patients in the schizophrenia inpatient and day hospital programs. Subinterns

will work directly with patients, meet with family members, and coordinate care with consultants and other care providers. In addition, subinterns will play an active role in weekly teaching rounds, perform literature reviews of topics relevant to their patients, and work extensively with the non-physician members of the treatment team.

E 85. Psychosomatic Medicine/Chronic Pain. Dr. Clark.

Clinical research projects with particular patient populations emphasizing psychiatric methodology, phenomenology, and epidemiology. These include patients with chronic symptoms such as pain or dizziness. Other projects focus on aspects of course, prognosis, and treatment of medical conditions with comorbid psychiatric disorders.

E86. Clinical Research. Dr. Nestadt.

Clinical genetic and epidemiology research experience in obsessive compulsive disorder. Students will participate in projects, research meetings, and evaluation.

E87. Molecular Mechanisms of Drug Addiction. Dr. Irving Reti.

Evidence linking neuronal immediate early genes to enduring forms of neuronal plasticity has heightened interest in their role in mediating behavioral alterations induced by drugs of abuse and other forms of brain stimulation. As these genes are rapidly induced by neuronal stimulation, they represent a mechanism by which drug administration could elicit long-term adaptations in neuronal function that underlie their reinforcing properties. We have focused on one of these immediate early genes, *Narp*, which clusters AMPA receptors and is expressed selectively in limbic brain regions regulating behavior. A series of studies we are conducting suggest *Narp* signaling pathways may represent a potential therapeutic target for drug addiction and possibly other motivated behaviors. For example, we have found that *Narp* knockout mice are deficient in extinction of drug craving. To learn more about molecular mechanisms and circuitry underlying this finding, we are utilizing viral vectors to locally regulate *Narp* expression in vivo and filed recordings to determine how *Narp* deletion affects learning in brain reward pathways. The student will have an opportunity to learn about anatomical, biochemical, and behavioral techniques. Ideally, students should have some experience working with rodents.

E.88. ECT and Novel Brain Stimulating Therapies. Dr. Irving Reti.

Electroconvulsive therapy is the most effective available therapy for treating depression however little is known about its mechanism of action. Mice genetically engineered to lack key genes which are inducible by electroconvulsive stimulation and which regulate synaptic plasticity may yield clues to how it works. Although ECT is highly effective, it is not without side-effects and so there has been keen interest in developing alternate forms of therapeutic brain stimulation for depression, such as repetitive transcranial magnetic stimulation (rTMS) and deep brain stimulation, that are more focal and do not involve anesthesia. We are now offering rTMS as a clinical service to treat depression and are also setting up clinical trials using the technique. The

student will have the opportunity to focus on bench work that may yield clues to ECT's mechanism of action and/or to focus on clinical work related to ECT and novel brain stimulation techniques. Ideally, students should have some experience working with rodents.

E.89. Research on Human Prion Diseases. Dr. Brian Appleby.

Clinical research on the epidemiology, diagnosis and treatment of human prion diseases (e.g. Creutzfeldt-Jakob Disease).

E.90. Community Psychiatry. Dr. Bernadette Cullen.

An opportunity to work with clinicians who are treating patients with chronic mental illness. The main area of focus will be the mobile treatment team, which works with patients both in the hospital and home setting. Must be comfortable traveling with staff in the East Baltimore area.

RESEARCH ELECTIVES

As a general guide for students, the research interests of members of the Department of Psychiatry and Behavioral Sciences are listed below:

DR. DePAULO

Depression and Biopolar Disorder. The diagnosis, causes, and treatments for depression and bipolar disorder with emphasis on genes to society.

DR. GRIFFITHS

Animal and human behavioral pharmacology of abused drugs.

DR. GUARDA

Eating disorders: anorexia nervosa and bulimia nervosa.

DR. JANOFSKY

Psychiatry and law; prediction and treatment of violent behavior in psychiatric populations; demographic description of forensic psychiatric populations; competency evaluation and informed consent in general hospital populations.

DR. KAMINSKY

Somatization disorder, hypochondriasis personality disorder; disaster mental health; financing psychiatric treatment.

DR. NESTADT

Obsessive-compulsive disorder; psychiatric epidemiology; personality disorders; schizophrenia.

DR. RABINS

Psychiatric problems of the elderly and the neurologically ill.

DR. TREISMAN

Psychopharmacology, HIV, affective disorders, motivated behavior.



Public Health

REQUIRED WORK FOR M.D. DEGREE

First Year

Foundations in Public Health and Ethics. Dr. Eric Bass.

The course occurs one afternoon per week beginning with the end of the Introduction to Human Anatomy and runs until the winter break. The goals of the course are to present organizational and ethical challenges that students will encounter as physicians in the U.S. health care system and stimulate interest in students being effective advocates for patients. Seven sessions are required lecture and discussion; the remainder sessions allow students to select a topic of interest for reading and small group discussion, from a range of topics including

Addiction Medicine, Health and Human Rights, and Health Disparities in Youth.

Instruction in public health is available for medical students at the Johns Hopkins Bloomberg School of Public Health. A combined M.P.H.-M.D. Program is offered. See page 58 of School of Medicine Catalog for program description. See the School of Public Health Catalog for detailed listings of courses and faculty.

Medical students may wish to consider enrolling in courses offered by the Bloomberg School of Public Health. Details concerning these courses may be obtained from the Office of Records and Registration at the School of Public Health or at <http://commprojects.jhsph.edu/courses/>.



Radiation Oncology and Molecular Radiation Sciences

THEODORE L. DEWEESE

Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Oncology, Professor of Urology, Director of the Department of Radiation Oncology and Molecular Radiation Sciences

C. NORMAN COLEMAN

Visiting Professor of Radiation Oncology and Molecular Radiation Sciences, Visiting Professor of Oncology

JOHN F. DICELLO

Professor Emeritus of Radiation Oncology and Molecular Radiation Sciences

DAVID S. ETTINGER

Alex Grass Professor of Oncology, Professor of Gynecology and Obstetrics, Professor of Medicine, Professor of Otolaryngology-Head and Neck Surgery, Professor of Radiation Oncology and Molecular Radiation Sciences

ARLENE A. FORASTIERE

Professor of Oncology, Professor of Otolaryngology-Head and Neck Surgery, Professor of Radiation Oncology and Molecular Radiation Sciences

MARIKKI K. LAIHO

Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Oncology

WILLIAM G. NELSON

Marion I. Knott Director and Professor of Oncology, Professor of Medicine, Professor of Pathology, Professor of Pharmacology and Molecular Sciences, Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Urology

MARTIN GILBERT POMPER

Professor of Radiology and Radiological Science, Professor of Pharmacology and Molecular Sciences, Professor of Radiation Oncology and Molecular Radiation Sciences, Associate Professor of Oncology, Joint Appointment in Psychiatry

DANIELE RIGAMONTI

Salisbury Family Professor of Neurological Surgery, Professor of Oncology, Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Radiology and Radiological Science, Joint Appointment in Physical Medicine and Rehabilitation

GREGG L. SEMENZA

C. Michael Armstrong Professor of Pediatrics, Professor of Biological Chemistry, Professor of Medicine, Professor of Oncology, Professor of Radiation Oncology and Molecular Radiation Sciences

GEORGE SGOUROS

Professor of Radiology, Professor of Radiation Oncology and Molecular Radiation Sciences

MOODY D. WHARAM, JR.

Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Neurological Surgery, Professor of Oncology, Professor of Pediatrics, Professor of Radiology

JOHN WAI-CHIU WONG

Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Oncology

FRED BUNZ

Associate Professor of Radiation Oncology and Molecular Radiation Sciences, Associate Professor of Oncology

DEBORAH ANNE FRASSICA

Associate Professor of Radiation Oncology and Molecular Radiation Sciences, Associate Professor of Oncology

LAWRENCE R. KLEINBERG

Associate Professor of Radiation Oncology and Molecular Radiation Sciences, Associate Professor of Neurological Surgery, Associate Professor of Oncology

RONALD RODRIGUEZ

Associate Professor of Urology, Associate Professor of Oncology, Associate Professor of Radiation Oncology and Molecular Radiation Sciences

GIUSEPPE SANGUINETI

Associate Professor of Radiation Oncology and Molecular Radiation Sciences, Associate Professor of Oncology, Associate Professor of Otolaryngology-Head and Neck Surgery

ERIC C. FORD

Assistant Professor of Radiation Oncology and Molecular Radiation Sciences, Assistant Professor of Oncology

SONIA FRANCO

Assistant Professor of Radiation Oncology and Molecular Radiation Sciences, Assistant Professor of Oncology

JOSEPH M. HERMAN

Assistant Professor of Radiation Oncology and Molecular Radiation Sciences, Assistant Professor of Oncology, Assistant Professor of Surgery

ROBERT IVKOV, Visiting Assistant Professor

MIHOKO KAI

Assistant Professor of Radiation Oncology and Molecular Radiation Sciences, Assistant Professor of Oncology

TODD R. MCNUTT

Assistant Professor of Radiation Oncology and Molecular Radiation Sciences, Assistant Professor of Oncology

DANNY Y. SONG

Assistant Professor of Radiation Oncology and Molecular Radiation Sciences, Assistant Professor of Oncology, Assistant Professor of Urology

PHUOC T. TRAN, Assistant Professor (from 08/17/09)

RICHARD C. ZELLARS

Assistant Professor of Radiation Oncology and Molecular Radiation Sciences, Assistant Professor of Oncology

EVA S. ZINREICH, Assistant Professor
STEPHANIE ALICIA TEREZAKIS, Instructor (from
08/17/09)

ERIK TRYGGESTAD, Instructor

YONGGANG ZHANG

Research Associate in Radiation Oncology
and Molecular Radiation Sciences, Research
Associate in Oncology

Research interests represented in the Department
of Radiation Oncology and Molecular Radiation
Sciences are as follows:

DR. BUNZ

Responses of cancer cells to DNA damage;
human cell genetics.

DR. DEWEESE

Genitourinary system tumors; gene therapy.

DR. FORD

Radiation physics.

DR. FRANCO

Genetic response to DNA damage.

DR. FRASSICA

Clinical radiation therapy; sarcomas, bone
cancers.

DR. HERMAN

Clinical radiation therapy; GI cancers;
lymphomas.

DR. IVKOV

Nanomaterials in targeting cancers.

DR. KAI

DNA damage response.

DR. KLEINBERG

Central nervous system cancer; lung cancer.

DR. LAIHO

Genetic response to DNA damage; cell cycle;
p53 response

DR. MCNUTT

Radiation Physics

DR. SONG

Genitourinary system tumors; prostate
brachytherapy; lung.

DR. TEREZAKIS

Pediatric malignancies; lymphomas.

DR. TRAN

Genitourinary tumors; oligometastatic disease;
molecular biology in cancer.

DR. TRYGGESTAD

Radiation physics.

DR. WHARAM

Pediatric malignancies; CNS tumors.

DR. WONG

Medical physics.

DR. ZELLARS

Breast and gynecologic neoplasms.

DR. ZHANG

Radiobiology.

E1. Radiation Oncology: Consult Service. Drs.
Frassica, Asrari, DeWeese, Herman, Kleinberg,
Song, Wharam, and Zellars. All year; 3 or 4 1/2
weeks.

Prerequisites: Basic clerkship in medicine or surgery.
This course focuses on the evaluation and manage-
ment of patients with malignant diseases at various
sites who are being considered for radiation ther-
apy. Students will have the opportunity to assist
faculty with new patient consultations, follow-up
evaluations, simulation, treatment planning, and

on-treatment patient management. Students will
work with a variety of faculty members to assure
a broad experience in such areas as head & neck,
pediatrics, CNS, GI, GU, breast, hematologic, and
musculoskeletal radiation oncology. This elective
opportunity will be particularly valuable to students
considering a career in oncology.

E2. Advanced Clerkship in Radiation Oncology.
Dr. Frassica. All year; 4 weeks.

Prerequisites: Radiation Oncology Consult Service.
This course focuses on the examination and multi-
disciplinary management of patients with malignant
diseases at various sites, supervised by a member
of the faculty. Emphasis is on the natural history
and biological behavior of malignant diseases and
the use of ionizing radiation in patient manage-
ment. Students will be assigned to work with one to
three faculty members only in order to gain in-depth
knowledge of particular areas of radiation oncology.
The student will be expected to attend multidisci-
plinary conferences with the faculty member as well
as the radiation oncology academic sessions. The
course is particularly valuable to those considering
a career in radiation oncology.

E5. Introduction to Cancer Research. Dr. Song.
Prostate, brachytherapy, lung tumors.

510.702 Basic Radiologic Physics. Dr. Wong and
staff. First quarter; Tues., 4:30-6 p.m.; Thurs., 4:30-
6 p.m.

Prerequisites: General physics and mathematics
and consent of instructor.

Essential radiation physics concepts for individuals
pursuing careers in radiology, radiotherapy or medi-
cal physics. Lecture and laboratory topics include
radioactive decay, x-ray production, interaction of
ionizing radiation with matter and the measurement
of radiation.

510.703 Radiation Oncology Physics. Dr. Wong
and staff. Second quarter; Tues, 4:30-6 p.m.;
Thurs, 4:30-6 p.m.

Prerequisites: Basic radiologic physics or equiva-
lent and consent of instructor.

Application of radiation physics in radiation oncol-
ogy. Topics include isodose distributions, dose
calculation, computerized dosimetric calculation,
brachytherapy, radiation protection and quality
assurance.

**510.704 Special Topics in Radiation Oncology
Physics.** Dr. Wong and staff. Year long; Friday, 12
noon-1:30 p.m.

Prerequisites: Consent of instructor.

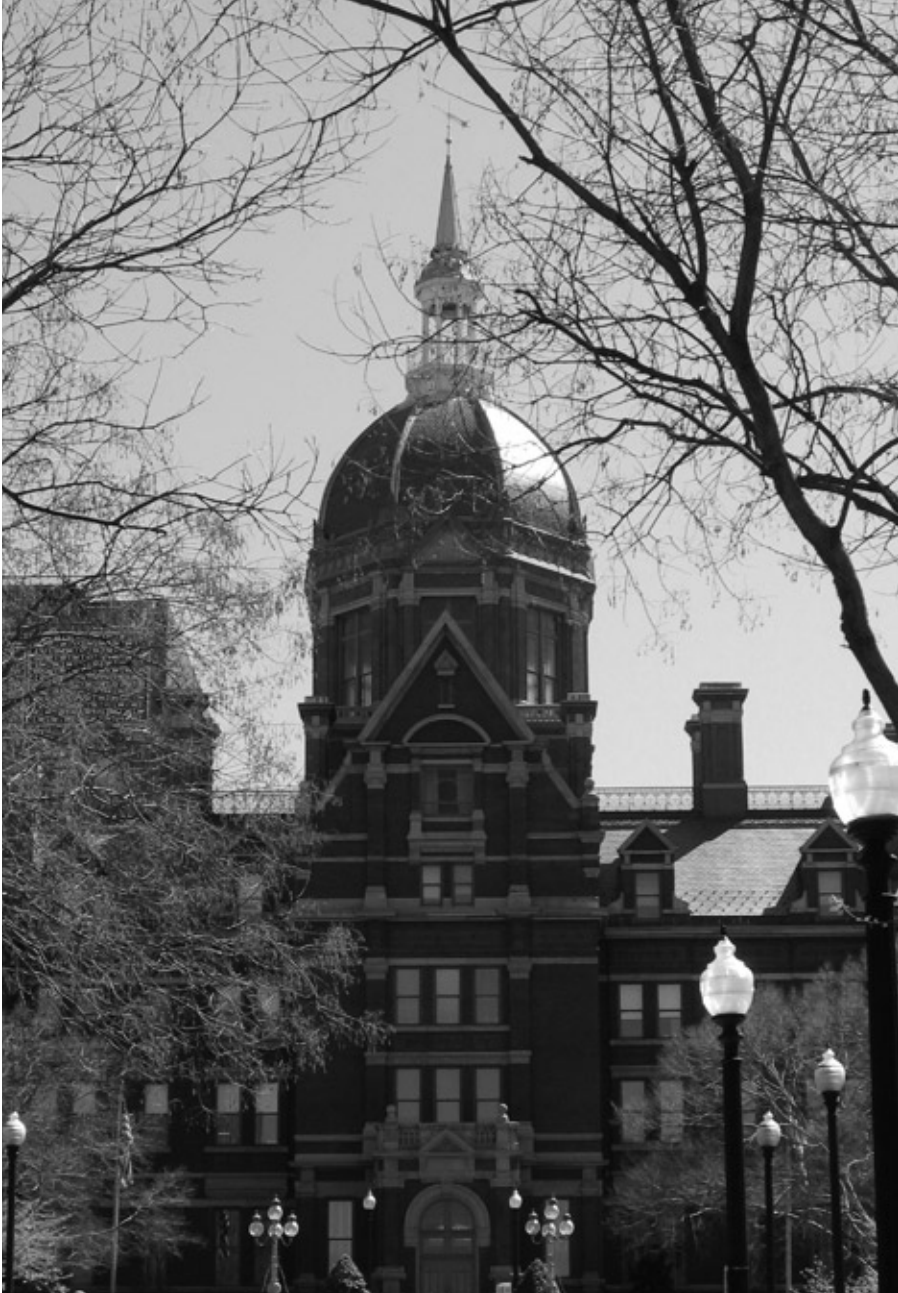
An advanced course dedicated to the discussion
of developing technology and special techniques,
including radiolabeled antibody dosimetry, ste-
reotactic radiosurgery, total body irradiation, three
dimensional treatment planning, hyperthermia and
digital portal imaging.

**E6. Clinical Clerkship and Research Project in
Radiotherapy.** Dr. DeWeese and staff.

Emphasis is on the natural history and biologi-
cal behavior of malignant diseases. The radiation
biology, physical parameters of treatment, simula-
tor technology, computerized treatment planning,

examination of patients with malignancy, literature review, and direct patient contact in several multi-disciplinary clinics is the basis of daily teaching and instructions. Treatment under faculty supervision utilizing two simulators, five accelerators and computers is reviewed with students.

E7. Treatment Planning Tutorial for External Beam Radiation Therapy. Dr. McNutt and staff. Second quarter; Friday 3:30-4:30 p.m. Hands on tutorials teach basic 3D treatment planning skills to the participants.



The Russell H. Morgan Department of Radiology and Radiological Science

JONATHAN S. LEWIN

Martin W. Donner Professor of Radiology, Professor of Biomedical Engineering, Professor of Oncology, Professor of Neurological Surgery, Director of the Department of Radiology and Radiological Sciences

JEFF W.M. BULTE

Professor of Radiology, Professor of Biomedical Engineering

DANIEL W. CHAN

Professor of Pathology, Professor of Oncology, Professor of Radiology, Professor of Urology

MICHAEL A. CHOTI

Jacob C. Handelsman Professor of Abdominal Surgery, Professor of Oncology, Professor of Radiology

HARRIS L. COHEN, Visiting Professor

WILLIAM A. EDELSTEIN, Visiting Professor

DAVID S. FEIGIN, Visiting Professor

ALBERT GJEDDE, Adjunct Professor

HENRY R. HALPERIN

Professor of Medicine, Professor of Biomedical Engineering, Professor of Radiology

THIERRY A.G.M. HUISMAN, Visiting Professor

WALTER ERWIN KAUFMANN

Professor of Pathology, Professor of Neurology, Professor of Pediatrics, Professor of Psychiatry, Professor of Radiology

PAUL W. LADENSON

John Eager Howard Professor of Endocrinology and Metabolism in the Department of Medicine, University Distinguished Professor of Medicine, Professor of Oncology, Professor of Pathology, Professor of Radiology

SHENGHAN LAI

Professor of Pathology, Professor of Radiology, Joint Appointment in Medicine

GEORGE SGOUROS

Professor of Radiology, Professor of Radiation Oncology and Molecular Radiation Sciences

STANLEY S. SIEGELMAN, Professor

FRANK K. WACKER, Visiting Professor

MOODY D. WHARAM, JR.

Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Neurological Surgery, Professor of Oncology, Professor of Pediatrics, Professor of Radiology

ELIAS A. ZERHOUNI

Professor of Radiology, Professor of Biomedical Engineering

HARVEY A. ZIESSMAN, Professor

SYED ZULFIQAR ALI

Associate Professor of Pathology, Associate Professor of Radiology

LAURA M. FAYAD

Associate Professor of Radiology (from 10/01/09), Assistant Professor of Radiology (to 09/30/09), Assistant Professor of Orthopedic Surgery

BOB W. GAYLER, Associate Professor

JOSEPH N. GITLIN, Associate Professor

IHAB R. KAMEL, Associate Professor

SATOMI KAWAMOTO, Associate Professor

JOAO A.C. LIMA

Professor of Medicine, Associate Professor of Radiology

CHRISTINE H. LORENZ, Visiting Associate Professor

KATARZYNA J. MACURA

Associate Professor of Radiology, Assistant Professor of Urology

RONNIE CHARLES MEASE, Associate Professor

venu RAMAN

Associate Professor of Radiology, Associate Professor of Oncology

DAVID J. SCHRETLEN

Associate Professor of Medical Psychology in the Department of Psychiatry, Associate Professor of Radiology

MATTHIAS STUBER

Associate Professor of Radiology (on leave of absence from 08/03/09), Assistant Professor of Medicine (on leave of absence from 08/03/09)

ULRICH V. WILLI, Visiting Associate Professor

JAY L. ZWEIER

Visiting Professor of Medicine, Visiting Associate Professor of Radiology

NAFI AYGUN, Assistant Professor

AVNEESH CHHABRA, Assistant Professor

STEVE YOON-HO CHO, Assistant Professor

BRUCE EUGENE COPELAND, Assistant Professor

ERLINDA F. DELEON-GASTON, Assistant Professor Emerita

BRADLEY FOERSTER, Assistant Professor

DHEERAJ GANDHI

Assistant Professor of Radiology, Assistant Professor of Neurological Surgery, Assistant Professor of Neurology

CHRISTOS S. GEORGIADES, Assistant Professor

XAVIER GOLAY, Assistant Professor

SACHIN K. GUJAR, Assistant Professor

DIMA HAMMOUD, Assistant Professor

LAWRENCE V. HOFMANN, Assistant Professor

KELVIN K. HONG, Assistant Professor

IZLEM IZBUDAK, Assistant Professor

HEATHER A. JACENE, Assistant Professor

SANJAY JAIN

Assistant Professor of Pediatrics, Assistant Professor of Radiology (from 08/01/09)

PAMELA TECCE JOHNSON, Assistant Professor

YOSHINORI KATO, Assistant Professor

SAEED R. KHAN

Adjunct Assistant Professor of Oncology, Adjunct Assistant Professor of Radiology

HONG LAI

Assistant Professor of Radiology, Assistant Professor of Ophthalmology

DORIS D.M. LIN, Assistant Professor

LORALIE D. MA, Adjunct Assistant Professor

MICHAEL T. MCMAHON, Assistant Professor

DZUNG L. PHAM, Assistant Professor

ROHAN VARUNA PIYASENA, Assistant Professor

MARTIN G. RADVANY, Assistant Professor

DANIEL SALO REICH

Adjunct Assistant Professor of Neurology (from 08/01/09), Adjunct Assistant Professor of Radiology (from 08/01/09)

JOHN C. SCATARIGE, Assistant Professor

JEAN-MICHEL SERFATY, Visiting Assistant Professor

CHRISTOPHER L. SMITH, Assistant Professor

AYLIN TEKES, Assistant Professor

MUSTAFA SHAKIR VALI, Assistant Professor

PIOTR WALCZAK, Assistant Professor

YUN ZHOU, Assistant Professor

GAUTAM AGRAWAL, Instructor

PIERRE-LOUIS BAZIN, Instructor

KAREN BETH BLEICH, Instructor

MICHAEL L. BOBROW, Instructor

JOSEPH PETER DIPIETRO, Instructor

ABDEL-MONEM MOHAMED A. EL-SHARKAWY, Instructor

DALIA A.H. FADUL, Instructor

SALEEM FAROOQUI, Instructor

CATHERINE A. FOSS, Instructor

MARK THOMAS HELQUIST, Instructor

SANYA HENRY, Instructor

WILLY HWANG, Instructor

KHENG LEONG LIM, Instructor

MARK ALLAN LOTTES, Instructor

SARAH MEZBAN, Instructor

MICHAEL ORSI, Instructor

DAVID A. PACE, Instructor

KIRAN C. RAJMANE, Instructor

DOUGLAS EDWARD RAMSEY, Instructor

JAKOB C.L. SCHUTZ, Instructor

LABIB H. SYED, Instructor

EDDIE L. TAYLOR, JR., Instructor

LORI S. TAYLOR, Instructor

OLEG M. TEYTELBOYM, Instructor (to 07/31/09)

SALINA DORIS TSAI, Instructor

STANLEY B. WADSWORTH, Instructor

KENNETH C. WANG, Instructor

GERALD WYSE, Instructor

YOHANNES AFEWORK, Research Associate

YOUNGJOO BYUN, Research Associate

YING CHEN, Research Associate

ANDREW H. CRABB, Research Associate

ANDREIA FARIA, Research Associate

GEORGE SHIU-KAI FUNG, Research Associate

SHANMUGASUNDARA GANAPATHY

KANNIAPPAN, Research Associate

BIN HE, Research Associate

HAO HUANG, Research Associate

JEFFREY PETTIT LEAL, Research Associate

ANTONIO JOSE MACHADO SEGUNDO, Research Associate

NORIKO MORI, Research Associate

JAMES PHILBIN, Research Associate

TARIQ SHAH, Research Associate

JITKA SOJKOVA, Research Associate

PAUL WINNARD, JR., Research Associate

CUNEYT CALISIR, Visiting Scientist

LI JIANG, Visiting Scientist

CONG LI, Visiting Scientist

MING DE LIN, Visiting Scientist

FRANK V. SCHRAML, Visiting Scientist

STEVEN M. SHEA, Visiting Scientist

ZHIBO WEN, Visiting Scientist

Division of Cardiovascular and Interventional Radiology

JEAN-FRANCOIS H. GESCHWIND

Professor of Radiology and Radiological Science, Associate Professor of Oncology, Director of the Division of Cardiovascular and Interventional Radiology

SALLY E. MITCHELL

Professor of Radiology and Radiological Science, Associate Professor of Pediatrics

ARAVIND AREPALLY, Associate Professor

MARTIN AUSTER, Assistant Professor

NIKHIL BHAGAT, Assistant Professor (from 07/22/09)

HYUN (KEVIN) S. KIM

Assistant Professor of Radiology and Radiological Science

CLIFFORD R. WEISS, Assistant Professor

HEIDI BEILIS, Instructor

KENNETH H. CHO, Instructor

HENRY C. LUSANE, JR., Instructor

JONATHAN K. MARX, Instructor

Division of Diagnostic Radiology

ELLIOT K. FISHMAN

Professor of Radiology and Radiological Science, Professor of Oncology, Director of the Division of Diagnostic Radiology

DAVID A. BLUEMKE

Professor of Radiology and Radiological Science, Professor of Medicine

ULRIKE M. HAMPER

Professor of Radiology and Radiological Science, Professor of Pathology, Professor of Urology

KAREN MARGARET HORTON, Professor

BRONWYN JONES, Professor

DETLEF BARTELT, Associate Professor

KLEMENS H. BARTH, Associate Professor

THOMAS J. BECK, Associate Professor

JOHN ANTHONY CARRINO, Associate Professor

JOHN ENG

Associate Professor of Radiology and
Radiological Science, Joint Appointment in
Health Sciences Informatics

OLGA M.B. GATEWOOD

Associate Professor of Radiology and
Radiological Science, Associate Professor of
Urology

NAGI F. KHOURI

Associate Professor of Radiology and
Radiological Science, Associate Professor of
Oncology

DONNA MAGID

Associate Professor of Radiology and
Radiological Science, Associate Professor
of Functional Anatomy and Evolution, Joint
Appointment in Orthopedic Surgery

MAHADEVAPPA MAHESH

Associate Professor of Radiology and
Radiological Science, Associate Professor of
Medicine

WILLIAM W. SCOTT, JR.

Associate Professor of Radiology and
Radiological Science, Joint Appointment in
Orthopedic Surgery

ALBERT B. SHACKMAN, Associate Professor

SHEILA SHETH

Associate Professor of Radiology and
Radiological Science, Associate Professor of
Pathology

EARL P. STEINBERG

Adjunct Professor of Medicine, Adjunct
Associate Professor of Radiology and
Radiological Science

KO-PEN WANG

Associate Professor of Medicine, Associate
Professor of Radiology and Radiological
Science

PAUL S. WHEELER, Associate Professor

SAADET ATAY-ROSENTHAL, Assistant Professor

JANE E. BENSON

Assistant Professor of Radiology and
Radiological Science, Joint Appointment in
Pediatrics

WENDIE ANDERSON BERG, Assistant Professor

JOAN E. BERKOWITZ, Assistant Professor

MYTHREYI BHARGAVAN, Assistant Professor

RACHEL F. BREM, Assistant Professor

DARRYL J. GARFINKEL, Assistant Professor

HARMINDAR K. GILL, Assistant Professor

NOAH I. LIGHTMAN, Assistant Professor

WALDRON M. SENNOTT, Assistant Professor
Emeritus

H. ROSY SINGH, Assistant Professor

THOMAS W. SNIDER, Assistant Professor
Emeritus

PHILIPPE ALAIN SOYER, Assistant Professor

MELISSA RIEDY SPEVAK, Assistant Professor

JENS VOGEL-CLAUSSEN

Assistant Professor (on leave of absence from
10/01/09)

ANDREW YANG, Assistant Professor

ATIF ZAHEER, Assistant Professor

W. PERRY ARNOLD, Instructor

SHELDON B. BEARMAN, Instructor

NICHOLAS P. GEORGES, Instructor

ROSEMARIE GREYSON-FLEG, Instructor

DAVID HEATH, Instructor

RICHARD A. MONES, Instructor

A. EVERETTE JAMES, JR., Lecturer

FRANK M. CORL, Research Associate

MELISSA GARLAND, Research Associate

THOMAS KWOK-FAH FOO, Visiting Scientist

SANDEEP N. GUPTA, Visiting Scientist

GLENN SLAVIN, Visiting Scientist

Division of Diagnostic Imaging at Johns Hopkins Bayview

MARK E. BOHLMAN

Associate Professor of Radiology and
Radiological Science, Director of the Division of
Diagnostic Imaging at Bayview

ERICH K. LANG, Visiting Professor

JOHN D. PETRONIS, Associate Professor

JOHN CAVALUZZI, Assistant Professor

DAVID JON EISNER, Assistant Professor

ROBERT E. ENSOR, Assistant Professor Emeritus

GARY XIN GONG, Assistant Professor

ANTHONY KAM, Assistant Professor

RON KHAZAN, Assistant Professor

YOUNG CHOO KIM, Assistant Professor

DAVID P. SMITH, Assistant Professor

JOEL MARK FRADIN, Assistant

NATHAN R. SKLAR, Assistant

Division of Magnetic Resonance Research

ZAVER M. BHUJWALLA

Professor of Radiology and Radiological
Science, Professor of Oncology, Director of the
Division of Magnetic Resonance Research

ERGIN ATALAR, Adjunct Professor

PAUL A. BOTTMLEY

Russell H. Morgan Professor of Radiology,
Professor of Biomedical Engineering, Professor
of Medicine

ELLIOT R. MCVEIGH

Professor of Biomedical Engineering, Bessie
Darling Massey Professor of Biomedical
Engineering, Professor of Radiology and
Radiological Science

SUSUMU MORI

Professor of Radiology and Radiological
Science, Professor of Oncology

JEAN-FRANCOIS PAYEN DE LA GARANDERIE,
Visiting Professor

PETER C.M. VAN ZIJL

Professor of Radiology and Radiological
Science, Professor of Biophysics and
Biophysical Chemistry, Professor of Oncology

DMITRI ARTEMOV

Associate Professor of Radiology and
Radiological Science, Associate Professor of
Oncology

CHRISTIAN J. HEROLD, Associate Professor

MICHAEL A. JACOBS
Associate Professor of Radiology and
Radiological Science, Associate Professor of
Oncology

DARA L. KRAITCHMAN, Associate Professor

NAEI FAKHRY OSMAN
Associate Professor of Radiology and
Radiological Science, Joint Appointment in
Medicine

JAMES J. PEKAR, Associate Professor

VADAPPURAM P. CHACKO, Assistant Professor

MILIND Y. DESAI, Visiting Assistant Professor

ASSAF A. GILAD, Assistant Professor

KRISTINE GLUNDE
Assistant Professor of Radiology and
Radiological Science, Instructor in Oncology

MAREN R. LAUGHLIN, Adjunct Assistant
Professor

KENICHI OISHI, Assistant Professor

RONALD OUWERKERK, Assistant Professor

ARVIND P. PATHAK
Assistant Professor of Radiology and
Radiological Science, Assistant Professor of
Oncology

SETH A. SMITH, Assistant Professor

JIANGYANG ZHANG, Assistant Professor

JINYUAN ZHOU, Assistant Professor

FARHAD VESUNA, Instructor

JOSEPH S. GILLEN, Research Associate

HANGYI JIANG, Research Associate

PARAG PERRY KARMARKAR, Research
Associate

BALAJI KRISHNAMACHARY, Research Associate

CHIA-YING LIU, Research Associate

GUANSHU LIU, Research Associate

MARY A. MCALLISTER, Research Associate

DI QIAN, Research Associate

QIN QIN, Research Associate

MEIYAPPAN SOLAIYAPPAN, Research Associate

IOANNIS A. STASINOPOULOS, Research
Associate

WENLIAN ZHU, Research Associate

PIERRE CROISILLE, Visiting Scientist

WESLEY DAVID GILSON, Visiting Scientist

LI PAN, Visiting Scientist

MICHAEL SCHAR, Visiting Scientist

Division of Medical Imaging Physics

BENJAMIN M.W. TSUI
Professor of Radiology and Radiological Science,
Professor of Biomedical Engineering, Director of
the Division of Medical Imaging Physics

ERIC CHARLES FREY, Professor

KATSUYUKI TAGUCHI, Assistant Professor

EMAD M. BOCTOR MIKHAIL, Instructor

XIN HE
Instructor in Radiology and Radiological
Science (from 10/01/09), Research Associate
in Radiology and Radiological Science (to
09/30/09)

SUSANNE BONEKAMP, Research Associate

YONG DU, Research Associate

MARTIN J. STUMPF, Research Associate

JING TANG, Research Associate

JINGYAN XU, Research Associate

Division of Neuroradiology

DAVID MARK YOUSEM
Professor of Radiology and Radiological Science,
Director of the Division of Neuroradiology

PETER B. BARKER
Professor of Radiology and Radiological Science,
Professor of Oncology

MARTIN GILBERT POMPER
Professor of Radiology and Radiological Science,
Professor of Pharmacology and Molecular
Sciences, Professor of Radiation Oncology
and Molecular Radiation Sciences, Associate
Professor of Oncology, Joint Appointment in
Psychiatry

DANIELE RIGAMONTI
Salisbury Family Professor of Neurological
Surgery, Professor of Oncology, Professor of
Radiation Oncology and Molecular Radiation
Sciences, Professor of Radiology and
Radiological Science, Joint Appointment in
Physical Medicine and Rehabilitation

S. JAMES ZINREICH
Professor of Radiology and Radiological Science,
Professor of Otolaryngology-Head and Neck
Surgery

HYO S. AHN, Associate Professor

CHRISTOS DAVATZIKOS, Associate Professor

PHILIPPE GAILLOUD
Associate Professor of Radiology and
Radiological Science, Associate Professor of
Neurology, Assistant Professor of Neurological
Surgery

MICHAEL A. KRAUT
Associate Professor of Radiology and
Radiological Science, Associate Professor of
Neurological Surgery, Associate Professor of
Oncology

JAY J. PILLAI, Visiting Associate Professor

BRUCE ALAN WASSERMAN, Associate Professor

ARI MEIR BLITZ, Assistant Professor

RICHARD A.E. EDDEN, Assistant Professor (from
09/01/09)

CHRISTOPHER J. ENDRES, Assistant Professor

FOUAD E. GELLAD, Assistant Professor

ALENA HORSKA, Assistant Professor

SUDHIR KATHURIA, Assistant Professor

MYRIA PETROU, Assistant Professor

HECTOR A. ROBLES, Assistant Professor

JANAKI BALAKRISHNAN, Instructor

SRIDHAR NIMMAGADDA
Instructor in Radiology and Radiological Science,
Joint Appointment in Medicine

CARLTON C. SEXTON, Instructor

LYDIA JUNE GREGG, Research Associate

MONA ADEL MOHAMED, Research Associate

SANGEETA RAY, Research Associate

YIMAO ZHANG, Research Associate

Division of Nuclear Medicine

RICHARD L. WAHL

Henry N. Wagner Jr., M.D. Professor of Nuclear Medicine, Professor of Oncology, Director of the Division of Nuclear Medicine

ROBERT F. DANNALS, Professor

JOHN J. FROST, Adjunct Professor

ZSOLT SZABO, Professor

DEAN F. WONG

Professor of Radiology and Radiological Science, Professor of Neuroscience, Joint Appointment in Psychiatry

STEPHEN R. ZUKIN

Visiting Professor of Psychiatry, Visiting Professor of Radiology and Radiological Science

FRANK MICHAEL BENDEL

Associate Professor of Radiology and Radiological Science, Joint Appointment in Medicine

ANDREW G. HORTI, Associate Professor

SAMUEL SOSTRE, Associate Professor

HENRY H. HOLCOMB

Assistant Professor of Psychiatry, Assistant Professor of Radiology and Radiological Science

HIROTO KUWABARA, Assistant Professor

MARTIN ANTHONY LODGE, Assistant Professor

ARMAN RAHMIM, Assistant Professor

K. GEORGE SACHARIAH, Assistant Professor

GABRIEL SOUDRY, Assistant Professor

ETHAN J. SPIEGLER

Assistant Professor of Radiology and Radiological Science, Instructor in Medicine

ELIAS K. SHAYA

Instructor in Radiology and Radiological Science, Instructor in Medicine

ROBERT A. WISE

Professor of Medicine, Instructor in Radiology and Radiological Science

JAMES ROBERT BRASIC, Research Associate

JOHN HILTON, Research Associate

ANIL KUMAR, Research Associate

WILLIAM B. MATHEWS, Research Associate

HAYDEN T. RAVERT, Research Associate

OLIVIER ROUSSET, Research Associate

HONG SONG, Research Associate (from 10/01/09)

KATALINA SZABO, Research Associate

XINGDANG LIU, Visiting Scientist

FACULTY ASSOCIATED WITH THE DEPARTMENT OF RADIOLOGY HOLDING A PRIMARY APPOINTMENT IN:

The School of Medicine:

LEWIS C. BECKER

Robert L. Levy Professor of Cardiology in the Department of Medicine

JEFFREY A. BRINKER

Professor of Medicine

ROBERT H. BROWN

Professor of Anesthesiology and Critical Care Medicine

GARY GERSTENBLITH

Professor of Medicine

LAWRENCE S. GRIFFITH

Professor of Medicine

BETH L. LAUBE

Professor of Pediatrics

ROBERT G. WEISS

Professor of Medicine

The Bloomberg School of Public Health:

JOHN R. LEVER

Associate Professor of Environmental Health Sciences

JONATHAN M. LINKS

Professor of Environmental Health Sciences

The G.W.C. Whiting School of Engineering:

GABOR FICHTINGER

Associate Research Professor in Computer Science

JERRY L. PRINCE

Professor of Electrical and Computer Engineering

RUSSELL H. TAYLOR

Professor of Computer Science

REQUIRED WORK

Radiology—Second Year

Radiology. Diagnostic Radiology staff. 300.600 Introduction to Pathology, Pathophysiology, and Pharmacology.

ELECTIVE OPPORTUNITIES—Curricular

Consultants: Radiology faculty. Elective courses must be approved by the preceptor. Any member of the department may act as preceptor.

Radiology E

E 1. Diagnostic Radiology. Dr. Magid and staff.

Full-time, structured introduction to diagnostic radiology, including most forms of diagnostic imaging. Given each half quarter during the regular academic year (no summer session, but see E 17). Seminars, lectures, learning file, and tutorials. Oral presentation and written final. Additional emphasis on conference skills, Medical English, and descriptive precision. Each student will prepare and make one or two clinical presentations.

E 2. Special Diagnostic Radiology. Section Heads for specific subspecialty areas. All year. Four and one-half weeks, or entire quarter. A clinical experience in a specific area of interest to the student. In larger divisions, subspecialty areas are available.

DR. BOHLMAN

General Diagnostic Radiology, Bayview.

DR. KAMAL

Magnetic Resonance Imaging.

DRS. KAMAL & MACURA

Computed Tomography.

DRS. GESCHWIND, GEORGIADIS, & WEISS

Cardiovascular/Interventional Radiology.

DR. GAILLOUD

Neurointerventional Radiology.

DR. WAHL

Nuclear Medicine.

DRS. YOUSEM, BLITZ, & KRAUT

Neuroradiology.

E 3. Investigative Radiology. Dr. Dean Wong in collaboration with clinical faculty members. Entire quarter.

Opportunities to pursue special investigative topics in diagnostic radiology, nuclear medicine, radiotherapy, radiobiology, radiological engineering, radiological physics, and physiological optics. Facilities of Radiologic Animal Research Lab will be available for utilization in selected projects.

Clinical Collaborators

DR. KAMAL

Magnetic resonance imaging and research.

DR. DANNALS

Radiochemistry.

DR. HAMPER

Ultrasound.

DRS. GESCHWIND & WEISS

Interventional radiology including laser and balloon angioplasty; pharmacological angioplasty and radiology research.

DR. JONES

Gastrointestinal radiology.

E 4. Physiological Research in Radiology. Dr. Wong and staff. Hours to be arranged.

Current laboratory animal research is largely physiologically oriented, clinically applicable, and directed toward therapeutic applications of vascular radiology. Areas of work include experimental transcatheter vascular occlusion and intraarterial drug infusion therapy, and experimental vascular reconstruction. Projects related to other areas of diagnostic radiology are also pursued.

E 5. Clinical Clerkship and Research Project in Radiotherapy. Dr. DeWeese and staff.

Emphasis is on the natural history and biological behavior of malignant diseases. The radiation biology, physical parameters of treatment, simulator technology, computerized treatment planning, examination of patients with malignancy, literature review, and direct patient contact in several multidisciplinary clinics is the basis of daily teaching and instruction. Treatment under faculty supervision utilizing two simulators, five accelerators and computers is reviewed with students.

E 7. Clinical Nuclear Medicine. Dr. Wahl. All Quarters, 8 a.m.-5 p.m.; 2-6 weeks, as desired.

The clinical applications of nuclear medicine in the medical division can be appreciated by firsthand experience in the nuclear medicine clinic. Under the supervision of the staff of the Division of Nuclear Medicine, students will participate in the evaluation of patient's clinical problems, select the appropriate tracer procedure to solve these problems, observe the performance of these tracer examinations and interpret the data.

E 8. Clinical Investigation Involving Human Subjects-Nuclear Medicine. Dr. Wahl. All year.

Introduction to planning and clinical application of investigational studies, i.e., those projects still under

auspices of FDA. Preparation of IND, and explanation of Phases I, II, III of clinical investigation.

E 9. Special Studies and Research-Nuclear Medicine. Dr. Wahl. All year.

Under direction of faculty, individual research projects will be undertaken.

E 13. Critical Public Health Issues Concerning Ionizing Radiation. (PH 186.670) Dr. Baidoo. Third quarter.

Presents the physical foundations of radiation use in medicine and industry and the public health problems associated with it. Optional laboratory experience in an area of student's interest available. Designed for students without strong backgrounds in the physical sciences. Student evaluation based on an exam.

E 15. Introduction to Nuclear Medical Sciences. (PH 186.680) Dr. Wong and faculty. Summer; 5 days/week, 8 a.m.-4 p.m.; eight weeks, July-August.

Prerequisite: PH 186.601 or comparable training in radiation physics.

Covers the fundamental physical and chemical principles of the use of radionuclides in clinical medicine and research. Material taken selectively from PH 186.601, PH 186.620, PH 186.630, and PH 186.851 is covered in breadth through lectures, laboratory exercises, and demonstrations. Affords practice in using radioactive isotopes safely and effectively in thyroid, liver, renal, and cardiopulmonary function testing; preparation, testing, and administration of radiopharmaceuticals; radioimmunoassays; isotope dilution; absorption and retention studies; and scanning and imaging procedures. Designed primarily for physicians entering nuclear medicine and radiology. Student evaluation based on exams.

E 17. Preceptorship in Diagnostic Radiology. Dr. Bohlman and staff. Johns Hopkins Bayview Medical Center.

A Preceptorship in Diagnostic Radiology will be offered to medical students in their clinical years similar to the E 1 Diagnostic Radiology course offered at Johns Hopkins Hospital. Through observing film interpretation, attending daily departmental teaching conference, and observing the performance of x-ray procedures in the clinical setting, the student will be taught the basic fundamentals of how to read conventional x-ray films on their patients. Throughout the elective, the role of imaging in the proper management of patient care will be stressed. Special procedures, ultrasound, CT will also be shown to the student.

E 18. Interventional Radiology. Drs. Georgiades, Weiss, Mitchell, and Geschwind. One to three months. Third and Fourth Year Medical Students.

This elective would familiarize the student with the techniques of interventional radiology including angiography (selective and sub-selective), angioplasty, atherectomy, vascular embolization, intravascular ultrasound, thrombolysis, IVC filters, percutaneous abscess drainage, biliary endoscopy, biliary and urinary tract, interventions, tunneled catheter placement and dialysis fistula interventions. Fifteen to 25 procedures are performed daily in the cath lab. In addition, selected patients are admitted to the interventional radiology service

for some of these procedures and the student will participate in their workup and evaluation including clinic follow up. In addition, the latest technique of digital subtraction angiography using computer reconstruction will be available for the student to gain experience.

E 19. Radiochemistry. (PH 186.620) Drs. S. Lever and J. Lever. Second quarter/one quarter; 3 days per week.

Prerequisite: E 11 or E 15 or the equivalent or consent of instructor.

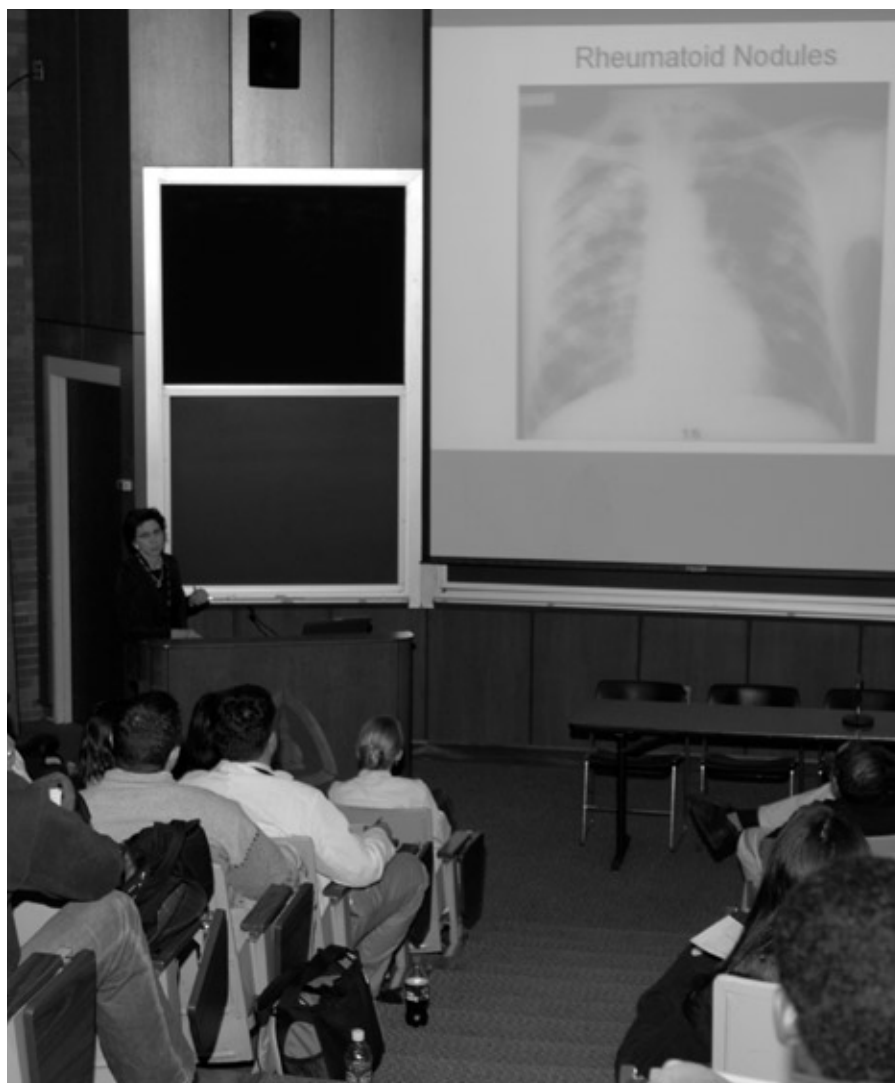
Provides a background in the chemical and physical aspects of radioactive tracer techniques as applied to work in physical, organic, and biological chemistry. Topics include preparation and counting of

samples and standards; microchemical techniques, techniques for the separation and identification of radionuclides and tagged compounds, radioisotope tagging, tracer techniques, radiometric analysis and neutron activation analysis. Student evaluation based on written exams and laboratory reports.

E 22. Pediatric Radiology. Drs. Huisman and Benson. All year; four and one-half weeks.

Prerequisite: Elective in Diagnostic Radiology.

Students will attend conferences in pediatric radiology and observe fluoroscopy, ultrasound, CT, and other examinations, observe and participate in film interpretations. They are expected to add new cases to the teaching file under staff supervision.



Section of Surgical Sciences

Department of General Surgery

JULIE ANN FREISCHLAG

William Steward Halsted Professor of Surgery,
Director of the Department of Surgery

DANA KIMBALL ANDERSEN, Professor

R. ROBINSON BAKER

Warfield M. Firor Professor Emeritus of Surgery

CHARLES M. BALCH

Professor of Surgery, Professor of Dermatology,
Professor of Oncology

ADRIAN BARBUL

Professor of Surgery, Professor of Plastic
Surgery

GREGORY B. BULKLEY, Professor Emeritus

JAMES F. BURDICK, Professor

JOHN L. CAMERON

University Distinguished Service Professor,
Alfred Blalock Professor of Surgery, Professor
of Oncology

MICHAEL A. CHOTI

Jacob C. Handelsman Professor of Abdominal
Surgery, Professor of Oncology, Professor of
Radiology

FREDERIC E. ECKHAUSER

Mark M. Ravitch Professor of Surgery

GERSHON EFRON, Professor

DARIUSH ELAHI

Professor of Surgery, Joint Appointment in
Medicine

JOHN W. HARMON, Professor

STEVEN D. LEACH

Paul K. Neumann Professor of Pancreatic
Cancer in the Department of Surgery, Professor
of Cell Biology, Professor of Oncology

BYUNG-BOONG LEE, Visiting Professor

PAMELA A. LIPSETT

Professor of Surgery, Assistant Professor of
Anesthesiology and Critical Care Medicine

ROBERT A. MONTGOMERY

Margery K. and Thomas Pozefsky Professor of
Kidney Transplant Surgery

BRUCE A. PERLER

Julius H. Jacobson II Professor of Vascular
Surgery

HAMID RABB

Professor of Medicine, Professor of Surgery

RICHARD DAVID SCHULICK

John L. Cameron Professor of Alimentary
Tract Diseases in the Department of Surgery,
Professor of Oncology, Associate Professor of
Biomedical Engineering, Associate Professor of
Gynecology and Obstetrics

MARK A. TALAMINI, Adjunct Professor

SUZANNE LOUISE TOPALIAN

Professor of Surgery, Professor of Oncology

GEORGE MELVILLE WILLIAMS

Dr. Bertram M. Bernheim Research Professor
of Surgery

STEPHEN C. YANG

Arthur B. and Patricia B. Modell Professor of
Thoracic Surgery, Professor of Oncology

MARTHA ALLEN ZEIGER

Professor of Surgery, Professor of Oncology

MALCOLM VERNON BROCK

Associate Professor of Surgery, Associate
Professor of Oncology

KURTIS A. CAMPBELL, Associate Professor

RICHARD A. CURRIE, Associate Professor
Emeritus

MUKUND S. DIDOLKAR, Associate Professor

TODD DORMAN

Professor of Anesthesiology and Critical Care
Medicine, Associate Professor of Surgery, Joint
Appointment in Medicine

MARK DOUGLAS DUNCAN

Associate Professor of Surgery, Associate
Professor of Oncology

RONALD H. FISHBEIN, Associate Professor
Emeritus

RHONDA S. FISHEL, Associate Professor

JAMES C. FUCHS, Associate Professor Emeritus

ALEJANDRO GANDSAS, Associate Professor

PATRICIA J. GEARHART

Adjunct Professor of Medicine, Adjunct
Associate Professor of Pathology, Adjunct
Associate Professor of Surgery

TOBY A. GORDON, Associate Professor

JACOB C. HANDELSMAN, Associate Professor
Emeritus

RICHARD F. HEITMILLER

Associate Professor of Surgery, Associate
Professor of Oncology

CHRISTINE A. IACOBUZIO-DONAHUE

Associate Professor of Pathology, Associate
Professor of Surgery, Associate Professor of
Oncology

DARRELL A. JAQUES

Associate Professor Emeritus of Surgery,
Associate Professor Emeritus of Plastic Surgery

CALVIN E. JONES, Associate Professor Emeritus

RICHARD F. KIEFFER, JR., Associate Professor
Emeritus

JULIE ROBIN LANGE

Associate Professor of Surgery, Associate
Professor of Oncology, Assistant Professor of
Dermatology

THOMAS H. MAGNUSON, Associate Professor

MARTIN A. MAKARY

Associate Professor of Surgery, Holding the
Mark M. Ravitch, M.D. Chair in Surgery

MICHAEL ROBERT MAROHN, Associate
Professor

WILLIAM T. MERRITT

Associate Professor of Anesthesiology and
Critical Care Medicine, Associate Professor of
Surgery

STANLEY L. MINKEN, Associate Professor

MARVIN M. NACHLAS, Associate Professor
Emeritus

DANIEL NYHAN
Professor of Anesthesiology and Critical Care
Medicine, Associate Professor of Surgery

TIMOTHY MICHAEL PAWLIK
Associate Professor of Surgery, Associate
Professor of Oncology

BRADLEY J. PHILLIPS, Visiting Associate
Professor

PETER J. PRONOVOST
Professor of Anesthesiology and Critical Care
Medicine, Associate Professor of Surgery, Joint
Appointment in Health Sciences Informatics

JOHN R. SAUNDERS
Associate Professor of Otolaryngology-Head
and Neck Surgery, Associate Professor of
Surgery, Assistant Professor of Plastic Surgery

MICHAEL SCHWEITZER, Associate Professor

DORRY L. SEGEV, Associate Professor

THEODORE H. WILSON, JR., Associate Professor
Emeritus

JACK M. ZIMMERMAN, Associate Professor
Emeritus

NITA AHUJA
Assistant Professor of Surgery, Assistant
Professor of Oncology

BOLANLE A. ASIYANBOLA, Assistant Professor

H. VAUGHAN BELCHER, Assistant Professor
Emeritus

SEAN MICHAEL BERENHOLTZ
Associate Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Surgery

JAMES HAMILTON BLACK, III, Assistant
Professor

GRANT V. BOCHICCHIO, Adjunct Assistant
Professor

JAMES R. BUCK
Assistant Professor of Surgery, Assistant
Professor of Pediatrics

ANDREW M. CAMERON, Assistant Professor

STEPHEN MICHAEL CATTANEO, II, Assistant
Professor

KATHRYN M. CHU, Assistant Professor

KYO U. CHU, Assistant Professor

ALAN P. B. DACKIW
Assistant Professor of Surgery, Assistant
Professor of Oncology

NIRAJ M. DESAI, Assistant Professor (from
09/01/09)

JEFFREY M. DODD-O
Associate Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Surgery

KIMBERLY LYNN DUNCAN, Visiting Assistant
Professor

BARISH H. EDIL
Assistant Professor of Surgery, Assistant
Professor of Oncology

DAVID THOMAS EFRON
Assistant Professor of Surgery, Assistant
Professor of Anesthesiology and Critical Care
Medicine

NAUDER FARADAY
Associate Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Surgery

RICHARD L. FEINBERG, Assistant Professor

PAUL D. FREESWICK, Assistant Professor

SUSAN LYN GEARHART
Assistant Professor of Surgery, Assistant
Professor of Oncology

THOMAS GENUIT, Assistant Professor

BIDYUT GHOSH, Assistant Professor

B. ROBERT GIBSON, Assistant Professor

GLEN RANDALL GIBSON, Assistant Professor

MARTA MARSH GILSON, Assistant Professor

MEHRAN HABIBI, Assistant Professor

ADIL H. HAIDER
Assistant Professor of Surgery, Assistant
Professor of Anesthesiology and Critical Care
Medicine

ELLIOTT RICHARD HAUT
Assistant Professor of Surgery, Assistant
Professor of Anesthesiology and Critical Care
Medicine

JENNIFER A. HELLER, Assistant Professor

JOSEPH M. HERMAN
Assistant Professor of Radiation Oncology
and Molecular Radiation Sciences, Assistant
Professor of Oncology, Assistant Professor of
Surgery

KENZO HIROSE, Assistant Professor

ELMER HOFFMAN, Assistant Professor Emeritus

MATTHEW TIMOTHY HUEMAN, Assistant
Professor

LISA K. JACOBS, Assistant Professor

JUAN M. JUANTEGUY, Assistant Professor

PAUL M. LEAND, Assistant Professor Emeritus

ANNE O. LIDOR, Assistant Professor

MAHMOUD B. MALAS, Assistant Professor

ELIZABETH A. MARTINEZ
Associate Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Surgery

PEDRO ALEJANDRO MENDEZ-TELLEZ
Assistant Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Surgery

AVEDIS MENESHIAN, Assistant Professor

HIEN TAN NGUYEN, Assistant Professor

MICHAEL JOHN PARSONS, Assistant Professor

HOWARD H. PATT, Assistant Professor Emeritus

DANIEL L. PICARD, Assistant Professor

NIJAGUNA B. PRASAD, Assistant Professor

ARIEL N. RAD, Assistant Professor

HAROLD E. RAMSEY
Assistant Professor Emeritus of Surgery,
Assistant Professor Emeritus of Otolaryngology-
Head and Neck Surgery

ROMAN E. RATYCH, Assistant Professor

THOMAS REIFSNYDER, Assistant Professor

WILLIAM F. RIENHOFF, III, Assistant Professor
Emeritus

GLEN STANLEY ROSEBOROUGH, Assistant Professor
ADAM SAPIRSTEIN
Associate Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Surgery
STEVEN J. SCHWARTZ
Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Surgery
JOHN TIMOTHY SHERWOOD, Assistant Professor
LILLIE SHOCKNEY
University Distinguished Service Assistant Professor of Breast Cancer, Assistant Professor of Surgery, Assistant Professor of Gynecology and Obstetrics
ANDREW LAWRENCE SINGER, Assistant Professor
LYNNE ANN SKARYAK, Assistant Professor
KIMBERLY EDEN STEELE, Assistant Professor
KENT A. STEVENS, Assistant Professor
ZHAOLI SUN, Assistant Professor
ANDREW J. SURMAK, Assistant Professor
MARC S. SUSSMAN, Assistant Professor
ROBERT WILLIAM THOMSEN
Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Surgery
CHRISTOPHER B. UMBRICH
Assistant Professor of Surgery, Assistant Professor of Oncology, Assistant Professor of Pathology
DANIEL SCOTT WARREN, Assistant Professor
SHARON LYNN WEINTRAUB, Assistant Professor
ELIZABETH C. WICK, Assistant Professor
BRADFORD D. WINTERS
Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Neurological Surgery, Assistant Professor of Neurology, Assistant Professor of Surgery
CHRISTOPHER L. WOLFGANG
Assistant Professor of Surgery, Assistant Professor of Oncology
KIYOSHI YOSHIMURA
Assistant Professor of Surgery, Assistant Professor of Oncology
BRENDAN J. COLLINS, Instructor
NABIL N. DAGHER, Instructor
D.C. WHARTON FINNEY, Instructor Emeritus
NEIL B. FRIEDMAN, Instructor
MARC H. GERTNER, Instructor
SCOTT E. MAIZEL, Instructor
CLARO L. PIORODA, Instructor
SUSAN TSAI, Instructor
JAMSHED A. ZUBERI, Instructor
STEVEN CLARK CUNNINGHAM, Assistant
TEJWANT S. DATTA, Assistant
ARAM DEMIRJIAN, Assistant
MARIANNE M. FRANCO, Assistant
NEPHTALI R. GOMEZ, Assistant

NICHOLAS JASZCZAK, Assistant (from 07/13/09)
GEORGE J. KOENIG, JR., Assistant (from 07/13/09)
DAVID C. ALLISON, Lecturer
THOMAS R. GADACZ, Lecturer
HENRY A. PITT, Lecturer
STEVEN A. ROSENBERG, Lecturer
MICHAEL J. ZINNER, Lecturer
GEORGE D. ZUIDEMA, Lecturer Emeritus
SOMMER ELIZABETH GENTRY, Research Associate
LIXIN LIU, Research Associate
UMAIR QAZI, Research Associate
YONGCHUN WANG, Research Associate
LUIS FERNANDO MOREIRA, Visiting Scientist (from 09/01/09)

FACULTY ASSOCIATED WITH THE DEPARTMENT OF SURGERY HOLDING A PRIMARY APPOINTMENT IN:

The School of Medicine
JAMES A. FAUERBACH
Associate Professor of Medical Psychology in the Department of Psychiatry
The Bloomberg School of Public Health
ALBERT W. WU
Professor of Health Policy and Management
The G.W.C. Whiting School of Engineering
RUSSELL H. TAYLOR
Professor of Computer Science

Division of Cardiac Surgery

DUKE E. CAMERON
James T. Dresher, Sr. Professor of Cardiac Surgery, Professor of Pediatrics, Interim Director of the Division of Cardiac Surgery
WILLIAM A. BAUMGARTNER
Vincent L. Gott, M.D. Professor of Cardiac Surgery
JOHN VICTOR CONTE, JR., Professor
VINCENT L. GOTT
Richard Bennett Darnall Professor Emeritus of Cardiac Surgery
LEVI WATKINS, JR., Professor
ROBERT K. BRAWLEY, Associate Professor Emeritus
PETER SCHUYLER GREENE
Associate Professor of Cardiac Surgery, Joint Appointment in Health Sciences Informatics
KEITH A. HORVATH, Adjunct Associate Professor
LUCA A. VRICELLA
Associate Professor of Cardiac Surgery, Assistant Professor of Pediatrics
DAVID DAIHO YUH, Associate Professor
ASHISH S. SHAH, Assistant Professor

Division of Pediatric Surgery

PAUL M. COLOMBANI
Robert Garrett Professor of Pediatric Surgery, Professor of Oncology, Professor of Pediatrics, Director of the Division of Pediatric Surgery

J. ALEX HALLER, JR.
Professor Emeritus of Pediatric Surgery,
Professor Emeritus of Emergency Medicine,
Professor Emeritus of Pediatrics

J. LAURANCE HILL, Associate Professor

HENRY TIEN LAU, Associate Professor

MITCHELL R. PRICE, Visiting Associate Professor

FIZAN ABDULLAH, Assistant Professor

SAMUEL M. ALAISH, Assistant Professor

ERIC DAVID STRAUCH, Assistant Professor

Division of Plastic, Reconstructive and Maxillofacial Surgery

PAUL N. MANSON
Professor of Plastic Surgery, Director of
the Division of Plastic, Reconstructive, and
Maxillofacial Surgery

ADRIAN BARBUL
Professor of Surgery, Professor of Plastic
Surgery

THOMAS M. BRUSHART
Thomas M. Brushart Professor of Hand Surgery
in the Department of Orthopedic Surgery (on
leave of absence to 10/31/09), Professor of
Neurology (on leave of absence to 10/31/09),
Professor of Plastic Surgery (on leave of
absence to 10/31/09)

BENJAMIN S. CARSON
Benjamin S. Carson, Sr. M.D. and Dr. Evelyn
Spiron, RN Professor of Pediatric Neurosurgery,
Professor of Oncology, Professor of Pediatrics,
Professor of Plastic Surgery

A. LEE DELLON
Professor of Plastic Surgery, Professor of
Neurological Surgery

NELSON H. GOLDBERG, Adjunct Professor

JOHN E. HOOPEES, Professor Emeritus

NICHOLAS T. ILIFF
Charles E. Iliff, III M.D. Professor of
Ophthalmology, Professor of Plastic Surgery

ETHYLIN W. JABS
Adjunct Professor of Pediatrics, Adjunct
Professor of Medicine, Adjunct Professor of
Plastic Surgery

STEPHEN M. MILNER
Professor of Plastic Surgery, Professor of
Dermatology (from 09/01/09), Professor of
Pediatrics

CRAIG ALAN VANDER KOLK
Professor of Plastic Surgery, Professor of
Pediatrics

WILLIAM A. CRAWLEY, Associate Professor

RICHARD W. DABB, Associate Professor

E. GENE DEUNE
Associate Professor of Orthopedic Surgery,
Associate Professor of Plastic Surgery

CRAIG R. DUFRESNE, Associate Professor

THOMAS J. GRAHAM, Associate Professor

FREDERIK C. HANSEN, Associate Professor
Emeritus

MICHAEL J. C. IM, Associate Professor Emeritus

DARRELL A. JAQUES
Associate Professor Emeritus of Surgery,
Associate Professor Emeritus of Plastic Surgery

STANLEY A. KLATSKY, Associate Professor

MICHAEL A. MCCLINTON, Associate Professor

MAURICE Y. NAHABEDIAN, Associate Professor

RICHARD J. REDETT
Associate Professor of Plastic Surgery,
Associate Professor of Pediatrics

EDUARDO D. RODRIGUEZ, Associate Professor

MICHELE ARLENE SHERMAK, Associate
Professor

CHI-TSUNG SU, Associate Professor

ANTHONY P. TUFARO
Associate Professor of Plastic Surgery,
Associate Professor of Oncology

JAMES E. VOGEL, Associate Professor

E.F. SHAW WILGIS
Associate Professor Emeritus of Orthopedic
Surgery, Associate Professor Emeritus of Plastic
Surgery

ELLIOTT M. BERG, Assistant Professor

LAWRENCE D. CHANG, Assistant Professor

MICHAEL R. CHRISTY, Assistant Professor

RAMON DE JESUS, Assistant Professor

W. ANDREW EGLSEDER, JR.
Assistant Professor of Plastic Surgery, Assistant
Professor of Orthopedic Surgery

JAIME IVAN FLORES, Assistant Professor

BRIAN R. GASTMAN, Assistant Professor

ALEXANDER M. GUBA, Assistant Professor

JAMES PATRICK HIGGINS, Assistant Professor

RANDOLPH MICHAEL HOWES, Adjunct Assistant
Professor

MARWAN R. KHALIFEH, Assistant Professor

NANETTE J. LIEGEOIS-KWON
Assistant Professor of Dermatology (to
09/30/09), Assistant Professor of Oncology,
Assistant Professor of Otolaryngology-Head and
Neck Surgery, Assistant Professor of Plastic
Surgery

SCOTT DAVID LIFCHEZ, Assistant Professor

RONALD W. LUETHKE, Assistant Professor

MICHELE ANN MANAHAN, Assistant Professor

BERNARD M. MCGIBBON, Assistant Professor

JOSEPH C. ORLANDO
Assistant Professor of Plastic Surgery,
Assistant Professor of Physical Medicine and
Rehabilitation

OSCAR M. RAMIREZ, Assistant Professor

ANNE B. REDFERN, Assistant Professor Emerita

MAURA REINBLATT, Assistant Professor

GEDGE DAVID ROSSON, Assistant Professor

JOHN R. SAUNDERS
Associate Professor of Otolaryngology-Head
and Neck Surgery, Associate Professor of
Surgery, Assistant Professor of Plastic Surgery

RONALD PAUL SILVERMAN, Assistant Professor

OLIVER P. SIMMONS, Assistant Professor

NAVIN SINGH

Assistant Professor of Plastic Surgery, Assistant Professor of Gynecology and Obstetrics, Assistant Professor of Neurological Surgery

SHERI SLEZAK, Assistant Professor

ALYSON WELLS

Assistant Professor of Plastic Surgery, Assistant Professor of Otolaryngology-Head and Neck Surgery

HANS R. WILHELMSSEN, Assistant Professor

ERIC H. WILLIAMS, Assistant Professor

RAVI KUMAR ALOOR, Instructor

NIA DANIELLE BANKS, Instructor

SYLVAN FELDMAN, Instructor

BEVERLY A. FISCHER, Instructor

RAYMOND J. HARSHBARGER, III, Instructor

MITCHEL A. KANTER, Instructor

WILLIAM R. KANTER, Instructor

ZACHARY MARTIN, Instructor

SARAH A. MESS, Instructor (from 09/01/09)

JAMES P. PASKERT, Instructor

JEROME S. PLASSE, Instructor

DAVID BRYAN POWERS, Instructor

PAUL R. RINGELMAN, Instructor

RICARDO L. RODRIGUEZ, Instructor

LAWRENCE IRA ROSENBERG, Instructor

JEFFREY EVAN SCHREIBER, Instructor

SAMIR F. SHUREIH, Instructor

DEVINDER SINGH, Instructor

ARMANDO SOTO, Instructor

Department of Neurological Surgery

HENRY BREM

Harvey Cushing Professor of Neurosurgery, Professor of Oncology, Joint Appointment in Ophthalmology, Director of the Department of Neurological Surgery

PETER C. BURGER

Professor of Pathology, Professor of Neurological Surgery, Professor of Oncology

JAMES N. CAMPBELL, Professor

BENJAMIN S. CARSON

Benjamin S. Carson, Sr. M.D. and Dr. Evelyn Spiron, RN Professor of Pediatric Neurosurgery, Professor of Oncology, Professor of Pediatrics, Professor of Plastic Surgery

DAVID R. CORNBLATH

Professor of Neurology, Professor of Neurological Surgery

A. LEE DELLON

Professor of Plastic Surgery, Professor of Neurological Surgery

THOMAS B. DUCKER, Professor Emeritus

ZIYA L. GOKASLAN

Donlin M. Long Professor of Neurosurgery, Professor of Oncology, Professor of Orthopedic Surgery

STUART A. GROSSMAN

Professor of Oncology, Professor of Medicine, Professor of Neurological Surgery

DANIEL F. HANLEY

Jeffrey and Harriet Legum Professor of Acute Neurological Medicine in the Department of Neurology, Professor of Anesthesiology and Critical Care Medicine, Professor of Neurological Surgery

FREDERICK A. LENZ

A. Earl Walker Professor of Functional Neurosurgery, Joint Appointment in Neuroscience

RONALD P. LESSER

Professor of Neurology, Professor of Neurological Surgery

JONATHAN S. LEWIN

Martin W. Donner Professor of Radiology, Professor of Biomedical Engineering, Professor of Neurological Surgery, Professor of Oncology

DONLIN MARTIN LONG

University Distinguished Service Professor of Neurological Surgery

RICHARD A. MEYER, Professor Emeritus

NEIL R. MILLER

Frank B. Walsh Professor of Neuro-ophthalmology in the Department of Ophthalmology, Professor of Neurological Surgery, Professor of Neurology

MAREK A. Z. MIRSKI

Professor of Anesthesiology and Critical Care Medicine, Professor of Neurological Surgery, Professor of Neurology

ERNST F.L. NIEDERMEYER

Professor Emeritus of Neurological Surgery, Professor Emeritus of Neurology

ALESSANDRO OLIVI

Professor of Neurological Surgery, Professor of Oncology

DANIELE RIGAMONTI

Salisbury Family Professor of Neurological Surgery, Professor of Oncology, Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Radiology and Radiological Science, Joint Appointment in Physical Medicine and Rehabilitation

GREGORY J. RIGGINS

Irving J. Sherman Research Professor of Neurosurgery, Professor of Oncology

RAFAEL J. TAMARGO

Walter E. Dandy Professor of Neurosurgery, Professor of Otolaryngology-Head and Neck Surgery

GEORGE B. UDVARHELYI, Professor Emeritus

JOHN A. ULATOWSKI

Mark C. Rogers Professor of Anesthesiology and Critical Care Medicine, Professor of Neurological Surgery, Professor of Neurology

MOODY D. WHARAM, JR.

Professor of Radiation Oncology and Molecular Radiation Sciences, Professor of Neurological Surgery, Professor of Oncology, Professor of Pediatrics, Professor of Radiology

MICHAEL C. AIN

Associate Professor of Orthopedic Surgery, Associate Professor of Neurological Surgery

NEAL I. ARONSON, Associate Professor Emeritus

ALLAN JOEL BELZBERG, Associate Professor

ANDREA M. CORSE
Associate Professor of Neurology, Associate Professor of Neurological Surgery

RANDY F. DAVIS
Associate Professor of Orthopedic Surgery, Associate Professor of Neurological Surgery

ROMERGRYKO G. GEOCADIN
Associate Professor of Neurology, Associate Professor of Anesthesiology and Critical Care Medicine, Associate Professor of Neurological Surgery

MICHAEL J. HOLLIDAY
Associate Professor of Otolaryngology-Head and Neck Surgery, Associate Professor of Neurological Surgery

JUDY HUANG, Associate Professor

GEORGE ISSA JALLO
Associate Professor of Neurological Surgery, Associate Professor of Oncology, Associate Professor of Pediatrics

LAWRENCE R. KLEINBERG
Associate Professor of Radiation Oncology and Molecular Radiation Sciences, Associate Professor of Neurological Surgery, Associate Professor of Oncology

MICHAEL A. KRAUT
Associate Professor of Radiology and Radiological Science, Associate Professor of Neurological Surgery, Associate Professor of Oncology

ALFREDO QUINONES-HINOJOSA
Associate Professor of Neurological Surgery, Associate Professor of Oncology, Joint Appointment in Neuroscience

LEE H. RILEY, III
Associate Professor of Orthopedic Surgery, Associate Professor of Neurological Surgery

MATTHIAS RINGKAMP
Associate Professor of Neurological Surgery (from 10/01/09), Assistant Professor of Neurological Surgery (to 09/30/09)

IAN SUK
Associate Professor of Neurological Surgery, Associate Professor of Art as Applied to Medicine

JON DAVID WEINGART
Associate Professor of Neurological Surgery, Associate Professor of Oncology

EDWARD S. AHN, Assistant Professor

JAISHRI O'NEILL BLAKELEY
Assistant Professor of Neurology, Assistant Professor of Neurological Surgery, Assistant Professor of Oncology

EILEEN BOHAN, Assistant Professor

ALI BYDON, Assistant Professor

JUAN RICARDO CARHUAPOMA
Assistant Professor of Neurology, Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Neurological Surgery

RONALD J. COHEN, Assistant Professor

REGINALD JAMES DAVIS, Assistant Professor

HARRY C. DIETZ
Victor A. McKusick Professor of Medicine and Genetics in the Department of Pediatrics, Associate Professor of Medicine, Assistant Professor of Neurological Surgery, Joint Appointment in Molecular Biology and Genetics

FRANCESCO DIMECO, Adjunct Assistant Professor

PHILIPPE GAILLOUD
Associate Professor of Radiology and Radiological Science, Associate Professor of Neurology, Assistant Professor of Neurological Surgery

GARY LOUIS GALLIA, Assistant Professor

DHEERAJ GANDHI
Assistant Professor of Radiology, Assistant Professor of Neurological Surgery, Assistant Professor of Neurology

IRA M. GARONZIK, Assistant Professor

MICHAEL LIM
Assistant Professor of Neurological Surgery, Assistant Professor of Oncology

SHERIF M. MELEKA, Assistant Professor

NATHAN MOSKOWITZ, Assistant Professor

NEAL JAMISON NAFF, Assistant Professor

SHINJI OHARA, Adjunct Assistant Professor

JOHN D. RYBOCK, Assistant Professor

DANIEL M. SCIUBBA
Assistant Professor of Neurological Surgery, Assistant Professor of Oncology, Assistant Professor of Orthopaedic Surgery

NAVIN SINGH
Assistant Professor of Plastic Surgery, Assistant Professor of Gynecology and Obstetrics, Assistant Professor of Neurological Surgery

CLIFFORD T. SOLOMON, Assistant Professor

ROBERT DAVID STEVENS
Associate Professor of Anesthesiology and Critical Care Medicine (from 10/01/09), Assistant Professor of Anesthesiology and Critical Care Medicine (to 09/30/09), Assistant Professor of Neurological Surgery, Assistant Professor of Neurology

BETTY TYLER, Assistant Professor

BRADFORD D. WINTERS
Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Neurological Surgery, Assistant Professor of Neurology, Assistant Professor of Surgery

TIMOTHY F. WITHAM, Assistant Professor

JEAN-PAUL WOLINSKY, Assistant Professor

YONG-DI ZHOU, Adjunct Assistant Professor

WENDY C. ZIAI
Assistant Professor of Neurology, Assistant Professor of Anesthesiology and Critical Care Medicine, Assistant Professor of Neurological Surgery

COLETTE M.J. AP RHYS, Instructor

MICHELLE J. CLARKE, Instructor

KATHLEEN BRELSFORD FRENCH, Instructor

JOHN B. POSEY, Instructor

I-MEI SIU, Instructor

BYRON C. PEVEHOUSE, Visiting Lecturer

MICHAEL D. WALKER, Visiting Lecturer
RENYUAN BAI, Research Associate
GILSON BAIA, Research Associate
MARK BODNER, Research Associate
JOEL DANIEL GREENSPAN, Research Associate
MICHAEL GUARNIERI, Research Associate Emeritus
MING-CHANG LI, Visiting Scientist
CAN SOLAKOGLU, Visiting Scientist, Joint Appointment in Biomedical Engineering, Joint Appointment in Neurological Surgery, Joint Appointment in Oncology

FACULTY ASSOCIATED WITH THE
DEPARTMENT OF NEUROLOGICAL SURGERY
HOLDING A PRIMARY APPOINTMENT IN:

The School of Medicine:

THOMAS J. K. TUNG
Professor of Anesthesiology and Critical Care
Medicine

The Whiting School of Engineering

JUSTIN HANES
Associate Professor of Chemical and
Biomolecular Engineering

Orthopaedic Surgery

FRANK JOHN FRASSICA
Robert A. Robinson Professor of Orthopaedic
Surgery, Professor of Oncology, Director of the
Department of Orthopaedic Surgery

THOMAS M. BRUSHART
Thomas M. Brushart Professor of Hand Surgery
in the Department of Orthopedic Surgery (on
leave of absence to 10/31/09), Professor of
Neurology (on leave of absence to 10/31/09),
Professor of Plastic Surgery (on leave of
absence to 10/31/09)

ANDREW R. BURGESS, Professor

XU CAO, Visiting Professor

EDMUND Y. S. CHAO, Professor Emeritus

THOMAS LANDES CLEMENS, Visiting Professor

ANDREW JOHN COSGAREA, Professor

ZIYA L. GOKASLAN
Donlin M. Long Professor of Neurosurgery,
Professor of Oncology, Professor of Orthopedic
Surgery

DAVID S. HUNGERFORD
David Hungerford Professor of Orthopaedic
Surgery

EDWARD F. MCCARTHY, JR.
Professor of Pathology, Professor of Orthopedic
Surgery

EDWARD G. MCFARLAND
Wayne H. Lewis Professor of Orthopaedics and
Shoulder Surgery

ELIZABETH ANNE MONTGOMERY
Professor of Pathology, Professor of Oncology,
Professor of Orthopaedic Surgery

CHRISTOPHER B. RUFF
Professor of Functional Anatomy and Evolution,
Professor of Orthopedic Surgery

GERHARD SCHMEISSER, Professor Emeritus

PAUL D. SPONSELLER
Lee Riley Professor of Orthopaedic Surgery,
Professor of Urology

KRISTIN L. WEBER
Virginia M. and William Percy Professor of
Orthopaedic Surgery, Professor of Oncology

MICHAEL C. AIN
Associate Professor of Orthopedic Surgery,
Associate Professor of Neurological Surgery

STEPHEN M. BELKOFF, Associate Professor

RONALD P. BYANK, Associate Professor

RANDY F. DAVIS
Associate Professor of Orthopedic Surgery,
Associate Professor of Neurological Surgery

E. GENE DEUNE
Associate Professor of Orthopedic Surgery,
Associate Professor of Plastic Surgery

CHARLES H. EPPS, JR., Associate Professor
Emeritus

CARMELITA G. FRONDOZA, Associate Professor

CARL A. JOHNSON, Associate Professor

JOHN T.H. JOHNSON, Associate Professor
Emeritus

LYNNE C. JONES, Associate Professor

DAWN LAPORTE, Associate Professor

ARABELLA I. LEET, Associate Professor

EDMOND J. MCDONNELL, Associate Professor
Emeritus

JAMES D. MICHELSON, Associate Professor

JOHN R. MOORE, Associate Professor

STEVE ALAN PETERSEN, Associate Professor

LEE H. RILEY, III
Associate Professor of Orthopedic Surgery,
Associate Professor of Neurological Surgery

CHARLES E. SILBERSTEIN, Associate Professor

MEI WAN, Visiting Associate Professor

JOHN H. WILCKENS, Associate Professor

E.F. SHAW WILGIS
Associate Professor Emeritus of Orthopedic
Surgery, Associate Professor Emeritus of Plastic
Surgery

KRISTIN R. ARCHER, Adjunct Assistant Professor

ARTHUR BAITCH, Assistant Professor Emeritus

FRANK T. BARRANCO, Assistant Professor
Emeritus

ERROL L. BENNETT, Assistant Professor

JAMES B. BROOKS, Assistant Professor Emeritus

ROBERT J. BRUMBACK, Assistant Professor

GAYLORD L. CLARK, JR., Assistant Professor
Emeritus

DAVID B. COHEN, Assistant Professor

DAVID F. DALURY, Assistant Professor

MARK ADAM DEITCH, Assistant Professor

FRANK R. EBERT, Assistant Professor

W. ANDREW EGLSEDER, JR.
Assistant Professor of Plastic Surgery, Assistant
Professor of Orthopedic Surgery

JOHN J. ELIAS, Assistant Professor

GURKAN ERKULA, Assistant Professor

JOHN J. FAHEY, Assistant Professor Emeritus

LAURA M. FAYAD
Associate Professor of Radiology (from 10/01/09), Assistant Professor of Radiology (to 09/30/09), Assistant Professor of Orthopedic Surgery

MELVIN M. FRIEDMAN, Assistant Professor

MAGDI H.G. HENEIN, Assistant Professor

RICHARD Y. HINTON, Assistant Professor

MARC WILSON HUNGERFORD, Assistant Professor

THOMAS E. HUNT, JR., Assistant Professor Emeritus

PETER C. INNIS, Assistant Professor

MICHAEL A. JACOBS, Assistant Professor

RIYAZ H. JINNAH, Assistant Professor

TIMOTHY S. JOHNSON, Assistant Professor

KHALED M. KEBAlSH, Assistant Professor

AKHIL JAY KHANNA
Assistant Professor of Orthopedic Surgery,
Assistant Professor of Biomedical Engineering

HARPAL S. KHANUJA, Assistant Professor

SCOTT LEE KOMINSKY
Assistant Professor of Orthopedic Surgery,
Assistant Professor of Oncology

MESFIN A. LEMMA, Assistant Professor

HEATHER VIRGINIA LOCHNER, Assistant Professor

LESLIE S. MATTHEWS, Assistant Professor

SIMON C. MEARS, Assistant Professor

ROGER H. MICHAEL, Assistant Professor Emeritus

ALI MOSHIRFAR, Assistant Professor

MICHAEL S. MURPHY, Assistant Professor

JASON W. NASCONE, Assistant Professor

TARIQ ALI NAYFEH, Assistant Professor

PHILIP R. NEUBAUER, Assistant Professor (from 09/01/09)

GREG M. OSGOOD, Assistant Professor (from 08/15/09)

ANDREW N. POLLAK, Assistant Professor

THOMAS H. POWELL, Assistant Professor Emeritus

DONALD I. SALTZMAN, Assistant Professor

M. CATHERINE SARGENT, Assistant Professor (to 08/31/09)

LEW C. SCHON
Assistant Professor of Orthopedic Surgery,
Assistant Professor of Biomedical Engineering

MARCUS FRANCESCO SCIADINI, Assistant Professor

DANIEL M. SCIUBBA
Assistant Professor of Neurological Surgery,
Assistant Professor of Oncology, Assistant Professor of Orthopaedic Surgery

JOHN E. TIS, Assistant Professor

WOODROW SEAMONE, Assistant Professor (Research) Emeritus

KEITH A. SEGALMAN, Assistant Professor

ANN N. SIEBER, Assistant Professor

RICHARD LEROY SKOLASKY, JR., Assistant Professor

CLAUDIA LYNN THOMAS, Assistant Professor

P. JUSTIN TORTOLANI, Assistant Professor

MICHAEL EDWARD TRICE, Assistant Professor

CLIFFORD TUREN, Assistant Professor

DANIEL J. VALAIK, Assistant Professor

KIRBY L.C. VONKESLER, Assistant Professor Emeritus

ROBERT E. ZADEK, Assistant Professor Emeritus

FENG-QUAN ZHOU
Assistant Professor of Orthopaedic Surgery,
Assistant Professor of Neuroscience

BASHIR AHMED ZIKRIA, Assistant Professor

PAUL L. ASDOURIAN, Instructor

SAMER ATTAR, Instructor (from 09/01/09)

MICHAEL J. BATTAGLIA, II, Instructor

ZACHARY LEE CHATTLER, Instructor

TIMOTHY P. CODD, Instructor

ROBERT F. DRAPER, JR., Instructor

SRIDHAR M. DURBHAKULA, Instructor

CHARLES TIMOTHY FLOYD, Instructor

DAVID GANNON, Instructor

NORTON I. GETTES, Instructor Emeritus

JAMES M. HITZROT, II, Instructor Emeritus

BRUCE S. LEBOWITZ, Instructor

JAMES MARK LEIPZIG, Instructor

ENZO J. LEONE, Instructor

RICHARD J. MASON, Instructor

JOHN J. MURPHY, Instructor

AVIGDOR I. NIV, Instructor

JOHN B. O'DONNELL, Instructor

TAO QIU, Instructor (from 07/15/09)

JEROME P. REICHMISTER, Instructor

MICHAEL B. SHAPIRO, Instructor

RONALD L. SHERMAN, Instructor

MYRON J. SZCZUKOWSKI, JR., Instructor

THOMAS B. VOLATILE, Instructor

BARRY JAY WALDMAN, Instructor

CHAO WAN, Instructor (from 07/15/09)

RAYMOND A. WITTSTADT, Instructor

BRUCE S. WOLOCK, Instructor

NEAL B. ZIMMERMAN, Instructor

PAUL WILLIAM GRUTTER, Assistant (to 07/31/09)

JOHN A. JOHANSEN, Assistant (from 08/01/09)

DAVID JAMES LEU, Assistant (from 08/01/09)

MICHAEL D. MAURO, Assistant (from 08/01/09)

GREGORY STUART MCLOUGHLIN, Assistant (from 08/01/09)

MICHAEL P. O'REILLY, Assistant (to 07/31/09)

JEFFREY JAHAN VAKIL, Assistant (to 07/31/09)

ALKA A. VYAS, Research Associate

XIANGWEI WU, Research Associate (from 07/15/09)

ZHIGANG DAI, Visiting Scientist

WEIQI LEI, Visiting Scientist (from 07/15/09)

JUN LI, Visiting Scientist (from 07/15/09)

LIJUAN PANG, Visiting Scientist (from 07/15/09)

BING YU, Visiting Scientist (from 07/15/09)

FACULTY ASSOCIATED WITH THE
DEPARTMENT OF ORTHOPAEDIC SURGERY
HOLDING A PRIMARY APPOINTMENT IN:

The School of Medicine:

DONNA MAGID

Associate Professor of Radiology and
Radiological Science

WILLIAM W. SCOTT, JR.

Associate Professor of Radiology and
Radiological Science

The G.W.C. Whiting School of Engineering

JENNIFER H. ELISSEEFF

Assistant Professor of Biomedical Engineering

The Applied Physics Laboratory:

MEHRAN ARMAND

Senior Scientist

**Department of Otolaryngology-Head and
Neck Surgery**

LLOYD B. MINOR

Andelot Professor of Laryngology and Otolaryngology,
Professor of Biomedical Engineering, Professor of
Neuroscience, Director of the Department
of Otolaryngology-Head and Neck Surgery (to
08/31/09)

JOHN K. NIPARKO

George T. Nager Professor of Otolaryngology/
Head and Neck Surgery, Interim Director of the
Department of Otolaryngology - Head and Neck
Surgery (from 09/01/09)

DANA BOATMAN

Professor of Neurology, Professor of
Otolaryngology-Head and Neck Surgery

JOSEPH CALIFANO, III

Professor of Otolaryngology-Head and Neck
Surgery, Professor of Oncology

CHARLES W. CUMMINGS

Distinguished Service Professor of
Otolaryngology-Head and Neck Surgery,
Professor of Oncology

ANA BELEN ELGOYHEN, Adjunct Professor

DAVID S. ETtingER

Alex Grass Professor of Oncology, Professor of
Gynecology and Obstetrics, Professor of
Medicine, Professor of Otolaryngology-Head
and Neck Surgery, Professor of Radiation
Oncology and Molecular Radiation Sciences

ARLENE A. FORASTIERE

Professor of Oncology, Professor of
Otolaryngology-Head and Neck Surgery,
Professor of Radiation Oncology and Molecular
Radiation Sciences

PAUL ALBERT FUCHS

John E. Bordley Professor of Otolaryngology-
Head and Neck Surgery, Professor of
Biomedical Engineering, Professor of
Neuroscience

JEROME C. GOLDSTEIN, Visiting Professor

HASKINS K. KASHIMA, Professor Emeritus

WAYNE M. KOCH

Professor of Otolaryngology-Head and Neck
Surgery, Professor of Oncology

BERNARD R. MARSH, Professor Emeritus

BRADFORD J. MAY, Professor

GEORGE T. NAGER

Andelot Professor Emeritus of Laryngology and
Otolaryngology and University Distinguished Service
Professor Emeritus

JEFFREY B. PALMER

Lawrence Cardinal Shehan Professor of
Physical Medicine and Rehabilitation, Professor
of Functional Anatomy and Evolution, Professor
of Otolaryngology-Head and Neck Surgery

RANDALL R. REED

Professor of Molecular Biology and Genetics,
Professor of Neuroscience, Professor of
Otolaryngology-Head and Neck Surgery

DAVID K. RYUGO

Professor of Otolaryngology-Head and Neck
Surgery, Professor of Neuroscience

MURRAY B. SACHS

University Distinguished Service Professor
of Biomedical Engineering, Professor of
Neuroscience, Professor of Otolaryngology-
Head and Neck Surgery

DAVID SIDRANSKY

Professor of Otolaryngology-Head and Neck
Surgery, Professor of Oncology, Professor of
Pathology, Professor of Urology

RAFAEL J. TAMARGO

Walter E. Dandy Professor of Neurosurgery,
Professor of Otolaryngology-Head and Neck
Surgery

XIAOQIN WANG

Professor of Biomedical Engineering, Professor
of Neuroscience, Professor of Otolaryngology-
Head and Neck Surgery

WILLIAM H. WESTRA

Professor of Pathology, Professor of Oncology,
Professor of Otolaryngology-Head and Neck
Surgery, Associate Professor of Dermatology

ERIC D. YOUNG

Professor of Biomedical Engineering, Professor
of Neuroscience, Professor of Otolaryngology-
Head and Neck Surgery

DAVID S. ZEE

Professor of Neurology, Professor of
Neuroscience, Professor of Ophthalmology,
Professor of Otolaryngology-Head and Neck
Surgery

S. JAMES ZINREICH

Professor of Radiology and Radiological
Science, Professor of Otolaryngology-Head and
Neck Surgery

ATUL BEDI

Associate Professor of Otolaryngology-Head
and Neck Surgery, Associate Professor of
Oncology

NASIR ISLAM BHATTI

Associate Professor of Otolaryngology-Head
and Neck Surgery, Joint Appointment in
Anesthesiology and Critical Care Medicine

WILLIAM E. BOLGER, Adjunct Associate
Professor

PATRICK JOSEPH BYRNE

Associate Professor of Otolaryngology-Head
and Neck Surgery, Associate Professor of
Dermatology

JOHN P. CAREY, Associate Professor

JERRIE CHERRY, Associate Professor Emeritus

CHARLES C. DELLA SANTINA
Associate Professor of Otolaryngology-Head
and Neck Surgery, Associate Professor of
Biomedical Engineering

HOWARD WAYNE FRANCIS, Associate Professor

ELISABETH GLOWATZKI
Associate Professor of Otolaryngology-Head
and Neck Surgery, Associate Professor of
Neuroscience

CHRISTINE G. GOURIN, Associate Professor

MICHAEL J. HOLLIDAY
Associate Professor of Otolaryngology-Head
and Neck Surgery, Associate Professor of
Neurological Surgery

JAMES H. KELLY
Associate Professor of Otolaryngology-Head
and Neck Surgery, Associate Professor of
Neurology

ANDREW PETER LANE, Associate Professor

MAUREEN A. LEFTON-GREIF
Associate Professor of Pediatrics, Associate
Professor of Otolaryngology-Head and Neck
Surgery

CHARLES J. LIMB, Associate Professor

SANDRA Y. LIN, Associate Professor

LYNETTE J. MARK
Associate Professor of Anesthesiology and
Critical Care Medicine, Associate Professor of
Otolaryngology-Head and Neck Surgery

STANLEY J. MILLER
Associate Professor of Dermatology, Associate
Professor of Otolaryngology-Head and Neck
Surgery

IRA D. PAPEL, Associate Professor

LEONARD R. PROCTOR, Associate Professor
Emeritus

EDWARD A. RATOVITSKI
Associate Professor of Dermatology, Associate
Professor of Otolaryngology-Head and Neck
Surgery, Assistant Professor of Medicine,
Assistant Professor of Pathology

WILLIAM J. RAVICH
Associate Professor of Medicine, Associate
Professor of Otolaryngology-Head and Neck
Surgery

GIUSEPPE SANGUINETI
Associate Professor of Radiation Oncology
and Molecular Radiation Sciences, Associate
Professor of Oncology, Associate Professor of
Otolaryngology-Head and Neck Surgery

JOHN R. SAUNDERS
Associate Professor of Otolaryngology-Head
and Neck Surgery, Associate Professor of
Surgery, Assistant Professor of Plastic Surgery

MARK J. SHELHAMER
Associate Professor of Otolaryngology-Head
and Neck Surgery, Associate Professor of
Biomedical Engineering

HIROSHI SHIMIZU, Associate Professor
(Audiology & Speech) Emeritus

RALPH P. TUFANO, Associate Professor

DAVID E. TUNKEL
Associate Professor of Otolaryngology-Head
and Neck Surgery, Associate Professor of
Anesthesiology and Critical Care Medicine,
Associate Professor of Pediatrics

M. LEE WILLIAMS, Associate Professor Emeritus

NISHANT AGRAWAL
Assistant Professor of Otolaryngology-Head and
Neck Surgery, Assistant Professor of Oncology

GEORGE C. ALDERMAN, Assistant Professor
Emeritus

DWIGHT EDWARD BERGLES
Associate Professor of Neuroscience, Assistant
Professor of Otolaryngology-Head and Neck
Surgery

LAUREN CLAIRE BERKOW
Assistant Professor of Anesthesiology and
Critical Care Medicine, Assistant Professor of
Otolaryngology-Head and Neck Surgery

RAY GERVACIO F. BLANCO, Assistant Professor

DEREK KOFI BOAHENE
Assistant Professor of Otolaryngology-Head
and Neck Surgery, Assistant Professor of
Dermatology

JACK CALVIN BORDERS, JR., Assistant
Professor

EMILY FRANCES BOSS, Assistant Professor

J. DENNIS BRANGER, Assistant Professor

RANDOLPH B. CAPONE, Assistant Professor

MICHAEL R. DEANS, Assistant Professor

KARL W. DIEHN, Assistant Professor

MARC G. DUBIN, Assistant Professor

PAUL M. EVITTS, Assistant Professor

CLARENCE W. GEHRIS, JR., Assistant Professor

ANDREW C. GOLDSTONE, Assistant Professor

PATRICK K. HA, Assistant Professor

HARRIET L. HASKINS, Assistant Professor
(Audiology & Speech) Emerita

MOHAMMAD OBAIDUL HOQUE
Assistant Professor of Otolaryngology-Head and
Neck Surgery, Assistant Professor of Oncology,
Assistant Professor of Urology

LISA EARNEST ISHII, Assistant Professor

MASARU ISHII, Assistant Professor

STACEY LYNN ISHMAN
Assistant Professor of Otolaryngology-Head and
Neck Surgery, Assistant Professor of Pediatrics

C. RAMADAS KAMATH, Assistant Professor
Emeritus

MATTHEW LEWIS KASHIMA, Assistant Professor

JEAN KIM
Assistant Professor of Otolaryngology-Head and
Neck Surgery, Assistant Professor of Medicine

YOUNG JUN KIM
Assistant Professor of Otolaryngology-Head and
Neck Surgery, Assistant Professor of Oncology
(from 08/01/09)

THEDA C. KONTIS, Assistant Professor

JAMES LAWRENCE, III, Assistant Professor
Emeritus

NANETTE J. LIEGEOIS-KWON
Assistant Professor of Dermatology (to 09/30/09), Assistant Professor of Oncology, Assistant Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Plastic Surgery

SAMUEL M.M. LUMPKIN, Assistant Professor Emeritus

AMERICO ANIELLO MIGLIACCIO
Adjunct Assistant Professor of Otolaryngology-Head and Neck Surgery, Adjunct Assistant Professor of Biomedical Engineering

CHULSO MOON, Adjunct Assistant Professor

DAVID EDWARD NEWMAN-TOKER
Assistant Professor of Neurology, Assistant Professor of Otolaryngology-Head and Neck Surgery, Joint Appointment in Emergency Medicine, Joint Appointment in Health Sciences Informatics, Joint Appointment in Ophthalmology

SARA ISABEL PAI
Assistant Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Oncology (from 08/01/09)

XIAOWU PANG, Adjunct Assistant Professor

CHOON MYONG PARK, Assistant Professor

HAROLD E. RAMSEY
Assistant Professor Emeritus of Surgery, Assistant Professor Emeritus of Otolaryngology-Head and Neck Surgery

RAJANI K. RAVI
Assistant Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Oncology

DOUGLAS DAVID REH, Assistant Professor

JEREMY D. RICHMON, Assistant Professor

MICHAEL C. SCHUBERT, Assistant Professor

MARGARET LEIGH SKINNER, Assistant Professor

DAVID SOLOMON
Assistant Professor of Neurology, Assistant Professor of Otolaryngology-Head and Neck Surgery

SHARMILA SRIREDDY, Assistant Professor (Audiology & Speech)

HEATHER MAUREEN STARMER, Assistant Professor (Audiology & Speech)

DONNA CLARK TIPPETT
Assistant Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Physical Medicine and Rehabilitation

BARRY TRINK, Assistant Professor

KIM WEBSTER, Assistant Professor (Audiology & Speech)

ALYSON WELLS
Assistant Professor of Plastic Surgery, Assistant Professor of Otolaryngology-Head and Neck Surgery

MARK F. WILLIAMS, Assistant Professor

ADITI CHATTERJEE, Instructor

RAFAEL GUERRERO-PRESTON, Instructor

MYOUNG SOOK KIM, Instructor

SCOTT D. LONDON, Instructor

KAVITA PATTANI, Instructor

MURUGAPPAN RAMANATHAN, JR., Instructor

TAHA Z. SHIPCHANDLER, Instructor

ROSE STAVINOHA, Instructor

JOHN K. TAYLOR, III, Instructor

DEBORAH G. BERVINCHAK, Assistant (Audiology & Speech)

STEPHEN BOWDITCH, Assistant

RYAN CARPENTER, Assistant (Audiology & Speech)

COURTNEY L. CARVER, Assistant (Audiology & Speech)

KRISTIN MARIE CEH, Assistant

JILL E. CHINNICI, Assistant (Audiology & Speech)

RONI E. DINKES, Assistant

HILLARY GANEK, Assistant (from 07/15/09)

JALEH SUE GARMAN, Assistant (Audiology & Speech)

KRISTA J. HEINLEN, Assistant (Audiology & Speech)

ANGELA TERESA LATAILLE, Assistant (Audiology & Speech)

ANDREA MARLOWE, Assistant (Audiology & Speech)

MARIAH P. MENICHINO, Assistant (Audiology & Speech)

LYNN REENI RIDER, Assistant (Audiology & Speech)

COLLEEN E. RYAN-BANE, Assistant (Audiology & Speech)

ALICIA D. WHITE, Assistant (Audiology & Speech)

MALLENE WIGGIN, Assistant (Audiology & Speech)

JENNIFER DOBSON YEAGLE, Assistant

JULIA N. ERON, Research Associate

HAKIM HIEL, Research Associate

ZUBAIR KHAN, Research Associate

MOHAMED LEHAR, Research Associate

WEILIANG BAI, Visiting Scientist (from 09/01/09)

GYU CHEOL HAN, Visiting Scientist

JONG-LYEL ROH, Visiting Scientist

YANFEI ZHOU, Visiting Scientist

FACULTY ASSOCIATED WITH THE DEPARTMENT OF OTOLARYNGOLOGY-HEAD AND NECK SURGERY HOLDING A PRIMARY APPOINTMENT IN:

The School of Medicine:
MICHAEL ROBERT CLARK
Associate Professor of Psychiatry

Division of Dental and Oral Medicine

JAMES M. CHRISTIAN
Assistant Professor of Oral Surgery (from 09/01/09), Visiting Associate Professor of Oral Surgery (to 08/31/09)

WILLIAM M. HENDERSON, Assistant Professor

MICHAEL K. SCHWARTZ, Assistant Professor

SYLVAN M.E. SHANE, Assistant Professor Emeritus

DAVID C. BASTACKY, Instructor

GHASSAN SINADA, Instructor (to 05/16/09)

Department of Urology

ALAN W. PARTIN

David Hall McConnell Professor of Urology,
Professor of Oncology, Professor of Pathology,
Director of the Department of Urology

ARTHUR L. BURNETT, II

Patrick C. Walsh Professor of Urology

MICHAEL A. CARDUCCI

AEGON Professor of Prostate Cancer Research
in the Department of Oncology, Professor of
Urology

H. BALLENTINE CARTER

Professor of Urology, Professor of Oncology

DANIEL W. CHAN

Professor of Pathology, Professor of Oncology,
Professor of Radiology, Professor of Urology

DONALD S. COFFEY

Catherine Iola and J. Smith Michael
Distinguished Professor of Urology, Professor of
Oncology, Professor of Pathology, Professor of
Pharmacology and Molecular Sciences

ANGELO M. DEMARZO

Professor of Pathology, Professor of Oncology,
Professor of Urology

THEODORE L. DEWEESE

Professor of Radiation Oncology and Molecular
Radiation Sciences, Professor of Oncology,
Professor of Urology

MARIO A. EISENBERGER

R. Dale Hughes Professor of Oncology,
Professor of Urology

JONATHAN I. EPSTEIN

Rose-Lee and Keith Reinhard Professor of
Urologic Pathology, Professor of Oncology,
Professor of Urology

JOHN P. GEARHART

Professor (Pediatric) of Urology, Professor of
Pediatrics

ROBERT H. GETZENBERG

Donald S. Coffey Professor of Urology,
Professor of Oncology, Professor of
Pharmacology and Molecular Sciences

ULRIKE M. HAMPER

Professor of Radiology and Radiological
Science, Professor of Pathology, Professor of
Urology

H. LOGAN HOLTGREWE, Professor

JOHN T. ISAACS

Professor of Oncology, Professor of Urology

WILLIAM B. ISAACS

William Thomas Gerrard, Mario Anthony Duhon
and Jennifer and John Chalsty Professor of
Urology, Professor of Oncology

JONATHAN PETER JAROW

Professor of Urology, Professor of Pathology

HYAM I. LEVITSKY

Professor of Oncology, Professor of Medicine,
Professor of Urology

JACEK L. MOSTWIN, Professor

WILLIAM G. NELSON

Marion I. Knott Director and Professor of
Oncology, Professor of Medicine, Professor
of Pathology, Professor of Pharmacology and
Molecular Sciences, Professor of Radiation
Oncology and Molecular Radiation Sciences,
Professor of Urology

MARK P. SCHOENBERG

Professor of Urology, Bernard L. Schwartz
Distinguished Professor of Urologic Oncology,
Professor of Oncology

DAVID SIDRANSKY

Professor of Otolaryngology-Head and Neck
Surgery, Professor of Oncology, Professor of
Pathology, Professor of Urology

PAUL D. SPONSELLER

Lee Riley Professor of Orthopaedic Surgery,
Professor of Urology

DAN STOIANOVICI, Professor

PATRICK C. WALSH

University Distinguished Service Professor of
Urology

SIMEON ANTONOV BOYADJIEV, Adjunct Associate Professor

SAMUEL RAY DENMEADE

Associate Professor of Oncology, Associate
Professor of Pharmacology and Molecular
Sciences, Associate Professor of Urology

RAINER M.E. ENGEL, Associate Professor

OLGA M.B. GATEWOOD

Associate Professor of Radiology and
Radiological Science, Associate Professor of
Urology

MISOP HAN

Associate Professor of Urology, Associate
Professor of Oncology

PRAKASH KULKARNI

Visiting Associate Professor of Urology, Visiting
Associate Professor of Oncology

RANJIV IGNATIUS MATHEWS

Associate Professor of Urology, Associate
Professor of Pediatrics

GEORGES JABBOURE NETTO

Associate Professor of Pathology, Associate
Professor of Oncology, Associate Professor of
Urology

CHRISTIAN PAUL PAVLOVICH, Associate Professor

JAY D. PEARSON, Adjunct Associate Professor

WILLIAM G. REINER

Associate Professor of Psychiatry, Associate
Professor of Urology

RONALD RODRIGUEZ

Associate Professor of Urology, Associate
Professor of Oncology, Associate Professor of
Radiation Oncology and Molecular Radiation
Sciences

HORST K.A. SCHIRMER, Associate Professor

LORI J. SOKOLL

Associate Professor of Pathology, Associate
Professor of Oncology, Associate Professor of
Urology

RAY E. STUTZMAN, Associate Professor Emeritus

BRUCE JEFFREY TROCK
Associate Professor of Urology, Associate Professor of Oncology

ROBERT W. VELTRI
Associate Professor of Urology, Associate Professor of Oncology

EDWARD JAMES WRIGHT, Associate Professor

HAROLD JOSEPH ALFERT, Assistant Professor Emeritus

MOHAMAD E. ALLAF
Assistant Professor of Urology, Assistant Professor of Biomedical Engineering

ALESSANDRO G. BASSO, Assistant Professor

DAVID M. BERMAN
Associate Professor of Pathology, Associate Professor of Oncology, Assistant Professor of Urology

G. STEVEN BOVA
Assistant Professor of Pathology, Assistant Professor of Oncology, Joint Appointment in Health Sciences Informatics, Assistant Professor of Urology

JENNIFER L. DODSON, Assistant Professor

CHARLES G. DRAKE
Associate Professor of Oncology, Assistant Professor of Urology

NATHANIEL MICHAEL FRIED, Adjunct Assistant Professor

WALEED A. HASSEN, Assistant Professor

MOHAMMAD OBAIDUL HOQUE
Assistant Professor of Otolaryngology-Head and Neck Surgery, Assistant Professor of Oncology, Assistant Professor of Urology

JUN LUO
Assistant Professor of Urology, Assistant Professor of Oncology

SHAWN E. LUPOLD
Assistant Professor of Urology, Assistant Professor of Oncology

KATARZYNA J. MACURA
Associate Professor of Radiology, Assistant Professor of Urology

BRIAN RICHARD MATLAGA, Assistant Professor

ALAN K. MEEKER
Assistant Professor of Pathology, Assistant Professor of Oncology, Assistant Professor of Urology

EDWARD M. SCHAEFFER
Assistant Professor of Urology, Assistant Professor of Oncology

STEPHEN SCHATZ, Assistant Professor (from 09/01/09)

DANNY Y. SONG
Assistant Professor of Radiation Oncology and Molecular Radiation Sciences, Assistant Professor of Oncology, Assistant Professor of Urology

MING-HSIEN WANG, Assistant Professor (from 09/01/09)

JARED BERKOWITZ, Instructor

JAMES D. BILES, Instructor

JOHN A.C. COLSTON, JR., Instructor Emeritus

ALAN M. GERINGER, Instructor

PAULA J. HURLEY, Instructor

MATTHEW ERIC HYNDMAN, Instructor

EDDY S. LEMAN, Instructor (to 08/31/09)

BILJANA MUSICKI, Instructor

IRWIN J. NUDELMAN, Instructor

HANG WANG, Instructor

STEVEN C. HORTOPAN, Assistant

DORU STEFANITA PETRISOR, Research Associate

SENA FERIDE SEZEN, Research Associate

PER-UNO MALMSTROM, Visiting Scientist

FACULTY ASSOCIATED WITH THE DEPARTMENT OF UROLOGY HOLDING A PRIMARY APPOINTMENT IN:

The Bloomberg School of Public Health:
ELIZABETH A. PLATZ
Associate Professor of Epidemiology

REQUIRED WORK FOR M.D. DEGREE

General Surgery and Surgical Specialties

The Basic Surgical Clerkship is a prerequisite for advanced elective courses in clinical surgery. Research electives may be scheduled with faculty members by arrangement, with the assistance of the faculty advisors.

Second, Third or Fourth year

A nine week basic clinical clerkship will be offered each quarter and can be taken at any time from the last quarter of the second year through the first quarter of the fourth year. One half of the quarter will consist of a clerkship experience in General Surgery. These consist of Cameron (hepatopancreatobiliary), Halsted (trama, general), Handelsman (surgical oncology/endocrinology), and Ravitch (GI, minimally invasive) services. The other half of the quarter will be divided between two of the following Surgical Specialities: Orthopaedic Surgery, Otolaryngology, Pediatric Surgery, Plastic Surgery, Urological Surgery, Thoracic Surgery, Cardiac Surgery, Transplant Surgery, Neurosurgery, or Vascular Surgery.

Outpatient and ward work.

(a) GENERAL SURGERY BASIC CLERKSHIP. Drs. Freischlag, Yang, and staff.

Each student will be assigned to a major teaching service for 4 1/2 weeks. These will include the general surgical services of The Johns Hopkins Hospital or the Bayview Medical Center.

(b) ORTHOPAEDIC SURGERY. Dr. Frassica and staff.

One or two students will be assigned to this department for approximately 16 consecutive days either at the Johns Hopkins Hospital or at the Johns Hopkins Bayview Medical Center.

(c) OTOLARYNGOLOGY. Dr. Minor and staff.

One or two students will be assigned to this department for approximately 16 consecutive days either at the Johns Hopkins Hospital or at the Johns Hopkins Bayview Medical Center.

(d) UROLOGY. Dr. Partin and staff.

One or two students will be assigned to this department for approximately 16 consecutive days either at the Johns Hopkins Hospital or at the Johns Hopkins Bayview Medical Center.

(e) PEDIATRIC SURGERY. Dr. Colombani and staff.

One or two students will be assigned to this department for approximately 16 consecutive days at the Johns Hopkins Hospital.

(f) PLASTIC SURGERY. Dr. Manson and staff.

One or two students will be assigned to this department for approximately 16 consecutive days at the Johns Hopkins Hospital or the Johns Hopkins Bayview Medical Center.

(g) CARDIAC SURGERY. Dr. Baumgartner and staff.

One or two students will be assigned to this department for approximately 16 consecutive days at the Johns Hopkins Hospital.

(h) THORACIC SURGERY. Dr. Yang and staff.

One or two students will be assigned to this department for approximately 16 consecutive days at the Johns Hopkins Hospital.

(i) TRANSPLANT SURGERY. Dr. Montgomery and staff.

One or two students will be assigned to this department for approximately 16 consecutive days at the Johns Hopkins Hospital.

(j) NEUROSURGERY. Dr. Brem and staff.

One or two students will be assigned to this department for approximately 16 consecutive days at the Johns Hopkins Hospital.

(k) VASCULAR SURGERY. Dr. Perler and staff.

One or two students will be assigned to this department for approximately 16 consecutive days at the Johns Hopkins Hospital.

Topics in General Surgery. Staff in General Surgery. All students assigned to surgery quarter. Lectures covering core material basic to general surgery and trauma. Monday through Friday mornings.

Topics in General Surgery at the Johns Hopkins Bayview Medical Center. Staff in General Surgery. All students assigned to surgery quarter at the Johns Hopkins Bayview Medical Center. Lectures covering core material basic to general surgery and trauma. Monday through Friday mornings.

Surgical Specialty Conference. Drs. Baumgartner, Frassica, Colombani, Manson, Minor, Partin, Yang and staff in the surgical specialties. All students assigned to surgery quarter. All lectures covering core material basic to the surgical specialties.

Surgery Grand Rounds. Dr. Freischlag and staff. Surgical Quarter. Thursday, 7:00-8:00.

ELECTIVE OPPORTUNITIES—General Surgery and Surgical Specialties. Elective courses must be approved by the preceptor; any member of the department may act as preceptor.

A subinternship in surgery is designed to give the advanced student supervised participation in clinical care of patients. This elective must be applied for at least two months before the starting date to insure appropriate credentialing by the Department of Surgery and the hospital.

An advanced clerkship is designed to expose the student to patients with surgical problems. The student is given very limited clinical responsibilities and is not involved in any direct patient care. Approval of the curriculum consultant for surgery is needed to qualify for this elective.

Section of Surgical Sciences. *Curricular Consultant:* Dr. Yang.

MAJOR CLINICAL COURSES—The prerequisite of all major clinical electives is the Surgery Basic Clerkship.

Department of General Surgery

E 1. Sub-Internship. Drs. Freischlag, Yang, and staff. The students will be given more clinical responsibilities and will participate in the management and care of surgical patients. The activities of the student will be supervised by the attending and house staff. Services available: GI surgery, vascular surgery, Halsted-trauma, oncology-endocrine. Four and 1/2 week experience.

This course is designed to provide extensive, in-depth experience in the management of the surgical patient. The student will be an integral part of the surgical team and will be assigned specific patients. Registration must be 8 weeks before this elective since credentialing is required by the Medical Board.

E 2. Advanced Clinical Clerkship in Cardiac Surgery. Dr. D. Cameron and staff.

Includes participation in ward and operative work and research (either clinical or in animal laboratory). Full time; 4 1/2 to 9 weeks, two students for clinical portion, one student for research laboratory. Preference given to senior students.

E 3. Advanced Clerkship in Surgical Oncology (Handelsman Service). Dr. Choti and staff.

This elective is designed to provide students with an academic multidisciplinary approach to solid tumors. Both clinical and research experiences are available. The clinical exposure is provided by rotating through the Surgical Oncology/Endocrinology service, and the research interests are centered around immunologic manipulations of the host in solid tumor rejection. Elective is offered full time, 4 1/2 to 9 weeks.

E 4. Advanced Clinical Clerkship in General Pediatric Surgery. Dr. Colombani. 4 1/2 or 9 weeks. Same as Pediatrics E30.

On completion of the core clerkship in either Pediatrics or Surgery, a limited number of students may serve as substitute interns on the General Pediatric Surgery service in the Johns Hopkins Children's Center. This externship in Pediatric Surgery includes ward and operating room experience as well as Pediatric Surgery out-patient clinic and teaching rounds.

E 5. Advanced Clinical Clerkship in Plastic Surgery. Dr. Manson and staff.

Opportunity will be offered to one or two students for externship on the Plastic Surgery Service at the Johns Hopkins Hospital, the Johns Hopkins Bayview Key Medical Center, the Children's Hospital and Center for Reconstructive Surgery or the Maryland Institute for Emergency Medical Services System. Experience with maxillofacial trauma and tumor service, reconstructive surgery with in-patients, out-patients and operating room. Basic techniques of surgical dressing and wound care will be stressed. Special experience is also available on the Burn Unit of The Johns Hopkins Bayview Medical Center. Full time; 4 1/2 or 9 weeks.

E 6. Advanced Clerkship in Transplantation Surgery. Dr. Montgomery and staff.

Includes participation in management of patients undergoing renal dialysis and renal transplantation at the Johns Hopkins Hospital and the Johns Hopkins Bayview Medical Center. Experience will include immunology as it applies to transplantation, and may be coordinated with laboratory investigation in progress. Full time; 4 1/2 to 9 weeks; limited to two students.

E 9. Advanced Clerkship in General Surgery at Johns Hopkins Bayview Medical Center. Dr. Anderson and staff.

Experience similar to E1. Available in June, July, August only.

E 10. Advanced Clerkship in Vascular Surgery. Dr. Perler and staff.

This elective provides exposure to vascular surgery patients. Students will participate in all aspects of patient care: preop evaluation, operative procedures, postop care. Four and 1/2 weeks.

E 11. Internship in Surgery. Dr. Freischlag and staff.

Qualified students wishing to take an accelerated program may apply for surgical internship during their Fourth Year. Twelve months, with rotations including general surgery, emergency surgery, selected surgical specialties. By arrangement with Dr. Freischlag. Approval of Committee on Student Promotion-Fourth Year is required.

E 12. Advanced Clinical Clerkship in Surgical Intensive Care. Dr. Lipsett and staff.

This elective provides an opportunity for students to work in one of the Surgical Intensive Care Units and obtain experience in the management of critically ill surgical patients. Students will participate in all aspects of care and resuscitation, including patient monitoring, respiratory care and fluid management. Practical experience will be combined with teaching

conferences and rounds on the unit. Three students at a time. 4 1/2 weeks (month).

E 13. Advanced Clerkship in Thoracic Surgery. Dr. Yang and staff.

This is an elective designed to provide clinical experience in the management of patients with thoracic surgical problems, primarily malignant tumors of the lung, esophagus and mediastinum. The elective is offered in units of four and one half or nine weeks.

E 14. Advanced Clerkship in Alimentary Tract Surgery. Dr. Efron and staff.

This elective provides comprehensive exposure to GI surgery patients. Students will participate in all aspects of care: preop evaluation, operative procedures, and postop care. Four and 1/2 weeks.

Research Interests

DR. BAUMGARTNER

Cardiac transplantation.

DR. CHOTI

Portal hypertension.

DR. COLOMBANI

Immunopharmacology and transplantation.

DR. DELLON

Mechanism in peripheral sensibility.

DR. FREISCHLAG

Carotid plaque analysis and abdominal aortic aneurysm surgery.

DR. LEACH

Pancreatic cancer.

DR. LIPSETT

Surgical critical care.

DR. MANSON

Tissue ischemia; bone repair; facial fractures.

DR. MONTGOMERY

Transplant immunology.

DR. PERLER

Vascular physiology.

DR. SCHULICK

Hepatic metastases.

DR. SPENCE

Burn reconstruction.

DR. YANG

Lung and esophageal cancer.

DR. ZEIGER

Thyroid physiology.

Department of Neurological Surgery

E 12. Advanced Clinical Clerkship in Neurosurgery. Dr. Huang and staff.

The neurosurgical service will provide in-depth experience in the management of the neurosurgical patient. The student will be integrated into the house staff and will be expected to assume responsibilities similar to the resident staff. Two students, 4 weeks. Available either at The Johns Hopkins Hospital or at the Johns Hopkins Bayview Medical Center.

Research Interests

DR. AHN

Pediatric neurosurgery

DR. BELZBERG

Neurophysiological mechanisms of pain sensation; schwannomas; peripheral nerve.

DR. BREM

Brain tumor angiogenesis and drug delivery systems; immunotherapy; clinical studies of brain tumor therapies and pituitary tumor treatment and clinical outcomes.

DR. BYDON

Spine surgery and spine biomechanics.

DR. CARSON

Pediatric neurosurgery; treatment of trigeminal neuralgia and medical ethics.

DR. GALLIA

Endoscopy in neurosurgery; molecular genetics of brain tumors.

DR. GOKASLAN

Outcomes of novel therapies for spine disease.

DR. HUANG

Neuroprotection; cerebrovascular disease; intracerebral hemorrhage.

DR. JALLO

Pediatric neurosurgery; models of spinal cord tumors.

DR. LENZ

Study of motor/sensory systems in human thalamus; brain stimulation and seizure surgery

DR. LIM

Brain tumor therapy; radiosurgery and immunotherapy.

DR. LONG

Epidemiologic studies in low back pain.

DR. OLIVI

Studies in brain tumor immunology; novel brain tumor therapies and clinical outcomes.

DR. QUINONES-HINOJOSA

Brain tumor outcomes; stem cell research.

DR. RIGAMONTI

Genetics of vascular disease; radiosurgery; hydrocephalus research; dementia.

DR. RIGGINS

Molecular genetics of brain tumors.

DR. SCIUBBA

Spinal disorders and spinal tumors.

DR. TAMARGO

Vasospasm mechanisms and clinical outcomes in vascular disease.

DR. WEINGART

Brain tumor therapy; Cehiari malformations.

DR. WITHAM

Spine surgery.

DR. WOLINSKY

Spine surgery and spine cancer.

Department of Orthopaedic Surgery

E 30. Advanced Clinical Clerkship in Spine Surgery. Drs. Riley Cohen, Kebaish, and Neubauer.

This elective provides in-depth clinical experience in orthopaedic spine surgery at the Johns Hopkins Hospital. The student is integrated into the orthopaedic residency program. Practical experience is supplemented by formal and informal teaching conferences and patient rounds. One or two positions offered at a time. Preference is given to second semester third year students and to fourth year students. Duration four weeks.

E 31. Advanced Clinical Clerkship in Pediatric Orthopaedics. Drs. Sponseller, Sargent, Tis, and Leet.

This is a clinical course in Pediatric Orthopaedics at the Johns Hopkins Hospital. The participant is

exposed to different aspects of this discipline by attending the General Pediatric, Birth Defect, Cerebral Palsy, Comprehensive Child Care, and Scoliosis Clinics and Conferences and by participating in operative procedures on children. Students are given responsibility according to their experience. There are three teaching conferences per week. One position offered at a time. Duration is four weeks.

E 32. Advanced Clinical Clerkship in Adult Limb Reconstruction. Dr. Carl Johnson.

This elective at the Johns Hopkins Bayview Medical Center provides an in-depth clinical experience in arthroscopic and reconstructive surgery of the knee and foot/ankle. Students are actively involved in all aspects of clinical patient care as well as resident educational activities. One position offered at a time. Preference given to second semester third year students and to fourth year students. Duration is four weeks.

E 34. Advanced Clinical Clerkship in Adult Orthopaedics at the Johns Hopkins Bayview Medical Center. Dr. Byank.

The Hopkins Bayview experience encompasses the full scope of orthopaedics with specialists available in each subspecialty. The rotation is very busy, hands-on and fun.

E 35. Advanced Clinical Clerkship in Adult Orthopaedics at the Union Memorial Hospital.

Experience similar to E34.

E 36. Advanced Clinical Clerkship in Sports Medicine. Drs. McFarland, Cosgarea, Petersen, Zikria, and Dixit.

This elective is offered at The Johns Hopkins Hospital and Johns Hopkins Greenspring for students interested in sports related injuries. Students will learn the basics of musculoskeletal examination of a variety of joints. This is a great elective for students interested in Sports Medicine or primary care subspecialties. Students participate in admission work-ups, pre and post-op care and rehabilitation, and assist in the operating room. One position offered at a time. Preference given to second semester third year students and to fourth year students. Duration is four weeks.

E 38. Advanced Clerkship in Hand Surgery-Johns Hopkins Hand Service. Drs. Brushart, Deune, Lockner, and LaPorte.

This elective provides a one-month exposure to hand and upper extremity surgery on the Johns Hopkins Hand Service. Students will receive individual instruction in the examination of the upper extremity and in the recognition and treatment of common upper extremity problems. Special emphasis is placed on the treatment of injuries and diseases of the peripheral nervous system, including reconstruction with tendon transfers. There is also an extensive exposure to congenital deformities of the upper extremity.

Research Interests

DR. AIN

Skeletal dysplasia.

DR. BELKOFF

Biomechanics.

DR. BRUSHART

Nerve regeneration.

DR. COHEN

Clinical outcomes in spinal surgery; spinal deformity in adults; spinal disorders.

DR. COSGAREA

Sports medicine; knee injuries; ACL injuries.

DR. D. HUNGERFORD

Ischemic necrosis of bone; biomechanics of lower extremity.

DR. C. JOHNSON

Arthroscopy; reconstruction of the knee.

DR. KOMINSKY

Oncology.

DR. KULIK

Foot and ankle.

DR. LEET

Pediatrics; cerebral palsy.

DR. LEMMA

Spine.

DR. MCFARLAND

Sports medicine; shoulder injuries.

DR. RILEY III

Clinical outcomes in spinal surgery; cervical spine; mechanism of disc degeneration.

DR. SPONSELLER

Spinal deformities; pediatric trauma; myelodysplasia.

DR. WEBER

Oncology.

DR. WILCKENS

Sports medicine.

Department of Otolaryngology-Head and Neck Surgery

E 14. Advanced Clinical Clerkship in Otolaryngology. Dr. Sara Pai and staff.

Clerkships in general clinical otolaryngology are offered in addition to more specialized clerkships in otology, neuro-otology, clinical audiology and speech pathology, endoscopy and the management of head and neck tumors. These clerkships provide experience in the various diagnostic procedures related to the specialty as well as experience in the medical and surgical management of patients. Preference is given to senior students, 4 1/2 or 9 weeks. Available either at the Johns Hopkins Hospital or at the Johns Hopkins Bayview Medical Center.

Research Interests

DR. AGRAWAL

Head and neck cancer genetics and diagnostics.

DR. BHATTI

Management of challenging airway problems; innovative tracheostomy techniques and use of alternative modes of therapy in chronic sinus disease.

DR. BOAHENE

Tissue engineering; outcomes of reconstructive surgery.

DR. BYRNE

Facial nerve rehabilitation; digital imaging for facial plastic and reconstructive surgery.

DR. CALIFANO

Molecular biology of head and neck cancer, including early detection of head and neck cancer; use of molecular techniques for detection of disease in saliva and blood; network based analysis of novel therapeutic targets; epigenetic regulation in head and neck cancers.

DR. CAREY

Define the physiologic and histologic changes in the vestibular organs of the inner ear after treatment with gentamicin; treatment of vertigo due to Meniere's disease.

DR. DEANS

The molecular biology of auditory and vestibular system development.

DR. DELLA SANTINA

Development of a "bionic ear" (neuroelectronic vestibular prosthesis) to restore inner ear balance function; development of new methods for testing vestibular function in humans and in transgenic mice; epidemiology of vestibular disorders; molecular genetics of Meniere's disease; normal and patho-physiology of the 3D vestibulo-ocular reflex.

DR. FRANCIS

Biologic mechanisms in the cochlea that lead to hearing loss as a result of aging, noise and other factors; neural plasticity in the auditory pathway; language and educational outcomes in deaf children with cochlear implants.

DR. FUCHS

The ionic mechanisms involved in excitability and synaptic function of mechanosensory hair cells of the inner ear.

DR. GOURIN

Head and neck cancer; outcomes research; cost effectiveness analysis and quality of life.

DR. HA

The molecular biology and epigenetic changes associated with salivary gland neoplasms.

DR. HOLLIDAY

Clinical research in diseases of temporal bone and skull base.

DR. L. ISHII

Objective analysis of facial deformities using gaze-tracking and investigating the role of nasal obstruction in the pathophysiology and treatment of obstructive sleep apnea.

DR. M. ISHII

Gas transport in the nasal cavity and paranasal sinuses.

DR. ISHMAN

Surgical outcomes after sleep surgery and persistent OSA in patients with Down syndrome and craniofacial anomalies

DR. KASHIMA

Sleep apnea outcomes research.

DR. J. KIM

Clinical and basic science research in sinusitis.

DR. Y. KIM

Mechanisms of immune tolerance against human malignancy; development of immunomodulatory adjuvant therapy for head and neck cancer.

DR. KOCH

Clinical application of molecular biology of head and neck cancer.

DR. LANE

Clinical and basic science research of chronic sinusitis, olfaction, and transnasal endoscopic surgery.

DR. LIMB

Neural mechanisms of musical perception and production; music perception in cochlear implant users.

DR. S. LIN

Outcomes in pediatric and adult sinusitis; outcomes in the treatment of allergies.

DR. MAY

Information processing mechanisms in behaving subjects.

DR. NIPARKO

Prosthetic rehabilitation of deafness and effects of auditory deprivation; QOL and utility assessment of interventions for hearing loss.

DR. PAI

Development of novel vaccine strategies targeting HPV-associated head and neck cancers as well as studying genetic changes associated with thyroid malignancies in order to identify diagnostic molecular markers for early detection and development of novel treatment strategies.

DR. REH

Outcomes in sinus surgery; biomolecular and genetic causes of sinusitis.

DR. RICHMON

Clinical outcomes of head and neck surgery and free tissue reconstruction; robotic surgery of the head and neck.

DR. RYUGO

Anatomy and physiology of the central auditory nervous system.

DR. SCHUBERT

Describe mechanisms responsible for improving gaze stability during rapid head impulses and to develop new gaze stability strategies for rehabilitation.

DR. SIDRANSKY

The molecular genetic changes that drive the progression of various types of cancer.

DR. TUFANO

Clinical and translational research of thyroid and parathyroid disease process.

DR. TUNKEL

Pediatric airway problems.

DR. YOUNG

Auditory neurophysiology; sensory processes; application of computers in research.

Department of Urology

E 16. Advanced Clinical Clerkship in Urology.

Drs. Partin, Mostwin and staff.

This elective provides students with the opportunity to pursue a study of urology in-depth, gearing such study to the needs or goal of the individual student. Thus, this experience may be oriented to clinical urology research or a combination of both. 4 1/2 or 9 weeks. Available either at the Johns Hopkins Hospital or at the Johns Hopkins Bayview Medical Center.

Research Interests

DR. ALLAF

Minimally invasive surgery and robotics.

DR. BURNETT

Pelvic neurophysiology; pelvic anatomy; erectile dysfunction; urinary continence; pelvic reconstructive surgery.

DR. CARTER

Longitudinal studies of prostate disease, etiology, detection, and management.

DR. CESPEDES

Male and female incontinence; obstructive voiding dysfunction; vaginal prolapsed reconstruction; geriatric incontinence; neurourology.

DR. COFFEY

Prostate tumor biology; regulation of normal and abnormal growth of the prostate; role of nuclear matrix in DNA replication; telomerase; stem cell biology.

DR. DODSON

Epidemiology and patient reported outcomes in pediatric urology; health related quality of life; incontinence.

DR. GEARHART

Endocrine manifestations of ambiguous genitalia; bladder muscle nerve and collagen function in bladder exstrophy; long term outcomes in ambiguous genitalia.

DR. GETZENBERG

Biomarkers-prostate cancer, BPH, bladder cancer; nanoparticle based thermal therapy; evolutionary aspects of cancer biology and treatment.

DR. HAN

Oncology; outcomes research in prostate cancer.

DR. J. ISAACS

Development of new therapies for prostatic cancer and molecular mechanisms for control of metastasis.

DR. W. ISAACS

Molecular genetics of prostate cancer and benign prostatic hyperplasia.

DR. JAROW

Erectile dysfunction, male infertility.

DR. KULKARNI

Understanding molecular mechanisms underlying prostate diseases; aberrant expression of Cancer/Testis Antigens; gene-environment interactions.

DR. LUO

High-throughput oriented approaches to study molecular carcinogenesis of human prostate cancer and translational research on novel prostate markers identified using these approaches.

DR. LUPOLD

Experimental therapeutics; molecular imaging; gene therapy.

DR. MATHEWS

Minimally invasive pediatric urology; hypospadias; vesico-ureteral reflux; undescended testis.

DR. MATLAGA

Kidney stone disease and surgical treatment.

DR. MOSTWIN

Continence; bladder function; pelvic anatomy; medical ethics.

DR. PARTIN

Prostate cancer; benign prostatic hyperplasia; prostate cancer biomarkers research

DR. PAVLOVICH

Molecular and genetic analysis of kidney cancer and prostate cancer; laparoscopic urologic oncology.

DR. RODRIGUEZ

Advanced prostate cancer; bladder cancer; kidney cancer; gene therapy; experimental therapeutics.

DR. SCHAEFFER

The biology of urogenital development and injury/repair and the relationship between these processes and cancers of the bladder, prostate, and kidneys.

DR. SCHOENBERG

Molecular biology and early detection of bladder cancer; novel therapeutic strategies for invasive bladder cancer.

DR. STOIANOVICI

Urology robotics; image guided interventions; new technologies.

DR. TROCK

Epidemiology and prevention of prostate and breast cancer; biomarkers for early detection and progression.

DR. VELTRI

Biomarkers for diagnosis and prognosis of urological cancers; quantitation of cell nuclear structure and molecular biomarkers using computer-assisted image analysis; applied proteomics for discovery, identification, and characterization; algorithms that combine pathology and biomarkers to predict urological cancer outcomes.

DR. WALSH

Benign prostatic hyperplasia; prostatic cancer.

DR. WRIGHT

Male and female voiding dysfunction; neurourology; pelvic reconstructive surgery; urogynecology.

DR. WANG

General pediatric urology; urinary tract infections; vesicoureteral reflux; penile and bladder development; ectopic ureters/ ureteroceles.



Multi-Department Courses

REQUIRED WORK FOR M.D. DEGREE

First Year

Intersessions

Intersessions are designed to present the behavioral and social science content pertinent to the practice of medicine in the 21st century and provide additional clinical skill development in the preclinical years. They are taught by interdisciplinary faculty and placed at times in the calendar when students have no other competing coursework. The Intersession “week” begins with a Monday exam for the preceding basic science section. This is followed by the Restorative Medicine course, in which students choose one of six restorative practices, such as meditation, yoga, writing, life drawing, to participate. The following three mornings are devoted to the Intersession theme, and the afternoons to Scholarly Concentrations. The final day is a combination of assessment for the Intersession and advising activities sponsored by the Colleges. In AY 2009-10, the following intersessions are presented:

- **Health Care Disparities and Service Learning.** This intersession launches Year 1 and is used to introduce students to the city of Baltimore and the concepts of health disparities that occur at both the local and regional level, as well as the concepts of cultural competence. Students participate in seminars led by clinical faculty, faculty from the school of public health, community leaders, and patients. They have an opportunity to participate in a service learning activity with mentors from the second year class. (There is no Scholarly Concentration time during this intersession).
- **Health Promotion and Disease Prevention.** This intersession is presented prior to the winter break, and focuses on Obesity as a model for health promotion and disease prevention. In addition to learning basic nutritional information and

knowledge of the burden of disease related to obesity, students explore behavioral change and are introduced to motivational counseling. They are asked to assess their own nutritional behaviors and participate in a personal behavior change during the week. Students will choose the area of concentration and meet for the first time in their Scholarly Concentrations course this week.

- **Global Health Intersession.** This intersession is directed by the Center for Global Health education. Students have the opportunity to participate in teleconferences with medical students and faculty from Uganda, Pakistan, India and Ethiopia, and develop an understanding of global burden of disease, social determinants of health, knowledge of other health delivery systems, and awareness of their own biases about global health.
- **Pain Care Intersession.** This intersession is delivered during a break in the GTS Nervous System section, and presents students with an introduction to the complex care of pain, including initial assessment of pain, cross-cultural issues, medicolegal issues, pharmacology of analgesia, chronic pain and disability and alternative and complementary medicine.
- **Disaster Medicine Intersession.** In this final week of the school year, students will participate in a disaster drill and pandemic simulation, explore the ethics of triage and review the impact of disaster response with participants in the Haiti and Chile disasters of 2009-10.

Scholarly Concentrations

Scholarly concentrations was designed to provide students an opportunity as early as possible in the curriculum to develop additional expertise in a particular area of interest, and guide students in applying a scholarly approach to an independent mentored project. Students begin by meeting in seminars in their particular area of interest during the intersessions, and subsequently identify a mentor and project timeline. The goal is completion of the project by the end of Year 2. The five areas of concentration from which students may choose are Basic Research, Clinical Research, History of Medicine, Medical Humanities, Bioethics and the Healing Arts, or Public Health and Community Service.



Schedules

(all hours are approximate)

FIRST YEAR 2009-10 – 8/19/09-6/18/10

August																		January							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
IS Health Disp	Scientific Foundations of Medicine																	IS Prevention	Break	Genes to Society Immunology 1 (10 days) Micro/ID (20 days) Immunology 2 (7 days)					
	Clinical Foundations																			Longitudinal Clerkship					
	Foundations of Public Health								Scholarly Concentration																

March														June																	
27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52						
GTS Immun. 1 Micro/ID Immun. 2	IS Global	GTS Heme/Onc (15 days)						BMB	Break	BMB (13 days)				NSS (15 days)				IS Pain	Genes to Society NSS (21 days)						IS Disaster	Summer Break (9 weeks)					
		LC								LC				Longitudinal Clerkship																	
		SC								SC				Scholarly Concentration																	

Additional Responsibilities:

CPR Training – one four hour session and a one hour simulated session

BMB = Brain, Mind & Behavior

NSS = Nervous System & Special Senses

GTS = Genes to Society

LC = Longitudinal Clerkship

SC = Scholarly Concentration

IS = Intersession

SECOND YEAR 2009-10

SECOND YEAR First and Second Quarter 8/24/09 – 12/22/09

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8-1	Pathology ¹ Pharmacology Pathophysiology	Pathology Pharmacology Pathophysiology	Pathology Pharmacology Pathophysiology	Pathology Pharmacology Pathophysiology	Pathology Pharmacology Pathophysiology
1-2	Lunch	Lunch	Lunch	Lunch	Lunch
2-5	Patient, Physician & Society	Longitudinal Clerkship ²	Patient, Physician & Society	Longitudinal Clerkship ²	Free

SECOND YEAR Third Quarter 1/4/10 – 3/12/10

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8-1	Pathology Pharmacology Pathophysiology	Pathology Pharmacology Pathophysiology	Pathology Pharmacology Pathophysiology	Pathology Pharmacology Pathophysiology	Pathology Pharmacology Pathophysiology
1-2	Lunch	Lunch	Lunch	Lunch	Lunch
2-5	Patient, Physician & Society	Longitudinal Clerkship ²	Patient, Physician & Society	Transition to the Wards ³	Free

SECOND YEAR Fourth Quarter 3/29/10-5/21/10 – Basic Clerkships and/or Electives

5/24/10-5/28/10 – Intersession

¹ Integrated instruction in Pathology, Pathophysiology and Pharmacology

² Longitudinal Clerkship – Tuesday & Thursday 2-5:30 p.m.

³ Transition to the Wards – 2-6:00 p.m.

REQUIRED CLERKSHIPS*

Medicine Clerkship (nine weeks)

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Medicine	Medicine	Medicine	Medicine	Medicine

Surgery Clerkship (nine weeks)

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Surgery	Surgery	Surgery	Surgery	Surgery

Obstetrics/Gynecology Clerkship (six weeks)

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
OB/Gyn	OB/Gyn	OB/Gyn	OB/Gyn	OB/Gyn

Pediatrics/Neonatology Clerkship (nine weeks)

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Peds/Neo	Peds/Neo	Peds/Neo	Peds/Neo	Peds/Neo

Ambulatory Medicine Clerkship (four and one-half weeks)

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Ambulatory Medicine	Ambulatory Medicine	Ambulatory Medicine	Ambulatory Medicine	Ambulatory Medicine

Psychiatry/Neurology/Ophthalmology Clerkship (nine weeks)

Psychiatry Portion (4 weeks)

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Psychiatry	Psychiatry	Psychiatry	Psychiatry	Psychiatry

Neurology Portion (4 weeks)

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Neurology	Neurology	Neurology	Neurology	Neurology

Ophthalmology Portion (1 week)

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Ophth.	Ophth.	Ophth.	Ophth.	Ophth.

Emergency Medicine Clerkship (four and one-half weeks)

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Em. Med.	Em. Med.	Em. Med.	Em. Med.	Em. Med.

*Scheduled hours for core clerkships vary and are determined by course directors

THIRD YEAR

First quarter: 8/24/09-10/23/09
 Second quarter: 10/26/09-1/8/10
 Third quarter: 1/11/10-3/12/10
 Fourth quarter: 3/29/10-5/21/10
 Intersession: 5/24/10-5/28/10

FOURTH YEAR

First quarter: 8/24/09-10/23/09
 Second quarter: 10/26/09-1/8/10
 Third quarter: 1/11/10-3/12/10
 Fourth quarter: 3/29/10-5/21/10

Administration, Faculty, Fellows, and Students

Administration

TRUSTEES OF THE JOHNS HOPKINS UNIVERSITY

Pamela P. Flaherty, *Chair*

C. Michael Armstrong, *ex officio*

Richard S. Frary

Mark E. Rubenstein

Vice-Chairs

Robert J. Abernethy*

Leonard Abramson*

Christopher C. Angell

Peter G. Angelos*

Jeffrey H. Aronson

Norman R. Augustine*

Janie E. Bailey

Lenox D. Baker, Jr.

H. Furlong Baldwin*

Jeremiah A. Barondess*

Ernest A. Bates*

Alfred R. Berkeley III

David H. Bernstein*

Paula E. Boggs

Aurelia G. Bolton*

Randolph W. Bromery*

Michelle A. Brown

George L. Bunting, Jr.

Francis B. Burch, Jr.

Constance R. Caplan*

William P. Carey*

A. James Clark*

Charles I. Clarvit

N. Anthony Coles

Ronald J. Daniels, *ex officio*

Victor J. Dankis*

Sarah R. David

Anthony W. Deering

Ina R. Drew

Edward K. Dunn, Jr.*

Manuel Dupkin II*

Harvey Eisen

Maria T. Fazio

Marjorie M. Fisher

James A. Flick, Jr.*

Louis J. Forster

Sanford D. Greenberg

Benjamin H. Griswold IV

Taylor Hanex

Robert D. H. Harvey*

Lee Meyerhoff Hendler

Rafael Hernandez-Colon*

David C. Hodgson

R. Christopher Hoehn-Saric

Frank L. Hurley

Stuart S. Janney III

Jeong H. Kim

David H. Koch

Christopher Kovalchick

Donald A. Kurz

Joanne Leedom-Ackerman

Alexander H. Levi

Kwok-Leung Li

F. Pierce Linaweaver*

Roger C. Lipitz

Diana C. Liu

Christopher E. Louie

Howard C. Mandel

Raymond A. Mason*

Christina L. Mattin

Gail J. McGovern

Peter A. Meyer

Harvey M. Meyerhoff*

Kweisi Mfume

Charles D. Miller*

Milton H. Miller*

Westley W.O. Moore

Naneen H. Neubohn

David P. Nolan

Ronald M. Nordmann

Ralph S. O'Connor*

Morris W. Offit*

Geraldine A. Peterson, *ex officio*

Walter D. Pinkard, Jr.

George G. Radcliffe*

Joseph R. Reynolds

Brian C. Rogers

David M. Rubenstein

John F. Ruffle*

Marshal L. Salant

Arthur Sarnoff*

Frank Savage*

Wayne N. Schelle*

Herschel L. Seder*

Robert A. Seder

Huntington Sheldon*

Donald J. Shepard

R. Champlin Sheridan, Jr.*

Rajendra Singh

Wendell A. Smith*

Raymond W. Snow, *ex officio*

Helmut Sonnenfeldt*

Shale D. Stiller*

Morris Tanenbaum*

Adena W. Testa

Edward G. Uhl*

Selwyn M. Vickers

William F. Ward, Jr

James L. Winter

Shirley S. L. Yang

Calman J. Zamoiski, Jr.*

*Trustee Emeritus

PRINCIPAL ADMINISTRATIVE OFFICERS AND DEANS OF THE JOHNS HOPKINS UNIVERSITY*

Ronald J. Daniels
President

Lloyd B. Minor
Provost and Senior Vice President for Academic Affairs

James T. McGill
Senior Vice President for Finance and Administration

Stephen S. Dunham
Vice President and General Counsel

Michael Eicher
Vice President for Development and Alumni Relations

Edward D. Miller
*Vice President and CEO of Johns Hopkins Medicine
Dean of the Medical Faculty*

Thomas S. Lewis
Vice President for Government and Community Affairs

Charlene Moore Hayes
Vice President for Human Resources

Michael Strine
Vice President for Finance and Treasurer

Paula Burger
Vice Provost

Michela Gallagher
Vice Provost for Academic Affairs

Edgar E. Roulhac
Vice Provost for Academic Services

Scott Zeger
Vice Provost for Research

Stephanie Reel
Chief Information Officer and Vice Provost for Information Technology

Pamela Cranston
Vice Provost for International Programs

Ray Gillian
Vice Provost for Institutional Equity

Jonathan Bagger
Vice Provost for Graduate and Postdoctoral Programs and Special Projects

Jerome D. Schnydmann
Executive Assistant to the President and Secretary of the Board of Trustees

Yash P. Gupta
Interim Dean, Carey Business School

Kathryn J. Crecelius
Chief Investment Officer

Jessica P. Einhorn
Dean of The Paul H. Nitze School of Advanced International Studies

Michela Gallagher
Interim Dean of the Krieger School of Arts and Sciences

Mariale Hardiman
Interim Dean of the School of Education

Nicholas P. Jones
Dean of the Whiting School of Engineering

Michael J. Klag
Dean of the Bloomberg School of Public Health

Martha Hill
Dean of the School of Nursing

Jeffrey Sharkey
Director of the Peabody Institute

Richard T. Roca
Director of the Applied Physics Laboratory

Winston Tabb
Dean of University Libraries, Vice Provost for the Arts, Director of Johns Hopkins University Museums

DEANS, PRINCIPAL ACADEMIC ADMINISTRATORS AND COMMITTEES OF THE MEDICAL FACULTY

Officers of Administration

Edward D. Miller
*Dean of the Medical Faculty
CEO, Johns Hopkins Medicine*

William A. Baumgartner
Vice Dean for Clinical Affairs

Janice E. Clements
Vice Dean for Faculty

Chi V. Dang
Vice Dean for Research

Richard A. Grossi
*Chief Financial Officer, Johns Hopkins Medicine
Sr. Associate Dean for Finance and Administration*

Daniel E. Ford
Vice Dean for Clinical Investigation

David G. Nichols
Vice Dean for Education

David B. Hellmann
Vice Dean for the Bayview Campus

Stephen J. Thompson
*Sr. Vice President for Johns Hopkins Medicine;
Vice President for Ambulatory Services
Coordination*

Michael B. Arney
Associate Dean for Research Administration

Todd Dorman
Associate Dean for Continuing Medical Education

Mary E. Foy
Associate Dean/Registrar

Brian Gibbs
Associate Dean for Diversity and Cultural Competence

Peter Greene
Associate Dean for Emerging Technologies

Thomas W. Koenig
Associate Dean for Student Affairs

Peter Maloney
Associate Dean for Graduate Student Affairs

Julia McMillan
Associate Dean for Graduate Medical Education

Patricia Thomas
Associate Dean for Curriculum

Levi Watkins, Jr.
Associate Dean for Postdoctoral Affairs

James L. Weiss
Associate Dean for Admissions

Kenneth Wilczek
Associate Dean and Executive Director, Clinical Practice Association

Michael Barone
Assistant Dean for Student Affairs

Sarah Clever
Assistant Dean for Student Affairs

Melissa Feld
Assistant Dean, Bayview

Harry Goldberg
Assistant Dean/Director of the Office of Academic Computing

Julie Gottlieb
Assistant Dean for Policy Coordination

Lisa Heiser
Assistant Dean for Faculty Development and Equity

Hermione Hicks
Assistant Dean for Admissions

John Rybock
Assistant Dean and Compliance Officer for Graduate Medical Education

Barbara Starklauf
Assistant Dean for Human Subjects Research Compliance

Danny Teraguchi
Assistant Dean for Student Affairs

Christine H. White
Assistant Dean for Medicine

ADMINISTRATIVE STAFF

Wesley Blakeslee
Executive Director, Technology Transfer

Gloria Bryan
Sr. Director, Human Resources

James R. Erickson
Executive Director, Finance

Jack Grinnalds
Sr. Director, Facilities Management

Terra Jones-Sims
Director, Financial Aid

Steven A. Rum
Sr. Associate Vice President for Development & Alumni Relations

Advisory Board of the Medical Faculty

Ronald J. Daniels
President

Edward D. Miller
Dean of the Medical Faculty

L. Mario Amzel

Dana Andersen

Deborah Armstrong

William Baumgartner

Henry Brem

Philip A. Cole

J. Raymond DePaulo

Stephen Desiderio

Peter Devreotes

Theodore DeWeese

George J. Dover

Harold E. Fox

Frank J. Frassica

Julie A. Freischlag

Gary W. Goldstein

Carol Greider

William B. Guggino

Gerald W. Hart

Martha N. Hill

Richard L. Huganir

J. Brooks Jackson

Sewon Kang

Gabor D. Kelen

Michael J. Klag

Gary Lees

Jonathan S. Lewin

Justin McArthur

Peter J. McDonnell

Julia McMillan

Elliot McVeigh

Lloyd B. Minor, *ex officio*

William Nelson

Randall M. Packard

Jeffrey B. Palmer

Alan W. Partin

Ronald R. Peterson, *ex officio*

Nancy Roderer

Gordon F. Tomaselli

John A. Ulatowski

David Valle

Myron L. Weisfeldt

M. Christine Zink

Christine H. White
Secretary

The Board was constituted by resolution of the Trustees (April 3, 1893), "to report to the trustees from time to time their suggestions and to prepare and to carry forward the proper arrangements for the instruction and graduation of medical students."

Medical School Council

Deborah Armstrong
Chair

Joseph Herman
Vice-Chair

Mary E. Foy
Secretary

Rachel Abuav
Edward Ahn
Peter Barker
Amy Bastian
Cory Brayton
Karen Carroll
Betty Chou
Roy Chuck
Nathaniel Comfort
David Cooke
David Cromwell
Jennifer Fairman
Derek Fine
Mitchell Goldstein
Rebecca Gottesman
Rachel Green
Lisa Ishii
Daniel Leahy
Steven Mandell
Marisa Matthys

Erika Matunis
Melissa McCarthy
Sharon McGrath-Morrow
Mollie Meffert
Susan Molinaro
Trang Nguyen
Daniel Nyhan
Christian Pavlovich
Sarah Reading
Linda Regan
Jon Resar
Jake Ruzevick
Lawrence Schramm
Lauren Shapiro
James Stivers
John Tis
Anthony Tufaro
Marlene Williams
Christopher Wolfgang
Guang Wong

The Council was established in 1971 by the President "in order to provide a mechanism for the Faculty, Fellows, and Students of the Johns Hopkins University School of Medicine to participate more effectively in the deliberations and governance of the Institution."

Councils and Standing Committees of the Faculty

ADVISORY BOARD AGENDA COMMITTEE

Lloyd B. Minor, *Chair*

Julie Freischlag
L. Mario Amzel
Deborah Armstrong
Carol Greider
Sewon Kang
Jonathan S. Lewin
Justin McArthur
Elliot McVeigh
Edward D. Miller
William Nelson
William A. Baumgartner, staff
Janice E. Clements, staff
Chi V. Dang, staff
Daniel E. Ford, staff
David G. Nichols, staff
Christine H. White, Secretary

COMMITTEE ON EDUCATIONAL POLICY AND CURRICULUM

David G. Nichols, *Chair*
Elizabeth Goodspeed, *Secretary*
Michael Barone
Eric Bass
Mary Catherine Beach
Michael Borowitz
Michael Carducci
Danelle Cayea
Sarah Clever
Joseph Cofrancesco
Jorie Colbert
Philip Cole
Ronald Cohn
George Dover

Robert Dudas
Henry Fessler
Derek Fine
April Fitzgerald
Mary E. Foy
Charlene Gamaldo
Gail Geller
Khalil Ghanem
Harry R. Goldberg
Mitchell Goldstein
Victoria Goode
Isabel Green
Nancy Hueppchen
Betsy Hunt
Julianna Jung
Thomas W. Koenig
Ann Lawler
Bruce Leff
Susan Lehmann
Mindi Levin
Pamel Lipsett
Jon Lorsch
Edward McCarthy
Maura McGuire
Elliot McVeigh
Jacek Mostwin
David Newman-Toker
Peter L. Pedersen
Douglas Robinson
Anastasia Rowland-Seymour
Jonathan Schneck
Robert Shochet
Nathan Skelly
Mark Teaford
Daniel Teraguchi
Patricia A. Thomas

James Weiss
Charles M. Wiener
Stephen Yang

COMMITTEE ON ADMISSION

James L. Weiss, *Chair ex officio*

Bimal Ashar
Gert H. Brieger
Arthur Burnett
Andrea M. Corse
Todd Cox
Diana Do
Howard Francis
Deborah Frassica
Charlene Gamaldo
Judi Gieske
Ziya Gokaslan
Marlis Gonzalez Fernandez
Tammy Hadley
Misop Han
Christine Hann
Hermione Hicks
Peter Hill
Nancy Hueppchen
Lisa Ishii
David Jackson
Edward K. Kasper
Van King
Shari Lawson
Jackie L. Martin, Jr.
Spyridon Marinopoulos
Brian Matlaga
Mack Mitchell
Anne Murphy
Karin Neufeld
Quan Nguyen
Eva Ritzl
J. Courtland Robinson
Kenneth Stoller
Michael Trice
Shelia West
Stephen Yang
Sara Ying
Richard Zellars

COMMITTEE ON ADMISSION SCREENING

James L. Weiss, *Chair*

Hoover Adger
Frederic Askin
Hermione Hicks
Lynette Mark
Jacek Mostwin
Janet Siliciano
Peter B. Terry
David Trabilsy
Edward Wallach

COMMITTEE ON STUDENT AWARDS

Thomas Koenig, *Chair*
Robert Siliciano

COMMITTEE ON THE M.A. AND
PH.D. PROGRAMS

Eric Young, *Chair*
Mary E. Foy, *Secretary*
Michael Caterina
Peter Espenshade

David Ginty
Jan Hoh
Steven Hsiao
Juliette Lecomte
Gary P. Lees
Harold Lehmann
Jun Liu
Carolyn Machamer
Peter C. Maloney
David Nichols
Rajini Rao
Kenneth Rose
Noel Rose
Reza Shadmehr
Mark Soloski
Daniel Todes
David L. Valle
David Yue

COMMITTEE ON THE M.D.-PH.D. PROGRAM

Robert F. Siliciano, *Chair*
Sharon Welling, *Secretary*
Peter Agre
Jay M. Baraban
Frederick Brancati
Michael Caterina
Patricia Charache
Janice Clements
Brendan Cormack
Andrea Cox
Stephen V. Desiderio
Harry C. Dietz, III
Renee Z. Dintzis
Andrew Feinberg
Wade Gibson
Carol Greider
Frank Herlong
Hermione Hicks
Thomas Koenig
Alex Kolodkin
Se Jin Lee
David Levine
Jun Liu
David Nichols
Ben Ho Park
Gary Pasternack
Daniel M. Raben
Antony Rosen
Jonathan Schneck
Lawrence P. Schramm
David Shortle
Donald Small
Shanthini Sockanathan
Danny Teraguchi
Glenn Treisman
James Weiss
David T. Yue
Scott Zeger

INSTITUTIONAL RESEARCH GRANT
PROJECT COMMITTEE

Joanne Frantz, *Secretary*
S. Diane Hayward
Nicholas Katsanis
Alex Kolodkin
Peter O. Kwiterovich, Jr.
Paula M. Pitha-Rowe
Daniel Raben

Randall R. Reed
Jodi Segal
Raphael Viscidi

MEDICAL SCIENTIST TRAINING PROGRAM
STEERING COMMITTEE

Robert F. Siliciano, *Chair*
Sharon Welling, *Secretary*
Peter Agre
Jay M. Baraban
Frederick Brancati
Michael Caterina
Patricia Charache
Janice Clements
Brendan Cormack
Andrea Cox
Stephen V. Desiderio
Harry C. Dietz, III
Renee Z. Dintzis
Andrew Feinberg
Wade Gibson
Carol Greider
Frank Herlong
Hermione Hicks
Thomas Koenig
Alex Kolodkin
Se Jin Lee
David Levine
Jun Liu
David Nichols
Ben Ho Park
Gary Pasternack
Daniel M. Raben
Antony Rosen
Jonathan Schneck
Lawrence P. Schramm
David Shortle
Donald Small
Shanthini Sockanathan
Danny Teraguchi
Glenn Treisman
James Weiss
David T. Yue
Scott Zeger

COMMITTEE ON STUDENT PROMOTION –
FIRST YEAR

Edward D. Miller, *Chair*
Thomas Koenig, *Secretary*
Jay M. Baraban
Michael Barone
Sarah Clever
Josef Coresh
Mary E. Foy
William B. Guggino
Jon Lorsch
Dean MacKinnon
Jacek Mostwin
Jeremy Nathans
David Nichols
Jonathan Schneck
Robert F. Siliciano
Mark Teaford
James Weiss

COMMITTEE ON STUDENT PROMOTION –
SECOND YEAR

Edward D. Miller, *Chair*
David Nichols, *Vice Chair*

Thomas Koenig, *Secretary*
Michael Barone
Sarah Clever
Philip Cole
Derek Fine
Mary E. Foy
Edward McCarthy
Jacek Mostwin
Robert Shochet
Robert Siliciano
James Weiss

COMMITTEE ON STUDENT PROMOTION –
THIRD AND FOURTH YEARS

Edward D. Miller, *Chair*
David Nichols, *Vice Chair*
Thomas Koenig, *Secretary*
Michael Barone
Danelle Cayea
Michael Clark
Sarah Clever
Mary E. Foy
Nancy Hueppchen
Albert Jun
Juliana Jung
Bruce Leff
Susan Lehmann
Jacek Mostwin
David Newman-Toker
Brent Petty
Robert Siliciano
Patricia Thomas
James Weiss
Stephen Yang

UNIVERSITY HEALTH SERVICES ADVISORY
BOARD

Spyridon Marinopoulos, *Chair*
Sandra Angeli
Stephen Bazzetta
Joseph Bezek
Frederick Brancati
Patricia Brown
Glory D. Christy
J. Raymond DePaulo
James Erickson
Kevin Fogarty
Mary E. Foy
Helene T. Grady
Richard Grossi
K. Carol Han
Thomas Koenig
Peter Maloney
Julia McMillan
Redonda Miller
David G. Nichols
Beryl Rosenstein
Steven J. Thompson
Michael Ward
Levi Watkins
Myron L. Weisfeldt
Darnell Williams

COMMITTEE ON OUTSIDE INTERESTS

Voting Members
Neil Bressler, *Chair*
Jeffrey Rothstein, *Co-Chair*
Douglas Clark

Robert Getzenberg
Robert Greenberg
Henry Halperin
Alexander Popel
Mark Riddle
Frederick Savage
David Sidransky
Mark Sulkowski
Brad Udem
Kristin Weber

Non-Voting Members

Mike Amey
Keith Baker
Chi Dang
Christina Doty, *Staff*
Julie Gottlieb, *Secretary*
Nicole Leonard
Lizzie Peterson, *Staff*
Karen Rosen, *Staff*
Philip Rocca
Barbara Starklauf

STANDING COMMITTEE ON DISCIPLINE

Phillip Slavney, *Chair*
Shelia Garrity, *Staff*
Jennifer Pudelko, *Staff*
Mario Amzel
Joan Bathon
Janice Clements, *ex officio*
Philip Cole
Nancy L. Craig
Chi V. Dang, *ex officio*
George Dover
Arlene Forastiere
Harold Fox
Julie Freischlag
Gerald Hart
Diane Hayward
Richard T. Johnson
Peter Maloney
Peter McDonnell
Lloyd Minor
Ola Selnes
Phillip Slavney
Myron Weisfeldt

PROFESSORIAL PROMOTIONS COMMITTEE

Jay Brooks Jackson, *Chair*
Eric Bass
Arthur Burnett
Duke Cameron
Tina Cheng
Jennifer Haythornthwaite
Richard Hugarir
Elizabeth Jaffee
Kwang Sik Kim
Peter McDonnell
Susan Michaelis
Timothy Moran
Alessandro Olivi
Peter Pronovost
Srinivasa Raja
Eric Young
Christine Zink

ASSOCIATE PROFESSOR PROMOTIONS
COMMITTEE

Estelle Gauda, *Chair*
Mark Duncan, *Vice Chair*

Patrice Becker
Harolyn Belcher
Jessica Bienstock
Malcolm Brock
Charles Della Santina
Susan Dorman
Nauder Faraday
Daniel Judge
Alex Kolodkin
Carlos Pardo-Villamizar
Daniel Raben
Peter Rabins
Matthias Stuber
Kristy Weber
Charles Wiener

ASSOCIATE PROFESSOR REAPPOINTMENT
REVIEW COMMITTEE

Neil R. Miller, *Chair*
Joel Gallant
Peter Kaplan
Wayne Koch
James L. Weiss
Pamela Zeitlin

INSTRUCTOR AND ASSISTANT PROFESSOR
REAPPOINTMENT REVIEW COMMITTEE

Leslie Plotnick, *Chair*
Francis Giardiello
Daniel Hanley
Eugenie Heitmiller
Jon Lorsch
Daniel Raben
Joy Yang
Martha Zeiger

PROFESSORS' TEACHING AWARD COMMITTEE

Edward D. Miller, *Chair*
Thomas Koenig
Jon Lorsch
Peter Maloney
David Nichols
Meghan Seltzer
John Ulatowski
Charles Wiener

CLINICIAN SCIENTIST AWARDS
SELECTION COMMITTEE

George J. Dover, *Chair*
Michelle P. Linehan, *Secretary*
Stephen Baylin
Arthur Burnett
Elia Duh
Nicholas Flavahan
John W. Griffin
Ada Hamosh
Christine Iacobuzio-Donahue
Elizabeth Jaffee
Sewon Kang
Gabe Kelen
William Nelson
John Niparko
Lawrence Noguee
Cynthia Rand
Christopher Ross
Antony Rosen
David Yousem
Martha Zeiger

NUCLEAR MAGNETIC RESONANCE
INTERDISCIPLINARY COMMITTEE

Paul Bottomley
Donlin M. Long
Albert S. Mildvan
Godfrey D. Pearlson
James L. Weiss

ANIMAL CARE AND USE COMMITTEE

Nancy Almand Ator, *Chair*

Robert J. Adams
Shyam Biswal
William A. Boyd
Brendan J. Canning
Robert A. Casero
Stephen C. Dahl
Anna P. Durbin
Eric Fortune
David Hutton
Dara Kraitchman
Ellen E. Ladenheim
Gayle G. Page
Diana G. Scorio
Gregg L. Semenza
Veit Stuphorn
Clarke Tankersley
J. Rudiger Von der Heydt
William Wright

ADVISORY BOARD SUB-COMMITTEE ON
DIVERSITY

George Dover, *Chair*

Rhonicc Burnett
Janice Clements
Lisa Cooper
Brian Gibbs
Amy Goodwin
Kenneth Grant
Dahal Haldeman
Janet Harding
Lisa Heiser
Paulette Hynson
Thomas Laveist
Jeff Nelligan
David Nichols
Pamela Paulk
Steven Ragsdale
Daniel Teraguchi
Steve Thompson
Christine White
Beverly White-Seals
Cheri Wilson

ADVISORY COMMITTEE ON
CONTINUING EDUCATION

Christoph Lehmann, *Chair*

Paul Auwaerter
Robert E. Bristow
Leonard DeRogatis
Todd Dorman
Samuel Durso
Frederic Eckhauser
Nauder Faraday
Emily Frosch
Joel Gallant
Theresa Hartsell
Carlita Kearney
Paul Ladenson

Harold Lehmann
Lisa Lubomski
Susanne Amato Nesbit
David Nichols
Leslie Plotnick
William J. Ravich
Nancy Roderer
Sheila Sheth
Edward M. Sills
Walter J. Stark, Jr.
Paula Teague
Glenn J. Treisman
Paul S. Wheeler
Antonio Wolff
Howard A. Zacur

ADVISORY COMMITTEE FOR
THE OFFICE OF FUNDED PROGRAMS

Neil Bressler, *Chair*

John Bartlett
Roger Blumenthal
Jeffrey Brinker
Arthur Burnett
Arjun Channugam
Michael Clark
Bernard Cohen
Todd Dorman
David Ettinger
Leonard Feldman
Harold Fox
Gary Gerstenblith
Jonathan Jarow
Judith Karp
Linda Lee
Christoph Lehmann
Pamela Lipsett
Maura McGuire
Victor Marrow
David Neubauer
David Nichols
Elizabeth Ratchford
Glenn Treisman
Eileen Vining
Georgia Vogelsang
Robert Wise

MEDICAL ARCHIVES ADVISORY COMMITTEE

Ralph H. Hruban, *Chair*
Nancy McCall, *Secretary*
Susan Appling
John L. Cameron
Ritam Chowdhury
Sona Johnston
Sukon Kanchanaraska
Christoph U. Lehmann
Maureen Maguire
Harry M. Marks
Robert E. Miller
Satish Misra
Timothy H. Moran
Randall M. Packard
Edward C. Papenfuss
Mary Plumb
Elizabeth Rodini
Corinne Sandone
Edyth Schoenrich
Dale Smith
Charles M. Wiener

COMMITTEE ON THE CLAYTON FUND

Edward D. Miller, *Chair*
Michael B. Amey
R. Robinson Baker
William C. Baker
Mark Donowitz
Ralph H. Hruban
J. Brooks Jackson
Kenneth Kinzler
Bert Vogelstein
Myron Weisfeldt

GRIEVANCE COMMITTEE

Jennifer Haythornthwaite, *Chair*
Joan Bathon
Janice E. Clements
Stephen V. Desiderio
Barbara Fivush
Angela Guarda
Richard Huganir
Jonathan Lewin
John Mann
Ronald L. Schnaar
Jonathan Schneck

TILGHMAN TRAVELING FELLOWSHIP
COMMITTEE

Edward D. Miller, *Chair*
Michael B. Amey
Janice E. Clements
Chi V. Dang
George J. Dover
Daniel Ford
Myron Weisfeldt

YOUNG INVESTIGATORS' DAY
AWARD REVIEW COMMITTEE

Alex Kolodkin, *Chair*
Shan Sockanathan, *Co-Chair*
Aimee Real, *Secretary*
Michael Caterina
Elizabeth Chen
Nancy Craig
Denise Montell
Carlos Pardo-Villamizar
Ben Ho Park
Joel Pomerantz
Rajini Rao
Mark Soloski
Saraswati Sukumar
David Yue

YOUNG INVESTIGATORS' DAY
PLANNING COMMITTEE

Alex Kolodkin, *Chair*
Shan Sockanathan, *Co-Chair*
Aimee Real, *Secretary*
Mary E. Foy

COMMITTEE ON THE BAYNE-JONES
LECTURESHIP

Lawrence Lichtenstein, *Chair*
John G. Bartlett
Stephen V. Desiderio
Philip S. Norman
Myron Weisfeldt

SELECTION COMMITTEE FOR THE
BRIN VISITING PROFESSOR

John H. Fetting, III, *Chair*
Ann Brin
Joseph Brin
Ruth Faden
Peter B. Terry

COMMITTEE ON THE DOHME LECTURESHIP

Philip A. Cole, *Chair*
Craig A. Townsend
Myron Weisfeldt

COMMITTEE ON THE GILMAN LECTURESHIP

Edward D. Miller, *Chair*
Gert H. Brieger
Christopher D. Saudek

COMMITTEE ON THE GOULD LECTURESHIP

Elliott K. Fishman
Stanley S. Siegelman
Moody D. Wharam, Jr.

COMMITTEE ON THE HERTER LECTURESHIP

Gerald Hart, *Chair*
J. Brooks Jackson
Myron Weisfeldt

COMMITTEE ON THE HENRY G. KUNKEL
LECTURESHIP

Stephen V. Desiderio, *Chair*
Patricia J. Gearhart, *Co-Chair*
Michael A. Edidin
M. Diane E. Griffin
Hyam Levitsky
Drew M. Pardoll
Noel R. Rose
Robert E. Siliciano
Mark J. Soloski

COMMITTEE ON THE ALBERT LESTER
LEHNINGER MEMORIAL LECTURESHIP

Peter L. Pedersen, *Chair*
Ernesto Carafoli
Gerald Hart
Eugene Kennedy
Daniel Lane
Sriram Subramaniam
Paul Talalay

COMMITTEE ON THE NOVEY LECTURESHIP

Chester W. Schmidt, Jr., *Co-Chair*
Phillip R. Slavney, *Co-Chair*
Riva L. Novey
Myron Weisfeldt

COMMITTEE ON THE SIMPKINS LECTURESHIP

John Griffin, *Chair*
Joseph V. Brady
John M. Freeman
Gary W. Goldstein
Edward D. Miller

COMMITTEE ON THE THAYER LECTURESHIP

Myron Weisfeldt, *Chair*
George J. Dover
John Griffin

J. Brooks Jackson

COMMITTEE ON THE DALE LECTURESHIP

Theresa Shapiro, *Chair*

Philip A. Cole
Myron Weisfeldt

COMMITTEE ON THE HELEN & HAROLD
HARRISON PRIZE FOR EXCELLENCE IN
PEDIATRICS

Julia A. McMillan, *Chair*

Michael Barone
David Cooke
Janet Serwint

COMMITTEE ON THE ALAN COOPERSMITH
VISITING PROFESSORSHIP

James F. Casella, *Chair*

Kristin Arcara
George J. Dover
Donald Small
Megan Tschudy
Alan Wayne

WALTER E. DANDY VISITING
PROFESSORSHIP COMMITTEE

John Griffin, *Chair*

Henry Brem
Walter E. Dandy
J. Brooks Jackson
Donald Price
Solomon H. Snyder

COMMITTEE ON THE WILLIAM M. SHELLEY
VISITING PROFESSORSHIP

Frederic B. Askin, *Chair*

John L. Cameron
Jonathan I. Epstein
J. Brooks Jackson

WOMEN'S LEADERSHIP COUNCIL

Janice Clements, *Chair*

Rhoda Alani
Marilyn Albert
Marilee Allen
Jean Anderson
Deborah Armstrong
Nancy Ator
Serena Bagnasco
Kathleen Barnes
Joan Bathon
Diane Becker
Patrice Becker
Harolyn Belcher
Michele Bellantoni
Jessica Bienstock
Karin Blakemore
Mary Blue
Dana Boatman
Corrine Boehm
Susan B. Bressler
Arlene Butz
Marcia Canto
Karen Carroll
Livia Casciola-Rosen
Nisha Chandra
Patricia Charache
Elizabeth Chen

Tina Cheng
Jeanne Clark
Nancy Collop
Lisa Cooper
Mary Corretti
Nancy L. Craig
Susan W. Craig
Valina Dawson
Barbara J. de Lateur
Martha Bridge Denckla
Beth Dochinger
Adrian Dobs
Anne Duggan
Leisha Emens
Emily Erbeling
Susan Eshleman
Mary Fissell
Barbara Fivush
Arlene A. Forastiere
Mary Fowler
Mary E. Foy
Deborah Frassica
Julie Freischlag
Linda P. Fried
Susan Furth
Estelle Gauda
Charlotte Gaydos
Gail Geller
Emily Germain-Lee
Rebecca German
Rachel Green
Carol W. Greider
Constance Griffin
M. Diane E. Griffin
Ada Hamosh
Ulrike Maria Hamper
Barbara Hawkins
Jennifer Haythornthwaite
S. Diane Hayward
Lisa Heiser
Argye Hillis
Karen Horton
Ann L. Hubbard
Ethilyn W. Jabs
Elizabeth Jaffee
Bronwyn Jones
Hendree Jones
Dara Kraitchman
Marikki Laiho
Beth Laube
Linda Lee
Mary Leffell
Karen Lindeman
Pamela Lipssett
Susan MacDonald
Carolyn Machamer
Lynette Mark
Kieren Marr
Laura Marsh
Irene Maumenee
Michele Mazzocco
Una McCann
Melissa McCarthy
Betsy McCaul
Jane McKenzie-White
Susan McTeer
Susan Michaelis
Barbara Migeon
Mariam Mintzer
Sally Mitchell

Elizabeth Montgomery
 Denise Montell
 Anne Murphy
 Pamela Ouyang
 Trish Perl
 Paula M. Pitha-Rowe
 Leslie Plotnick
 Gianna Pomata
 Wendy Post
 Lorraine Racusen
 Sally Radovick
 Ranjini Rao
 Nancy Roderer
 Anne Rompalo
 Brigitte Ronnett
 Gabriele V. Ronnett
 Dorothy L. Rosenthal
 Corinne Sandone
 Cynthia Sears
 Janet Serwint
 Geraldine Seydoux
 Theresa A. Shapiro
 Julie Simon
 Gwenn Smith
 Barbara T. Sollner-Webb
 Maxine L. Stitzer
 Emma Stokes
 Saraswati Sukumar
 Barbara Todd
 Susan Topalian
 Connie Trimble

Jennifer Van Eyk
 Eileen Vining
 Donna Vogel
 Elizabeth M. Wagner
 Kristi Weber
 Elise Weerts
 Sheila West
 Katherine Wilson
 Cynthia Wolberger
 Kathleen Zackowski
 Martha Zeiger
 Pamela Zeitlin
 Carol Ziminski
 M. Christine Zink

REGIONAL REPRESENTATIVES OF THE
 COMMITTEE ON ADMISSION

CALIFORNIA

San Francisco

Keith E. Loring (1991)

Ethan J. Weiss (1996, House Staff 1996-98)

Los Angeles

Cara Familian Natterson (1997)

Torrance

J. Michael Criley (Fac. 1962-67)

ILLINOIS

Chicago

Steven Haddad

GREAT BRITAIN

London

John Rees

UNIVERSITY-WIDE ADVISORY COUNCILS AND COMMITTEES

COMMITTEE ON HUMAN GENETICS

David Valle, *Chair*

Aravinda Chakravarti

Garry Cutting

Harry Dietz

Susan Michaelis

Barbara R. Migeon

Roger Reeves

Kirby D. Smith

Bert Vogelstein

**JOINT COMMITTEES FUNCTIONING FOR THE
 JOHNS HOPKINS MEDICAL INSTITUTIONS**

COMMITTEE ON GRADUATE MEDICAL
 EDUCATION

Julia McMillian, *Chair*

Jessica Bienstock, *Vice-Chair*

Brenda Stettes, *Secretary*

Charles Albrecht

Richard Bennett

Erik Brand

Rupali Chadha

Arjun Chanmugan

Colleen Christmas

Ronald Cohn

Paul Colombani

David Cooke

Ross Donehower

James Dunn

David Feigin

Derek Fine

Charles Flexner

Mary E. Foy

Howard Francis

Deborah Frassica

Emily Frosch

Theresa Hartsell

Argye Hillis

George Jallo

Sewon Kang

Dawn LaPorte

Pamela Lipsett

John Lipsey

Samuel Mayer

Edward McCarthy

Edward Miller, *ex officio*

Redonda Miller

David Nichols

Frank Pidcock

Joanne Pollak

Richard Redett

Ron Rodriguez

John Rybock

Deborah Schwengel

Oscar Serrano

Pam Shafer

Bruce Shapiro

Stanley Siegelman

Stephen Sisson

Christina Twyman

Diane Voss

Charles Wiener

Stephen Yang
Harvey Ziessman

THE COMMITTEE ON
RADIATION CONTROL

Harvey Ziessman, *Chair*
Stanley B. Wadsworth, *Secretary*
Edward Bernacki
Robert Dannals
Christos Georgiades
Jonathan Links
Mahadevappa Mahesh
Ronald Wardrope
Paul Worley
Richard Zellars

INSTITUTIONAL REVIEW BOARD I

Howard Lederman, *Chair*
Beryl Rosenstein, *Co-Chair*
Jeffrey Brinker
Julie Lange
Sharon Mitchell
Gary Shapiro
Vered Stearns
Kathleen Truelove

INSTITUTIONAL REVIEW BOARD II

David R. Cornblath, *Chair*
B. Douglas Smith, *Co-Chair*
Linda Costa
Emily Germain-Lee
Charles Goods
Craig Hendrix
Margaret Moon
Wayne Silverman

INSTITUTIONAL REVIEW BOARD III

Richard Moore, *Chair*
Kenneth Cohen, *Co-Chair*
Peter Barker
Mary Catherine Beach
Frances Murphy Draper
Linda Gerson
Richard Skolasky, Jr
Sharon Solomon
Glenn Treisman

INSTITUTIONAL REVIEW BOARD V

Joseph Carrese, *Chair*
George Bigelow, *Co-Chair*
N. Franklin Adkinson
Nisha Chandra
Henry Choi
Calvin Keene
Tammy Scott
Philip Zieve

INSTITUTIONAL REVIEW BOARD X

Laura Rocco, *Chair*
Susan Bassett, *Co-Chair*
Frederic Askin
Gail Daumit
Edith Gurewitsch
Sewall Smith
Sarah L. Szanton
Peter B. Terry

LABORATORY ADVISORY COMMITTEE

Michael Borowitz, *Chair*
Robert E. Miller, *Co-Chair*
Kathy Barnes-Sanchez, *Secretary*
Nita Ahuja
Kathleen Burns
Patricia Charache
William Clarke
Jim Creech
Adam Gower
Peter Hill
Jeffrey Iding
Richard Jones
Thomas Kickler
Maura McGuire
Julia McMillan
Todd Nesbit
Barbara Parsons
Kurlen Payton
Brent Petty
Stephanie Poe
John Ticehurst

INSTITUTIONAL PRIVACY BOARD

Randall Packard, *Chair*
William R. Breakey
John M. Freeman
Nancy McCall
Robert E. Miller
Lisa Ohrin
Robert A. Wells

CLINICAL RADIATION RESEARCH COMMITTEE

Harvey Ziessman, *Chair*
Thomas Beck
Robert Dannals
Mahadevappa Mahesh
Sally Mitchell
Stanley B. Wadsworth

RADIOACTIVE DRUG RESEARCH COMMITTEE

Harvey Ziessman, *Chair*
Thomas Beck
Robert Dannals
Mahadevappa Mahesh
Sally Mitchell
Stanley B. Wadsworth

WELCH LIBRARY ADVISORY COMMITTEE –
SERVICE GROUP

David Nichols, *Chair*
Jeri Allen
Maria Cvach
Stephen V. Desiderio
Janet DiPietro
Linda Gorman
Peter Greene
Richa Gupta
Bettea Hoofnagle
Nancy K. Roderer
Deborah Slinghoff
Kim Thornton, *Staff*

WELCH LIBRARY ADVISORY COMMITTEE-
FINANCIAL GROUP

David Nichols, *Chair*
Will Bryant

Paul Gleichauf
Helene Grady
Bettea Hoofnagle
Katharine Nardone
Nancy Roderer
Jane Schlegel
Winston Tabb
Steven Thompson
Kim Thornton, *Staff*

JOINT COMMITTEE FOR HEALTH SAFETY AND ENVIRONMENT

Edward Bernacki, *Chair*
Stanley Wadsworth, *Secretary*
David Baron
Shelly Baronowski
Clyde Bernett
Josh Bord
James Bukowski
Perry Cooper
Stephen Dahl
Patricia Day
George Economas
Jack Grinnalds
Gary Hayward
John Highsmith

Frances Humphrey-Carothers
Margi Joshi
Paula Kent
Carole Martens
Barry Meyer
Jeff Natterman
Lois Scarborough
John Schaefer
Anita Stone
Peter Tollini
Scott Zeger
Becky Vaeth, *Recording Secretary*

INSTITUTIONAL BIOSAFETY COMMITTEE

Gary S. Hayward, *Chair*
Robert J. Adams
Barbara Biedrzycki
Stephen C. Dahl
Barry Kobrin
Elizabeth A. Laffan
Claudia MacAuley
Joseph Margolick
Douglas Norris
Weiyang Pan
Alan F. Scott

THE JOHNS HOPKINS HEALTH SYSTEM CORPORATION

Board of Trustees

C. Michael Armstrong
Chairman
A.B. Krongard
Vice Chairman
Janie Elizabeth Bailey
Lenox D. Baker, Jr.

George L. Bunting, Jr.
Edward L. Cahill
Jonathan S. Fish
Francis X. Knott, *ex officio*
Edward D. Miller, *ex officio*
Ronald R. Peterson, *ex officio*
Theo C. Rodgers
Melanie R. Sabelhaus

Officers

Edward D. Miller
Vice Chairman
Ronald R. Peterson
President
Richard O. Davis
Vice President, Innovation and Patient Safety
Kenneth Grant
Vice President, Supply Chain
Dalal J. Haldeman
Vice President, Marketing and Communications
Harry Koffenberger
Vice President and Chief, Corporate Security
Sally W. MacConnell
Vice President, Facilities
Pamela D. Paulk
Vice President, Human Resources

Joanne E. Pollak
Vice President and General Counsel
Stephanie L. Reel
Vice President, Management Systems and Information Systems
Judy A. Reitz
Vice President, Operations Integration
G. Daniel Shealer, Jr.
Vice President, Corporate Compliance and Secretary
Ronald Werthman
Vice President, Finance and Treasurer
Samuel H. Clark, Jr.
Assistant Secretary
Stuart Erdman
Assistant Treasurer

THE JOHNS HOPKINS HOSPITAL

Board of Trustees

C. Michael Armstrong
Chairman
Francis X. Knott
Vice Chairman

Lenox D. Baker, Jr.
Deidre A. Bosley, *ex officio*
George L. Bunting, Jr.
Ronald J. Daniels
George J. Dover, *ex officio*
James T. Dresher, Jr.

Ira T. Fine
Christopher W. Kersey
Traci S. Lerner
Edward D. Miller, *ex officio*

Officers

Edward D. Miller
Vice Chairman
Ronald R. Peterson
President
Judy A. Reitz
Executive Vice President/COO
Richard O. Davis
Vice President, Innovation and Patient Safety
Kenneth Grant
Vice President, General Services
Dalal Haldeman
Vice President, Marketing and Communications
Karen B. Haller
Vice President, Nursing & Patient Care Services
Harry Koffenberger
Vice President and Chief, Corporate Security
Sally W. MacConnell
Vice President, Facilities

ADMINISTRATORS, CLINICAL DEPARTMENTS

Marty Bledsoe
Radiology and Radiological Science
Richard Thomas
Ophthalmology
Edward B. Chambers
Pediatrics
Carolyn Ford
Dermatology
Maryrose Kober Gans
Urology
John Bezhad
Physical and Rehabilitation Medicine
Jo Jennings
Orthopedic Surgery
John Hundt
Surgery
Howard Gwon
Psychiatry and Behavioral Sciences
Jane Hill
Neurosciences

Milton H. Miller, Jr.
Ronald R. Peterson, *ex officio*
Charles H. Salisbury, Jr.

Pamela D. Paulk
Vice President, Human Resources
Joanne E. Pollak
Vice President and General Counsel
Stephanie L. Reel
Vice President, Management Systems and Information Systems
Redonda G. Miller
Vice President, Medical Affairs
G. Daniel Shealer, Jr.
Vice President, Corporate Compliance and Secretary
Ronald J. Werthman
Vice President, Finance & Treasurer
Samuel H. Clark, Jr.
Assistant Secretary
Stuart Erdman
Assistant Treasurer

Tony Etzel
Otolaryngology-Head and Neck Surgery
Diann Snyder
Gynecology and Obstetrics
Charles Reuland
Medicine
Jim Creech, Edward Pigo
Pathology
James Scheulen
Emergency Medicine
Christina Lundquist
Anesthesiology and Critical Care Medicine
Terry Langbaum, Sharon Krumm
Oncology Center
Richard O. Davis
Ambulatory Services
Kelly Cavallo
Radiation Oncology

Medical Board of the Johns Hopkins Hospital

George J. Dover, *Chairman*
Lloyd B. Minor, *Vice-Chairman*
Pamela B. Shafer, *Secretary*
William A. Baumgartner
Henry Brem
Paul M. Colombani
Jude Crino
J. Raymond DePaulo, Jr.
Theodore L. Deweese
Harold E. Fox
Frank J. Frassica
Julie A. Freischlag
Karen B. Haller

J. Brooks Jackson
Sewon Kang
Richard Katz
Gabor Kelen
Jonathan S. Lewin
Paul N. Manson
Peter J. McDonnell
Edward D. Miller
William Nelson
Jeffrey B. Palmer
Alan W. Partin
Ronald R. Peterson
Judy A. Reitz
Beryl J. Rosenstein

John D. Rybock
Christina Twyman
John A. Ulatowski
Myron L. Weisfeldt

Under the rules and regulations of the Johns Hopkins Hospital it is "the duty of the Medical Board to advise the Trustees in all matters relating to the welfare of the Hospital."

THE GOOD SAMARITAN HOSPITAL OF MARYLAND, INC.

Board of Directors

Anthony Read, *Chairman*
Wilmot C. Ball, Jr., *Vice-Chair*
Charles L. Bauermann
Lawrence M. Beck
Jeffrey Donnelly
Howard Freeland
Sheldon M. Glusman
W. Kenneth Gue
Davis Hahn
Reverend Lawrence M. Johnson

Most Reverend Denis J. Madden
Jayne H. McGeehan
Allan Noonan
T. Edgie Russell
Kenneth A. Samet
Carl Schindelar
Reverend P.M. Smith
James K. Smolev
John Smyth
Kenneth L. Thompson
Jeremy P. Weiner
Kathleen Whiting

Officers of the Corporation

Anthony Read
Chairman of the Board
Lawrence M. Beck
President

Wilmot C. Ball, Jr.
Vice Chairman

Administrative Staff

Lawrence M. Beck
President
Jeffrey A. Matton
Senior Vice President and COO
Shirley Roth
Vice President for Patient Care Services
Martin Binstock
Vice President, Medical Affairs

Deana Stout
Vice President, Finance
Jennifer Wilkerson
Vice President, Planning and Marketing
Laura O'Donnell
Vice President, Human Resources

KENNEDY KRIEGER INSTITUTE, INC.

Board of Directors

Henry G. Hagan
Chairman
Atwood Collins, III
Vice Chairman
Sanford M. Baklor
Robert A. Baruch
Michael J. Batza, Jr.
Paul Z. Bodnar
Robert L. Bogomolny
Thomas V. Brooks
Richard W. Cass
Ulysses Currie
Judith G. Fader
Joseph E. Foss
Gary W. Goldstein
Dorothy Hamill
Richard J. Himelfarb

Harriet C. Legum
Janet B. Livingston
Annette Merz
Howard B. Miller, Esq.
Fred F. Mirmiran
Patricia B. Modell
Jay B. Newman
John J. Oliver, Jr.
Blake M. Paterson
Frank S. Pidcock, ex officio
William R. Roberts
Anthony T. Rodgers
Victoria M. Rosellini
Henry A. Rosenberg, Jr.
Edyth H. Schoenrich
Victoria Z. Sulerzyski
Sally P. Thanouser
William J. Toomey III
Robert L. Wallace



The Faculty

JULY 1, 2009 to JUNE 30, 2010

Ronald J. Daniels
President of the University [2009]

PROFESSORS

Darrell R. Abernethy, M.D., Ph.D.
Professor of Medicine [1999], Professor of
Pharmacology and Molecular Sciences [2002]

Stephen C. Achuff, M.D.
Professor of Medicine [1990; 1975]

Hoover Adger, M.D., M.P.H.
Professor of Pediatrics [2005; 1998]

N. Franklin Adkinson, Jr., M.D.
Professor of Medicine [1987; 1973]

William Scott Agnew, Ph.D.
Professor of Physiology [1992], Director of the
Department of Physiology [2004; 1992]

Marilyn S. Albert, Ph.D.
Professor of Neurology [2003], Professor of
Neuroscience [2007], Professor of Psychiatry
[2003]

Marilee C. Allen, M.D.
Professor of Pediatrics [2002; 1981]

Blanche Pearl Alter, M.D.
Visiting Professor of Pediatrics [1999]

Richard F. Ambinder, M.D., Ph.D.
James B. Murphy Professor of Oncology
[1998; 1981], Professor of Medicine [2005],
Professor of Pathology [1998; 1991], Professor
of Pharmacology and Molecular Sciences [1998;
1991]

L. Mario Amzel, Ph.D.
Professor of Biophysics and Biophysical Chemistry
[1984; 1970], Director of the Department of
Biophysics and Biophysical Chemistry [2006]

Dana Kimball Andersen, M.D.
Professor of Surgery [2005]

Jean R. Anderson, M.D.
Professor of Gynecology and Obstetrics [2004;
2000], Joint Appointment in Medicine [1994]

Reubin Andres, M.D.
Professor of Medicine [1976; 1950]

Deborah Jean Andrew, Ph.D.
Professor of Cell Biology [2004; 1993]

Grant J. Anhalt, M.D.
Professor of Dermatology [1993; 1982], Professor
of Pathology [1994]

Lawrence J. Appel, M.D., M.P.H.
Professor of Medicine [2002; 1989]

Robert J. Arceci, M.D., Ph.D.
King Fahd Professor of Pediatric Oncology [2000],
Professor of Pediatrics [2000]

Pedram Argani, M.D.
Professor of Pathology [2008; 1997], Professor of
Oncology [2008; 2004]

Frederic B. Askin, M.D.
Professor of Pathology [1991]

Ergin Atalar, Ph.D.
Adjunct Professor of Radiology and Radiological
Science [2006; 1993]

Nancy A. Ator, Ph.D.
Professor of Behavioral Biology in the Department
of Psychiatry [1997; 1982]

J. Thomas August, M.D.
University Distinguished Service Professor of
Pharmacology [1975], Professor of Oncology
[1995], Director of the Department of
Pharmacology and Molecular Sciences [1999;
1975]

Kamal F. Badr, M.D.
Adjunct Professor of Medicine [2006]

Charles M. Balch, M.D.
Professor of Surgery [2000], Professor of
Dermatology [2006], Professor of Oncology [2000]

William M. Baldwin, III, M.D., Ph.D.
Adjunct Professor of Pathology [2008; 1993]

Jay M. Baraban, M.D., Ph.D.
Professor of Neuroscience [2000; 1986], Professor
of Psychiatry [2000; 1986]

Adrian Barbul, M.D.
Professor of Surgery [1995; 1983], Professor of
Plastic Surgery [1995; 1993]

Lee Randol Barker, M.D.
Professor of Medicine [1995; 1973]

Peter B. Barker, D.Phil.
Professor of Radiology and Radiological Science
[2002; 1997], Professor of Oncology [2005]

John G. Bartlett, M.D.
Stanhope Bayne-Jones Professor of Medicine
[1980]

Eric B. Bass, M.D., M.P.H.
Professor of Medicine [2005; 1989]

Joan M. Bathon, M.D.
Professor of Medicine [2003; 1986]

William A. Baumgartner, M.D.
Vincent L. Gott, M.D. Professor of Cardiac Surgery
[1991; 1982], Director of the Division of Cardiac
Surgery [2009, 1993], Vice Dean for Clinical
Affairs [1999]

Theodore M. Bayless, M.D.
Sherlock Hibbs Professor of Inflammatory Bowel
Disease in the Department of Medicine [1981;
1964]

Stephen B. Baylin, M.D.
Virginia and Daniel K. Ludwig Professor of Cancer
Research in the Department of Oncology [1986;
1974], Professor of Medicine [1990; 1974]

Diane M. Becker, Sc.D., M.P.H.
Professor of Medicine [1999; 1984]

Lewis C. Becker, M.D.
Robert L. Levy Professor of Cardiology in the
Department of Medicine [1984; 1974], Joint
Appointment in Radiology [1984]

Richard G. Bennett, M.D.
Professor of Medicine [2001; 1987]

Ronald D. Berger, M.D., Ph.D.
Professor of Medicine [2005; 1993], Professor of
Biomedical Engineering [2005; 2002]

Gregory Kent Bergey, M.D.
Professor of Neurology [1999]

Dan E. Berkowitz, M.B.B.Ch.
Professor of Anesthesiology and Critical Care
Medicine [2009; 1994], Professor of Biomedical
Engineering [2009; 2000]

Rafael Beyar, M.D., D.Sc.
Visiting Professor of Medicine [2005]

Zaver M. Bhujwala, Ph.D.
Professor of Radiology and Radiological Science
[2002; 1991], Professor of Oncology [2002; 2000]

George E. Bigelow, Ph.D.
Professor of Behavioral Biology in the Department
of Psychiatry [1990; 1971]

William Ramses Bishai, M.D., Ph.D.
Professor of Medicine [2004; 1994], Joint
Appointment in Pathology [1998]

Marc R. Blackman, M.D.
Professor of Medicine [1997; 1977]

Karin J. Blakemore, M.D.
Professor of Gynecology and Obstetrics in Genetic
Medicine [2006; 1987], Professor of Oncology
[2006; 1996]

David A. Bluemke, M.D., Ph.D.
Professor of Radiology and Radiological Science
[2006; 1993], Professor of Medicine [2006; 2004]

Roger S. Blumenthal, M.D.
Professor of Medicine [2007; 1992]

Dana Boatman, Ph.D.
Professor of Neurology [2006; 1990], Professor
of Otolaryngology-Head and Neck Surgery [2006;
1996]

Bruce S. Bochner, M.D.
Professor of Medicine [1999; 1988]

Jef D. Boeke, Ph.D., Sc.D.
Professor of Molecular Biology and Genetics
[1995; 1985], Professor of Oncology [2000]

John K. Boitnott, M.D.
Professor of Pathology [1982; 1963]

Roberto Bolli, M.D.
Adjunct Professor of Medicine [2009]

Robert C. Bollinger, Jr., M.D., M.P.H.
Professor of Medicine [2004]

Michael J. Borowitz, M.D., Ph.D.
Professor of Pathology [1993], Professor of
Oncology [1993]

Paul A. Bottomley, Ph.D.
Russell H. Morgan Professor of Radiology [1994],
Professor of Biomedical Engineering [1994],
Professor of Medicine [1994]

Joseph V. Brady, Ph.D.
Professor of Behavioral Biology in the Department
of Psychiatry [1967], Professor of Neuroscience
[1983]

Frederick L. Brancati, M.D.
Samsung Professor of Medicine [2003; 1992]

Jason Brandt, Ph.D.
Professor of Psychiatry [1995; 1985], Professor of
Neurology [2006]

Henry Brem, M.D.
Harvey Cushing Professor of Neurosurgery [1993;
1984], Professor of Oncology [1993; 1985], Joint
Appointment in Ophthalmology [1984], Director of
the Department of Neurological Surgery [2000]

Neil M. Bressler, M.D.
James P. Gills Professor of Ophthalmology [1997;
1988]

Susan B. Bressler, M.D.
Julia G. Levy, Ph.D., Professor of Ophthalmology
[2000; 1988]

Jeffrey A. Brinker, M.D.
Professor of Medicine [1994; 1978], Joint
Appointment in Radiology [1980]

Robert E. Bristow, M.D.
Professor of Gynecology and Obstetrics [2008;
1998], Professor of Oncology [2008; 2003]

Robert A. Brodsky, M.D.
Edyth Harris Lucas and Clara Lucas Lynn
Professor of Medicine [2009; 1997], Professor of
Oncology [2009; 1997]

Robert K. Brooner, Ph.D.
Professor of Medical Psychology in the
Department of Psychiatry [1999; 1984], Assistant
Professor of Gynecology and Obstetrics [1990]

Roy G. Brower, M.D.
Professor of Medicine [2002; 1984]

Robert H. Brown, M.D., M.P.H.
Professor of Anesthesiology and Critical Care
Medicine [2003; 1989], Joint Appointment in
Medicine [2000], Joint Appointment in Radiology
[1992]

Maggie Bruck, Ph.D.
Professor of Psychiatry [2001; 1999]

Thomas M. Brushart, M.D.
Thomas M. Brushart Professor of Hand Surgery
in the Department of Orthopedic Surgery [1997;
1983] (on leave of absence to 10/31/09), Professor
of Neurology [1999; 1990] (on leave of absence
to 10/31/09), Professor of Plastic Surgery [1998;
1994] (on leave of absence to 10/31/09)

Jeff W.M. Bulte, Ph.D.
Professor of Radiology [2006; 2001], Professor of
Biomedical Engineering [2007]

James F. Burdick, M.D.
Professor of Surgery [1991; 1978]

Peter C. Burger, M.D.
Professor of Pathology [1993], Professor of
Neurological Surgery [1993], Professor of
Oncology [1993]

Andrew R. Burgess, M.D.
Professor of Orthopedic Surgery [1997; 1983]

Arthur L. Burnett, II, M.D.
Patrick C. Walsh Professor of Urology [2003; 1994]

John R. Burton, M.D.
Mason F. Lord Professor of Geriatric Medicine in
the Department of Medicine [1992; 1972]

Arlene Manns Butz, Sc.D.
Professor of Pediatrics [2007; 1996]

Peter Arthur Calabresi, M.D.
Professor of Neurology [2008; 2003]

Joseph Califano, III, M.D.
Professor of Otolaryngology-Head and Neck Surgery [2007; 2000], Professor of Oncology [2007; 2001]

Hugh G. Calkins, M.D.
Nicholas J. Fortuin, M.D. Professor of Cardiology in the Department of Medicine [2000; 1992], Professor of Pediatrics [2000; 1995]

Duke E. Cameron, M.D.
James T. Dresher, Sr. Professor of Cardiac Surgery [2001; 1987], Professor of Pediatrics [2001; 1994], Interim Director of the Division of Cardiac Surgery [2009]

John L. Cameron, M.D.
University Distinguished Service Professor Alfred Blalock Professor of Surgery [1978; 1971], Professor of Oncology [1995], Director of the Department of Surgery [2003; 1984]

James N. Campbell, M.D.
Professor of Neurological Surgery [1988; 1979]

Peter A. Campochiaro, M.D.
George S. and Dolores D. Eccles Professor of Ophthalmology [1991], Professor of Neuroscience [1991]

Xu Cao, Ph.D.
Visiting Professor of Orthopaedic Surgery [2009]

Michael A. Carducci, M.D.
AEGON Professor of Prostate Cancer Research in the Department of Oncology [2008; 1995], Professor of Urology [2008; 1995]

Karen C. Carroll, M.D.
Professor of Pathology [2006; 2002], Joint Appointment in Medicine [2002]

Benjamin S. Carson, M.D.
Benjamin S. Carson, Sr. M.D. and Dr. Evelyn Spiron, RN Professor of Pediatric Neurosurgery [1999; 1984], Professor of Oncology [1999; 1985], Professor of Pediatrics [1999; 1987], Professor of Plastic Surgery [1999; 1991]

Darryl Carter, M.D.
Adjunct Professor of Pathology [2005]

H. Ballentine Carter, M.D.
Professor of Urology [1998; 1987], Professor of Oncology [1998; 1995]

James F. Casella, M.D.
Rainey Professor of Pediatric Hematology in the Department of Pediatrics [1998; 1983], Professor of Oncology [1998; 1997]

Robert A. Casero, Jr., Ph.D.
Professor of Oncology [1999; 1986]

Donald O. Castell, M.D.
Visiting Professor of Medicine [2009] (from 09/01/09)

Michael F. Cataldo, Ph.D.
Professor of Behavioral Biology in the Department of Psychiatry [1990; 1975], Professor of Pediatrics [2001; 1975]

Richard E. Chaisson, M.D.
Professor of Medicine [1998; 1988]

Aravinda Chakravarti, Ph.D.
Professor of Medicine [2000], Joint Appointment in Molecular Biology and Genetics [2000], Professor of Pediatrics [2000], Director of the Institute of Genetic Medicine [2007; 2000]

Daniel W. Chan, Ph.D.
Professor of Pathology [1999; 1977], Professor of Oncology [1999; 1991], Professor of Radiology [1999; 1997], Professor of Urology [1999; 1997]

Nisha Chandra, M.B.B.S.
Professor of Medicine [1996; 1980]

Alex Yuang-Chi Chang, M.D.
Professor of Oncology [1999]

Patricia Charache, M.D.
Professor of Pathology [1992; 1973], Professor of Medicine [1992; 1964], Professor of Oncology [1996]

Richard A. Chase, M.D.
Adjunct Professor of Psychiatry [1996; 1963]

Subroto B. Chatterjee, Ph.D.
Professor of Pediatrics [1996; 1975]

Vinay Chaudhry, M.B.B.S.
Professor of Neurology [2004; 1989]

Arthur B. Chausmer, M.D., Ph.D.
Adjunct Professor of Medicine [2007]

Lieping Chen, M.D., Ph.D.
Professor of Oncology [2004], Professor of Dermatology [2004]

Tina Lee Cheng, M.D., M.P.H.
Professor of Pediatrics [2008; 2002]

Bart Chernow, M.D.
Adjunct Professor of Medicine [1999; 1990]

Michael A. Choti, M.D.
Jacob C. Handelsman Professor of Abdominal Surgery [2006; 1992], Professor of Oncology [2006; 1995], Professor of Radiology [2006; 2009]

Horacio Cingolani, M.D.
Visiting Professor of Medicine [1990]

Curt I. Civin, M.D.
Adjunct Professor of Oncology [2009; 1979], Adjunct Professor of Pediatrics [2009; 1979]

Douglas Paul Clark, M.D.
Professor of Pathology [2008; 1994], Professor of Oncology [2008; 2001]

Thomas Landes Clemens, Ph.D.
Visiting Professor of Orthopaedic Surgery [2009]

Janice E. Clements, Ph.D.
Mary Wallace Stanton Professor for Faculty Affairs, University Distinguished Service Professor of Molecular and Comparative Pathobiology [1990; 1988], Joint Appointment in Molecular Biology and Genetics [1984], Professor of Neurology [1991; 1978], Professor of Pathology [1998], Vice Dean for Faculty [2000], Director of the Department of Molecular and Comparative Pathobiology [2006; 2002]

- Donald S. Coffey, Ph.D.
Catherine Iola and J. Smith Michael Distinguished Professor of Urology [1975], Professor of Oncology [1974], Professor of Pathology [1998], Professor of Pharmacology and Molecular Sciences [1974; 1965]
- Bernard A. Cohen, M.D.
Professor of Dermatology [2005; 1993], Professor of Pediatrics [2005; 1991]
- Harris L. Cohen, M.D.
Visiting Professor of Radiology [2000]
- Philip Arthur Cole, M.D., Ph.D.
E.K. Marshall and Thomas H. Maren Professor of Pharmacology [1999], Professor of Oncology [2000], Director of the Department of Pharmacology and Molecular Sciences [1999]
- C. Norman Coleman, M.D.
Visiting Professor of Radiation Oncology and Molecular Radiation Sciences [2003], Visiting Professor of Oncology [2000]
- Nancy Abbey Collop, M.D.
Professor of Medicine [2009; 2002], Professor of Neurology [2009; 2008]
- Paul M. Colombani, M.D.
Robert Garrett Professor of Pediatric Surgery [1994; 1983], Professor of Oncology [1994; 1986], Professor of Pediatrics [1995; 1984], Director of the Division of Pediatric Surgery [1992]
- Carolyn Corlies Compton, M.D., Ph.D.
Adjunct Professor of Pathology [2005]
- Edward Jackson Cone, Ph.D.
Adjunct Professor of Psychiatry [2005; 1998]
- John Victor Conte, Jr., M.D.
Professor of Cardiac Surgery [2008; 1998]
- David S. Cooper, M.D.
Professor of Medicine [1996; 1985]
- Lisa Cooper, M.D., M.P.H.
Professor of Medicine [2007; 1994]
- Jeffrey L. Corden, Ph.D.
Professor of Molecular Biology and Genetics [1998; 1982]
- David R. Cornblath, M.D.
Professor of Neurology [1995; 1982], Professor of Neurological Surgery [2007]
- Andrew John Cosgarea, M.D.
Professor of Orthopedic Surgery [2008; 1998]
- Paul T. Costa, Jr., Ph.D.
Professor of Behavioral Biology in the Department of Psychiatry [1999; 1979]
- Robert J. Cotter, Ph.D.
Professor of Pharmacology and Molecular Sciences [1992; 1978], Professor of Biophysics and Biophysical Chemistry [1994]
- Nancy L. Craig, Ph.D.
Professor of Molecular Biology and Genetics [1993; 1991], Investigator of the Howard Hughes Medical Institute
- Susan W. Craig, Ph.D.
Professor of Biological Chemistry [1989; 1975], Professor of Pathology [1994]
- Charles W. Cummings, M.D.
Distinguished Service Professor of Otolaryngology-Head and Neck Surgery [1990], Professor of Oncology [1993], Director of the Department of Otolaryngology-Head and Neck Surgery [2003; 1990]
- Garry R. Cutting, M.D.
Aetna U.S. Healthcare Professor of Medical Genetics in the Department of Pediatrics [1998; 1989], Professor of Medicine [1998; 1990]
- Chi Van Dang, M.D., Ph.D.
Johns Hopkins Family Professor for Oncology Research in the Department of Medicine [1997; 1987], Professor of Cell Biology [2000], Joint Appointment in Molecular Biology and Genetics [1995], Professor of Oncology [1997], Professor of Pathology [1997; 1995], Vice Dean for Research [2000]
- Robert F. Dannals, Ph.D.
Professor of Radiology and Radiological Science [1996; 1982]
- Nancy E. Davidson, M.D.
Adjunct Professor of Oncology [2009; 1986]
- Ted Dawson, M.D., Ph.D.
Leonard and Madlyn Abramson Professor of Neurodegenerative Diseases in the Department of Neurology [2000; 1992], Professor of Neuroscience [2000; 1992]
- Valina L. Dawson, Ph.D.
Professor of Neurology [2001; 1994], Professor of Neuroscience [2001; 1994], Professor of Physiology [2001; 1994]
- Catherine DeAngelis, M.D., M.P.H.
Professor of Pediatrics [1986; 1978] (on leave of absence)
- A. Lee Dellon, M.D.
Professor of Plastic Surgery [1994; 1978], Professor of Neurological Surgery [1994; 1984]
- Angelo M. DeMarzo, M.D., Ph.D.
Professor of Pathology [2008; 1998], Professor of Oncology [2008; 2000], Professor of Urology [2008; 1999]
- Martha Bridge Denckla, M.D.
Professor of Neurology [1986; 1982], Professor of Pediatrics [1986], Joint Appointment in Psychiatry [1994]
- J. Raymond DePaulo, Jr., M.D.
Henry Phipps Professor of Psychiatry [1993; 1977], Director of the Department of Psychiatry and Behavioral Sciences [2002]
- Stephen V. Desiderio, M.D., Ph.D.
Professor of Molecular Biology and Genetics [1995; 1984], Director of the Institute for Basic Biomedical Sciences [2003]
- Peter N. Devreotes, Ph.D.
Isaac Morris Hay and Lucille Elizabeth Hay Professor of Embryology in the Department of Cell Biology [2000], Professor of Biological Chemistry [1987; 1979], Director of the Department of Cell Biology [2000]

Theodore L. DeWeese, M.D.
 Professor of Radiation Oncology and Molecular Radiation Sciences [2003], Professor of Oncology [2003; 1995], Professor of Urology [2003; 1995], Director of the Department of Radiation Oncology and Molecular Radiation Sciences [2003]

Harry C. Dietz, M.D.
 Victor A. McKusick Professor of Medicine and Genetics in the Department of Pediatrics [1999; 1992], Associate Professor of Medicine [1994; 1992], Joint Appointment in Molecular Biology and Genetics [1994], Assistant Professor of Neurological Surgery [1994]

Adrian S. Dobs, M.D.
 Professor of Medicine [2000; 1984], Professor of Oncology [2002]

Ross C. Donehower, M.D.
 Virginia and Daniel K. Ludwig Professor of Clinical Investigation of Cancer in the Department of Oncology [1997; 1980], Professor of Medicine [1997; 1980]

Mark Donowitz, M.D.
 George LeBoff Professor for Research in Digestive Diseases in the Department of Medicine [1987], Professor of Physiology [2004; 1988]

Todd Dorman, M.D.
 Professor of Anesthesiology and Critical Care Medicine [2007; 1991], Joint Appointment in Medicine [1999], Associate Professor of Surgery [2000; 1994], Associate Dean for Continuing Medical Education [2004]

George J. Dover, M.D.
 Given Foundation Professor of Pediatrics [1988; 1977], Joint Appointment in Medicine [1980; 1977], Professor of Oncology [1991], Director of the Department of Pediatrics [1996]

Daniel B. Drachman, M.D.
 W.W. Smith Charitable Trust Professor of Immunology in the Department of Neurology [1974; 1969], Professor of Neuroscience [1983]

Anne L.K. Duggan, Sc.D.
 Professor of Pediatrics [2005; 1986]

J. Stephen Dumler, M.D.
 Professor of Pathology [2003; 1993]

Christopher J. Earley, M.B.B.Ch., Ph.D.
 Professor of Neurology [2008; 1992]

Frederic E. Eckhauser, M.D.
 Mark M. Ravitch Professor of Surgery [2001]

William A. Edelstein, Ph.D.
 Visiting Professor of Radiology [2007]

Gershon Efron, M.B.B.Ch.
 Professor of Surgery [1997; 1977]

Mario A. Eisenberger, M.D.
 R. Dale Hughes Professor of Oncology [1998; 1993], Professor of Urology [1998; 1993]

Dariush Elahi, Ph.D.
 Professor of Surgery [2005], Joint Appointment in Medicine [2007]

Ana Belen Elgoyhen, Ph.D.
 Adjunct Professor of Otolaryngology-Head and Neck Surgery [2009]

Jonathan Mark Ellen, M.D.
 Professor of Pediatrics [2006; 1999]

Jerrold J. Ellner, M.D.
 Visiting Professor of Medicine [2008]

Bernard T. Engel, Ph.D.
 Professor of Behavioral Biology in the Department of Psychiatry [1982; 1969]

Paul T. Englund, Ph.D.
 Professor of Biological Chemistry [1980; 1968]

Jonathan I. Epstein, M.D.
 Rose-Lee and Keith Reinhard Professor of Urologic Pathology [1994; 1985], Professor of Oncology [1995], Professor of Urology [1994; 1987]

Yener S. Erozan, M.D.
 Professor of Pathology [1995; 1968]

Susan H. Shakin Eshleman, M.D., Ph.D.
 Professor of Pathology [2007; 1997]

David S. Ettinger, M.D.
 Alex Grass Professor of Oncology [1992; 1975], Professor of Gynecology and Obstetrics [2002; 1983], Professor of Medicine [1993; 1975], Professor of Otolaryngology-Head and Neck Surgery [2001; 1986], Professor of Radiation Oncology and Molecular Radiation Sciences [2003]

Evan R. Farmer, M.D.
 Professor of Dermatology [2005]

Neal S. Fedarko, Ph.D.
 Professor of Medicine [2008; 1992]

Elizabeth Fee, Ph.D.
 Professor of History of Medicine [2005; 1988]

David S. Feigin, M.D.
 Visiting Professor of Radiology [2005]

Andrew P. Feinberg, M.D., M.P.H.
 King Fahd Professor of Molecular Medicine in the Department of Medicine [1994], Joint Appointment in Molecular Biology and Genetics [1994], Professor of Oncology [1994], Joint Appointment in Psychiatry [2009]

Luigi Ferrucci, M.D., Ph.D.
 Adjunct Professor of Medicine [2007]

Daniel Finkelstein, M.D.
 Professor of Ophthalmology [1993; 1974]

Thomas E. Finucane, M.D.
 Professor of Medicine [2001; 1987]

Elliot K. Fishman, M.D.
 Professor of Radiology and Radiological Science [1991; 1980], Professor of Oncology [1993]

Mary E. Fissell, Ph.D.
 Professor of History of Medicine [2005; 1992]

Barbara Fivush, M.D.
 Professor of Pediatrics [2001]

Nicholas A. Flavahan, Ph.D.
 Edward D. Miller, M.D. Professor of Anesthesiology Research [2006]

Lee Alan Fleisher, M.D.
 Adjunct Professor of Health Sciences Informatics [2004; 1993]

Charles W. Flexner, M.D.
Professor of Medicine [2005; 1989], Professor of
Pharmacology and Molecular Sciences [2005;
1989]

John A. Flynn, M.D.
D. William Schlott, M.D. Professor of Clinical
Medicine [2008; 1990], Joint Appointment in
Psychiatry [1997]

Marshal F. Folstein, M.D.
Professor of Psychiatry [2004]

Susan E. Folstein, M.D.
Professor of Psychiatry [2004]

Arlene A. Forastiere, M.D.
Professor of Oncology [1998; 1988], Professor of
Otolaryngology-Head and Neck Surgery [1998;
1988], Professor of Radiation Oncology and
Molecular Radiation Sciences [2003]

Daniel E. Ford, M.D., M.P.H.
David M. Levine Professor of Medicine [2002;
1988], Joint Appointment in Psychiatry [2002],
Vice Dean for Clinical Investigation [2005]

Nicholas J. Fortuin, M.D.
Professor of Medicine [1986; 1971]

Mary Glenn Fowler, M.D., M.P.H.
Professor of Pathology [2005]

Harold Edward Fox, M.D.
Doctor Dorothy Edwards Professor of Gynecology
and Obstetrics [1996], Director of the Department
of Gynecology and Obstetrics [1996]

Frank John Frassica, M.D.
Robert A. Robinson Professor of Orthopedic
Surgery [1999; 1992], Professor of Oncology
[1999; 1992], Director of the Department of
Orthopedic Surgery [2000]

Julie Ann Freischlag, M.D.
William Stewart Halsted Professor of Surgery
[2003], Director of the Department of Surgery
[2003]

Eric Charles Frey, Ph.D.
Professor of Radiology and Radiological Science
[2007; 2002]

Linda P. Fried, M.D., M.P.H.
Mason F. Lord Professor of Geriatric Medicine in
the Department of Medicine [1997; 1985] (on leave
of absence to 12/31/09)

Alan D. Friedman, M.D.
Professor of Oncology [2008; 1989], Professor of
Pediatrics [2008; 1991]

David Steven Friedman, M.D., M.P.H., Ph.D.
Professor of Ophthalmology [2008; 1996]

John J. Frost, M.D., Ph.D.
Adjunct Professor of Radiology and Radiological
Science [1993; 1982]

Paul Albert Fuchs, Ph.D.
John E. Bordley Professor of Otolaryngology-Head
and Neck Surgery [1995], Professor of Biomedical
Engineering [1995], Professor of Neuroscience
[1999]

Edward W. Gabrielson, M.D.
Professor of Pathology [2004; 1988], Professor of
Oncology [2004; 1995]

Joel E. Gallant, M.D., M.P.H.
Professor of Medicine [2006; 1992]

Steven Ross Gambert, M.D.
Professor of Medicine [1998]

Estelle B. Gauda, M.D.
Professor of Pediatrics [2008; 1988]

Charlotte A. Gaydos, Dr.P.H., M.P.H.
Professor of Medicine [2008; 1993], Joint
Appointment in Emergency Medicine [2007]

John D. Gearhart, Ph.D.
Adjunct Professor of Gynecology [2009; 1981]

John P. Gearhart, M.D.
Professor (Pediatric) of Urology [1995; 1984],
Professor of Pediatrics [1995; 1986]

Patricia J. Gearhart, Ph.D.
Adjunct Professor of Medicine [2009; 1995],
Adjunct Associate Professor of Pathology [2009;
2008], Adjunct Associate Professor of Surgery
[2009; 1997]

Gail Geller, Sc.D.
Professor of Medicine in Genetic Medicine [2008;
2005], Professor of Pediatrics [2008; 1992]

Rebecca Z. German, Ph.D.
Professor of Physical Medicine and Rehabilitation
[2005], Professor of Functional Anatomy and
Evolution [2005]

Gregory G. Germino, M.D.
Adjunct Professor of Medicine [2009; 1992], Joint
Appointment in Molecular Biology and Genetics
[2001]

Winald R. Gerritsen, M.D., Ph.D.
Adjunct Professor of Oncology [2009]

Gary Gerstenblith, M.D., J.D.
Professor of Medicine [1992; 1977], Joint
Appointment in Radiology [1992]

Jean-Francois H. Geschwind, M.D.
Professor of Radiology and Radiological Science
[2007; 1996], Professor of Oncology [2007; 2001]

Robert H. Getzenberg, Ph.D.
Donald S. Coffey Professor of Urology [2005],
Professor of Oncology [2005], Professor of
Pharmacology and Molecular Sciences [2005]

Francis M. Giardiello, M.D.
John G. Rangos Sr. Professor of Adult Medicine
[2001; 1986], Professor of Oncology [2001; 1986],
Professor of Pathology [2001]

D. Wade Gibson, Ph.D.
Professor of Pharmacology and Molecular
Sciences [1989; 1976], Professor of Oncology
[2000]

David D. Ginty, Ph.D.
Professor of Neuroscience [2004; 1995],
Investigator of the Howard Hughes Medical
Institute

Albert Gjedde, M.D., D.Sc.
Adjunct Professor of Radiology [2006]

Michael Goggins, M.B.B.Ch.
Professor of Pathology [2008; 1999], Professor
of Medicine [2008; 2000], Professor of Oncology
[2008; 1998]

Ziya L. Gokaslan, M.D.
Donlin M. Long Professor of Neurosurgery [2002],
Professor of Oncology [2002], Professor of
Orthopedic Surgery [2002]

Morton F. Goldberg, M.D.
Joseph E. Green Professor of Macular
Degeneration and Other Retinal Diseases in the
Department of Ophthalmology [1989], Director of
the Department of Ophthalmology [2003; 1989]

Nelson H. Goldberg, M.D.
Adjunct Professor of Plastic Surgery [2004; 1982]

David S. Goldstein, M.D., Ph.D.
Visiting Professor of Medicine [1999]

Gary W. Goldstein, M.D.
Professor of Neurology [1988], Professor of
Pediatrics [1988], Director of the Kennedy Krieger
Institute [1988]

Jerome C. Goldstein, M.D.
Visiting Professor of Otolaryngology-Head and
Neck Surgery [1985]

Steven N. Goodman, M.D., Ph.D.
Professor of Oncology [2008; 1988], Professor of
Pediatrics [2008; 1997]

Leon Gordis, M.D., D.P.H.
Professor of Pediatrics [1992; 1966]

Barry Gordon, M.D., Ph.D.
The Therapeutic Cognitive Neuroscience
Professor of Neurology [1996; 1977]

Steven D. Gore, M.D.
Professor of Oncology [2008; 1990]

John D. Gottsch, M.D.
Margaret C. Mosher Professor of Ophthalmology
[1999; 1985]

Stephen J. Gould, Ph.D.
Professor of Biological Chemistry [2002; 1994]

Rachel Green, Ph.D.
Professor of Molecular Biology and Genetics
[2007; 1998], Investigator of the Howard Hughes
Medical Institute

William B. Greenough, III, M.D.
Professor of Medicine [1984; 1967]

Carol Widney Greider, Ph.D.
Daniel Nathans Professor and Director of the
Department of Molecular Biology and Genetics
[1999; 1997], Professor of Oncology [2000],
Director of the Department of Molecular Biology
and Genetics [2003]

Constance A. Griffin, M.D.
Professor of Pathology [2008; 1994], Associate
Professor of Medicine [1992; 1980], Professor of
Oncology [2008; 1981]

John W. Griffin, M.D.
University Distinguished Professor of Neurology
[1986; 1976], Professor of Neuroscience [1986;
1983], Professor of Pathology [1998], Director of
the Department of Neurology [2006; 1998]

Lawrence S. Griffith, M.D.
Professor of Medicine [1988; 1971], Joint
Appointment in Radiology [1980; 1974]

Roland R. Griffiths, Ph.D.
Professor of Behavioral Biology in the Department
of Psychiatry [1987; 1973], Professor of
Neuroscience [1987; 1983]

Jacques H. E. Grosset, M.D.
Visiting Professor of Medicine [2002]

Stuart A. Grossman, M.D.
Professor of Oncology [1998; 1981], Professor of
Medicine [1998; 1981], Professor of Neurological
Surgery [1998; 1985]

William B. Guggino, Ph.D.
Professor of Physiology [1993; 1982], Professor
of Pediatrics [1993; 1988], Director of the
Department of Physiology [2006]

David L. Guyton, M.D.
Zanvyl Krieger Professor of Pediatric
Ophthalmology [1989; 1977]

Henry R. Halperin, M.D.
Professor of Medicine [2001; 1984], Professor of
Biomedical Engineering [1990; 2001], Professor of
Radiology [2001]

Robert G. Hamilton, Ph.D.
Professor of Medicine [2000; 1989], Professor of
Pathology [2001; 1998]

Ada Hamosh, M.D., M.P.H.
Professor of Pediatrics in Genetic Medicine [2006;
1992]

Ulrike M. Hamper, M.D., M.B.A.
Professor of Radiology and Radiological Science
[2001; 1982], Professor of Pathology [2005],
Professor of Urology [2001; 1997]

James Tahara Handa, M.D.
Robert B. Welch M.D. Professor of Ophthalmology
[2008; 2001]

Daniel F. Hanley, M.D.
Jeffrey and Harriet Legum Professor of Acute
Neurological Medicine in the Department
of Neurology [1996; 1983], Professor of
Anesthesiology and Critical Care Medicine [1996;
1983], Professor of Neurological Surgery [1996;
1984]

Joshua Michael Hare, M.D.
Adjunct Professor of Medicine [2007; 1995],
Adjunct Professor of Biomedical Engineering
[2007; 2003]

Meryl H. Harmel, M.D.
Visiting Professor of Anesthesiology and Critical
Care Medicine [1987]

John W. Harmon, M.D.
Professor of Surgery [1996]

James C. Harris, Jr., M.D.
Professor of Psychiatry [1997; 1976], Professor of
Pediatrics [1997; 1976]

Gerald Warren Hart, Ph.D.
DeLamar Professor of Biological Chemistry [1997],
Director of the Department of Biological Chemistry
[1997]

Paul M. Hassoun, M.D.
Professor of Medicine [2007; 2002]

Jennifer A. Haythornthwaite, Ph.D.
Professor of Psychiatry [2005; 1995]

Gary S. Hayward, Ph.D.
Professor of Oncology [1991], Professor of Pathology [1997], Professor of Pharmacology and Molecular Sciences [1988; 1976]

S. Diane Hayward, Ph.D.
Professor of Oncology [1995; 1991], Associate Professor of Neurology [1989; 1988], Professor of Pharmacology and Molecular Sciences [1995; 1976]

David B. Hellmann, M.D.
Aliko Perroti Professor of Medicine [1996; 1986], Vice Dean for the Bayview Campus [2005]

Lee J. Helman, M.D.
Professor of Oncology [1999], Professor of Pediatrics [1999]

Craig Walter Hendrix, M.D.
Professor of Medicine [2009; 1994], Professor of Pharmacology and Molecular Sciences [2009; 1999]

Stewart H.C. Hendry, Ph.D.
Professor of Neuroscience [1999; 1992]

Jack E. Henningfield, Ph.D.
Adjunct Professor of Behavioral Biology in the Department of Psychiatry [2002; 1978]

James Gordon Herman, M.D.
Professor of Oncology [2009; 1996]

Allan D. Hess, Ph.D.
Professor of Oncology [1993; 1978], Professor of Pathology [1993]

James Earl King Hildreth, M.D., Ph.D.
Adjunct Professor of Pharmacology and Molecular Sciences [2005; 1996]

Gary S. Hill, M.D.
Adjunct Professor of Pathology [2004; 1978]

Argye Elizabeth Hillis, M.D.
Professor of Neurology [2006; 1999], Professor of Physical Medicine and Rehabilitation [2006; 2004]

H. Logan Holtgrewe, M.D.
Professor of Urology [2001; 1988]

Karen Margaret Horton, M.D.
Professor of Radiology and Radiological Science [2008; 1997]

Ralph H. Hruban, M.D.
Professor of Pathology [1999; 1990], Professor of Oncology [1999; 1995]

Steven S. Hsiao, Ph.D.
Professor of Neuroscience [2008; 1992], Professor of Biomedical Engineering [2008; 1999]

Shau-Ku Huang, Ph.D.
Professor of Medicine [1999; 1990]

Ann L. Cox Hubbard, Ph.D.
Professor of Cell Biology [1986; 1980], Joint Appointment in Medicine [1987], Professor of Physiology [1993]

Richard L. Haganir, Ph.D.
Professor of Neuroscience [1993; 1988], Joint Appointment in Biological Chemistry [1989], Director of the Department of Neuroscience [2006]

Thierry A.G.M. Huisman, M.D.
Visiting Professor of Radiology [2007]

David S. Hungerford, M.D.
David Hungerford Professor of Orthopaedic Surgery [1986; 1972]

Steven R. Hursh, Ph.D.
Adjunct Professor of Behavioral Biology in the Department of Psychiatry [1997]

Grover M. Hutchins, M.D.
Professor of Pathology [1983; 1966], Joint Appointment in Art as Applied to Medicine [1994]

Nicholas T. Iloff, M.D.
Charles E. Iloff, III M.D. Professor of Ophthalmology [2003; 1978], Professor of Plastic Surgery [2003; 1984]

John T. Isaacs, Ph.D.
Professor of Oncology [1993; 1980], Professor of Urology [1993; 1980]

William B. Isaacs, Ph.D.
William Thomas Gerrard, Mario Anthony Duhon and Jennifer and John Chalsty Professor of Urology [1998; 1988], Professor of Oncology [1998; 1992]

Ethilyn W. Jabs, M.D.
Adjunct Professor of Pediatrics [2007; 1984], Adjunct Professor of Medicine [2007; 1990], Adjunct Professor of Plastic Surgery [2007; 1993]

David L. Jackson, M.D., Ph.D.
Adjunct Professor of Medicine [1994]

Jay Brooks Jackson, M.D.
Baxley Professor of Pathology [1996], Director of the Department of Pathology [2001]

Elizabeth M. Jaffee, M.D.
Dana and Albert "Cubby" Broccoli Professor of Oncology [2002; 1992], Professor of Pathology [1999]

Kay Redfield Jamison, Ph.D.
Professor of Psychiatry [1993; 1987]

Henry D. Jampel, M.D.
Odd Fellows Professor of Ophthalmology [2003; 1988]

Jonathan Peter Jarow, M.D.
Professor of Urology [2003; 1997], Professor of Pathology [2003; 1997]

Donald R. Jasinski, M.D.
Professor of Medicine [1992; 1985]

Jonathan C. Javitt, M.D., M.P.H.
Adjunct Professor of Ophthalmology [1999; 1988]

Robert E. Jensen, Ph.D.
Professor of Cell Biology [2004; 1988]

Roger Anthony Johns, M.D.
Professor of Anesthesiology and Critical Care Medicine [1999], Professor of Medicine [2006], Director of the Department of Anesthesiology and Critical Care Medicine [2003; 1999]

Richard T. Johnson, M.D.
University Distinguished Service Professor of Neurology [1969], Professor of Neuroscience [1983], Director of the Department of Neurology [1997; 1988]

Rolley E. Johnson, D.Pharm.
Adjunct Professor of Psychiatry [1992; 1990]

Michael V. Johnston, M.D.
Professor of Neurology [1988], Professor of
Pediatrics [1988], Professor of Physical Medicine
and Rehabilitation [2005]

Bronwyn Jones, M.D.
Professor of Radiology and Radiological Science
[1991; 1981]

Richard J. Jones, M.D.
Professor of Oncology [1999; 1987], Professor of
Medicine [2005]

Anthony N. Kalloo, M.B.B.S.
Moses and Helen Golden Paulson Professor of
Medicine [2006; 1988]

Sewon Kang, M.D.
Noxell Professor of Dermatology [2008], Director
of the Department of Dermatology [2008]

Peter W. Kaplan, M.B.B.S.
Professor of Neurology [2003; 1987]

Judith E. Karp, M.D.
Professor of Oncology [2002; 1985], Professor of
Medicine [2002; 1975]

Edward Kevin Kasper, M.D.
E. Cowles Andrus Professor of Cardiology in the
Department of Medicine [2007; 1992]

David A. Kass, M.D.
Abraham and Virginia Weiss Professor of
Cardiology in the Department of Medicine [1998;
1986], Professor of Biomedical Engineering [1998;
1992]

Walter Erwin Kaufmann, M.D.
Professor of Pathology [2007; 1994], Professor of
Neurology [2007; 1992], Professor of Pediatrics
[2007; 1995], Professor of Psychiatry [2007; 1996],
Professor of Radiology [2007; 2000]

Gabor D. Kelen, M.D.
Professor of Emergency Medicine [1993; 1984],
Director of the Department of Emergency Medicine
[1993]

Richard Ian Kelley, M.D., Ph.D.
Professor of Pediatrics [2003; 1988]

Thomas J. Kelly, Jr., M.D., Ph.D.
Professor of Molecular Biology and Genetics
[1980; 1972] (on leave of absence), Director of the
Department of Molecular Biology and Genetics
[2002; 1982]

David E. Kern, M.D., M.P.H.
Professor of Medicine [2007; 2004]

Scott E. Kern, M.D.
Professor of Oncology [2002; 1992], Professor of
Pathology [2002; 1990]

Zaven S. Khachaturian, Ph.D.
Adjunct Professor of Psychiatry [2005]

Thomas S. Kickler, M.D.
Professor of Pathology [1997; 1980], Professor
of Medicine [1997; 1980], Professor of Oncology
[1997; 1995]

Kwang Sik Kim, M.D.
Professor of Pediatrics [2000]

Kenneth W. Kinzler, Ph.D.
Professor of Oncology [1999; 1990]

Michael J. Klag, M.D., M.P.H.
Professor of Medicine [1998; 1987], Dean of the
Bloomberg School of Public Health [2005]

Harvey G. Klein, M.D.
Adjunct Professor of Pathology [2005; 1999],
Adjunct Professor of Medicine [2005; 1975]

John Howard Klippel, M.D.
Visiting Professor of Medicine [2000]

Wayne M. Koch, M.D.
Professor of Otolaryngology-Head and Neck
Surgery [2000; 1987], Professor of Oncology
[2001; 1993]

Raymond C. Koehler, Ph.D.
Professor of Anesthesiology and Critical Care
Medicine [1996; 1980]

Alex Leo Kolodkin, Ph.D.
Professor of Neuroscience [2004; 1994], Joint
Appointment in Molecular Biology and Genetics
[1996]

Douglas Elliott Koshland, Ph.D.
Adjunct Professor of Molecular Biology and
Genetics [2003; 1997]

Mayuresh V. Kothare, Ph.D.
Visiting Professor of Biomedical Engineering
[2008]

Francis P. Kuhajda, M.D.
Professor of Pathology [2002; 1984], Joint
Appointment in Biological Chemistry [1993],
Professor of Oncology [2002; 1992]

Abraham Kupfer, Ph.D.
Professor of Cell Biology [2004]

Robert J. Kurman, M.D.
Richard W. Telinde Distinguished Professor of
Gynecologic Pathology in the Department of
Gynecology and Obstetrics [1989], Professor of
Oncology [2003], Professor of Pathology [1989]

Hideo Kusuoka, M.D., Ph.D.
Visiting Professor of Medicine [1999; 1992]

Peter O. Kwitrovich, Jr., M.D.
Professor of Pediatrics [1984; 1972], Professor of
Medicine [1984; 1975]

Paul W. Ladenson, M.D.
John Eager Howard Professor of Endocrinology
and Metabolism in the Department of Medicine,
University Distinguished Professor of Medicine
[1996; 1983], Professor of Oncology [1996],
Professor of Pathology [1996; 1994], Professor of
Radiology [2003]

Shenghan Lai, M.D., M.P.H.
Professor of Pathology [2005; 2004], Joint
Appointment in Medicine [2003], Professor of
Radiology [2005]

Marikki K. Laiho, M.D., Ph.D.
Professor of Radiation Oncology and Molecular
Radiation Sciences [2007], Professor of Oncology
[2007]

Edward G. Lakatta, M.D.
Professor of Medicine [1987; 1973]

Erich K. Lang, M.D.
Visiting Professor of Radiology and Radiological
Science [2006]

Richard A. Lange, M.D.
Professor of Medicine [2004; 2003]

John J. LaTerra, M.D., Ph.D.
Professor of Neurology [2002; 1988], Professor of Neuroscience [2002; 1992], Professor of Oncology [2002; 1992]

Beth L. Laube, Ph.D.
Professor of Pediatrics [2008; 1997], Joint Appointment in Medicine [1990; 1985], Joint Appointment in Radiology [1990; 1986]

Edward Earle Lawson, M.D.
Professor of Pediatrics [1999]

Gerald S. Lazarus, M.D.
Professor of Dermatology [2002], Professor of Medicine [2008]

Steven D. Leach, M.D.
Paul K. Neumann Professor of Pancreatic Cancer in the Department of Surgery [2003; 2000], Professor of Cell Biology [2005], Professor of Oncology [2003; 2000]

Daniel J. Leahy, Ph.D.
Professor of Biophysics and Biophysical Chemistry [2004; 1993], Professor of Oncology [2005]

Howard M. Lederman, M.D., Ph.D.
Professor of Pediatrics [2001; 1983], Joint Appointment in Medicine [2000]

Byung-Boong Lee, M.D., Ph.D.
Visiting Professor of Surgery [1997]

Se-Jin Lee, M.D., Ph.D.
Professor of Molecular Biology and Genetics [2001; 1991]

Mary Sue Leffell, Ph.D.
Professor of Medicine [2001; 1989]

Marianne J. Legato, M.D.
Adjunct Professor of Medicine [2006]

Frederick A. Lenz, M.D.
A. Earl Walker Professor of Functional Neurosurgery [1998; 1988], Joint Appointment in Neuroscience [2007]

Ronald P. Lesser, M.D.
Professor of Neurology [1993; 1986], Professor of Neurological Surgery [1994; 1987]

David M. Levine, M.D.
Samsung Professor of Medicine [1991; 1973]

Michael A. Levine, M.D.
Visiting Professor of Pediatrics [2003; 1998]

Hyam I. Levitsky, M.D.
Professor of Oncology [2002; 1991], Professor of Medicine [2002; 2000], Professor of Urology [2002; 2001]

Jonathan S. Lewin, M.D.
Martin W. Donner Professor of Radiology [2004], Professor of Biomedical Engineering [2006], Professor of Neurological Surgery [2005], Professor of Oncology [2004], Director of the Department of Radiology and Radiological Science [2004]

Min Li, Ph.D.
Professor of Neuroscience [2004; 1994], Professor of Physiology [2004; 1994]

Tsanyang Jake Liang, M.D.
Adjunct Professor of Medicine [2004]

Paul S. Lietman, M.D., Ph.D.
Professor of Medicine [1980; 1972], Professor of Pediatrics [1980; 1968], Professor of Pharmacology and Molecular Sciences [1980; 1968]

Joao A.C. Lima, M.D., M.B.A.
Professor of Medicine [2007; 1992], Associate Professor of Radiology [1998; 1996]

David J. Linden, Ph.D.
Professor of Neuroscience [2001; 1992]

Pamela A. Lipsett, M.D.
Professor of Surgery [2003; 1989], Assistant Professor of Anesthesiology and Critical Care Medicine [1995]

Jun Liu, Ph.D.
Professor of Pharmacology and Molecular Sciences [2001], Professor of Oncology [2005]

Donlin Martin Long, M.D., Ph.D.
University Distinguished Service Professor of Neurological Surgery [1973], Director of the Department of Neurological Surgery [2000; 1973]

Jon R. Lorsch, Ph.D.
Professor of Biophysics and Biophysical Chemistry [2009; 1999]

Gerald M. Loughlin, M.D.
Visiting Professor of Pediatrics [2002; 1994]

Charles J. Lowenstein, M.D.
Adjunct Professor of Medicine [2009; 1993]

Svetlana Lutsenko, Ph.D.
Visiting Professor of Physiology [2009]

Gerard A. Lutty, Ph.D.
G. Edward and G. Britton Durrell Professor of Ophthalmology [2005; 1980]

Constantine G. Lyketsos, M.D.
Elizabeth Plank Althouse Professor of Alzheimer's Research in Psychiatry and Behavioral Sciences [2000; 1993]

Susan M. MacDonald, M.D.
Professor of Medicine [2004; 1987]

Donald W. MacGlashan, Jr., M.D., Ph.D.
Professor of Medicine [1996; 1983]

Carolyn E. Machamer, Ph.D.
Professor of Cell Biology [2004; 1988]

Peter C. Maloney, Ph.D.
Professor of Physiology [1988; 1976], Associate Dean for Graduate Student Affairs [2001]

Paul N. Manson, M.D.
Professor of Plastic Surgery [1987; 1978], Director of the Division of Plastic, Reconstructive, and Maxillofacial Surgery [1990]

Eduardo Marban, M.D., Ph.D.
Michel Mirowski Professor of Cardiology in the Department of Medicine [2007; 1985]

Russell L. Margolis, M.D.
Professor of Psychiatry [2005; 1992], Professor of Neurology [2005; 1992]

Kieren Anne Marr, M.D.
Professor of Medicine [2008], Professor of Oncology [2009]

Jackie L. Martin, M.D.
Professor of Anesthesiology and Critical Care Medicine [2005; 1988]

Lee J. Martin, Ph.D.
Professor of Pathology [2007; 1989], Professor of Neuroscience [2007; 1993]

Robert W. Massof, Ph.D.
Professor of Ophthalmology [1991; 1976]

Mark P. Mattson, Ph.D.
Professor of Neuroscience [2003; 2000]

W. Lowell Maughan, M.D.
Professor of Medicine [1995; 1978], Professor of Biomedical Engineering [1997; 1989]

Bradford J. May, Ph.D.
Professor of Otolaryngology-Head and Neck Surgery [2003; 1990]

Michele M. M. Mazzocco, Ph.D.
Professor of Psychiatry [2008; 1993]

Justin C. McArthur, M.B.B.S., M.P.H.
Professor of Neurology [1996; 1985], Professor of Medicine [2009], Professor of Pathology [2005], Director of the Department of Neurology [2008]

Una Deirdre McCann, M.D.
Professor of Psychiatry [2008; 1999]

Edward F. McCarthy, Jr., M.D.
Professor of Pathology [2000; 1977], Professor of Orthopedic Surgery [2000; 1977]

Mary E. McCaul, Ph.D.
Professor of Behavioral Biology in the Department of Psychiatry [2001; 1983], Associate Professor of Medicine [1995]

Peter John McDonnell, III, M.D.
William Holland Wilmer Professor of Ophthalmology [2003], Director of the Department of Ophthalmology [2003]

Edward G. McFarland, M.D.
Wayne H. Lewis Professor of Orthopaedics and Shoulder Surgery [2005; 1992]

Paul R. McHugh, M.D.
University Distinguished Service Professor of Psychiatry [1975], Director of the Department of Psychiatry and Behavioral Sciences [2001; 1975]

Guy Mead McKhann, M.D.
Professor of Neurology [1969], Professor of Neuroscience [1988], Director of the Department of Neurology [1988; 1969]

Julia A. McMillan, M.D.
Professor of Pediatrics [2001; 1991], Associate Dean for Graduate Medical Education [2004]

Elliot R. McVeigh, Ph.D.
Bessie Darling Massey Professor of Biomedical Engineering [2007; 1989], Professor of Radiology and Radiological Science [2007; 1988], Director of the Department of Biomedical Engineering [2007]

Barry Ross Meisenberg, M.D.
Visiting Professor of Oncology [2008]

Stephen J. Meltzer, M.D.
Harry and Betty Meyerberg/Thomas R. Hendrix Professor of Gastroenterology in the Department of Medicine [2006], Professor of Oncology [2006]

William G. Merz, Ph.D.
Professor of Pathology [1998; 1974], Joint Appointment in Dermatology [1980; 1973]

Esteban Mezey, M.D.
Professor of Medicine [1982; 1968]

Susan Michaelis, Ph.D.
Professor of Cell Biology [2002; 1987]

Barbara R. Migeon, M.D.
Professor of Pediatrics in Genetic Medicine [1979; 1962]

Claude J. Migeon, M.D.
Professor of Pediatrics [1971; 1954]

Edward D. Miller, M.D.
Dr. Frances Watt Baker and Dr. Lennox D. Baker, Jr. Dean of the School of Medicine, Professor of Anesthesiology and Critical Care Medicine [1994], Director of the Department of Anesthesiology and Critical Care Medicine [1999; 1994]

Myron Miller, M.D.
Professor of Medicine [1997]

Neil R. Miller, M.D.
Frank B. Walsh Professor of Neuro-ophthalmology in the Department of Ophthalmology [1987; 1975], Professor of Neurological Surgery [1987; 1979], Professor of Neurology [1987; 1976]

Stephen M. Milner, M.B.B.S.
Professor of Plastic Surgery [2005], Professor of Dermatology [2009] (from 09/01/09), Professor of Pediatrics [2007]

Lloyd B. Minor, M.D.
Andelot Professor of Laryngology and Otology [2001; 1993], Professor of Biomedical Engineering [2001; 1994], Professor of Neuroscience [2001; 1993], Director of the Department of Otolaryngology-Head and Neck Surgery [2009; 2003]

Marek A. Z. Mirski, M.D., Ph.D.
Professor of Anesthesiology and Critical Care Medicine [2009; 1999], Professor of Neurological Surgery [2009; 2008], Professor of Neurology [2009; 1999]

Allan F. Mirsky, Ph.D.
Adjunct Professor of Psychiatry [2006; 1993]

Sally E. Mitchell, M.D.
Professor of Radiology and Radiological Science [2007; 1982], Associate Professor of Pediatrics [2003]

Craig Montell, Ph.D.
Professor of Biological Chemistry [1998; 1988], Professor of Neuroscience [1998; 1988]

Denise J. Montell, Ph.D.
Professor of Biological Chemistry [2002; 1992]

Elizabeth Anne Montgomery, M.D.
Professor of Pathology [2008; 1999], Professor of Oncology [2008; 2002], Professor of Orthopaedic Surgery [2009]

Robert A. Montgomery, M.D., Ph.D.
Margery K. and Thomas Pozefsky Professor of
Kidney Transplant Surgery [2009; 1995]

Richard D. Moore, M.D.
Professor of Medicine [1999; 1983]

Timothy H. Moran, Ph.D.
Paul R. McHugh Professor of Motivated Behaviors
in the Department of Psychiatry [1992; 1984]

Susumu Mori, Ph.D.
Professor of Radiology and Radiological Science
[2006; 1997], Professor of Oncology [2006; 2005]

Warwick L. Morison, M.D.
Professor of Dermatology [1995; 1981]

Hamilton Moses, III, M.D.
Adjunct Professor of Neurology [2009]

Jacek L. Mostwin, M.D., D.Phil.
Professor of Urology [1996; 1983]

Douglas B. Murphy, Ph.D.
Adjunct Professor of Cell Biology [2006; 1978]

Gary Jan Nabel, M.D., Ph.D.
Visiting Professor of Medicine [1999]

Sakkubai Naidu, M.B.B.S.
Professor of Neurology [2001; 1984], Professor of
Pediatrics [2001; 1984]

Avindra Nath, M.D.
Professor of Neurology [2002], Professor of
Neuroscience [2002]

Jeremy Nathans, M.D., Ph.D.
Professor of Molecular Biology and Genetics
[1996; 1988], Professor of Neuroscience [1996;
1988], Professor of Ophthalmology [1996; 1993],
Investigator of the Howard Hughes Medical
Institute

Barry D. Nelkin, Ph.D.
Professor of Oncology [2004; 1982]

William G. Nelson, M.D., Ph.D.
Marion I. Knott Director and Professor of Oncology
[2003; 1992], Professor of Medicine [2003; 1995],
Professor of Pathology [2003; 2000], Professor
of Pharmacology and Molecular Sciences [2003;
1995], Professor of Radiation Oncology and
Molecular Radiation Sciences [2003], Professor of
Urology [2003; 1992], Director of the Department
of Oncology [2008]

Paul M. Ness, M.D.
Professor of Pathology [1995; 1979], Professor
of Medicine [1995; 1979], Joint Appointment in
Oncology [1983]

Gerald Nestadt, M.B.B.Ch., M.P.H.
Professor of Psychiatry [2002; 1981]

David G. Nichols, M.D.
Mary Wallace Stanton Professor of Education,
Professor of Anesthesiology and Critical Care
Medicine [1998; 1983], Professor of Pediatrics
[1998; 1984], Vice Dean for Education [2000]

John K. Niparko, M.D.
George T. Nager Professor of Otolaryngology/
Head and Neck Surgery [1998; 1991], Interim
Director of the Department of Otolaryngology -
Head and Neck Surgery [2009]

Lawrence M. Nogee, M.D.
Professor of Pediatrics [2008; 1992]

Philip S. Norman, M.D.
Professor of Medicine [1999; 1956]

Daniel Nyhan, M.B.B.Ch.
Professor of Anesthesiology and Critical Care
Medicine [2002; 1985], Associate Professor of
Surgery [2001]

Brian O'Rourke, Ph.D.
Professor of Medicine [2004; 1993]

G. Johan Offerhaus, M.D., M.P.H., Ph.D.
Visiting Professor of Medicine [1997], Visiting
Professor of Pathology [1997]

Alessandro Olivi, M.D.
Professor of Neurological Surgery [2002; 1991],
Professor of Oncology [2002; 1994]

Jonathan Brett Orens, M.D.
Professor of Medicine [2007; 1998]

Pamela Ouyang, M.B.B.Ch.
Professor of Medicine [2005; 1980]

Randall M. Packard, Ph.D.
William H. Welch Professor of the History of
Medicine [2002], Director of the Department of the
History of Medicine [2002]

Jeffrey B. Palmer, M.D.
Lawrence Cardinal Shehan Professor of
Physical Medicine and Rehabilitation [2002;
1983], Professor of Functional Anatomy and
Evolution [2005], Professor of Otolaryngology-
Head and Neck Surgery [2002; 1989], Director
of the Department of Physical Medicine and
Rehabilitation [2004]

Duoja Pan, Ph.D.
Professor of Molecular Biology and Genetics
[2009; 2004], Professor of Oncology [2009; 2004]
Investigator of the Howard Hughes Institute

Drew M. Pardoll, M.D., Ph.D.
Martin D. Abeloff Professor of Oncology [1998;
1990], Professor of Medicine [1998; 1988],
Professor of Pathology [1998; 1996]

Giovanni Parmigiani, Ph.D.
Professor of Oncology [2005; 1999] (on leave of
absence from 09/01/09), Joint Appointment in
Health Sciences Informatics [2006] (on leave of
absence from 09/01/09)

Alan W. Partin, M.D., Ph.D.
David Hall McConnell Professor of Urology [1999;
1995], Professor of Oncology [2000], Professor of
Pathology [2001], Director of the Department of
Urology [2004]

Jean-Francois Payen de la Garanderie, M.D., Ph.D.
Visiting Professor of Radiology and Radiological
Science [2000]

Godfrey D. Pearson, M.B.B.S.
Professor of Psychiatry [1993; 1979]

Peter L. Pedersen, Ph.D.
Professor of Biological Chemistry [1975; 1967]

Trish M. Perl, M.D.
Professor of Medicine [2007; 1996], Associate
Professor of Pathology [2002; 1998]

Bruce A. Perler, M.D.
Julius H. Jacobson II Professor of Vascular Surgery [1997; 1982]

Michelle Petri, M.D., M.P.H.
Professor of Medicine [2001; 1986]

David Pickar, M.D.
Adjunct Professor of Psychiatry [2003]

Herbert Michael Pinedo, M.D., Ph.D.
Visiting Professor of Oncology [1966]

Paula M. Pitha-Rowe, Ph.D.
Professor of Oncology [1985; 1973], Joint Appointment in Molecular Biology and Genetics [1984; 1972]

Leslie P. Plotnick, M.D.
Professor of Clinical Care and Research of Pediatric Endocrinology in the Department of Pediatrics [2001; 1974]

Paul Hunter Plotz, M.D.
Adjunct Professor of Medicine [2004]

Gianna Pomata, Laurea
Professor of History of Medicine [2007]

Martin Gilbert Pomper, M.D., Ph.D.
Professor of Radiology and Radiological Science [2007; 1995], Associate Professor of Oncology [2002], Professor of Pharmacology and Molecular Sciences [2007; 2003], Joint Appointment in Psychiatry [2009], Professor of Radiation Oncology and Molecular Radiation Sciences [2008]

Aleksander S. Popel, Ph.D.
Professor of Biomedical Engineering [1988; 1984], Professor of Medicine [2007]

Neil R. Powe, M.D., M.P.H.
Distinguished Service Professor of Medicine [2009; 1986]

Donald L. Price, M.D.
Professor of Pathology [1978; 1971], Professor of Neurology [1978; 1971], Professor of Neuroscience [1983]

Peter J. Pronovost, M.D., Ph.D.
Professor of Anesthesiology and Critical Care Medicine [2005; 1997], Joint Appointment in Health Sciences Informatics [2007], Associate Professor of Surgery [2001; 1997]

Thomas T. Provost, M.D.
University Distinguished Service Professor of Dermatology [1983; 1978], Director of the Department of Dermatology [1996; 1981]

Ann E. Pulver, Sc.D.
Professor of Psychiatry [2002; 1989], Assistant Professor of Pediatrics [1990; 1981]

Harry A. Quigley, M.D.
A. Edward Maumenee Professor of Ophthalmology [1985; 1977]

Thomas C. Quinn, M.D.
Professor of Medicine [1991; 1981]

Hamid Rabb, M.D.
Professor of Medicine [2007; 2001], Professor of Surgery [2008]

Daniel M. Raben, Ph.D.
Professor of Biological Chemistry [2007; 2002], Professor of Oncology [2007; 1996], Professor of Physiology [2007; 1986]

Peter V. Rabins, M.D., M.P.H.
Professor of Psychiatry [1993; 1978], Joint Appointment in Medicine [1993]

Lorraine C. Racusen, M.D.
Professor of Pathology [2001; 1983]

Sally Radovick, M.D.
Lawson Wilkins Professor of Pediatric Endocrinology in the Department of Pediatrics [2005]

Srinivasa Naga Raja, M.B.B.S.
Professor of Anesthesiology and Critical Care Medicine [1997; 1981], Professor of Neurology [2006]

Cynthia S. Rand, Ph.D.
Professor of Medicine [2003; 1987], Joint Appointment in Behavioral Biology in the Department of Psychiatry [1988; 1985]

Rajini Rao, Ph.D.
Professor of Physiology [2004; 1993]

Randall R. Reed, Ph.D.
Professor of Molecular Biology and Genetics [1992; 1984], Professor of Neuroscience [1992; 1986], Professor of Otolaryngology-Head and Neck Surgery [2005]

Roger H. Reeves, Ph.D.
Professor of Physiology in Genetic Medicine [1999; 1985]

Michael X. Repka, M.D.
Professor of Ophthalmology [1997; 1985], Professor of Pediatrics [2001; 1990]

George A. Ricaurte, M.D., Ph.D.
Professor of Neurology [2006; 1987]

Joan T. Richtsmeier, Ph.D.
Visiting Professor of Functional Anatomy and Evolution [2000; 1986]

Mark A. Riddle, M.D.
Professor of Psychiatry [2002], Professor of Pediatrics [2002; 1993]

Daniele Rigamonti, M.D.
Salisbury Family Professor of Neurological Surgery [1997; 1993], Professor of Oncology [2003], Joint Appointment in Physical Medicine and Rehabilitation [1999], Professor of Radiation Oncology and Molecular Radiation Sciences [2003], Professor of Radiology and Radiological Science [1999; 1993]

Gregory J. Riggins, M.D., Ph.D.
Irving J. Sherman Research Professor of Neurosurgery [2008; 2003], Professor of Oncology [2008; 2003]

Nancy K. Roderer, M.L.S.
Professor of Health Sciences Informatics [2009; 2000], Associate Professor of Medicine [2008], Acting Director of the Division of Health Sciences Informatics [2000], Director of the Welch Medical Library [2000]

- Mark Charles Rogers, M.D.
Adjunct Professor of Anesthesiology and Critical Care Medicine [1996]
- Anne M. Rompalo, M.D.
Professor of Medicine [2003; 1987], Associate Professor of Gynecology and Obstetrics [1995; 1993]
- Brigitte Maria Ronnett, M.D.
Professor of Pathology [2007; 1995], Professor of Gynecology and Obstetrics [2007; 1997]
- Gabriele V. Ronnett, M.D., Ph.D.
Professor of Neuroscience [2000; 1989], Professor of Neurology [2000; 1989]
- Kenneth D. Rose, Ph.D.
Professor of Functional Anatomy and Evolution [1990; 1980]
- Antony Rosen, M.B.Ch.B.
Mary Betty Stevens Professor of Medicine [2002; 1993], Professor of Pathology [2002; 1993]
- Beryl J. Rosenstein, M.D.
Professor of Pediatrics [1989; 1966]
- Dorothy L. Rosenthal, M.D.
Professor of Pathology [1995], Professor of Gynecology and Obstetrics [1999]
- Christopher A. Ross, M.D., Ph.D.
Professor of Psychiatry [1996; 1987], Professor of Neurology [2003], Professor of Neuroscience [1997; 1989], Professor of Pharmacology and Molecular Sciences [2009]
- Jeffrey D. Rothstein, M.D., Ph.D.
Professor of Neurology [2000; 1989], Professor of Neuroscience [2000; 1997]
- Peter C. Rowe, M.D.
Sunshine Natural Wellbeing Foundation Professor of Chronic Fatigue Syndrome and Related Disorders in the Department of Pediatrics [1999; 1991]
- Haya R. Rubin, M.D., Ph.D.
Adjunct Professor of Medicine [2003; 1990]
- Richard R. Rubin, Ph.D.
Professor of Medicine [2007; 1994], Professor of Pediatrics [2007; 1991]
- Christopher B. Ruff, Ph.D.
Professor of Functional Anatomy and Evolution [1994; 1983], Professor of Orthopedic Surgery [1994; 1983], Director of The Center for Functional Anatomy and Evolution [2001]
- David K. Ryugo, Ph.D.
Professor of Otolaryngology-Head and Neck Surgery [1992; 1987], Professor of Neuroscience [1993; 1987]
- Murray B. Sachs, Ph.D.
University Distinguished Service Professor of Biomedical Engineering [1980; 1970], Professor of Neuroscience [1981], Professor of Otolaryngology-Head and Neck Surgery [1984], Director of the Department of Biomedical Engineering [2007; 1991]
- Ned Charlton Sacktor, M.D.
Professor of Neurology [2009; 1994]
- Eiichi Saitoh, M.D.
Adjunct Professor of Physical Medicine and Rehabilitation [2007]
- Jay H. Sanders, M.D.
Adjunct Professor of Medicine [1997]
- Alfred P. Sanfilippo, M.D., Ph.D.
Adjunct Professor of Pathology [2000; 1993], Director of the Department of Pathology [2001; 1993]
- Andrew J. Satin, M.D.
Professor of Gynecology and Obstetrics [2007]
- Christopher D. Saudek, M.D.
Hugh P. McCormick Family Professor of Endocrinology and Metabolism in the Department of Medicine [1992; 1981]
- Oliver D. Schein, M.D., M.P.H.
Burton E. Grossman Professor of Ophthalmology [1998; 1990]
- Chester W. Schmidt, Jr., M.D.
Professor of Psychiatry [1994; 1967]
- Ronald L. Schnaar, Ph.D.
Professor of Pharmacology and Molecular Sciences [1990; 1979], Professor of Neuroscience [1990; 1983]
- Jonathan Schneck, M.D., Ph.D.
Professor of Pathology [2001; 1995], Associate Professor of Medicine [1995; 1989], Professor of Oncology [2002]
- Mark P. Schoenberg, M.D.
Bernard L. Schwartz Distinguished Professor of Urologic Oncology, Professor of Urology [2002; 1994], Professor of Oncology [1998; 1995]
- Lawrence P. Schramm, Ph.D.
Professor of Biomedical Engineering [1988; 1970], Professor of Neuroscience [1988; 1981]
- Richard David Schulick, M.D.
John L. Cameron Professor of Alimentary Tract Diseases in the Department of Surgery [2009; 1999], Associate Professor of Biomedical Engineering [2007], Associate Professor of Gynecology and Obstetrics [2004], Professor of Oncology [2009; 1999]
- Steven P. Schulman, M.D.
Professor of Medicine [2004; 1988]
- Alan R. Schwartz, M.D.
Professor of Medicine [2001; 1987]
- Kathleen B. Schwarz, M.D.
Professor of Pediatrics [2000; 1987]
- Cynthia Louise Sears, M.D.
Professor of Medicine [2001; 1988], Professor of Oncology [2006]
- Ola A. Selnes, Ph.D.
Professor of Neurology [2004; 1983]
- Richard D. Semba, M.D., M.P.H.
W. Richard Green Professor of Ophthalmology [2006; 1987]

Gregg L. Semenza, M.D., Ph.D.
C. Michael Armstrong Professor of Pediatrics in Genetic Medicine [1999; 1990], Professor of Biological Chemistry [2009], Professor of Medicine [2008; 1990], Professor of Oncology [2003], Professor of Radiation Oncology and Molecular Radiation Sciences [2003]

Ranjan Sen, Ph.D.
Adjunct Professor of Medicine [2003]

Janet R. Serwint, M.D.
Rear Admiral Ray R. and Laura H. Connor Professor of Pediatrics [2005; 1990]

Geraldine Seydoux, Ph.D.
Professor of Molecular Biology and Genetics [2004; 1995], Investigator of the Howard Hughes Medical Institute

George Sgouros, Ph.D.
Professor of Radiology [2007; 2003], Professor of Radiation Oncology and Molecular Radiation Sciences [2008]

Reza Shadmehr, Ph.D.
Professor of Biomedical Engineering [2004; 1994], Professor of Neuroscience [2004; 1999]

Bruce K. Shapiro, M.D.
Professor of Pediatrics [2007; 1977]

Edward P. Shapiro, M.D.
Professor of Medicine [1997; 1981]

Jay R. Shapiro, M.D.
Professor of Physical Medicine and Rehabilitation [2004]

Theresa A. Shapiro, M.D., Ph.D.
Wellcome Professor of Clinical Pharmacology in the Department of Medicine [2000; 1981], Professor of Pharmacology and Molecular Sciences [2000; 1991]

Saul J. Sharkis, Ph.D.
Professor of Oncology [1993; 1978]

le-Ming Shih, M.D., Ph.D.
Professor of Pathology [2008; 2000], Professor of Gynecology and Obstetrics [2008; 2002], Professor of Oncology [2008; 2003]

Hyun S. Shin, M.D.
Professor of Molecular Biology and Genetics [1981; 1965] (on leave of absence), Joint Appointment in Medicine [1988] (on leave of absence)

David R. Shortle, M.D., Ph.D.
Professor of Biological Chemistry [1993; 1984], Professor of Biophysics and Biophysical Chemistry [1993; 1991]

Artin A. Shoukas, Ph.D.
Professor of Biomedical Engineering [1990; 1973], Professor of Anesthesiology and Critical Care Medicine [2006], Joint Appointment in Physiology [1994]

David Sidransky, M.D.
Professor of Otolaryngology-Head and Neck Surgery [1998; 1992], Professor of Oncology [1998; 1992], Professor of Pathology [1998], Professor of Urology [1999]

Stanley S. Siegelman, M.D.
Professor of Radiology [1973]

Robert F. Siliciano, M.D., Ph.D.
Professor of Medicine [1998; 1988], Joint Appointment in Molecular Biology and Genetics [1989]

Kenneth Silverman, Ph.D.
Professor of Psychiatry [2004; 1991]

Harvey S. Singer, M.D.
Haller Professor of Pediatric Neurologic Diseases in the Department of Neurology [1988; 1975], Professor of Pediatrics [1989; 1976]

Donald Small, M.D., Ph.D.
Kyle Haydock Professor of Oncology [2004; 1990], Professor of Pediatrics [2004; 1990]

Gwenn S. Smith, M.D.
Visiting Professor of Psychiatry [2008]

Kirby D. Smith, Ph.D.
Professor of Pediatrics in Genetic Medicine [1999; 1990]

Philip L. Smith, M.D.
Professor of Medicine [1993; 1977]

Solomon H. Snyder, M.D., D.Sc. (Hon. Causa), D.Phil. (Hon. Causa)
University Distinguished Service Professor of Neuroscience [1980], University Distinguished Service Professor of Pharmacology and Molecular Sciences [1970; 1966], University Distinguished Service Professor of Psychiatry [1970; 1968], Director of the Department of Neuroscience [2006; 1980]

Barbara T. Sollner-Webb, Ph.D.
Professor of Biological Chemistry [1988; 1980]

Mark J. Soloski, Ph.D.
Professor of Medicine [2002; 1983], Joint Appointment in Molecular Biology and Genetics [1988; 1983], Professor of Pathology [2004]

Alfred Sommer, M.D.
Professor of Ophthalmology [1985; 1976], Dean Emeritus of the Johns Hopkins Bloomberg School of Public Health

Jerry L. Spivak, M.D.
Professor of Medicine [1988; 1971]

Paul D. Sponseller, M.D.
Lee Riley Professor of Orthopaedic Surgery [2000; 1986], Professor of Urology [2006]

Allan C. Spradling, Ph.D.
Adjunct Professor of Molecular Biology and Genetics [1988]

Robert A. Squire, D.V.M., Ph.D.
Professor of Molecular and Comparative Pathobiology [1984; 1964]

Walter J. Stark, Jr., M.D.
Boone Pickens Professor of Ophthalmology [1982; 1973]

Charles Steenbergen, Jr., M.D., Ph.D.
Professor of Pathology [2006]

Earl P. Steinberg, M.D.
Adjunct Professor of Medicine [1997; 1982], Adjunct Associate Professor of Radiology and Radiological Science [1997; 1988]

Kerry J. Stewart, Ed.D.
Professor of Medicine [2004; 1981]

Maxine L. Stitzer, Ph.D.
Professor of Behavioral Biology in the Department of Psychiatry [1992; 1974]

James T. Stivers, Ph.D.
Professor of Pharmacology and Molecular Sciences [2007; 2001], Professor of Oncology [2007; 2004]

Dan Stojanovici, Ph.D.
Professor of Urology [2009; 1998]

Eric C. Strain, M.D.
Professor of Psychiatry [2000; 1990]

Jeremy Sugarman, M.D.
Harvey M Meyerhoff Professor of Bioethics and Medicine [2004]

Saraswati Sukumar, Ph.D.
Barbara B. Rubenstein Professor of Oncology [2002; 1994], Professor of Pathology [2002; 1996]

Lode J. Swinnen, M.D.
Visiting Professor of Oncology [2002]

Jimmie T. Sylvester, M.D.
Professor of Medicine [1989; 1977], Joint Appointment in Anesthesiology and Critical Care Medicine [1992; 1977]

Zsolt Szabo, M.D., Ph.D.
Professor of Radiology and Radiological Science [2005; 1989]

Khalid Fuad Tabbara, M.D.
Adjunct Professor of Ophthalmology [2004]

Paul Talalay, M.D., D.Sc. (Hon. Causa)
John Jacob Abel Distinguished Service Professor of Pharmacology and Experimental Therapeutics [1963], Director of the Department of Pharmacology and Experimental Therapeutics [1975; 1963]

Mark A. Talamini, M.D.
Adjunct Professor of Surgery [2005; 1987]

Rafael J. Tamargo, M.D.
Walter E. Dandy Professor of Neurosurgery [2004; 1991], Professor of Otolaryngology-Head and Neck Surgery [2004; 2002]

Mark F. Teaford, Ph.D.
Professor of Functional Anatomy and Evolution [1998; 1983]

Peter B. Terry, M.D.
Professor of Medicine [1993; 1975], Associate Professor of Anesthesiology and Critical Care Medicine [1982]

Nitish V. Thakor, Ph.D.
Professor of Biomedical Engineering [1994; 1983], Professor of Neurology [2008]

David Lee Thomas, M.D., M.P.H.
Stanhope Bayne-Jones Professor of Medicine [2003; 2002]

George H. Thomas, Ph.D.
Professor of Pediatrics in Genetic Medicine [1992; 1965], Joint Appointment in Medicine [1980; 1972], Professor of Pathology [1994]

Daniel P. Todes, Ph.D.
Professor of History of Medicine [2002; 1984]

Gordon F. Tomaselli, M.D.
Michel Mirowski, M.D. Professor of Cardiology in the Department of Medicine [2001; 1989]

Suzanne Louise Topalian, M.D.
Professor of Surgery [2006], Professor of Oncology [2006]

Thomas J.K. Toung, M.D.
Professor of Anesthesiology and Critical Care Medicine [2001; 1969], Joint Appointment in Neurological Surgery [1980; 1979]

Thomas A. Traill, B.M.-B.Ch.
Professor of Medicine [1998; 1980]

Glenn J. Treisman, M.D., Ph.D.
Professor of Psychiatry [2008; 1991], Professor of Medicine [2008; 1993]

Jeffrey M. Trent, Ph.D.
Adjunct Professor of Oncology [1994]

Juan C. Troncoso, M.D.
Professor of Pathology [2007; 1983], Associate Professor of Neurology [1991; 1983]

Shan Pou Tsai, Ph.D.
Adjunct Professor of Medicine [2001]

Mark O. M. Tso, M.B.B.S.
Professor of Ophthalmology [1999], Professor of Pathology [1999]

Benjamin M.W. Tsui, Ph.D.
Professor of Radiology and Radiological Science [2003; 2002], Professor of Biomedical Engineering [2005]

Leslie Tung, Ph.D.
Professor of Biomedical Engineering [2006; 1986]

George R. Uhl, M.D., Ph.D.
Adjunct Professor of Neurology [2009; 1988] (from 10/01/09), Adjunct Associate Professor of Neurology [1988] (to 09/30/09), Adjunct Professor of Neuroscience [2009; 1988] (from 10/01/09), Adjunct Associate Professor of Neuroscience [1988] (to 09/30/09)

John A. Ulatowski, M.D., Ph.D.
Mark C. Rogers Professor of Anesthesiology [2003; 1990], Professor of Neurological Surgery [2003; 1993], Professor of Neurology [2003; 1993], Director of the Department of Anesthesiology and Critical Care Medicine [2004]

Bradley J. Udem, Ph.D.
Professor of Medicine [1998; 1986]

Martin D. Valentine, M.D.
Professor of Medicine [1986; 1970]

David L. Valle, M.D.
Professor of Pediatrics in Genetic Medicine [1987; 1975], Joint Appointment in Medicine [1980; 1976], Joint Appointment in Molecular Biology and Genetics [1986], Professor of Ophthalmology [1992], Henry J. Knott Director of the McKusick-Nathans Institute of Genetic Medicine [2007]

Paulus Joannes van Diest, M.D., Ph.D.
Adjunct Professor of Oncology [2009]

Jennifer Eileen Van Eyk, Ph.D.
Professor of Medicine [2007; 2001], Professor of Biological Chemistry [2007; 2003], Professor of Biomedical Engineering [2007; 2006]

Peter C.M. Van Zijl, Ph.D.
Professor of Radiology and Radiological Science [1997; 1991], Professor of Biophysics and Biophysical Chemistry [1997; 1993], Professor of Oncology [2005]

Craig Alan Vander Kolk, M.D.
Professor of Plastic Surgery [2003; 1987], Professor of Pediatrics [2003; 1987]

Hendrik M.W. Verheul, M.D., Ph.D.
Adjunct Professor of Oncology [2009]

Eileen P.G. Vining, M.D.
Lederer Professor of Pediatric Epilepsy in the Department of Neurology [2002; 1976], Professor of Pediatrics [2002; 1976]

Raphael P. Viscidi, M.D.
Professor of Pediatrics [2005; 1987], Professor of Oncology [2009]

Benedetto Vitiello, M.D.
Adjunct Professor of Psychiatry [2007; 2005]

Georgia B. Vogelsang, M.D.
Professor of Oncology [1998; 1986] (to 09/30/09)

Bert Vogelstein, M.D.
Clayton Professor of Oncology [1989; 1978], Joint Appointment in Molecular Biology and Genetics [1992], Professor of Pathology [1998]

Eric Carl Vonderheid, M.D.
Professor of Dermatology [2002], Professor of Oncology [2002]

Rudiger VonDerheydt, Ph.D.
Professor of Neuroscience [1995; 1993]

Frank K. Wacker, M.D.
Visiting Professor of Radiology [1988]

Elizabeth Wagner, Ph.D.
Professor of Medicine [2001; 1986]

Richard L. Wahl, M.D.
Henry N. Wagner Jr., M.D. Professor of Nuclear Medicine in the Department of Radiology [2000], Professor of Oncology [2001]

Edward E. Wallach, M.D.
J. Donald Woodruff Professor of Gynecology and Obstetrics [1984], Director of the Department of Gynecology and Obstetrics [1994; 1984]

Patrick C. Walsh, M.D.
University Distinguished Service Professor of Urology [1974], Director of the Department of Urology [2004; 1974]

Thomas J. Walsh, M.D.
Adjunct Professor of Pathology [2004]

Jeremy D. Walston, M.D.
Professor of Medicine [2009; 1993]

Gary S. Wand, M.D.
Alfredo Riviere and Norma Rodriguez de Riviere Professor of Endocrinology in the Department of Medicine [1999; 1985], Professor of Psychiatry [1999; 1993]

Xiaoqin Wang, Ph.D.
Professor of Biomedical Engineering [2005; 1995], Professor of Neuroscience [2005; 1995], Professor of Otolaryngology-Head and Neck Surgery [2005]

Steven A. Wartman, Ph.D., M.D.
Adjunct Professor of Medicine [2006]

Levi Watkins, Jr., M.D.
Professor of Cardiac Surgery [1991; 1978], Associate Dean for Postdoctoral Programs [1991]

Paul A. Watkins, M.D., Ph.D.
Professor of Neurology [2003; 1984], Joint Appointment in Biological Chemistry [1992]

Kristin L. Weber, M.D.
Virginia M. and William Percy Professor of Orthopaedic Surgery [2009; 2003], Professor of Oncology [2009; 2003]

Myron L. Weisfeldt, M.D.
William Osler Professor of Medicine [2001], Director of the Department of Medicine [2001]

David B. Weishampel, Ph.D.
Professor of Functional Anatomy and Evolution [1996; 1985]

James L. Weiss, M.D.
Michael J. Cudahy Professor of Cardiology in the Department of Medicine [1990; 1975], Associate Dean for Admissions [1999]

Robert G. Weiss, M.D.
Professor of Medicine [2001; 1989], Joint Appointment in Radiology [1991]

Sheila West, Ph.D., Pharm.D.
El-Maghraby Professor of Preventive Ophthalmology [1997; 1984]

William H. Westra, M.D.
Professor of Pathology [2005; 1994], Associate Professor of Dermatology [2003], Professor of Oncology [2005; 2003], Professor of Otolaryngology-Head and Neck Surgery [2005; 1995]

Moody D. Wharam, Jr., M.D.
Professor of Radiation Oncology and Molecular Radiation Sciences [2003], Professor of Neurological Surgery [1993; 1992], Professor of Oncology [1993; 1975], Professor of Pediatrics [1993; 1992], Professor of Radiology [1993; 1975]

Andrew Whelton, M.B.B.Ch.
Adjunct Professor of Medicine [1998]

Barbara White, M.D.
Visiting Professor of Medicine [1999]

Charles M. Wiener, M.D.
Professor of Medicine [2005; 1991], Professor of Physiology [2005; 1998]

Fredrick M. Wigley, M.D.
Professor of Medicine [1996; 1979]

Charles Pat Wilkinson, M.D.
Professor of Ophthalmology [1996; 1993]

George Melville Williams, M.D.
Dr. Bertram M. Bernheim Research Professor of Surgery [1969]

Katherine Lee Wilson, Ph.D.
Professor of Cell Biology [2004; 1988]

Modena E. Wilson, M.D.
Adjunct Professor of Pediatrics [1994; 1979]

- Raimond L. Winslow, Ph.D.
Professor of Biomedical Engineering [2000; 1991],
Joint Appointment in Health Sciences Informatics
[2001]
- Robert A. Wise, M.D.
Professor of Medicine [1998; 1980], Instructor in
Radiology and Radiological Science [1981]
- Thomas N. Wise, M.D.
Professor of Psychiatry [1998; 1973]
- Frank R. Witter, M.D.
Professor of Gynecology and Obstetrics [2006;
1980]
- Cynthia Wolberger, Ph.D.
Professor of Biophysics and Biophysical Chemistry
[2000; 1991], Investigator of the Howard Hughes
Medical Institute
- Frederic E. Wondisford, M.D.
Professor of Pediatrics [2005], Joint Appointment
in Medicine [2005], Professor of Physiology [2006]
- Dean F. Wong, M.D., Ph.D.
Professor of Radiology and Radiological Science
[1993; 1983], Professor of Neuroscience [2007],
Joint Appointment in Psychiatry [1999]
- John Wai-Chiu Wong, Ph.D.
Professor of Radiation Oncology and Molecular
Radiation Sciences [2004], Professor of Oncology
[2004]
- Philip Chun-Ying Wong, Ph.D.
Professor of Pathology [2005; 1993], Professor of
Neuroscience [2009; 2002]
- Robert A. Wood, M.D.
Professor of Pediatrics [2004; 1988]
- Thomas B. Woolf, Ph.D.
Professor of Physiology [2006; 1994], Assistant
Professor of Biomedical Engineering [1995],
Joint Appointment in Biophysics and Biophysical
Chemistry [1994]
- Paul F. Worley, M.D.
Professor of Neuroscience [2000; 1987], Professor of
Neurology [2000; 1984]
- Scott M. Wright, M.D.
Professor of Medicine [2008; 1997]
- Christopher L. Wu, M.D.
Professor of Anesthesiology and Critical Care
Medicine [2009; 1999]
- Tzzy-Choou Wu, M.D., Ph.D., M.P.H.
Professor of Pathology [2003; 1995], Professor of
Gynecology and Obstetrics [2003; 1997],
Professor of Oncology [2003; 1996]
- Stephen C. Yang, M.D.
Arthur B. and Patricia B. Modell Professor of
Thoracic Surgery [2008; 1994], Professor of
Oncology [2008; 1996]
- Wei Yang, Ph.D.
Adjunct Professor of Biophysics and Biophysical
Chemistry [2004]
- John H. Yardley, M.D.
University Distinguished Service Professor of
Pathology [1972; 1954], Baxley Professor of
Pathology and Director of the Department of
Pathology [1992; 1988]
- William A. Yasnoff, M.D., Ph.D.
Adjunct Professor of Health Sciences Informatics
[2003]
- Myron Yaster, M.D.
Richard J. Traytsman Professor of Anesthesiology
and Critical Care Medicine [2000; 1982], Professor
of Pediatrics [2000; 1982]
- King-Wai Yau, Ph.D.
Professor of Neuroscience [1986], Professor of
Ophthalmology [1994]
- Robert H. Yolken, M.D.
Theodore and Vada Stanley Distinguished
Professor of Neurovirology in the Department
of Pediatrics [1987; 1979], Joint Appointment in
Psychiatry [2004]
- Eric D. Young, Ph.D.
Professor of Biomedical Engineering [1987; 1975],
Professor of Neuroscience [1987; 1981], Professor
of Otolaryngology-Head and Neck Surgery [1987;
1985]
- David Mark Yousem, M.D.
Professor of Radiology and Radiological Science
[1998]
- David T. Yue, M.D., Ph.D.
Professor of Biomedical Engineering [1999; 1988],
Professor of Neuroscience [1999; 1997]
- Andrea A. Zachary, Ph.D.
Professor of Medicine [2004; 1992]
- Donald J. Zack, M.D., Ph.D.
Guerrieri Family Professor of Ophthalmology
[1997; 1988], Joint Appointment in Molecular
Biology and Genetics [1991; 1988], Professor of
Neuroscience [2001; 1988]
- Howard A. Zacur, M.D., Ph.D.
Theodore and Ingrid Baramki Professor of
Reproductive Endocrinology in the Department of
Gynecology and Obstetrics [1995; 1980]
- David S. Zee, M.D.
Professor of Neurology [1985; 1975], Professor
of Neuroscience [1985; 1983], Professor of
Ophthalmology [1986; 1975], Professor of
Otolaryngology-Head and Neck Surgery [1987]
- Martha Allen Zeiger, M.D.
Professor of Surgery [2009; 1993], Professor of
Oncology [2009; 1996]
- Ran Zeimer, Ph.D.
Morton F. Goldberg Professor of Ophthalmology
[1993]
- Pamela L. Zeitlin, M.D., Ph.D.
Professor of Pediatrics [2001; 1988], Joint
Appointment in Physiology [1988]
- Jonathan M. Zenilman, M.D.
Professor of Medicine [2001; 1989], Professor of
Gynecology and Obstetrics [2001; 1989]
- Elias A. Zerhouni, M.D.
Professor of Radiology [2009], Professor of
Biomedical Engineering [2009], Director of
the Department of Radiology and Radiological
Science [2002; 1996]
- Roy C. Ziegelstein, M.D.
Professor of Medicine [2006; 1993]

Harvey A. Ziessman, M.D.
Professor of Radiology [2005; 2003]

M. Christine Zink, D.V.M., Ph.D.
Professor of Molecular and Comparative
Pathobiology [2000; 1988], Professor of Pathology
[2000; 1988], Director of the Department of
Molecular and Comparative Pathobiology [2008]

S. James Zinreich, M.D.
Professor of Radiology and Radiological Science
[2001; 1983], Professor of Otolaryngology-Head
and Neck Surgery [2001; 1985]

Stephen R. Zukin, M.D.
Visiting Professor of Psychiatry [2000], Visiting
Professor of Radiology and Radiological Science
[2001]

Jay L. Zweier, M.D.
Visiting Professor of Medicine [2002; 1987],
Visiting Associate Professor of Radiology [1996]

PROFESSORS EMERITI

R. Robinson Baker, M.D.
Warfield M. Firor Professor Emeritus of Surgery
[1997; 1965]

William R. Bell, M.D.
Edythe Harris Lucas and Clara Lucas Lynn
Professor Emeritus of Hematology in the
Department of Medicine [1980; 1970]

Wilma B. Bias, Ph.D.
Professor Emerita of Medicine [1996; 1964]

William R. Breakey, M.B.B.Ch.
Professor Emeritus of Psychiatry [1993; 1976]

Gert H. Brieger, M.D., Ph.D., M.P.H.
Professor Emeritus of History of Medicine [2004;
1984], Distinguished Service Professor Emeritus
in the Department of History of Medicine, Science
and Technology, Director of the Department of
the History of Science, Medicine, and Technology
[2001; 1984]

Saul W. Brusilow, M.D.
Professor Emeritus of Pediatrics [1998; 1956]

Gregory B. Bulkley, M.D.
Professor Emeritus of Surgery [1988; 1977]

Edmund Y. S. Chao, Ph.D.
Professor Emeritus of Orthopedic Surgery [1992]

Samuel Charache, M.D.
Professor Emeritus of Medicine [1995; 1966],
Professor Emeritus of Pathology [1981]

Barton Childs, M.D.
Professor Emeritus of Pediatrics [1981; 1946]

C. Lockard Conley, M.D.
University Distinguished Service Professor
Emeritus of Medicine [1980; 1946]

Barbara J. DeLateur, M.D.
Lawrence Cardinal Shehan Professor Emerita of
Physical Medicine and Rehabilitation [2006; 1993],
Director of the Department of Physical Medicine
and Rehabilitation [2004; 1993]

John F. Dicello, Ph.D.
Professor Emeritus of Radiation Oncology and
Molecular Radiation Sciences [1995; 2003]

Howard M. Dintzis, Ph.D., D.Sc. (Hon.)
Professor Emeritus of Biophysics and Biophysical
Chemistry [1995; 1961], Director of the
Department of Biophysics [1990; 1961]

Thomas B. Ducker, M.D.
Professor Emeritus of Neurological Surgery [1993;
1984]

Joel Elkes, M.D.
University Distinguished Service Professor
Emeritus of Psychiatry [1981; 1963], Director of the
Department of Psychiatry and Behavioral Sciences
[1974; 1963]

John M. Freeman, M.D.
Professor Emeritus of Neurology [2007; 1969],
Professor Emeritus of Pediatrics [2007; 1969]

Clara Fronticelli, Ph.D.
Professor Emerita of Anesthesiology and Critical
Care Medicine [2001; 1999]

Vincent L. Gott, M.D.
Richard Bennett Darnall Professor Emeritus of
Cardiac Surgery [2008; 1965]

William R. Green, M.D.
Professor Emeritus of Ophthalmology [2006;
1968], Professor Emeritus of Pathology [2006;
1968]

J. Alex Haller, Jr., M.D.
Professor Emeritus of Pediatric Surgery [1967;
1963], Professor Emeritus of Emergency Medicine
[1974], Professor Emeritus of Pediatrics [1982]

Barbara S. Hawkins, Ph.D.
Professor Emerita of Ophthalmology [1995; 1981]

Thomas R. Hendrix, M.D.
Moses and Helen Golden Paulson Professor
Emeritus of Gastroenterology in the Department
of Medicine and University Distinguished Service
Professor [1968; 1957]

Robert H. Heptinstall, M.D.
University Distinguished Service Professor
Emeritus of Pathology [1967; 1962], Baxley
Professor of Pathology and Director of the
Department of Pathology [1988; 1969]

Rudolf Hoehn-Saric, M.D.
Professor Emeritus of Psychiatry [2000; 1999]

Neil A. Holtzman, M.D.
Professor Emeritus of Pediatrics [1984; 1964]

John E. Hoopes, M.D.
Professor Emeritus of Plastic Surgery [1990; 1970]

George R. Huggins, M.D.
Professor Emeritus of Gynecology and Obstetrics
[2009; 1986]

Kimishige Ishizaka, M.D.
Thomas P. O'Neill Professor Emeritus of
Immunology in the Department of Medicine [1989;
1970]

Teruko Ishizaka, M.D.
Professor Emerita of Medicine [1989; 1972]

- Richard J. Johns, M.D.
University Distinguished Service Professor
Emeritus of Biomedical Engineering [2006; 1971],
Professor Emeritus of Medicine [2006; 1951],
Massey Professor of Biomedical Engineering
and Director of the Department of Biomedical
Engineering [1991; 1971]
- Howard W. Jones, Jr., M.D.
Professor Emeritus of Gynecology and Obstetrics
[1976; 1942]
- Jean S. Kan, M.D.
Helen B. Taussig Professor Emerita of Pediatrics
[1993; 1977]
- Haskins K. Kashima, M.D.
Professor Emeritus of Otolaryngology-Head and
Neck Surgery [2001; 1970]
- M. Daniel Lane, Ph.D.
Professor Emeritus of Biological Chemistry [1969],
University Distinguished Service Professor of
Biological Chemistry, DeLamar Professor and
Director of the Department of Biological Chemistry
[1997; 1978]
- Raymond E. Lenhard, Jr., M.D.
Professor Emeritus of Oncology [1997; 1973],
Professor Emeritus of Medicine [1997; 1966]
- Lawrence M. Lichtenstein, M.D.
Professor Emeritus of Medicine [1975; 1966]
- John W. Littlefield, M.D.
Professor Emeritus of Physiology [1992; 1985],
Professor Emeritus of Pediatrics [1992; 1974],
Director of the Department of Physiology [1992;
1985], Given Professor of Pediatrics and Director
of the Department of Pediatrics [1985; 1974]
- Risa Berman Mann, M.D.
Professor Emerita of Pathology [1995; 1977]
- Simeon Margolis, M.D., Ph.D.
Professor Emeritus of Medicine [1977; 1965],
Professor Emeritus of Biological Chemistry [1981;
1965]
- Bernard R. Marsh, M.D.
Professor Emeritus of Otolaryngology-Head and
Neck Surgery [1998; 1965]
- Nina W. Matheson, M.L.
Professor Emerita of Medical Information in the
Division of Health Sciences Informatics [1995;
1984]
- Richard A. Meyer, M.S.
Professor Emeritus of Neurological Surgery [2009;
1980]
- Albert S. Mildvan, M.D.
Professor Emeritus of Biological Chemistry [1981]
- Mark E. Molliver, M.D.
Professor Emeritus of Neuroscience [2006; 1980],
Professor Emeritus of Neurology [1984; 1971]
- Vernon B. Mountcastle, M.D., D.Sc. (Hon. Causa)
University Professor Emeritus of Neuroscience
[1992; 1980], Director of the Department of
Physiology [1980; 1964]
- George T. Nager, M.D.
Anselot Professor Emeritus of Laryngology and
Otology and University Distinguished Service
Professor Emeritus [1988; 1954], Director of the
Department of Laryngology and Otology [1984;
1970]
- Ernst F.L. Niedermeyer, M.D.
Professor Emeritus of Neurological Surgery [1990;
1965], Professor Emeritus of Neurology [1990;
1973]
- Albert H. Owens, Jr., M.D.
University Distinguished Service Professor
Emeritus of Oncology [1999; 1973], University
Distinguished Service Professor Emeritus of
Medicine [1999; 1950], Eli Kennerly Marshall, Jr.
Professor and Director of the Oncology Center
[1992; 1973]
- Arnall Patz, M.D.
William Holland Wilmer Professor Emeritus of
Ophthalmology and University Distinguished
Service Professor Emeritus [1989; 1955], Director
of the Department of Ophthalmology [1992; 1979]
- Solbert Permutt, M.D.
Professor Emeritus of Medicine [2006; 1971]
- Irvin P. Pollack, M.D.
Professor Emeritus of Ophthalmology [1986; 1961]
- Robert A. Prendergast, M.D.
Professor Emeritus of Ophthalmology [2000;
1965], Professor Emeritus of Pathology [2000;
1965]
- Cecil H. Robinson, Ph.D.
Professor Emeritus of Pharmacology and
Molecular Sciences [1977; 1963]
- David A. Robinson, Dr.Eng.
University Distinguished Service Professor
Emeritus of Ophthalmology [1993; 1971],
University Distinguished Service Professor
Emeritus of Biomedical Engineering [1993; 1961],
University Distinguished Service Professor
Emeritus of Neuroscience [1993; 1983]
- Richard S. Ross, M.D.
Professor Emeritus of Medicine [1997; 1948], Dean
Emeritus of the School of Medicine [1975]
- Gerhard Schmeisser, M.D.
Professor Emeritus of Orthopedic Surgery [1991;
1954]
- Marvin M. Schuster, M.D.
Janssen/Strauss-Halbreich Professor Emeritus of
Digestive and Motility Disorders in the Department
of Medicine [1976; 1961], Joint Appointment
Emeritus in Psychiatry [1980; 1961]
- Henry M. Seidel, M.D.
Professor Emeritus of Pediatrics [1996; 1950]
- Arthur M. Silverstein, Ph.D.
Odd Fellows Professor Emeritus of Ophthalmic
Immunology in the Department of Ophthalmology
[1989; 1959], Joint Appointment Emeritus in
History of Medicine [1990; 1986]
- Phillip R. Slavney, M.D.
Eugene Meyer III Professor Emeritus of Psychiatry
[2008; 1976]

Hamilton O. Smith, M.D.
American Cancer Society Distinguished Research
Professor Emeritus of Molecular Biology and
Genetics [1998; 1967]

George B. Udvarhelyi, M.D.
Professor Emeritus of Neurological Surgery [1984;
1955]

T. Phillip Waalkes, M.D., Ph.D.
Professor Emeritus of Oncology [1988; 1975]

Jerry A. Winkelstein, M.D.
Professor Emeritus of Pediatrics [1983; 1973],
Professor Emeritus of Medicine [1998], Professor
Emeritus of Pathology [1998]

Philip D. Zieve, M.D.
Professor Emeritus of Medicine [2008; 1963]

William H. Zinkham, M.D.
Professor Emeritus of Pediatrics [1995; 1954],
Professor Emeritus of Oncology [1995; 1975]
Distinguished Service Professor Emeritus of
Pediatrics and Oncology

ASSOCIATE PROFESSORS

Theodore P. Abraham, M.B.B.S., M.D.
Associate Professor of Medicine [2004; 2003]

Robert J. Adams, D.V.M.
Associate Professor of Molecular and Comparative
Pathobiology [1985; 1977]

Hyo S. Ahn, M.D.
Associate Professor of Radiology and Radiological
Science [1988; 1980]

Michael C. Ain, M.D.
Associate Professor of Orthopedic Surgery
[2006; 1995], Associate Professor of Neurological
Surgery [2006; 2000]

Esen Karamursel Akpek, M.D.
Associate Professor of Ophthalmology [2005;
1999]

Selwa A.F. Al-Hazaa, M.D.
Adjunct Associate Professor of Ophthalmology
[2008; 2003]

Rhoda M. Alani, M.D.
Associate Professor of Oncology [2004; 1999],
Associate Professor of Dermatology [2004; 1999],
Joint Appointment in Molecular Biology and
Genetics [1999]

Eric Matthew Aldrich, M.D., Ph.D.
Associate Professor of Neurology [2008; 1999],
Joint Appointment in Physical Medicine and
Rehabilitation [2000]

Syed Zulfiqar Ali, M.B.B.S.
Associate Professor of Pathology [2003; 1997],
Associate Professor of Radiology [2003; 2002]

Andrew F. Angelino, M.D.
Associate Professor of Psychiatry [2009; 1999]

Aravind Arepally, M.D.
Associate Professor of Radiology and Radiological
Science [2008; 1997]

Deborah K. Armstrong, M.D.
Associate Professor of Oncology [2004; 1993],
Associate Professor of Gynecology and Obstetrics
[2004; 1999]

Dmitri Artemov, Ph.D.
Associate Professor of Radiology and Radiological
Science [2004; 1997], Associate Professor of
Oncology [2004]

Bimal H. Ashar, M.D.
Associate Professor of Medicine [2008; 1998]

Mohamed G. Atta, M.B.B.Ch.
Associate Professor of Medicine [2008; 1997]

Paul Gisbert Auwaerter, M.D., M.B.A.
Associate Professor of Medicine [2003; 1996]

Thomas R. Aversano, M.D.
Associate Professor of Medicine [1993; 1985]

Dimitrios Avramopoulos, M.D., Ph.D.
Associate Professor of Psychiatry in Genetic
Medicine [2007; 2002]

Elizabeth H. Aylward, Ph.D.
Associate Professor of Psychiatry [1993; 1990]

Alan Nathaniel Baer, M.D.
Associate Professor of Medicine [2007]

Serena Maria Bagnasco, M.D.
Associate Professor of Pathology [2004]

Douglas W. Ball, M.D.
Associate Professor of Medicine [2002; 1991],
Associate Professor of Oncology [2002; 1991]

Theodore A. Baramki, M.D.
Associate Professor of Gynecology and Obstetrics
[1980; 1965], Joint Appointment in Pediatrics
[1980; 1969]

Sheila A. Barber, Ph.D.
Adjunct Associate Professor of Molecular and
Comparative Pathobiology [2006; 1998]

Norman J. Barker, M.S.
Associate Professor of Pathology [2004; 1991],
Associate Professor of Art as Applied to Medicine
[2004; 1991]

Kathleen Carole Barnes, Ph.D.
Associate Professor of Medicine [2002; 1995]

Detlef Bartelt, M.D.
Associate Professor of Radiology and Radiological
Science [2007; 2005]

Klemens H. Barth, M.D.
Associate Professor of Radiology and Radiological
Science [1980; 1974]

Susan Joan Bartlett, Ph.D.
Adjunct Associate Professor of Medicine [2008;
1997]

Howard C. Bartner, M.A.
Associate Professor of Art as Applied to Medicine
[2000; 1962]

Susan S. Bassett, Ph.D.
Associate Professor of Psychiatry [1999; 1990]

Amy J. Bastian, Ph.D.
Associate Professor of Neuroscience [2005;
2001], Associate Professor of Neurology [2005;
2001], Associate Professor of Physical Medicine
and Rehabilitation [2005; 2001]

Mary Catherine Beach, M.D., M.P.H.
Associate Professor of Medicine [2008; 2002]

Thomas J. Beck, Sc.D.
Associate Professor of Radiology and Radiological Science [1997; 1994]

Patrice M. Becker, M.D.
Associate Professor of Medicine [2002; 1992]

Atul Bedi, M.B.B.S.
Associate Professor of Otolaryngology-Head and Neck Surgery [2008], Associate Professor of Oncology [2002; 1994]

Ashley Behrens, M.D.
Associate Professor of Ophthalmology [2009; 2003]

Harolyn M. E. Belcher, M.D.
Associate Professor of Pediatrics [2003; 1996]

Stephen M. Belkoff, Ph.D.
Associate Professor of Orthopedic Surgery [2001]

Michele F. Bellantoni, M.D.
Associate Professor of Medicine [1999; 1989]

Allan Joel Belzberg, M.D.
Associate Professor of Neurological Surgery [2000; 1990]

Frank Michael Bengel, M.D.
Associate Professor of Radiology and Radiological Science [2005], Joint Appointment in Medicine [2007]

Sean Michael Berenholtz, M.D.
Associate Professor of Anesthesiology and Critical Care Medicine [2009; 2000], Assistant Professor of Surgery [2001]

Dwight Edward Bergles, Ph.D.
Associate Professor of Neuroscience [2005; 2000], Assistant Professor of Otolaryngology-Head and Neck Surgery [2005]

Ivor D. Berkowitz, M.B.B.Ch.
Associate Professor of Anesthesiology and Critical Care Medicine [1993; 1984], Associate Professor of Pediatrics [1994; 1987]

Fred S. Berlin, M.D., Ph.D.
Associate Professor of Psychiatry [1986; 1978]

David M. Berman, M.D., Ph.D.
Associate Professor of Pathology [2008; 2001], Associate Professor of Oncology [2008; 2004], Assistant Professor of Urology [2003]

Edward J. Bernacki, M.D., M.P.H.
Associate Professor of Medicine [1991]

Belur S. Bhagavan, M.B.B.S.
Associate Professor of Pathology [1983; 1966]

Nasir Islam Bhatti, M.B.B.S.
Associate Professor of Otolaryngology-Head and Neck Surgery [2008; 2000], Joint Appointment in Anesthesiology and Critical Care Medicine [2002]

Sheng Bi, M.D.
Associate Professor of Psychiatry [2009; 2001] (from 10/01/09), Assistant Professor of Psychiatry [2003; 2001] (to 09/30/09)

Jessica L. Bienstock, M.D., M.P.H.
Associate Professor of Gynecology and Obstetrics [2003; 1993]

O. Joseph Bienvu, M.D.
Associate Professor of Psychiatry [2007; 1999]

Joseph S. Bierman, M.D.
Associate Professor of Psychiatry [1985; 1968]

Mary Elizabeth Blue, Ph.D.
Associate Professor of Neurology [2000; 1989], Associate Professor of Neuroscience [2001]

Corrine D. Boehm, M.S.
Associate Professor of Pediatrics in Genetic Medicine [1998; 1982]

Mark E. Bohlman, M.D.
Associate Professor of Radiology and Radiological Science [1991; 1980]

William E. Bolger, M.D.
Adjunct Associate Professor of Otolaryngology-Head and Neck Surgery [2005]

Karen I. Bolla, Ph.D.
Associate Professor of Neurology [1995; 1985], Joint Appointment in Psychiatry [1987]

Jonathan Benjamin Borak, M.D.
Adjunct Associate Professor of Medicine [2003]

Ivan Borrello, M.D.
Associate Professor of Oncology [2008; 1999]

Leigh Ebony Boulware, M.D., M.P.H.
Associate Professor of Medicine [2008; 2001]

Simeon Antonov Boyadjiev, M.D.
Adjunct Associate Professor of Urology [2007]

George M. Boyer, M.D.
Adjunct Associate Professor of Medicine [2004]

Michael Patrick Boyle, M.D.
Associate Professor of Medicine [2006; 1999]

Steven R. Brant, M.D.
Associate Professor of Medicine [2002; 1992]

Cory Flagg Brayton, D.V.M.
Associate Professor of Molecular and Comparative Pathobiology [2004]

James B. Brayton, M.D., D.V.M., M.P.H.
Associate Professor of Pediatrics [1976; 1969]

Joel I. Brenner, M.D.
Associate Professor of Pediatrics [1999]

Malcolm Vernon Brock, M.D.
Associate Professor of Surgery [2005; 2000], Associate Professor of Oncology [2005; 2004]

Daniel Joseph Brotman, M.D.
Associate Professor of Medicine [2007; 2005]

David Buchholz, M.D.
Associate Professor of Neurology [1991; 1983]

Fred Bunz, M.D., Ph.D.
Associate Professor of Radiation Oncology and Molecular Radiation Sciences [2007; 2003], Associate Professor of Oncology [2007; 1999]

Carol L. Burek, Ph.D.
Associate Professor of Pathology [1998; 1994]

David E. Bush, M.D.
Associate Professor of Medicine [2004; 1983]

Ronald P. Byank, M.D.
Associate Professor of Orthopedic Surgery [1995; 1978]

Patrick Joseph Byrne, M.D.
Associate Professor of Otolaryngology-Head and Neck Surgery [2007; 2001], Associate Professor of Dermatology [2008]

Kurtis A. Campbell, M.D.
Associate Professor of Surgery [2003; 1993]

Preston White Campbell, III, M.D.
Visiting Associate Professor of Pediatrics [1998]

Brendan J. Canning, Ph.D.
Associate Professor of Medicine [2002; 1996]

Marcia Irene Foo Canto, M.D.
Associate Professor of Medicine [2004; 1996], Associate Professor of Oncology [2004; 2003]

George T. Capone, M.D.
Associate Professor of Pediatrics [2006; 1990]

John P. Carey, M.D.
Associate Professor of Otolaryngology-Head and Neck Surgery [2004; 2000]

Joseph A. Carrese, M.D., M.P.H.
Associate Professor of Medicine [2001; 1994]

John Anthony Carrino, M.D., M.P.H.
Associate Professor of Radiology and Radiological Science [2006]

Livia A. Casciola-Rosen, Ph.D.
Associate Professor of Medicine [2000]

Vincenzo Casolaro, M.D., Ph.D.
Associate Professor of Medicine [2006; 1996] (on leave of absence to 07/31/09)

Michael J. Caterina, M.D., Ph.D.
Associate Professor of Biological Chemistry [2004; 1999], Associate Professor of Neuroscience [2004; 1999]

Patrizio P. Caturegli, M.D.
Associate Professor of Pathology [2007; 1998], Joint Appointment in Medicine [2007]

Pablo A. Celnik, M.D.
Associate Professor of Physical Medicine and Rehabilitation [2009; 2003] (from 10/01/09), Assistant Professor of Physical Medicine and Rehabilitation [2003] (to 09/30/09), Associate Professor of Neurology [2009; 2004] (from 10/01/09), Assistant Professor of Neurology [2004] (to 09/30/09)

Shukti Chakravarti, Ph.D.
Associate Professor of Medicine [2004; 2000], Assistant Professor of Cell Biology [2001], Associate Professor of Ophthalmology [2004; 2000]

Arjun S. Chanmugam, M.D.
Associate Professor of Emergency Medicine [2004; 1992]

Charles Patrick Chaulk, M.D., M.P.H.
Adjunct Associate Professor of Medicine [2007; 1994]

Allen R. Chen, M.D., Ph.D.
Associate Professor of Oncology [2005; 1995], Associate Professor of Pediatrics [2005; 1995]

Linzhao Cheng, Ph.D.
Associate Professor of Gynecology and Obstetrics [2005; 2003], Assistant Professor of Medicine [2005], Associate Professor of Oncology [2005; 1997]

Michael James Choi, M.D.
Associate Professor of Medicine [2002; 1994]

James R. Christensen, M.D.
Associate Professor of Physical Medicine and Rehabilitation [2002; 1992], Associate Professor of Pediatrics [2002; 1994]

Roy S. Chuck, M.D., Ph.D.
Associate Professor of Ophthalmology [2004] (to 07/31/09), Occupying the Tom Clancy Professorship in Ophthalmology

Jeanne M. Clark, M.D., M.P.H.
Associate Professor of Medicine [2006; 2000]

Michael Robert Clark, M.D., M.P.H.
Associate Professor of Psychiatry [2000; 1992], Joint Appointment in Otolaryngology-Head and Neck Surgery [2002]

Joseph Cofrancesco, Jr., M.D., M.P.H.
Associate Professor of Medicine [2004; 1997]

Kenneth J. Cohen, M.D.
Associate Professor of Oncology [2005; 1994], Associate Professor of Pediatrics [2005; 1994]

Steven P. Cohen, M.D.
Associate Professor of Anesthesiology and Critical Care Medicine [2006; 2004]

Nathaniel Charles Comfort, Ph.D.
Associate Professor of History of Medicine [2003; 2002]

Anne Marie Comi, M.D.
Associate Professor of Neurology [2007; 1999], Associate Professor of Pediatrics [2007; 2002]

Katherine Conant, M.D.
Adjunct Associate Professor of Neurology [2009; 1998]

Charles E. Connor, Jr., Ph.D.
Associate Professor of Neuroscience [2002; 1996]

David W. Cooke, M.D.
Associate Professor of Pediatrics [2001; 1993]

Brendan P. Cormack, Ph.D.
Associate Professor of Molecular Biology and Genetics [2004; 1998]

Mary Concetta Corretti, M.D.
Associate Professor of Medicine [2003]

Andrea M. Corse, M.D.
Associate Professor of Neurology [2006; 1993], Associate Professor of Neurological Surgery [2006]

Virginia L. Corson, M.S.
Associate Professor of Gynecology and Obstetrics in Genetic Medicine [2000; 1979], Associate Professor of Pediatrics [2000; 1982]

Sara Cosgrove, M.D.
Associate Professor of Medicine [2009; 2001] (from 10/01/09), Assistant Professor of Medicine [2003; 2001] (to 09/30/09)

- Lino Covi, M.D.
Associate Professor of Psychiatry [1972; 1960]
- Andrea L. Cox, M.D., Ph.D.
Associate Professor of Medicine [2009; 2003]
(from 10/01/09), Assistant Professor of Medicine [2003] (to 09/30/09), Associate Professor of Oncology [2009; 2004] (from 10/01/09), Assistant Professor of Oncology [2004] (to 09/30/09)
- Barbara J. Crain, M.D., Ph.D.
Associate Professor of Pathology [1993], Associate Professor of Neurology [1993], Associate Professor of Oncology [1996]
- Thomas O. Crawford, M.D.
Associate Professor of Neurology [1997; 1988], Associate Professor of Pediatrics [1997; 1991]
- William A. Crawley, M.D., D.D.S.
Associate Professor of Plastic Surgery [1993; 1984]
- Peter S. Creticos, M.D.
Associate Professor of Medicine [1991; 1983]
- Nathan E. Crone, M.D.
Associate Professor of Neurology [2006; 1994]
- Michael T. Crow, Ph.D.
Associate Professor of Medicine [2002]
- Carmen Cuffari, M.D.
Associate Professor of Pediatrics [2005; 1996]
- Laurie E. Cutting, Ph.D.
Associate Professor of Neurology [2006; 1999]
- Richard W. Dabb, M.D.
Associate Professor of Plastic Surgery [1999]
- Gislin Dagnelie, Ph.D.
Associate Professor of Ophthalmology [2001; 1988]
- Mel P. Daly, M.B.B.Ch.
Associate Professor of Medicine [2003]
- Marian D. Damewood, M.D.
Associate Professor of Gynecology and Obstetrics [1993]
- Peter E. Dans, M.D.
Associate Professor of Medicine [1978]
- Gail L. Daumit, M.D.
Associate Professor of Medicine [2006; 1999], Joint Appointment in Psychiatry [2008]
- Christos Davatzikos, Ph.D.
Associate Professor of Radiology and Radiological Science [2001; 1995]
- Randy F. Davis, M.D.
Associate Professor of Orthopedic Surgery [2003; 1983], Associate Professor of Neurological Surgery [2003; 1991]
- Cecilia T. Davoli, M.D., M.P.H.
Associate Professor of Pediatrics [2008; 1993]
- Iser Guillermo DeLeon, Ph.D.
Associate Professor of Psychiatry [2008; 1999]
- Charles C. Della Santina, M.D., Ph.D.
Associate Professor of Otolaryngology-Head and Neck Surgery [2007; 2002], Associate Professor of Biomedical Engineering [2007; 2002]
- Samuel Ray Denmeade, M.D.
Associate Professor of Oncology [2004; 1998], Associate Professor of Pharmacology and Molecular Sciences [2005], Associate Professor of Urology [2008]
- Leonard R. Derogatis, Ph.D.
Associate Professor of Psychiatry [2003]
- Prashant Desai, Ph.D.
Associate Professor of Oncology [2009; 2003] (from 10/01/09), Assistant Professor of Oncology [2003] (to 09/30/09)
- John E. Desmond, Ph.D.
Associate Professor of Neurology [2005], Joint Appointment in Neuroscience [2007]
- Barbara Detrick, Ph.D.
Associate Professor of Pathology [1999]
- E. Gene Deune, M.D.
Associate Professor of Orthopedic Surgery [1999], Associate Professor of Plastic Surgery [2006; 1998]
- Cathy W. DiBernardo, R.N.
Associate Professor of Ophthalmology [2004; 2000]
- Mukund S. Didolkar, M.B.B.S.
Associate Professor of Surgery [1992]
- Gregory B. Diette, M.D.
Associate Professor of Medicine [2005; 1998]
- Renee Z. Dintzis, Ph.D.
Associate Professor of Cell Biology [1985; 1973], Associate Professor of Biophysics and Biophysical Chemistry [1985; 1971]
- Jeffrey M. Dodd-O, M.D., Ph.D.
Associate Professor of Anesthesiology and Critical Care Medicine [2008; 1995], Assistant Professor of Surgery [2001]
- Robert T. Donham, M.D., Ph.D.
Associate Professor of Anesthesiology and Critical Care Medicine [1980; 1979]
- Sylvain Dore, Ph.D.
Associate Professor of Anesthesiology and Critical Care Medicine [2004; 2000], Associate Professor of Pharmacology and Molecular Sciences [2009]
- Susan Elizabeth Dorman, M.D.
Associate Professor of Medicine [2008; 2001]
- Charles G. Drake, M.D., Ph.D.
Associate Professor of Oncology [2008; 2002], Assistant Professor of Urology [2005]
- Craig R. Dufresne, M.D.
Associate Professor of Plastic Surgery [2000; 1985]
- Elia Duh, M.D.
Associate Professor of Ophthalmology [2008; 1999]
- Donald Dean Duncan, Ph.D.
Associate Professor of Ophthalmology [1995]
- Mark Douglas Duncan, M.D.
Associate Professor of Surgery [2001; 1996], Associate Professor of Oncology [2001; 2000]

James P. Dunn, M.D.
Associate Professor of Ophthalmology [1996; 1991], Occupying the Eugene de Juan Professorship in Ophthalmic Education in the Department of Ophthalmology

Samuel C. Durso, M.D.
Associate Professor of Medicine [2002; 1995]

Charles G. Eberhart, M.D., Ph.D.
Associate Professor of Pathology [2006; 2001], Associate Professor of Oncology [2006; 2004], Associate Professor of Ophthalmology [2006]

David H. Edwin, Ph.D.
Associate Professor of Medical Psychology in the Department of Psychiatry [1999; 1979]

Josephine Mary Egan, M.B.B.Ch.
Associate Professor of Medicine [1998; 1991]

Rebecca D. Elon, M.D.
Associate Professor of Medicine [1994; 1991]

Leisha Ann Emens, M.D., Ph.D.
Associate Professor of Oncology [2009; 2001]

John Eng, M.D.
Associate Professor of Radiology and Radiological Science [2005; 1997], Joint Appointment in Health Sciences Informatics [2001]

Rainer M.E. Engel, M.D.
Associate Professor of Urology [1973; 1970]

Eric Andrew Engels, M.D., M.P.H.
Associate Professor of Medicine [2008; 1998]

Emily J. Erbeling, M.D., M.P.H.
Associate Professor of Medicine [2004; 1996], Associate Professor of Pediatrics [2004; 2000]

James R. Eshleman, M.D., Ph.D.
Associate Professor of Pathology [2002; 1997], Associate Professor of Oncology [2002; 1998]

Peter J. Espenshade, Ph.D.
Associate Professor of Cell Biology [2008; 2002]

Allen Dale Everett, M.D.
Associate Professor of Pediatrics [2003]

George S. Everly, Jr., Ph.D.
Associate Professor of Psychiatry [2005]

James Courtney Fackler, M.D.
Associate Professor of Anesthesiology and Critical Care Medicine [1999; 1996]

Peter J. Fagan, Ph.D.
Associate Professor of Medical Psychology in the Department of Psychiatry [1991; 1983]

Nauder Faraday, M.D.
Associate Professor of Anesthesiology and Critical Care Medicine [2001], Assistant Professor of Surgery [2001]

Richard A. Farrell, Ph.D.
Associate Professor of Ophthalmology [1993]

James A. Fauerbach, Ph.D.
Associate Professor of Medical Psychology in the Department of Psychiatry [2002; 1992], Associate Professor of Physical Medicine and Rehabilitation [2002; 2004], Joint Appointment in Surgery [2007]

Laura M. Fayad, M.D.
Associate Professor of Radiology [2009; 2002] (from 10/01/09), Assistant Professor of Radiology [2002] (to 09/30/09), Assistant Professor of Orthopedic Surgery [2006]

David J. Feller-Kopman, M.D.
Visiting Associate Professor of Medicine [2007]

Robert P. Ferguson, M.D.
Associate Professor of Medicine [1993]

Henry E. Fessler, M.D.
Associate Professor of Medicine [1998; 1988]

John H. Fetting, III, M.D.
Associate Professor of Oncology [1988; 1979], Associate Professor of Medicine [1990; 1979], Assistant Professor of Psychiatry [1982; 1981]

Derek Michael Fine, M.D.
Associate Professor of Medicine [2008; 1999]

Michael I. Fingerhood, M.D.
Associate Professor of Medicine [2002; 1989]

Toren Finkel, M.D., Ph.D.
Visiting Associate Professor of Medicine [1998]

Rhonda S. Fishel, M.D.
Associate Professor of Surgery [2004; 2000]

Jodi Anne Flaws, Ph.D.
Adjunct Associate Professor of Gynecology and Obstetrics [2002]

Kevin R. Fontaine, Ph.D.
Associate Professor of Medicine [2008; 2001]

Mostafa M. Fraig, M.B.B.Ch.
Visiting Associate Professor of Pathology [2007]

Piotr J. Franaszczuk, Ph.D.
Associate Professor of Neurology [2004; 1999]

Howard Wayne Francis, M.D.
Associate Professor of Otolaryngology-Head and Neck Surgery [2002; 1995]

Clair A. Francomano, M.D.
Associate Professor of Medicine [1992; 1984], Assistant Professor of Pediatrics [1985; 1984]

Deborah Anne Frassica, M.D.
Associate Professor of Radiation Oncology and Molecular Radiation Sciences [2004; 2003], Associate Professor of Oncology [2004; 1995]

Carmelita G. Frondoza, Ph.D.
Associate Professor of Orthopedic Surgery [1999; 1991]

Ephraim J. Fuchs, M.D.
Associate Professor of Oncology [2002; 1994]

Susan Lynn Furth, M.D.
Associate Professor of Pediatrics [2004; 1996]

Nicholas Roger Gaiano, Ph.D.
Associate Professor of Neurology [2007; 2002], Associate Professor of Neuroscience [2007; 2002], Associate Professor of Oncology [2007; 2003]

Philippe Gailloud, M.D.
Associate Professor of Radiology and Radiological Science [2005; 2001], Assistant Professor of Neurological Surgery [2003], Associate Professor of Neurology [2006]

Alejandro Gandsas, M.D.
Associate Professor of Surgery [2004]

Jairo E. Garcia, M.D.
Associate Professor of Gynecology and Obstetrics [1997]

Suzanne Gartner, Ph.D.
Associate Professor of Neurology [1995] (on leave of absence)

Olga M.B. Gatewood, M.D.
Associate Professor of Radiology and Radiological Science [1976], Associate Professor of Urology [1987]

Bob W. Gayler, M.D.
Associate Professor of Radiology [1973; 1970]

Kelly A. Gebo, M.D., M.P.H.
Associate Professor of Medicine [2007; 2001]

Peter L. Gehlbach, M.D., Ph.D.
Associate Professor of Ophthalmology [2007; 2000], Associate Professor of Biomedical Engineering [2007]

Allan Charles Gelber, M.D., M.P.H., Ph.D.
Associate Professor of Medicine [2003; 1994]

Rene R. Genadry, M.D.
Associate Professor of Gynecology and Obstetrics [1986; 1975]

Romergrzyko G. Geocadin, M.D.
Associate Professor of Neurology [2007; 1999], Associate Professor of Anesthesiology and Critical Care Medicine [2007; 2006], Associate Professor of Neurological Surgery [2007; 2003]

Emily Germain-Lee, M.D.
Associate Professor of Pediatrics [2003; 1992]

Joan Page Gerring, M.D.
Associate Professor of Psychiatry [2000; 1981], Associate Professor of Pediatrics [2000; 1981]

Arlene C. Gerson, Ph.D.
Associate Professor of Pediatrics [2009; 1999]

Robert D. Gerwin, M.D.
Associate Professor of Neurology [2008; 1990]

Maura Lianne Gillison, M.D.
Adjunct Associate Professor of Oncology [2009; 2000]

Golda S. Ginsburg, Ph.D.
Associate Professor of Psychiatry [2003; 1999]

Ebeid Reda Girgis, M.B.B.Ch.
Associate Professor of Medicine [2007; 2000]

Joseph N. Gitlin, D.P.H.
Associate Professor of Radiology [1988; 1986]

F. Michael Gloth, III, M.D.
Associate Professor of Medicine [1998; 1990]

Elisabeth Glowatzki, Ph.D.
Associate Professor of Otolaryngology-Head and Neck Surgery [2008; 2000], Associate Professor of Neuroscience [2009; 2007]

Christopher D. Gocke, M.D.
Associate Professor of Pathology [2005], Associate Professor of Oncology [2007]

Archie S. Golden, M.D., M.P.H.
Associate Professor of Pediatrics [1987; 1970]

David B.K. Golden, M.D.
Associate Professor of Medicine [1996; 1980]

Sherita Hill Golden, M.D.
Associate Professor of Medicine [2007; 2000]

Toby A. Gordon, Sc.D.
Associate Professor of Surgery [1995; 1988]

Sheldon H. Gottlieb, M.D.
Associate Professor of Medicine [1986; 1974]

Allan Gottschalk, M.D., Ph.D.
Associate Professor of Anesthesiology and Critical Care Medicine [2001; 2000]

Christine G. Gourin, M.D.
Associate Professor of Otolaryngology-Head and Neck Surgery [2007]

Emily W. Gower, Ph.D.
Associate Professor of Ophthalmology [2009; 2002]

Dennis John Grab, Ph.D.
Associate Professor of Pathology [2009], Associate Professor of Pediatrics [2002; 2001]

Jeremy David Gradon, M.B.B.S.
Associate Professor of Medicine [2000; 1994]

Ernest Marshall Graham, M.D.
Associate Professor of Gynecology and Obstetrics [2005; 1999]

Thomas J. Graham, M.D.
Associate Professor of Plastic Surgery [2000]

Robert S. Greenberg, M.D.
Associate Professor of Anesthesiology and Critical Care Medicine [1999; 1991]

Peter Schuyler Greene, M.D.
Associate Professor of Cardiac Surgery [1999; 1994], Joint Appointment in Health Sciences Informatics [2001; 1996], Associate Dean for Emerging Technologies [2001]

Louise B. Grochow, M.D.
Associate Professor of Oncology [1990; 1980], Associate Professor of Medicine [1991; 1981]

Richard J. Gross, M.D.
Associate Professor of Medicine [2002; 1977]

Angela Sarah Guarda, M.D.
Associate Professor of Psychiatry [2008; 1995]

Laura A. Guay, M.D.
Associate Professor of Pathology [2000; 1996], Associate Professor of Pediatrics [2000; 1996]

Sandra E. Guggino, Ph.D.
Associate Professor of Medicine [1995; 1988], Associate Professor of Physiology [2003]

Ahmet Gurakar, M.D.
Visiting Associate Professor of Medicine [2008]

Paul A. Gurbel, M.D.
Associate Professor of Medicine [2003; 1998]

Edith Diamant Gurewitsch, M.D.
Associate Professor of Gynecology and Obstetrics [2008; 1997], Associate Professor of Biomedical Engineering [2008; 2005]

Louis P. Hagopian, Ph.D.
Associate Professor of Psychiatry [2003; 1992]

Misop Han, M.D.
Associate Professor of Urology [2009; 2006],
Associate Professor of Oncology [2009],
Associate Professor of Oncology [2009]

Victoria L. Handa, M.D.
Associate Professor of Gynecology and Obstetrics
[2004; 2001]

Andrew P. Harris, M.D.
Associate Professor of Anesthesiology and Critical
Care Medicine [1992; 1984], Associate Professor
of Gynecology and Obstetrics [1998; 1987]

Norman James Haughey, Ph.D.
Associate Professor of Neurology [2009; 2002]

Frederick H. Hausheer, M.D.
Adjunct Associate Professor of Oncology [1995]

Stephen J. Heishman, Ph.D.
Adjunct Associate Professor of Behavioral Biology
in the Department of Psychiatry [2005; 1988]

Eugenie S. Heitmiller, M.D.
Associate Professor of Anesthesiology and Critical
Care Medicine [1993; 1984], Associate Professor
of Pediatrics [1994; 1984]

Richard F. Heitmiller, M.D.
Associate Professor of Surgery [1993; 1987],
Associate Professor of Oncology [1995]

H. Franklin Herlong, M.D.
Associate Professor of Medicine [1985; 1979]

Christian J. Herold, M.D.
Associate Professor of Radiology and Radiological
Science [1999; 1992]

Charles Steven Hesdorffer, M.B.B.Ch.
Associate Professor of Medicine [2006], Associate
Professor of Oncology [2006]

Manuel Hidalgo, M.D.
Adjunct Associate Professor of Oncology [2009;
2001]

Robert D. Hienz, Ph.D.
Associate Professor of Behavioral Biology in the
Department of Psychiatry [1982; 1975]

J. Laurance Hill, M.D.
Associate Professor of Pediatric Surgery [1977]

Felicia Hill-Briggs, Ph.D.
Associate Professor of Medicine [2008; 2005],
Assistant Professor of Physical Medicine and
Rehabilitation [2001; 1998]

Charles W. Hogue, Jr., M.D.
Associate Professor of Anesthesiology and Critical
Care Medicine [2007; 2005]

Jan H. Hoh, Ph.D.
Associate Professor of Physiology [2000; 1994]

Ahmet Hoke, M.D., Ph.D.
Associate Professor of Neurology [2005; 1999],
Associate Professor of Neuroscience [2005; 2002]

Michael J. Holliday, M.D.
Associate Professor of Otolaryngology-Head and
Neck Surgery [1987; 1975], Associate Professor of
Neurological Surgery [1989; 1987]

Alexander H. Hoon, Jr., M.D., M.P.H.
Associate Professor of Pediatrics [2002; 1990]

Andrew G. Horti, Ph.D.
Associate Professor of Radiology and Radiological
Science [2008; 2004]

Maureen Renee Horton, M.D.
Associate Professor of Medicine [2008; 1999]

Keith A. Horvath, M.D.
Adjunct Associate Professor of Cardiac Surgery
[2005]

Mir Ahamed Hossain, Ph.D.
Associate Professor of Neurology [2007; 1997]

Eric E. Howell, M.D.
Associate Professor of Medicine [2009; 1999]

Edbert Brian Hsu, M.D.
Associate Professor of Emergency Medicine
[2008; 2000]

Tah-Hsiung Hsu, M.D.
Associate Professor of Medicine [1977; 1971]

Judy Huang, M.D.
Associate Professor of Neurological Surgery
[2008; 2002]

Peng Huang, Ph.D.
Associate Professor of Oncology [2008]

Walter C. Hubbard, Ph.D.
Associate Professor of Medicine [1989], Associate
Professor of Pharmacology and Molecular
Sciences [2008]

Kathy Lynn Hudson, Ph.D.
Associate Professor of Pediatrics in Genetic
Medicine [2002]

Richard L. Humphrey, M.D.
Associate Professor of Pathology [1983],
Associate Professor of Medicine [1979; 1967]

David L. Huso, D.V.M., Ph.D.
Associate Professor of Molecular and Comparative
Pathobiology [2002; 1989], Associate Professor of
Oncology [2004]

Mehboob Ali Hussain, M.D.
Associate Professor of Pediatrics [2009; 2005],
Associate Professor of Biological Chemistry
[2009], Associate Professor of Medicine [2009;
2006], Associate Professor of Medicine [2009;
2006]

Nancy Hutton, M.D.
Associate Professor of Pediatrics [1998; 1984]

Noreen A. Hynes, M.D., M.P.H.
Associate Professor of Medicine [2008; 1997]

Christine A. Iacobuzio-Donahue, M.D., Ph.D.
Associate Professor of Pathology [2007; 2003],
Associate Professor of Oncology [2007; 2003],
Associate Professor of Surgery [2009]

W. Jackson Iliff, M.D.
Associate Professor of Ophthalmology [1984;
1976]

Michael A. Jacobs, Ph.D.
Associate Professor of Radiology and Radiological
Science [2009; 2001], Associate Professor of
Oncology [2009; 2005]

George Issa Jallo, M.D.
Associate Professor of Neurological Surgery [2006; 2003], Associate Professor of Oncology [2006; 2003], Associate Professor of Pediatrics [2006; 2003]

Suzanne M. Jan de Beur, M.D.
Associate Professor of Medicine [2008; 1998]

Jeffrey S. Janofsky, M.D.
Associate Professor of Psychiatry [1994; 1986]

Lauren M. Jansson, M.D.
Associate Professor of Pediatrics [2009; 1991]

Geetha Jayaram, M.B.B.S.
Associate Professor of Psychiatry [1997; 1982]

Jin Jen, M.D., Ph.D.
Associate Professor of Oncology [2000; 1996]

Allan D. Jensen, M.D.
Associate Professor of Ophthalmology [1993; 1976]

Alain Joffe, M.D., M.P.H.
Associate Professor of Pediatrics [1988; 1981]

Carl A. Johnson, M.D.
Associate Professor of Orthopedic Surgery [1993; 1984]

Hendree Evelyn Jones, Ph.D.
Associate Professor of Behavioral Biology in the Department of Psychiatry [2004; 1998], Associate Professor of Gynecology and Obstetrics [2005]

Lynne C. Jones, Ph.D.
Associate Professor of Orthopedic Surgery [2000; 1985]

Daniel Philip Judge, M.D.
Associate Professor of Medicine [2008; 2000]

Albert S. Jun, M.D., Ph.D.
Associate Professor of Ophthalmology [2009; 2002]

Jacqueline Marie Junkins-Hopkins, M.D.
Visiting Associate Professor of Dermatology [2008], Visiting Associate Professor of Pathology [2009]

Ihab R. Kamel, M.D., Ph.D.
Associate Professor of Radiology [2005; 2000]

Michael J. Kaminsky, M.D.
Associate Professor of Psychiatry [1994; 1976]

James W. Karesh, M.D.
Associate Professor of Ophthalmology [1998; 1991]

Gregory James Kato, M.D.
Associate Professor of Pediatrics [2000; 1991]

Nicholas Katsanis, Ph.D.
Adjunct Associate Professor of Ophthalmology in Genetic Medicine [2009; 2002], Joint Appointment in Molecular Biology and Genetics [2004]

Richard M. Katz, M.D.
Associate Professor of Pediatrics [2006; 1994]

Satomi Kawamoto, M.D.
Associate Professor of Radiology [2009; 2001]

Michael H. Kelemen, M.D.
Associate Professor of Medicine [1991; 1975]

James H. Kelly, M.D.
Associate Professor of Otolaryngology-Head and Neck Surgery [1985], Associate Professor of Neurology [1992]

Douglas Anthony Kerr, M.D., Ph.D.
Associate Professor of Neurology [2005; 1999]

Nagi F. Khouri, M.D.
Associate Professor of Radiology and Radiological Science [1990], Associate Professor of Oncology [2004]

Michael Kidorf, Ph.D.
Associate Professor of Psychiatry [2000; 1993]

Karen E. King, M.D.
Associate Professor of Pathology [2006; 1996], Associate Professor of Oncology [2006; 1999]

Landon Stuart King, M.D.
Associate Professor of Medicine [2003; 1997], Associate Professor of Biological Chemistry [2003; 1997]

Van L. King, M.D.
Associate Professor of Psychiatry [2003; 1991]

Alfredo Kirkwood, Ph.D.
Associate Professor of Neuroscience [2004; 1997]

Thomas Dean Kirsch, M.D., M.P.H.
Associate Professor of Emergency Medicine [2008; 2002]

Stanley A. Klatsky, M.D.
Associate Professor of Plastic Surgery [1996; 1968]

Lawrence R. Kleinberg, M.D.
Associate Professor of Radiation Oncology and Molecular Radiation Sciences [2004; 2003], Associate Professor of Neurological Surgery [2004; 2001], Associate Professor of Oncology [2004; 1993]

James J. Knierim, Ph.D.
Associate Professor of Neuroscience [2009]

David L. Knox, M.D.
Associate Professor of Ophthalmology [1967; 1962]

Vassilis E. Koliatsos, M.D.
Associate Professor of Pathology [1997; 1989], Associate Professor of Neurology [1997; 1991], Associate Professor of Psychiatry [1997]

Jeanne Kowalski, Ph.D.
Associate Professor of Oncology [2008; 2001]

Dara L. Kraitchman, Ph.D., D.V.M.
Associate Professor of Radiology and Radiological Science [2004; 1996]

Edward S. Kraus, M.D.
Associate Professor of Medicine [1993; 2002]

Gregory Lewis Krauss, M.D.
Associate Professor of Neurology [2003; 1991]

Michael A. Kraut, M.D., Ph.D.
Associate Professor of Radiology and Radiological Science [2001; 1991], Associate Professor of Neurological Surgery [2002], Associate Professor of Oncology [2005]

Prakash Kulkarni, Ph.D.
Visiting Associate Professor of Urology [2007; 20],
Visiting Associate Professor of Oncology [2009]

Irene C. Kuo, M.D.
Associate Professor of Ophthalmology [2008;
2000]

Scot C. Kuo, Ph.D.
Associate Professor of Biomedical Engineering
[2001], Associate Professor of Cell Biology [2006]

Ellen Ladenheim, Ph.D.
Associate Professor of Psychiatry [1998; 1992]

Daniel A. Laheru, M.D.
Associate Professor of Oncology [2008; 2001]

Alan M. Lake, M.D.
Associate Professor of Pediatrics [1991; 1979]

Stanford I. Lamberg, M.D.
Associate Professor of Dermatology [1973]

Rebecca Landa, Ph.D.
Associate Professor of Psychiatry [1995; 1986]

Andrew Peter Lane, M.D.
Associate Professor of Otolaryngology-Head and
Neck Surgery [2006; 1999]

Julie Robin Lange, M.D.
Associate Professor of Surgery [2009; 1994],
Assistant Professor of Dermatology [2006],
Associate Professor of Oncology [2009; 1996]

Dawn LaPorte, M.D.
Associate Professor of Orthopedic Surgery [2009;
2001]

Albert C. Lardo, Ph.D.
Associate Professor of Medicine [2008; 2002],
Associate Professor of Biomedical Engineering
[2008; 2002]

Henry Tien Lau, M.D.
Associate Professor of Pediatric Surgery [1998;
1996]

Michael K. Lee, Ph.D.
Adjunct Associate Professor of Pathology [2009;
1995]

Gary P. Lees, M.S.
Associate Professor of Art as Applied to Medicine
[1980; 1970], Director of the Department of Art as
Applied to Medicine [1983]

Arabella I. Leet, M.D.
Associate Professor of Orthopedic Surgery [2007;
2002]

Bruce Allen Leff, M.D.
Associate Professor of Medicine [2000; 1994]

Maureen A. Lefton-Greif, Ph.D.
Associate Professor of Pediatrics [2007; 1990],
Associate Professor of Otolaryngology-Head and
Neck Surgery [2007]

Christoph Ulrich Lehmann, M.D.
Associate Professor of Pediatrics [2007; 1998],
Associate Professor of Dermatology [2007; 2005],
Joint Appointment in Health Sciences Informatics
[2001]

Harold P. Lehmann, M.D., Ph.D.
Associate Professor of Health Sciences
Informatics [2004; 1995], Associate Professor of
Pediatrics [1999; 1992]

Christoph Lengauer, Ph.D.
Adjunct Associate Professor of Oncology [2003;
1996]

Mark James Levis, M.D., Ph.D.
Associate Professor of Oncology [2008; 2002],
Associate Professor of Medicine [2008; 2005]

Victor Levitsky, Ph.D.
Associate Professor of Oncology [2005]

Frederick Levy, M.D., J.D.
Associate Professor of Emergency Medicine
[2009; 2005]

Xingde Li, Ph.D.
Associate Professor of Biomedical Engineering
[2008]

Charles J. Limb, M.D.
Associate Professor of Otolaryngology-Head and
Neck Surgery [2009; 2003]

Sandra Y. Lin, M.D.
Associate Professor of Otolaryngology-Head and
Neck Surgery [2009; 2002]

Karen S. Lindeman, M.D.
Associate Professor of Anesthesiology and Critical
Care Medicine [1994; 1987]

Geoffrey Shiu Fei Ling, M.D.
Adjunct Associate Professor of Neurology [2007],
Adjunct Associate Professor of Anesthesiology
and Critical Care Medicine [2007]

Paul H. Lipkin, M.D.
Associate Professor of Pediatrics [2008; 1995]

John R. Lipsey, M.D.
Associate Professor of Psychiatry [1992; 1982]

Mark Chang-Hwa Liu, M.D.
Associate Professor of Medicine [1994; 1985]

Rafael H. Llinas, M.D.
Associate Professor of Neurology [2007; 2000]

Christine H. Lorenz, Ph.D.
Visiting Associate Professor of Radiology [2005]

Gregory M. Lucas, M.D., Ph.D.
Associate Professor of Medicine [2006; 1997]

Leo Luznik, M.D.
Associate Professor of Oncology [2008; 2000]

Dean MacKinnon, M.D.
Associate Professor of Psychiatry [2004; 1996]

Katarzyna J. Macura, M.D., Ph.D.
Associate Professor of Radiology [2008; 2000],
Assistant Professor of Urology [2008]

Donna Magid, M.D.
Associate Professor of Radiology and Radiological
Science [1990; 1983], Associate Professor of
Functional Anatomy and Evolution [2009], Joint
Appointment in Orthopedic Surgery [1986]

Thomas H. Magnuson, M.D.
Associate Professor of Surgery [1998; 1992]

- Mahadevappa Mahesh, Ph.D.
Associate Professor of Radiology and Radiological Science [2008; 1996], Associate Professor of Medicine [2008; 2007]
- Ernest Mark Mahone, Ph.D.
Associate Professor of Psychiatry [2007; 1997]
- Anirban Maitra, M.B.B.S.
Associate Professor of Pathology [2006; 2001], Associate Professor of Oncology [2006; 2003]
- Martin A. Makary, M.D., M.P.H.
Associate Professor of Surgery [2007; 2003], Occupying the Mark M. Ravitch, M.D. Chair in Surgery
- Yukari Carol Manabe, M.D.
Associate Professor of Medicine [2007; 1999]
- Joseph Leonard Mankowski, D.V.M., Ph.D.
Associate Professor of Molecular and Comparative Pathobiology [2005; 1996], Associate Professor of Neurology [2007], Associate Professor of Pathology [2005; 1996]
- Nicholas J. Maragakis, M.D.
Associate Professor of Neurology [2006; 1999]
- Joseph E. Marine, M.D.
Associate Professor of Medicine [2009; 2004]
- Lynette J. Mark, M.D.
Associate Professor of Anesthesiology and Critical Care Medicine [1998; 1990], Associate Professor of Otolaryngology-Head and Neck Surgery [1998; 1992]
- Harry Milton Marks, Ph.D.
Associate Professor of History of Medicine [1996; 1989], Occupying the Elizabeth Treide and A. McGehee Harvey Chair in the Department of the History of Medicine
- Michael Robert Marohn, D.O.
Associate Professor of Surgery [2003]
- Laura Marsh, M.D.
Associate Professor of Psychiatry [1999; 1998], Associate Professor of Neurology [2003]
- Bruce C. Marshall, M.D.
Associate Professor of Medicine [2004]
- Elizabeth A. Martinez, M.D.
Associate Professor of Anesthesiology and Critical Care Medicine [2008; 1998], Assistant Professor of Surgery [2001]
- Ciro Roberto Martins, M.D.
Associate Professor of Dermatology [2005; 1998], Joint Appointment in Medicine [2000]
- Ranjiv Ignatius Mathews, M.D.
Associate Professor of Urology [2004; 2000], Associate Professor of Pediatrics [2004; 2000]
- Elizabeth C. Matsui, M.D.
Associate Professor of Pediatrics [2008; 2003]
- William H. Matsui, M.D.
Associate Professor of Oncology [2008; 2001]
- Erika L. Matunis, Ph.D.
Associate Professor of Cell Biology [2008; 2002]
- Andrew S. McCallion, Ph.D.
Associate Professor of Molecular and Comparative Pathobiology in Genetic Medicine [2009; 2003], Research Associate in Medicine [2000]
- Russell McCally, Ph.D.
Associate Professor of Ophthalmology [1994]
- Melissa Lee McCarthy, Sc.D.
Associate Professor of Emergency Medicine [2005; 1999]
- Michael A. McClinton, M.D.
Associate Professor of Plastic Surgery [2006; 1980]
- John Wood McDonald, III, M.D., Ph.D.
Associate Professor of Neurology [2004], Associate Professor of Physical Medicine and Rehabilitation [2004]
- Jane E. McGowan, M.D.
Visiting Associate Professor of Pediatrics [2006; 2000]
- Sharon McGrath-Morrow, M.D.
Associate Professor of Pediatrics [2002; 1992]
- Melvin Gordon McInnis, M.D.
Adjunct Associate Professor of Psychiatry [1997; 1993]
- Francis J. McMahon, M.D.
Visiting Associate Professor of Psychiatry [1997; 1993]
- Ronnie Charles Mease, Ph.D.
Associate Professor of Radiology [2005; 2003]
- Joshua T. Mendell, M.D., Ph.D.
Associate Professor of Pediatrics in Genetic Medicine [2009; 2004], Joint Appointment in Molecular Biology and Genetics [2004]
- Shannah L. Merbs, M.D., Ph.D.
Associate Professor of Ophthalmology [2005; 1997], Associate Professor of Oncology [2005; 1999]
- William T. Merritt, M.D., M.B.A.
Associate Professor of Anesthesiology and Critical Care Medicine [1994; 1985], Associate Professor of Surgery [1999]
- E. Jeffrey Metter, M.D.
Associate Professor of Neurology [1989; 1988]
- Jon K. Meyer, M.D.
Associate Professor of Psychiatry [2004]
- Andrea Nikki Meyerhoff, M.D.
Adjunct Associate Professor of Medicine [2006]
- James D. Michelson, M.D.
Associate Professor of Orthopedic Surgery [1993; 1987]
- Carole B. Miller, M.D.
Associate Professor of Oncology [1997; 1990]
- Edgar Raymond Miller, III, M.D., Ph.D.
Associate Professor of Medicine [2003; 1996]
- Marlene R. Miller, M.D.
Associate Professor of Pediatrics [2004; 1999]
- Redonda Gail Miller, M.D., M.B.A.
Associate Professor of Medicine [2006; 1996]

Robert E. Miller, M.D.
Associate Professor of Pathology [1984; 1973],
Associate Professor of Biomedical Engineering
[1984; 1976], Joint Appointment in Health
Sciences Informatics [2001]

Stanley J. Miller, M.D.
Associate Professor of Dermatology [2001; 1992],
Associate Professor of Otolaryngology-Head and
Neck Surgery [1995]

Francis D. Milligan, M.D.
Associate Professor of Medicine [1976; 1970]

Guo-li Ming, M.D., Ph.D.
Associate Professor of Neurology [2007; 2003],
Associate Professor of Neuroscience [2007; 2003]

Stanley L. Minken, M.D.
Associate Professor of Surgery [1994; 1982]

Miriam Z. Mintzer, Ph.D.
Associate Professor of Psychiatry [2004; 1998]

Mack C. Mitchell, Jr., M.D.
Associate Professor of Medicine [2003]

Peter Joseph Mogayzel, Jr., M.D., Ph.D.
Associate Professor of Pediatrics [2004; 1998]

David R. Moller, M.D.
Associate Professor of Medicine [1997; 1989]

Francis Mark Mondimore, M.D.
Associate Professor of Psychiatry [2009; 1999]

John R. Moore, M.D.
Associate Professor of Orthopedic Surgery [1985;
1980]

W. Tabb Moore, M.D.
Associate Professor of Medicine [1998]

Howard Moses, M.D.
Associate Professor of Neurology [1993; 1966]

Stewart H. Mostofsky, M.D.
Associate Professor of Neurology [2006; 1997],
Joint Appointment in Psychiatry [2005]

Morton Maimon Mower, M.D.
Associate Professor of Medicine [2007]

Suheil Jamil Muasher, M.D.
Associate Professor of Gynecology and Obstetrics
[2005]

Gerard E. Mullin, M.D., M.S.
Associate Professor of Medicine [2009; 2005]

Laura M. Mumford, M.D.
Associate Professor of Medicine [1992; 1984]

Beatriz Munoz, M.S.
Associate Professor of Ophthalmology [2001;
1987]

Anne M. Murphy, M.D.
Associate Professor of Pediatrics [1994; 1992]

Kathleen M. Murphy, Ph.D.
Associate Professor of Pathology [2008; 2001] (to
12/31/09), Associate Professor of Oncology [2008;
2005] (to 12/31/09)

Allen C. Myers, Ph.D.
Associate Professor of Medicine [1998; 1991]

Maurice Y. Nahabedian, M.D.
Associate Professor of Plastic Surgery [2000;
1996]

Salah M. Nasrallah, M.D.
Associate Professor of Medicine [2005]

Georges Jabboure Netto, M.D.
Associate Professor of Pathology [2005],
Associate Professor of Oncology [2008],
Associate Professor of Urology [2007]

Alicia Neu, M.D.
Associate Professor of Pediatrics [2002; 1994]

Quan Dong Nguyen, M.D.
Associate Professor of Ophthalmology [2008;
2001]

John Nicholas, Ph.D.
Associate Professor of Oncology [1999; 1992]

Wanda Nicholson, M.D., M.P.H.
Associate Professor of Gynecology and Obstetrics
[2008; 1998]

Ernst Niebur, Ph.D.
Associate Professor of Neuroscience [2001; 1995]

Parviz Nikoomeh, M.D.
Associate Professor of Medicine [1994; 1973]

Dolores B. Njoku, M.D.
Associate Professor of Anesthesiology and Critical
Care Medicine [2008; 1994], Assistant Professor
of Pathology [2006], Assistant Professor of
Pediatrics [2002]

Stephen J. Noga, M.D., Ph.D.
Associate Professor of Oncology [1997; 1991] (to
07/31/09), Associate Professor of Pathology [1997;
1994] (to 07/31/09)

Edward J. Norris, M.D.
Associate Professor of Anesthesiology and Critical
Care Medicine [2001; 1991]

Frances J. Northington, M.D.
Associate Professor of Pediatrics [2000; 1992]

Richard J. O'Brien, M.D., Ph.D.
Associate Professor of Neurology [2000; 1993],
Joint Appointment in Medicine [2006], Associate
Professor of Neuroscience [2000; 1999]

Michael F. Ochs, Ph.D.
Associate Professor of Oncology [2006], Joint
Appointment in Health Sciences Informatics [2009]

Maria M. Oliva-Hemker, M.D.
Associate Professor of Pediatrics [2003; 1993],
Occupying the Stermer Family Professorship
in Pediatric Inflammatory Bowel Disease in the
Department of Pediatrics

Nael Fakhry Osman, Ph.D.
Associate Professor of Radiology and Radiological
Science [2006; 2000], Joint Appointment in
Medicine [2007]

Rick Ostrander, Ed.D.
Associate Professor of Psychiatry [2008; 2003]

Lawrence C. Pakula, M.D.
Associate Professor of Pediatrics [1985; 1963]

Akhilesh Pandey, M.D., Ph.D.
Associate Professor of Biological Chemistry
in Genetic Medicine [2006; 2002], Associate
Professor of Oncology [2006; 2004], Associate
Professor of Pathology [2006]

Nickolas Papadopoulos, Ph.D.
Associate Professor of Oncology [2006; 2005]

Ira D. Papel, M.D.
Associate Professor of Otolaryngology-Head and Neck Surgery [1999; 1987]

Carlos A. Pardo-Villamizar, M.D.
Associate Professor of Neurology [2007; 1999],
Assistant Professor of Pathology [1999]

Rulan Parekh, M.D.
Associate Professor of Medicine [2007; 1999]

Ben Ho Park, M.D., Ph.D.
Associate Professor of Oncology [2008; 2002]

Gary R. Pasternack, M.D., Ph.D.
Adjunct Associate Professor of Pathology [2005; 1984],
Adjunct Associate Professor of Medicine [2005; 1988]

L. Reuven Pasternak, M.D.
Adjunct Associate Professor of Anesthesiology and Critical Care Medicine [1993; 1985]

Christian Paul Pavlovich, M.D.
Associate Professor of Urology [2005; 2001]

Timothy Michael Pawlik, M.D., M.P.H.
Associate Professor of Surgery [2008; 2005],
Associate Professor of Oncology [2008; 2007]

David B. Pearse, M.D.
Associate Professor of Medicine [1997; 1988]

Jay D. Pearson, Ph.D.
Adjunct Associate Professor of Urology [1996]

James J. Pekar, Ph.D.
Associate Professor of Radiology and Radiological Science [2002; 1999]

Margaret B. Penno, Ph.D.
Associate Professor of Medicine [1994; 1986]

Deborah Persaud, M.D.
Associate Professor of Pediatrics [2005; 1997]

Steve Alan Petersen, M.D.
Associate Professor of Orthopedic Surgery [2008; 2007]

John D. Petronis, M.D.
Associate Professor of Radiology and Radiological Science [1999; 1985]

Brent G. Petty, M.D.
Associate Professor of Medicine [1989; 1979],
Associate Professor of Pharmacology and Molecular Sciences [1999]

Jonathan Pevsner, Ph.D.
Associate Professor of Neuroscience [2003; 1995],
Joint Appointment in Health Sciences Informatics [2001]

Timothy H. Phelps, M.S.
Associate Professor of Art as Applied to Medicine [1991; 1986]

Bradley J. Phillips, M.D.
Visiting Associate Professor of Surgery [2008]

Frank S. Pidcock, M.D.
Associate Professor of Physical Medicine and Rehabilitation [2003; 1994],
Associate Professor of Pediatrics [2003; 1996]

Roberto Pili, M.D.
Adjunct Associate Professor of Oncology [2008; 2000]

Jay J. Pillai, M.D.
Visiting Associate Professor of Radiology and Radiological Science [2007]

Mikhail V. Pletnikov, M.D., Ph.D.
Associate Professor of Psychiatry [2008; 1999],
Associate Professor of Neuroscience [2009]

Gary D. Plotnick, M.D.
Associate Professor of Medicine [1988; 1974]

Vsevolod Y. Polotsky, M.D., Ph.D.
Associate Professor of Medicine [2008; 2002]

Michael J. Polydefkis, M.D.
Associate Professor of Neurology [2007; 2000]

Wendy S. Post, M.D.
Associate Professor of Medicine [2004; 1997]

James B. Potash, M.D., M.P.H.
Associate Professor of Psychiatry [2006; 1998],
Occupying the Arlene and Robert Kogod Professorship in Mood Disorders,
Joint Appointment in Medicine [2009]

Jonathan D. Powell, M.D., Ph.D.
Associate Professor of Oncology [2008; 2001],
Associate Professor of Pharmacology and Molecular Sciences [2008; 2001]

Sarah Louise Poynton, Ph.D.
Associate Professor of Molecular and Comparative Pathobiology [2005; 1989],
Associate Professor of Art as Applied to Medicine [2005; 2004]

Kenzie L. Preston, Ph.D.
Visiting Associate Professor of Behavioral Biology in the Department of Psychiatry [2002; 1984]

Mitchell R. Price, M.D.
Visiting Associate Professor of Pediatric Surgery [2006]

Annelle B. Primm, M.D., M.P.H.
Associate Professor of Psychiatry [2000; 1985]

Naresh M. Punjabi, M.D., Ph.D.
Associate Professor of Medicine [2005; 1999]

Alfredo Quinones-Hinojosa, M.D.
Associate Professor of Neurological Surgery [2008; 2005],
Joint Appointment in Neuroscience [2007],
Associate Professor of Oncology [2008; 2005]

Jeffrey J. Rade, M.D.
Associate Professor of Medicine [2007; 1998]

Venu Raman, Ph.D.
Associate Professor of Radiology [2008; 2000],
Associate Professor of Oncology [2008; 2001]

Vani A. Rao, M.D.
Associate Professor of Psychiatry [2008; 2000]

Edward A. Ratovitski, Ph.D.
Associate Professor of Dermatology [2002; 1999],
Assistant Professor of Medicine [1999],
Associate Professor of Otolaryngology-Head and Neck Surgery [2002; 1999],
Assistant Professor of Pathology [1996]

William J. Ravich, M.D.
Associate Professor of Medicine [1990; 1981],
Associate Professor of Otolaryngology-Head and
Neck Surgery [1998]

Stuart Campbell Ray, M.D.
Associate Professor of Medicine [2003; 1997],
Joint Appointment in Health Sciences Informatics
[2008], Associate Professor of Oncology [2005]

Gerald V. Raymond, M.D.
Associate Professor of Neurology [2002; 1993]

Richard J. Redett, M.D.
Associate Professor of Plastic Surgery [2009;
2003], Associate Professor of Pediatrics [2009;
2005]

William G. Reiner, M.D.
Associate Professor of Psychiatry [2000; 1996],
Associate Professor of Urology [2000; 1999]

Jon R. Resar, M.D.
Associate Professor of Medicine [1998; 1992]

Linda M.S. Resar, M.D.
Associate Professor of Medicine [2005], Associate
Professor of Oncology [2001, 1997]

Irving Michael Reti, M.B.B.S.
Associate Professor of Psychiatry [2009; 2000],
Associate Professor of Neuroscience [2009; 2007]

Lee H. Riley, III, M.D.
Associate Professor of Orthopedic Surgery
[2006; 1996], Associate Professor of Neurological
Surgery [2006; 1996]

Richard E. Ringel, M.D.
Associate Professor of Pediatrics [1999]

Matthias Ringkamp, M.D., Ph.D.
Associate Professor of Neurological Surgery
[2009; 1998] (from 10/01/09), Assistant Professor
of Neurological Surgery [2000; 1998] (to 09/30/09)

David A. Rini, M.A.
Associate Professor of Art as Applied to Medicine
[2002; 1993]

Richard J. Rivers, M.D., Ph.D.
Associate Professor of Anesthesiology and Critical
Care Medicine [2002]

Alan L. Robin, M.D.
Associate Professor of Ophthalmology [1986;
1980]

Douglas N. Robinson, Ph.D.
Associate Professor of Cell Biology [2008;
2001], Associate Professor of Pharmacology and
Molecular Sciences [2008; 2007]

Robert P. Roca, M.D.
Associate Professor of Psychiatry [1992; 1984]

Richard B. S. Roden, Ph.D.
Associate Professor of Pathology [2003; 1998],
Associate Professor of Gynecology and Obstetrics
[2002], Associate Professor of Oncology [2004]

E. Rene Rodriguez, M.D.
Adjunct Associate Professor of Pathology [2004;
2000] (to 08/05/09)

Eduardo D. Rodriguez, M.D., D.D.S.
Associate Professor of Plastic Surgery [2009;
2003]

Ronald Rodriguez, M.D., Ph.D.
Associate Professor of Urology [2006; 1998],
Associate Professor of Oncology [2006; 2000],
Associate Professor of Radiation Oncology and
Molecular Radiation Sciences [2006; 2003]

Annabelle Rodriguez-Oquendo, M.D.
Associate Professor of Medicine [2007; 1992]

Elizabeth London Rogers, M.D.
Adjunct Associate Professor of Medicine [2003]

Sheila H. Roman, M.D., M.P.H.
Associate Professor of Medicine [2002]

Alan J. Romanoski, M.D.
Associate Professor of Psychiatry [1993; 1980]

Lewis Hartley Romer, M.D.
Associate Professor of Anesthesiology and Critical
Care Medicine [2005; 2000], Associate Professor
of Biomedical Engineering [2007], Associate
Professor of Cell Biology [2007], Associate
Professor of Pediatrics [2005; 2000]

Adam Rosenblatt, M.D.
Associate Professor of Psychiatry [2006; 1996]

Saul D. Roskes, M.D.
Associate Professor of Pediatrics [1984; 1968]

Richard E. Rothman, M.D., Ph.D.
Associate Professor of Emergency Medicine
[2005; 1996], Joint Appointment in Medicine
[2005]

Charles Michael Rudin, M.D., Ph.D.
Associate Professor of Oncology [2004]

Stuart Dean Russell, M.D.
Associate Professor of Medicine [2004]

Jose M. Saavedra, M.D.
Associate Professor of Pediatrics [1998; 1990]

George H. Sack, Jr., M.D., Ph.D.
Associate Professor of Medicine [1984; 1976],
Associate Professor of Biological Chemistry [1984;
1980]

Scheherazade Sadegh-Nasser, Ph.D.
Associate Professor of Pathology [2000; 19],
Associate Professor of Biophysics and Biophysical
Chemistry [2001; 1996]

Daniel J. Safer, M.D.
Associate Professor of Psychiatry [1979; 1969],
Associate Professor of Pediatrics [1986; 1969]

Sarbjit Singh Saini, M.D.
Associate Professor of Medicine [2007; 1997]

Roberto Salvatori, M.D.
Associate Professor of Medicine [2005; 1998]

Scherer P. Sanders, Ph.D.
Associate Professor of Medicine [2000; 1988]

Corinne Sandone, M.A.
Associate Professor of Art as Applied to Medicine
[2007; 1990]

Giuseppe Sanguineti, M.D.
Associate Professor of Radiation Oncology and
Molecular Radiation Sciences [2007], Associate
Professor of Oncology [2008], Associate Professor
of Otolaryngology-Head and Neck Surgery [2008]

Adam Sapirstein, M.D.
Associate Professor of Anesthesiology and Critical Care Medicine [2009; 2002], Assistant Professor of Surgery [2003]

John R. Saunders, M.D.
Associate Professor of Otolaryngology-Head and Neck Surgery [2008; 1993], Associate Professor of Surgery [2008; 1990], Assistant Professor of Plastic Surgery [1982]

Akira Sawa, M.D., Ph.D.
Associate Professor of Psychiatry [2006; 1998], Associate Professor of Neuroscience [2006; 1998]

James F. Schauble, M.D.
Associate Professor of Anesthesiology and Critical Care Medicine [1978]

Paul J. Scheel, Jr., M.D.
Associate Professor of Medicine [1998; 1992]

Ann O. Scheimann, M.D.
Associate Professor of Pediatrics [2008; 2000]

Horst K.A. Schirmer, M.D.
Associate Professor of Urology [1966; 1962]

Thomas E. Schlaepfer, M.D.
Associate Professor of Psychiatry [1997; 1994]

D. William Schlott, M.D.
Philip A. Tumulty Associate Professor of Medicine [1993; 1969]

David J. Schretlen, Ph.D.
Associate Professor of Medical Psychology in the Department of Psychiatry [1995; 1988], Associate Professor of Radiology [2003]

John Thomas Schroeder, Ph.D.
Associate Professor of Medicine [2005; 1996]

Kenneth C. Schubert, M.D.
Associate Professor of Pediatrics [1993; 1980]

Allen D. Schwartz, M.D.
Associate Professor of Pediatrics [1991]

David B. Schwartz, M.B.B.Ch.
Visiting Associate Professor of Gynecology and Obstetrics [2001]

Michael Schweitzer, M.D.
Associate Professor of Surgery [2007; 2002]

Alan F. Scott, Ph.D.
Associate Professor of Medicine in Genetic Medicine [1988; 1979], Associate Professor of Oncology [1996]

William W. Scott, Jr., M.D.
Associate Professor of Radiology and Radiological Science [1984; 1978], Joint Appointment in Orthopedic Surgery [1986]

Jodi Beth Segal, M.D., M.P.H.
Associate Professor of Medicine [2008; 2000]

Dorry L. Segev, M.D.
Associate Professor of Surgery [2009; 2004]

Eric J. Seifter, M.D.
Associate Professor of Medicine [1995; 1986], Associate Professor of Oncology [1995; 1987]

Deborah E. Sellmeyer, M.D.
Visiting Associate Professor of Medicine [2008]

J. Bryan Sexton, Ph.D.
Associate Professor of Anesthesiology and Critical Care Medicine [2008; 2004] (to 08/28/09)

Albert B. Shackman, M.D.
Associate Professor of Radiology and Radiological Science [1995; 1954]

Donald H. Shaffner, Jr., M.D.
Associate Professor of Anesthesiology and Critical Care Medicine [1998; 1989], Associate Professor of Pediatrics [2001; 1989]

James S. K. Sham, Ph.D.
Associate Professor of Medicine [2001; 1992]

Hua Shan, M.D., Ph.D.
Associate Professor of Pathology [2009; 1998]

Gary R. Shapiro, M.D.
Visiting Associate Professor of Oncology [2004]

William H. Sharfman, M.D.
Associate Professor of Oncology [2005; 1993], Associate Professor of Dermatology [2005]

Mark J. Shelhamer, Sc.D.
Associate Professor of Otolaryngology-Head and Neck Surgery [2002; 1994], Associate Professor of Biomedical Engineering [2002; 1992]

Michele Arlene Shermak, M.D.
Associate Professor of Plastic Surgery [2006; 2000]

Sheila Sheth, M.D.
Associate Professor of Radiology and Radiological Science [1995; 1986], Associate Professor of Pathology [2004]

Larissa Akimi Shimoda, Ph.D.
Associate Professor of Medicine [2007; 1998]

Frederick E. Sieber, M.D.
Associate Professor of Anesthesiology and Critical Care Medicine [1993; 1985]

Jeffrey H. Siewerdsen, Ph.D.
Visiting Associate Professor of Biomedical Engineering [2009]

Charles E. Silberstein, M.D.
Associate Professor of Orthopedic Surgery [1999; 1967]

Edward M. Sills, M.D.
Associate Professor of Pediatrics [1978; 1969]

Kenneth H. C. Silver, M.D.
Associate Professor of Physical Medicine and Rehabilitation [2004; 1984]

Wayne Silverman, Ph.D.
Visiting Associate Professor of Psychiatry [2006]

Eleanor Marie Simonsick, Ph.D.
Associate Professor of Medicine [2001]

Sylvia G. Simpson, M.D.
Associate Professor of Psychiatry [1993; 1986]

Stephen D. Sisson, M.D.
Associate Professor of Medicine [2005; 1995]

Keith J. Slifer, Ph.D.
Associate Professor of Psychiatry [1999; 1987], Associate Professor of Pediatrics [1999; 1989]

Barbara Slusher, Ph.D.
Visiting Associate Professor of Neurology [2009]
(from 09/01/09)

B. Douglas Smith, M.D.
Associate Professor of Oncology [2006; 1998]

Michael T. Smith, Ph.D.
Associate Professor of Psychiatry [2007; 2001]

Samuel Smith, M.D.
Associate Professor of Gynecology and Obstetrics
[1996; 1987]

Duane Thomas Smoot, M.D.
Associate Professor of Oncology [2001]

Shanthini Sockanathan, Ph.D.
Associate Professor of Neuroscience [2007; 2002]

Lori J. Sokoll, Ph.D.
Associate Professor of Pathology [2005; 1997],
Associate Professor of Oncology [2005; 2000],
Associate Professor of Urology [2005; 2000]

Hongjun Song, Ph.D.
Associate Professor of Neurology [2007; 2002],
Associate Professor of Neuroscience [2007; 2002]

Samuel Sostre, M.D.
Associate Professor of Radiology and Radiological
Science [1992; 1988]

David A. Spector, M.D.
Associate Professor of Medicine [1983; 1973]

Lynn Jackson Speedie, Ph.D.
Associate Professor of Psychiatry [2004; 1995],
Assistant Professor of Neurology [1995]

Forrest Spencer, Ph.D.
Associate Professor of Medicine in Genetic
Medicine [2002; 1992], Joint Appointment in
Molecular Biology and Genetics [1992]

Philip Joel Spevak, M.D.
Associate Professor of Pediatrics [1995], Joint
Appointment in Medicine [2001]

Peter Michael Spooner, Ph.D.
Associate Professor of Medicine [2004; 2003]

Peter S. Staats, M.D.
Associate Professor of Anesthesiology and Critical
Care Medicine [1998; 1993]

Vered Stearns, M.D.
Associate Professor of Oncology [2005; 2002]

Joseph P. Steiner, Ph.D.
Associate Professor of Neurology [2009; 2005]

Cristiana Stellato, M.D., Ph.D.
Associate Professor of Medicine [2006; 1997]

Robert David Stevens, M.D.
Associate Professor of Anesthesiology and Critical
Care Medicine [2009; 2003] (from 10/01/09),
Assistant Professor of Anesthesiology and Critical
Care Medicine [2003] (to 09/30/09), Assistant
Professor of Neurological Surgery [2004],
Assistant Professor of Neurology [2004]

Michael Blake Streiff, M.D.
Associate Professor of Medicine [2008; 1997],
Instructor in Pathology [2000]

Matthias Stuber, Ph.D.
Associate Professor of Radiology [2003; 2002]
(on leave of absence from 08/03/09), Assistant
Professor of Medicine [2003] (on leave of absence
from 08/03/09)

Raymond Arthur Sturner, M.D.
Associate Professor of Pediatrics [1996]

Chi-Tsung Su, M.D.
Associate Professor of Plastic Surgery [1980;
1971]

Sriram Subramaniam, Ph.D.
Visiting Associate Professor of Biological
Chemistry [1998; 1991]

Prem Sagar Subramanian, M.D., Ph.D.
Associate Professor of Ophthalmology [2007]

Ian Suk, B.Sc.
Associate Professor of Neurological Surgery
[2009; 2002], Associate Professor of Art as
Applied to Medicine [2009; 2002]

Mark Sebastian Sulkowski, M.D.
Associate Professor of Medicine [2004; 1998]

Dace S. Svikis, Ph.D.
Associate Professor of Behavioral Biology in the
Department of Psychiatry [1997; 1989]

Karen L. Swartz, M.D.
Associate Professor of Psychiatry [2009; 1997]
(from 10/01/09), Assistant Professor of Psychiatry
[1997] (to 09/30/09)

Yuan-Xiang Tao, Ph.D., M.D.
Associate Professor of Anesthesiology and Critical
Care Medicine [2004; 1999]

David R. Thiemann, M.D.
Associate Professor of Medicine [2006; 1995],
Joint Appointment in Health Sciences Informatics
[2001]

Chloe Lynne Thio, M.D.
Associate Professor of Medicine [2005; 2000]

Patricia A. Thomas, M.D.
Associate Professor of Medicine [2000; 1987],
Associate Dean for Curriculum [2004]

Jennifer Elizabeth Thorne, M.D.
Associate Professor of Ophthalmology [2007;
2000]

Allen Yiyen Tien, M.D.
Adjunct Associate Professor of Health Sciences
Informatics [2005]

Elaine Tierney, M.D.
Associate Professor of Psychiatry [2008; 1995]

Timothy R. Townsend, M.D.
Associate Professor of Pediatrics [1984; 1978]

Cornelia Liu Trimble, M.D.
Associate Professor of Gynecology and Obstetrics
[2004; 1997], Associate Professor of Oncology
[2004; 1998], Associate Professor of Pathology
[2005]

Edward Lloyd Trimble, M.D., M.P.H.
Associate Professor of Gynecology and Obstetrics
[1998; 1992], Associate Professor of Oncology
[1998]

Bruce Jeffrey Trock, Ph.D.
Associate Professor of Urology [2001], Associate Professor of Oncology [2001]

Theodore N. Tsangaris, M.D.
Associate Professor of Oncology [2004]

Chung-Ming Tse, Ph.D.
Associate Professor of Medicine [1998; 1988]

Ralph P. Tufano, M.D.
Associate Professor of Otolaryngology-Head and Neck Surgery [2006; 2000]

Anthony P. Tufaro, D.D.S., M.D.
Associate Professor of Plastic Surgery [2008; 1998], Associate Professor of Oncology [2008; 2005]

David E. Tunkel, M.D.
Associate Professor of Otolaryngology-Head and Neck Surgery [1997; 1989], Associate Professor of Anesthesiology and Critical Care Medicine [2006], Associate Professor of Pediatrics [1997; 1994]

Alexandra Valsamakis, M.D., Ph.D.
Associate Professor of Pathology [2006; 1998]

Elsken van der Wall, M.D., Ph.D.
Visiting Associate Professor of Oncology [2000]

Russell Vang, M.D.
Associate Professor of Pathology [2008; 2003], Assistant Professor of Gynecology and Obstetrics [2005]

Victor E. Velculescu, M.D., Ph.D.
Associate Professor of Oncology [2006; 2002]

Robert W. Veltri, Ph.D.
Associate Professor of Urology [2003; 2002], Associate Professor of Oncology [2009]

Stanley A. Vinoses, Ph.D.
Associate Professor of Ophthalmology [1992; 1991]

Susan Vitale, Ph.D.
Adjunct Associate Professor of Ophthalmology [2002; 1992]

James E. Vogel, M.D.
Associate Professor of Plastic Surgery [2006; 1989]

Luca A. Vricella, M.D.
Associate Professor of Cardiac Surgery [2009; 2002], Assistant Professor of Pediatrics [2007]

Kathryn R. Wagner, M.D., Ph.D.
Associate Professor of Neurology [2006; 2000], Associate Professor of Neuroscience [2009; 2007]

Allen R. Walker, M.D.
Associate Professor of Pediatrics [2001; 1988]

John T. Walkup, M.D.
Associate Professor of Psychiatry [1995; 1988]

Mei Wan, Ph.D.
Visiting Associate Professor of Orthopaedic Surgery [2009]

Ko-Pen Wang, M.D.
Associate Professor of Medicine [1982; 1976], Associate Professor of Radiology and Radiological Science [1998]

Robert F. Ward, M.D.
Associate Professor of Psychiatry [1978; 1965]

Gary Ray Warnock, D.D.S.
Associate Professor of Dermatology [2003; 1997] (to 09/04/09), Assistant Professor of Pathology [2001] (to 09/04/09)

Andrew C. Warren, M.B.B.S., D.Phil.
Associate Professor of Psychiatry [1993; 1988]

Bruce Alan Wasserman, M.D.
Associate Professor of Radiology and Radiological Science [2005; 1997]

Terry Watnick, M.D.
Associate Professor of Medicine [2009; 1995]

Alan S. Wayne, M.D.
Visiting Associate Professor of Pediatrics [1999]

Elise M. Weerts, Ph.D.
Associate Professor of Behavioral Biology in the Department of Psychiatry [2004; 1995]

Stephen T. Wegener, Ph.D.
Associate Professor of Physical Medicine and Rehabilitation [1995]

Robert S. Weinberg, M.D.
Associate Professor of Ophthalmology [1997]

Jon David Weingart, M.D.
Associate Professor of Neurological Surgery [2002; 1995], Associate Professor of Oncology [2002; 1996]

Howard D. Weiss, M.D.
Associate Professor of Neurology [1995; 1977]

Robert A. Weiss, M.D.
Associate Professor of Dermatology [2005; 1984]

Paul S. Wheeler, M.D.
Associate Professor of Radiology and Radiological Science [1974; 1968]

S. Elizabeth Whitmore, M.D.
Associate Professor of Dermatology [2000; 1988] (on leave of absence to 07/06/09)

John H. Wilckens, M.D.
Associate Professor of Orthopedic Surgery [2006; 2001]

Ulrich V. Willi, M.D.
Visiting Associate Professor of Radiology [2009]

Penelope R. Williamson, Sc.D.
Associate Professor of Medicine [1993; 1988]

Mary Ann Wilson, Ph.D.
Associate Professor of Neurology [2007; 1994], Associate Professor of Neuroscience [2007; 2001]

Robert J. Wityk, M.D.
Associate Professor of Neurology [2003; 1992], Associate Professor of Medicine [2005; 1992]

Antonio Carlos Wolff, M.D.
Associate Professor of Oncology [2005; 1998]

Amina S. Woods, Ph.D.
Adjunct Associate Professor of Pharmacology and Molecular Sciences [2005; 1997]

Mark Thomas Worthington, M.D.
Associate Professor of Medicine [2006]

Edward James Wright, M.D.
Associate Professor of Urology [2009; 2000]

Michael Mingzhao Xing, M.D., Ph.D.
Associate Professor of Medicine [2006; 2003],
Associate Professor of Oncology [2006]

Joy T. Yang, Ph.D.
Associate Professor of Cell Biology [2004; 1996]

Paul Michael Yen, M.D.
Associate Professor of Medicine [2003], Associate
Professor of Pharmacology and Molecular
Sciences [2007]

Deborah Sue Rohm Young, Ph.D.
Visiting Associate Professor of Medicine [2001;
1995]

David Daiho Yuh, M.D.
Associate Professor of Cardiac Surgery [2005;
2001]

Jin Zhang, Ph.D.
Associate Professor of Pharmacology and
Molecular Sciences [2009; 2003], Associate
Professor of Neuroscience [2009; 2003],
Associate Professor of Oncology [2009; 2004]

Zhen Zhang, Ph.D.
Associate Professor of Pathology [2003; 2001]

Yulian Zhao, M.D., Ph.D.
Associate Professor of Gynecology and Obstetrics
[2008; 2001]

Shibin Zhou, M.D., Ph.D.
Associate Professor of Oncology [2008; 1998]

Zhou Zhu, M.D., Ph.D.
Associate Professor of Medicine [2004]

Carol M. Ziminski, M.D.
Associate Professor of Medicine [1997; 1981]

Ingrid E. Zimmer-Galler, M.D.
Associate Professor of Ophthalmology [2007;
1994]

Andrew W. Zimmerman, M.D.
Associate Professor of Neurology [1994],
Associate Professor of Pediatrics [2004],
Associate Professor of Psychiatry [1996]

Thomas M. Zizic, M.D.
Associate Professor of Medicine [1981; 1971]

Richard David Zorowitz, M.D.
Associate Professor of Physical Medicine and
Rehabilitation [2006]

ASSOCIATE PROFESSORS EMERITI

Neal I. Aronson, M.D.
Associate Professor Emeritus of Neurological
Surgery [1975; 1956]

Wilmot C. Ball, Jr., M.D.
Associate Professor Emeritus of Medicine [1997;
1961]

Hayden Grant Braine, M.D.
Associate Professor Emeritus of Oncology [2006;
1975], Associate Professor Emeritus of Medicine
[2006; 1975]

Robert K. Brawley, M.D.
Associate Professor Emeritus of Cardiac Surgery
[1995; 1969]

Jerrie Cherry, M.D.
Associate Professor Emeritus of Otolaryngology-
Head and Neck Surgery [1995; 1973]

James P. Connaughton, M.D.
Associate Professor Emeritus of Psychiatry [1997;
1967], Associate Professor Emeritus of Pediatrics
[1997; 1967]

Richard A. Currie, M.D.
Associate Professor Emeritus of Surgery [1995;
1970]

Burton C. D'Lugoff, M.D.
Associate Professor Emeritus of Medicine [1998;
1971]

Walter Ehrlich, M.D.
Associate Professor Emeritus of Psychiatry [1981;
1968]

Charles H. Epps, Jr., M.D.
Associate Professor Emeritus of Orthopedic
Surgery [1992; 1971]

Ronald H. Fishbein, M.D.
Associate Professor Emeritus of Surgery [1978;
1965]

James C. Fuchs, M.D.
Associate Professor Emeritus of Surgery [2002;
1985]

Ghislaine Godenne, M.D.
Associate Professor Emerita of Psychiatry [2000;
1963], Lecturer Emerita in Pediatrics [2000; 1963]

Jacob C. Handelsman, M.D.
Associate Professor Emeritus of Surgery [1992;
1947]

Frederik C. Hansen, M.D.
Associate Professor Emeritus of Plastic Surgery
[1994; 1960]

Paul H. Hardy, Jr., M.D.
Associate Professor Emeritus of Microbiology in
the Department of Molecular Biology and Geneti
[1981; 1948]

Michael J. C. Im, Ph.D.
Associate Professor Emeritus of Plastic Surgery
[1978; 1970]

Darrell A. Jaques, M.D.
Associate Professor Emeritus of Surgery [1995;
1990], Associate Professor Emeritus of Plastic
Surgery [1995; 1977]

John T.H. Johnson, M.D.
Associate Professor Emeritus of Orthopedic
Surgery [1990; 1950]

Calvin E. Jones, M.D.
Associate Professor Emeritus of Surgery [2002;
1989]

Richard F. Kieffer, Jr., M.D.
Associate Professor Emeritus of Surgery [1979;
1948]

Maurice E. Langham, Ph.D.
Associate Professor Emeritus of Ophthalmology
[1991; 1959]

Kenneth B. Lewis, M.D.
Associate Professor Emeritus of Medicine [2000;
1965]

Robert E. Mason, M.D.
Associate Professor Emeritus of Medicine [1990; 1945]

Allan R. McClary, M.D.
Associate Professor Emeritus of Psychiatry [1967; 1950], Instructor in Medicine [1952; 1950]

Edmond J. McDonnell, M.D.
Associate Professor Emeritus of Orthopedic Surgery [1992; 1946]

Marvin M. Nachlas, M.D.
Associate Professor Emeritus of Surgery [1961; 1954]

Lee C. Park, M.D.
Associate Professor Emeritus of Psychiatry [1971; 1955]

Leonard R. Proctor, M.D.
Associate Professor Emeritus of Otolaryngology-Head and Neck Surgery [1976]

Jonas R. Rappeport, M.D.
Associate Professor Emeritus of Psychiatry [2000; 1964]

J. Courtland Robinson, M.D., M.P.H.
Associate Professor Emeritus of Gynecology and Obstetrics [2001]

Alejandro Rodriguez, M.D.
Associate Professor Emeritus of Pediatrics [1978; 1957]

Hiroshi Shimizu, M.D.
Associate Professor (Audiology & Speech) Emeritus of Otolaryngology-Head and Neck Surgery [1990; 1963]

Lawrence E. Shulman, M.D., Ph.D.
Associate Professor Emeritus of Medicine [1997; 1950]

Arnold T. Sigler, M.D.
Associate Professor Emeritus of Pediatrics [1973; 1965]

Joseph H. Stephens, M.D.
Associate Professor Emeritus of Psychiatry [2006; 1956]

Gail Stetten, Ph.D.
Associate Professor Emerita of Gynecology and Obstetrics [2009; 1979]

Judith L. Stiff, M.D.
Associate Professor Emerita of Anesthesiology and Critical Care Medicine [1986; 1978]

Ray E. Stutzman, M.D.
Associate Professor Emeritus of Urology [1984]

Mark L. Teitelbaum, M.D.
Associate Professor Emeritus of Psychiatry [1993; 1977]

Robert B. Welch, M.D.
Associate Professor Emeritus of Ophthalmology [1973; 1955]

Clifford R. Wheelless, Jr., M.D.
Associate Professor Emeritus of Gynecology and Obstetrics [2009; 1993]

E.F. Shaw Wilgis, M.D.
Associate Professor Emeritus of Orthopedic Surgery [1983; 1970], Associate Professor Emeritus of Plastic Surgery [1983; 1976]

M. Lee Williams, M.D.
Associate Professor Emeritus of Otolaryngology-Head and Neck Surgery [1999; 1954]

Jerriann M. Wilson, M.Ed.
Associate Professor Emerita of Pediatrics [1997; 1972]

Theodore H. Wilson, Jr., M.D.
Associate Professor Emeritus of Surgery [1988; 1972]

Stewart M. Wolff, M.D.
Associate Professor Emeritus of Ophthalmology [1975; 1957]

Jimmy B. Zachary, M.D.
Associate Professor Emeritus of Medicine [1999; 1963]

Jack M. Zimmerman, M.D.
Associate Professor Emeritus of Surgery [1999; 1965]

ASSISTANT PROFESSORS

Peter M. Abadir, M.D.
Assistant Professor of Medicine [2009]

Fizan Abdullah, M.D., Ph.D.
Assistant Professor of Pediatric Surgery [2005]

Marwan Samir Abougergi, M.D.
Assistant Professor of Medicine [2009; 2007]

Hanan J. Aboumatar, M.D., M.P.H.
Assistant Professor of Medicine [2008]

John M. Abraham, Ph.D.
Assistant Professor of Medicine [2006]

Maria Roselle Abraham, M.B.B.S.
Assistant Professor of Medicine [2003; 2002]

Andrew Abramowitz, M.D.
Assistant Professor of Pediatrics [2004]

Donald A. Abrams, M.D.
Assistant Professor of Ophthalmology [1995]

Lisa S. Abrams, M.D.
Assistant Professor of Ophthalmology [1996; 1995]

Lauren Abramson, Ph.D.
Assistant Professor of Medical Psychology in the Department of Psychiatry [1995; 1992]

Rachel Abuav, M.D.
Assistant Professor of Dermatology [2008; 2007]

Laura Lee Adams, Ph.D.
Assistant Professor of Physical Medicine and Rehabilitation [2008]

Richard Alan Adler, M.D.
Assistant Professor of Ophthalmology [2005; 2004]

Nishant Agrawal, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2009], Assistant Professor of Oncology [2009]

Allison Lorna Agwu, M.D.
Assistant Professor of Pediatrics [2007], Joint Appointment in Medicine [2007]

Edward S. Ahn, M.D.
Assistant Professor of Neurological Surgery [2007]

Nita Ahuja, M.D.
Assistant Professor of Surgery [2003; 2002], Assistant Professor of Oncology [2005]

Abimbola J. Aina, M.D.
Assistant Professor of Gynecology and Obstetrics [2004; 2001]

Susan Aja, Ph.D.
Assistant Professor of Psychiatry [2005; 2002]

Fadi G. Akar, Ph.D.
Assistant Professor of Medicine [2007; 2004]

Samuel M. Alaish, M.D.
Assistant Professor of Pediatric Surgery [2003]

Charles R. Albrecht, III, M.D.
Assistant Professor of Medicine [2005]

Larry E. Alessi, M.D.
Assistant Professor of Psychiatry [1975; 1974]

Joe Alexander, Jr., M.D., Ph.D.
Adjunct Assistant Professor of Biomedical Engineering [2001]

Angelo Homayoun All, M.D.
Assistant Professor of Biomedical Engineering [2008; 2004], Research Associate in Neurology [2008]

Mohamad E. Allaf, M.D.
Assistant Professor of Urology [2006], Assistant Professor of Biomedical Engineering [2007]

Jill Allbritton, M.D.
Assistant Professor of Dermatology [2007; 1998] (to 09/29/09)

Anne Reed Altemus, M.A.
Assistant Professor of Art as Applied to Medicine [2007; 1991]

Janyne Althaus, M.D.
Assistant Professor of Gynecology and Obstetrics [2007]

Kristiina Ruutiainen Altman, M.D., Ph.D.
Assistant Professor of Gynecology and Obstetrics [1999]

Anika A.H. Alvanzo, M.D., M.S.
Assistant Professor of Medicine [2008]

Adrianna Amari, Ph.D.
Assistant Professor of Psychiatry [2009; 2006]

Jennifer F. Anders, M.D.
Assistant Professor of Pediatrics [2005]

Robert Albert Anders, M.D., Ph.D.
Assistant Professor of Pathology [2005], Assistant Professor of Oncology [2006]

Allan A. Anderson, M.D.
Assistant Professor of Psychiatry [2007]

John E. Anderson, M.D.
Assistant Professor of Medicine [1990; 1980]

Adriana S.A. Andrade, M.D., M.P.H.
Assistant Professor of Medicine [2002]

Felipe A. Andrade, M.D., Ph.D.
Assistant Professor of Medicine [2005]

Clifford G. Andrew, M.D., Ph.D.
Assistant Professor of Neurology [1980]

Alka Aneja, M.D.
Assistant Professor of Psychiatry [2006]

Charles S. Angell, M.D.
Assistant Professor of Medicine [1975]

Michael Alan Ankrom, M.D.
Assistant Professor of Medicine [1998; 1997]

Brian Stephen Appleby, M.D.
Assistant Professor of Psychiatry [2008]

Armin Arbab-Zadeh, M.D.
Assistant Professor of Medicine [2007; 2006]

Alicia I. Arbaje, M.D., M.P.H.
Assistant Professor of Medicine [2007]

Kristin R. Archer, Ph.D.
Adjunct Assistant Professor of Orthopedic Surgery [2008; 2007]

Nkiruka U. Arene, M.D.
Assistant Professor of Physical Medicine and Rehabilitation [2006]

Cynthia Holcroft Argani, M.D.
Assistant Professor of Gynecology and Obstetrics [2003; 2000]

Dan Eytan Arking, Ph.D.
Assistant Professor (in Genetic Medicine) of Medicine [2007; 2005]

Mary Y. Armanios, M.D.
Assistant Professor of Oncology [2005]

Ernest N. Arnett, M.D.
Assistant Professor of Medicine [1978]

Renata Gayle Arrington-Sanders, M.D.
Assistant Professor of Pediatrics [2007]

Ruth S. Ashman, M.D.
Assistant Professor of Pediatrics [1986]

Bolanle A. Asiyabola, M.D.
Assistant Professor of Surgery [2007; 2006]

Rebecca Aslakson, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2008]

Saadet Atay-Rosenthal, M.D.
Assistant Professor of Radiology and Radiological Science [2009]

Meredith Atkinson, M.D.
Assistant Professor of Pediatrics [2007]

Karla Jean Au Yeung, M.D.
Assistant Professor of Pediatrics [2008]

Susan Wright Aucott, M.D.
Assistant Professor of Pediatrics [1996]

Martin Auster, M.D.
Assistant Professor of Radiology and Radiological Science [2000; 1983]

Nafi Aygun, M.D.
Assistant Professor of Radiology [2002]

Nilofer S. Azad, M.D.
Assistant Professor of Oncology [2008]

Alex Azar, M.D.
Assistant Professor of Ophthalmology [1998]

Roberta L. Babbitt, Ph.D.
Assistant Professor of Psychiatry [1990; 1987]

Oscar R. Baeza, M.D., M.A.
Assistant Professor of Art as Applied to Medicine [2005; 2003]

Megan Bair-Merritt, M.D.
Assistant Professor of Pediatrics [2006]

Romulo F. Baltazar, M.D.
Assistant Professor of Medicine [1995]

Isaac N. Bankman, Ph.D.
Assistant Professor of Biomedical Engineering [1993]

Shannon Rae Barnett, M.D.
Assistant Professor of Psychiatry [2003; 2000]

Viachaslau M. Barodka, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2009]

Michael Anthony Barone, M.D.
Assistant Professor of Pediatrics [2001; 1998],
Assistant Dean for Student Affairs [2004]

Lili Ayala Barouch, M.D.
Assistant Professor of Medicine [2003]

Jeremy S. Barron, M.D.
Assistant Professor of Medicine [2004]

Emily Barron-Casella, Ph.D.
Assistant Professor of Pediatrics [1992]

Edward L. Bartlett, Jr., M.D.
Assistant Professor of Pediatrics [1983]

Charles Dennis Barton, Jr., M.D.
Assistant Professor of Psychiatry [1995; 1993]

Alessandro G. Basso, M.D.
Assistant Professor of Urology [1972]

Denise A Batista, Ph.D.
Assistant Professor of Pathology [2006; 2004]

Melissa Q.H. Beck, Ph.D.
Assistant Professor of Psychiatry [2005]

Marshall S. Bedine, M.D.
Assistant Professor of Medicine [1980; 1972]

Michael A. Beer, Ph.D.
Assistant Professor of Biomedical Engineering in
Genetic Medicine [2005], Joint Appointment in
Molecular Biology and Genetics [2005]

John T. Beetar, Ph.D.
Assistant Professor of Psychiatry [2008]

Nicholas J. Belitsos, M.D.
Assistant Professor of Medicine [1981], Lecturer in
Pathology [1982]

Peter C Belitsos, M.D.
Assistant Professor of Medicine [1991]

Barbara B. Bell, M.D.
Assistant Professor of Pediatrics [1972; 1969]

Melania Maria Bembea, M.D., M.P.H.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2009], Assistant Professor of
Pediatrics [2009]

Emile A. Benditt, M.D.
Assistant Professor of Psychiatry [1975; 1973]

Errol L. Bennett, M.D.
Assistant Professor of Orthopedic Surgery [2002;
2001]

Wendy Lynet Bennett, M.D., M.P.H.
Assistant Professor of Medicine [2009]

Jane E. Benson, M.D.
Assistant Professor of Radiology and Radiological
Science [1990], Joint Appointment in Pediatrics
[1991]

Elliott M. Berg, M.D.
Assistant Professor of Plastic Surgery [1974]

Wendie Anderson Berg, M.D., Ph.D.
Assistant Professor of Radiology and Radiological
Science [1993; 1992]

Robert S. Berger, M.D.
Assistant Professor of Dermatology [2002; 1994]

Zackary Dov Berger, M.D., Ph.D.
Assistant Professor of Medicine [2009] (from
09/01/09)

Gail Valerie Berkenblit, M.D., Ph.D.
Assistant Professor of Medicine [2001]

Lauren Claire Berkow, M.D.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2001; 2000], Assistant Professor
of Otolaryngology-Head and Neck Surgery [2006]

Joan E. Berkowitz, M.D.
Assistant Professor of Radiology and Radiological
Science [1986; 1983]

Michael T. Bernstein, M.D.
Assistant Professor of Pediatrics [1972; 1971]

Edward S. Bessman, M.D.
Assistant Professor of Emergency Medicine [1995;
1992]

Nikhil Bhagat, M.D.
Assistant Professor of Radiology and Radiological
Science [2009] (from 07/22/09)

Mythreyi Bhargavan, Ph.D.
Assistant Professor of Radiology and Radiological
Science [2008]

Lavina D. Bharwani, M.D.
Assistant Professor of Oncology [2007]

Niranjan Bhat, M.D.
Assistant Professor of Pediatrics [2009]

Rinky Bhatia, M.D.
Assistant Professor of Medicine [2008]

Lynn M. Billingsley, M.D.
Assistant Professor of Medicine [1998; 1979]

Clifton O. Bingham, III, M.D.
Assistant Professor of Medicine [2005]

Maria M. Birzescu, M.D.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2009]

William R. Bitman, D.Mgt.
Assistant Professor of Ophthalmology [2006] (to
11/19/09)

Ava K. Bittner, O.D.
Assistant Professor of Ophthalmology [2007; 2002]

Sally Bitzer, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2002]

Betty E. Smith Black, Ph.D.
Assistant Professor of Psychiatry [1997; 1995]

James Hamilton Black, III, M.D.
Assistant Professor of Surgery [2004]

Gabrielle Levine Blackman, M.D.
Assistant Professor of Psychiatry [2005; 2001]

Scott M. Blackman, M.D.
Assistant Professor of Pediatrics [2009; 2007]

Seth Blackshaw, Ph.D.
Assistant Professor of Neuroscience [2004], Joint Appointment in Ophthalmology [2005]

Jaishri O'Neill Blakeley, M.D.
Assistant Professor of Neurology [2007], Assistant Professor of Neurological Surgery [2007], Assistant Professor of Oncology [2007]

Ray Gervacio F. Blanco, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [1998]

Renee J. Blanding, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [1995; 1992]

Joel Blankson, M.D., Ph.D.
Assistant Professor of Medicine [2002]

David Mark Blass, M.D.
Assistant Professor of Psychiatry [2002]

Donald F. Bliss, II, M.A.
Assistant Professor of Art as Applied to Medicine [2006]

Ari Meir Blitz, M.D.
Assistant Professor of Radiology and Radiological Science [2007]

Derek Kofi Boahene, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2005], Assistant Professor of Dermatology [2008]

Grant V. Bochicchio, M.D.
Adjunct Assistant Professor of Surgery [2004]

Ravit Boger, M.D.
Assistant Professor of Pediatrics [2003; 2001]

Michael A. Bogrov, M.D.
Assistant Professor of Psychiatry [1993; 1992]

Lauren L. Bogue, M.D.
Assistant Professor of Pediatrics [1996; 1989]

Eileen Bohan, B.S.
Assistant Professor of Neurological Surgery [2007]

Francesco Boin, M.D.
Assistant Professor of Medicine [2008; 2006]

Michael V. Boland, M.D., Ph.D.
Assistant Professor of Ophthalmology [2005], Joint Appointment in Health Sciences Informatics [2009]

Javier Bolanos-Meade, M.D.
Assistant Professor of Oncology [2004]

Romsai Tony Boonyasai, M.D., M.P.H.
Assistant Professor of Medicine [2009; 2007]

Jack Calvin Borders, Jr., M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2006]

Luciana L. Borio, M.D.
Assistant Professor of Medicine [2003]

Carrie S.W. Borrero, Ph.D.
Assistant Professor of Psychiatry [2008]

Emily Frances Boss, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2008]

Renee Denise Boss, M.D.
Assistant Professor of Pediatrics [2007]

Lisa B. Boulton, M.D., M.P.H.
Assistant Professor of Medicine [2001]

G. Steven Bova, M.D.
Assistant Professor of Pathology [1994], Joint Appointment in Health Sciences Informatics [2003], Assistant Professor of Oncology [1995], Assistant Professor of Urology [1994; 1991]

Craig William Bowen, Ph.D., M.B.A.
Assistant Professor of Anesthesiology and Critical Care Medicine [2006]

Lynn G. Bowman, M.A.
Assistant Professor of Psychiatry [1999; 1995]

Cynthia Melinda Boyd, M.D.
Assistant Professor of Medicine [2004; 2002]

Carolyn Beth Boylan, M.D.
Assistant Professor of Pediatrics [2006]

Kathleen D. Brady, Ph.D.
Assistant Professor of Physical Medicine and Rehabilitation [2009]

Kenneth Brady, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2006], Assistant Professor of Pediatrics [2006]

Mary Beth Brady, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [1998; 1997]

Tammy M. Brady, M.D.
Assistant Professor of Pediatrics [2008]

Sami A. Brahim, M.D.
Assistant Professor of Medicine [1975; 1972]

Julie R. Brahmer, M.D.
Assistant Professor of Oncology [2003; 2000]

Lorraine V.J. Brando, Ph.D.
Assistant Professor of Pediatrics [2009; 1992]

J. Dennis Branger, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [1979; 1978]

Peter Braverman, M.D.
Assistant Professor of Medicine [2002]

E. David Bravos, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2009; 2008]

Christopher D. Breder, M.D., Ph.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2008]

Rachel F. Brem, M.D.
Assistant Professor of Radiology and Radiological Science [1991; 1989]

Margaret M. Brennan, M.D.
Assistant Professor of Medicine [2008]

Matthew J. Brennan, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [1973; 2004]

Martin B. Brodsky, Ph.D.
Assistant Professor of Physical Medicine and Rehabilitation [2008]

Dennis A. Brooks, M.D.
Assistant Professor of Pediatrics [2000; 1988]

Patrick Brown, M.D.
Assistant Professor of Oncology [2005; 2004],
Assistant Professor of Pediatrics [2005; 2004]

Todd T. Brown, M.D.
Assistant Professor of Medicine [2004]

Robert J. Brumback, M.D.
Assistant Professor of Orthopedic Surgery [1991; 1987]

Daniel L. Buccino, M.S.W.
Assistant Professor of Psychiatry [2000; 1992]

James R. Buck, M.D.
Assistant Professor of Surgery [1981], Assistant
Professor of Pediatrics [1982]

Dejan B. Budimirovic, M.D.
Assistant Professor of Psychiatry [2004]

Luis F. Buenaver, Ph.D.
Assistant Professor of Psychiatry [2008]

Philip C. Buescher, M.D.
Assistant Professor of Medicine [1987]

Janine Elizabeth Bullard, M.D.
Assistant Professor of Pediatrics [2006]

David Gordon Bundy, M.D., M.P.H.
Assistant Professor of Pediatrics [2007]

Joyce Kopicky Burd, M.D.
Assistant Professor of Medicine [1994; 1985]

Anne E. Burke, M.D.
Assistant Professor of Gynecology and Obstetrics
[2002; 2000]

Elizabeth M. Burke, M.D.
Assistant Professor of Dermatology [1995]

Michael G. Burke, M.D.
Assistant Professor of Pediatrics [1996; 1986]

Kathleen Helen Burns, M.D., Ph.D.
Assistant Professor of Pathology [2009; 2008],
Assistant Professor of Oncology [2009; 2008]

R. Mitchell Bush, D.V.M.
Assistant Professor of Molecular and Comparative
Pathobiology [1972; 1967]

Ali Bydon, M.D.
Assistant Professor of Neurological Surgery [2007;
2006]

Zheqing Cai, Ph.D.
Assistant Professor of Medicine [2008; 2006]

Vince D. Calhoun, Ph.D.
Assistant Professor of Psychiatry [2002]

Preston C. Calvert, M.D.
Assistant Professor of Neurology [1998]

Andrew M. Cameron, M.D., Ph.D.
Assistant Professor of Surgery [2006]

Maria Valeria Canto Soler, Ph.D.
Assistant Professor of Ophthalmology [2006]

Ying Jun Cao, M.B., Ph.D.
Adjunct Assistant Professor of Medicine [2009;
2007]

Randolph B. Capone, M.D.
Assistant Professor of Otolaryngology-Head and
Neck Surgery [2004]

Nicholas A. Capozzoli, M.D.
Assistant Professor of Neurology [1992]

Juan Ricardo Carhuapoma, M.D.
Assistant Professor of Neurology [2004],
Assistant Professor of Anesthesiology and Critical
Care Medicine [2004], Assistant Professor of
Neurological Surgery [2004]

Teresa Mary Carlin, M.D.
Assistant Professor of Emergency Medicine [2001;
1996], Assistant Professor of Pediatrics [2001;
1996]

Hetty Eileen Carraway, M.D.
Assistant Professor of Oncology [2008; 2005]

C. Patrick Carroll, M.D.
Assistant Professor of Psychiatry [2006; 2004]

Lucy Minnich Carruth, Ph.D.
Adjunct Assistant Professor of Molecular and
Comparative Pathobiology [2005]

Nicola Gerardo Cascella, M.D.
Assistant Professor of Psychiatry [1999]

Zenobia A. Casey, M.D.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2003; 2002]

Anthony Charles Castelbuono, M.D.
Assistant Professor of Ophthalmology [2001]

Christina Lynne Catlett, M.D.
Assistant Professor of Emergency Medicine [2007]

Stephen Michael Cattaneo, II, M.D.
Assistant Professor of Surgery [2007]

John Cavaluzzi, M.D.
Assistant Professor of Radiology and Radiological
Science [1977]

Danelle Cayea, M.D.
Assistant Professor of Medicine [2005]

Paul Celano, M.D.
Assistant Professor of Oncology [1988; 1987],
Assistant Professor of Gynecology and Obstetrics
[1988; 2008]

Matthews Chacko, M.D.
Assistant Professor of Medicine [2007]

Vadappuram P. Chacko, Ph.D.
Assistant Professor of Radiology and Radiological
Science [1984]

Raman Chahal, M.B.B.S.
Assistant Professor of Psychiatry [1986; 1980]

Geetanjali Chander, M.D., M.P.H.
Assistant Professor of Medicine [2004]

Lawrence D. Chang, M.D.
Assistant Professor of Plastic Surgery [1996]

Stephen J. Chanock, M.D.
Assistant Professor of Oncology [1998], Lecturer in Pediatrics [1998]

Amina A. Chaudhry, M.D., M.P.H.
Assistant Professor of Medicine [2008; 2007]

Paulo H.M. Chaves, M.D., Ph.D.
Assistant Professor of Medicine [2001]

Aaron Edward Chen, M.D.
Assistant Professor of Pediatrics [2006]

Chi Chiung Grace Chen, M.D.
Assistant Professor of Gynecology and Obstetrics [2008]

Edward S. Chen, M.D.
Assistant Professor of Medicine [2006; 2003]

Elizabeth H. Chen, Ph.D.
Assistant Professor of Molecular Biology and Genetics [2004]

Alan Cheng, M.D.
Assistant Professor of Medicine [2006]

Roy W. Chesnut, Jr., M.D.
Assistant Professor of Medicine [1965; 1954]

Kristin Cheung, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2006; 1997]

Avneesh Chhabra, M.D.
Assistant Professor of Radiology [2009]

Chee Wei Chia, M.D.
Adjunct Assistant Professor of Medicine [2004]

Anna Chien, M.D.
Assistant Professor of Dermatology [2009] (from 09/08/09)

Jeffrey M. Chinsky, M.D., Ph.D.
Assistant Professor of Pediatrics [1995]

Margaret Chisolm, M.D.
Assistant Professor of Psychiatry [2006; 1992]

Steve Yoon-Ho Cho, M.D.
Assistant Professor of Radiology [2007]

Oksoon Hong Choi, Ph.D.
Assistant Professor of Medicine [2003]

Samuel S. Chong, Ph.D.
Assistant Professor of Pediatrics [1997], Joint Appointment in Gynecology and Obstetrics [1997]

Akhil Chopra, M.B.B.S.
Adjunct Assistant Professor of Oncology [2009]

Betty Chou, M.D.
Assistant Professor of Gynecology and Obstetrics [2006; 2003]

Robert Tao-Ping Chow, M.D.
Assistant Professor of Medicine [1992]

James M. Christian, D.D.S., M.B.A.
Assistant Professor of Oral Surgery [2009; 2007] (from 09/01/09), Visiting Associate Professor of Oral Surgery [2007] (to 08/31/09)

Colleen Christmas, M.D.
Assistant Professor of Medicine [2000; 1999]

Paul J. Christo, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2001]

Lisa Christopher-Stine, M.D., M.P.H.
Assistant Professor of Medicine [2005; 2003], Assistant Professor of Neurology [2008]

Michael R. Christy, M.D.
Assistant Professor of Plastic Surgery [2004]

Kathryn M. Chu, M.D.
Assistant Professor of Surgery [2007]

Kyo U. Chu, M.D.
Assistant Professor of Surgery [2004]

Daniela Cihakova, M.D., Ph.D.
Assistant Professor of Pathology [2008; 2006]

Oscar Cingolani, M.D.
Assistant Professor of Medicine [2009]

Gregory O. Clark, M.D.
Assistant Professor of Medicine [2005]

John O'Brien Clarke, III, M.D.
Assistant Professor of Medicine [2007]

William Clarke, Ph.D.
Assistant Professor of Pathology [2003; 2002]

Lora L. Clawson, B.S., M.S.N.
Assistant Professor of Neurology [2006; 1998]

Steven Michael Claypool, Ph.D.
Assistant Professor of Physiology [2008]

Sarah L. Clever, M.D.
Assistant Professor of Medicine [2003], Assistant Dean for Student Affairs [2009]

Arthur E. Cocco, M.D.
Assistant Professor of Medicine [1980; 1965]

Ann-Marie Codori, Ph.D.
Assistant Professor of Medical Psychology in the Department of Psychiatry [1994; 1991]

Alan H. Cohen, M.D.
Adjunct Assistant Professor of Pediatrics [2002]

David B. Cohen, M.D., M.P.H.
Assistant Professor of Orthopedic Surgery [1998; 1995]

Gary Irvin Cohen, M.D.
Assistant Professor of Oncology [2001; 1983]

Ronald J. Cohen, M.D.
Assistant Professor of Neurological Surgery [1985; 1980]

Ronald D. Cohn, M.D.
Assistant Professor of Pediatrics in Genetic Medicine [2006], Assistant Professor of Neurology [2006]

Elizabeth Colantuoni, Ph.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2008]

Karan A. Cole, Sc.D.
Assistant Professor of Medicine [1994; 1987]

Stan L. Coleman, M.D.
Assistant Professor of Ophthalmology [1983; 1967]

Joseph Michael Collaco, M.D.
Assistant Professor of Pediatrics [2008]

Mary Louise Z. Collins, M.D.
Assistant Professor of Ophthalmology [2000; 1994]

Alan Coltri, M.S.
Assistant Professor of Health Sciences Informatics [2001]

John D. Conroy, Jr., D.O.
Assistant Professor of Oncology [1998]

Leslie Cope, Ph.D.
Assistant Professor of Oncology [2006; 2004]

Bruce Eugene Copeland, M.D.
Assistant Professor of Radiology [2004]

Robert A. Cordes, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [1974; 1972]

Terri L. Cornelson, M.D.
Assistant Professor of Gynecology and Obstetrics [1998]

Thomas A. Corson, M.D., M.P.H.
Assistant Professor of Medicine [2000; 1993],
Assistant Professor of Pediatrics [1987]

David Peter Cosgrove, M.B.B.Ch.
Assistant Professor of Oncology [2009]

Janelle W. Coughlin, Ph.D.
Assistant Professor of Psychiatry [2008; 2004]

David Cowie, M.D.
Assistant Professor of Psychiatry [1979]

Christiane Sylvia Cox, Ph.D.
Assistant Professor of Neurology [1996]

Raymond L. Cox, Jr., M.D.
Assistant Professor of Gynecology and Obstetrics [1998]

Todd Scott Cox, M.D.
Assistant Professor of Psychiatry [1999]

Victor Crentsil, M.D.
Assistant Professor of Medicine [2008; 2004]

Jude P. Crino, M.D.
Assistant Professor of Gynecology and Obstetrics [2000]

Elizabeth A. Cristofalo, M.D.
Assistant Professor of Pediatrics [2006; 2003]

Michael Crocetti, M.D.
Assistant Professor of Pediatrics [1998]

Jennifer L. Crockett, Ph.D.
Assistant Professor of Psychiatry [2007]

David M. Cromwell, M.D.
Assistant Professor of Medicine [1997; 1995]

Jane Eleanor Crosson, M.D.
Assistant Professor of Pediatrics [1999]

Marcia Cruz-Correa, M.D.
Visiting Assistant Professor of Medicine [2002; 2001]

Robin Cuddy, M.D., M.P.H.
Assistant Professor of Emergency Medicine [2000]

Hengmi Cui, Ph.D.
Assistant Professor of Medicine [2002; 2000]

Salvatore A. D'Anna, M.S.
Assistant Professor of Ophthalmology [1997; 1980]

Alan P. B. Dackiw, M.D., Ph.D.
Assistant Professor of Surgery [2003], Assistant Professor of Oncology [2004]

Gerald J. Dal Pan, M.D.
Assistant Professor of Neurology [1996; 1993]

Darshan Dalal, M.B.B.S., M.P.H.
Assistant Professor of Medicine [2008; 2007]

David F. Dalury, M.D.
Assistant Professor of Orthopedic Surgery [1996; 1992]

Rachel Lynn Damico, M.D., Ph.D.
Assistant Professor of Medicine [2009; 2007]

Stuart R. Dankner, M.D.
Assistant Professor of Ophthalmology [1990]

Sonye Karen Danoff, M.D., Ph.D.
Assistant Professor of Medicine [2005; 2000]

Anil Darbari, M.D.
Assistant Professor of Pediatrics [2001]

Jonathan D. Darer, M.D., M.P.H.
Assistant Professor of Medicine [2002]

Reginald James Davis, M.D.
Assistant Professor of Neurological Surgery [1989]

Ramon De Jesus, M.D.
Assistant Professor of Plastic Surgery [2006; 2003]

Michael R. Deans, Ph.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2008]

Mark Adam Deitch, M.D.
Assistant Professor of Orthopedic Surgery [2001]

Karl Eric DeJonge, M.D.
Assistant Professor of Medicine [1999; 1996]

Valerie Burke DeLeon, Ph.D.
Assistant Professor of Functional Anatomy and Evolution [2006; 2005]

Donald H. Dembo, M.D.
Assistant Professor of Medicine [1992; 19]

Milind Y. Desai, M.B.B.S.
Visiting Assistant Professor of Radiology and Radiological Science [2004]

Niraj M. Desai, M.D.
Assistant Professor of Surgery [2009] (from 09/01/09)

Sanjay Virendra Desai, M.D.
Assistant Professor of Medicine [2007; 2004]

Sharad M. Desai, M.B.B.S.
Assistant Professor of Anesthesiology and Critical Care Medicine [1998]

Cheryl DeScipio, Ph.D.
Assistant Professor of Pathology [2009] (from 09/01/09), Assistant Professor of Gynecology and Obstetrics [2009] (from 09/01/09)

Crystal DeVito, Ph.D.
Assistant Professor of Psychiatry [2009]

Luis A. Diaz, Jr., M.D.
Assistant Professor of Oncology [2005; 2004]

Teresa Del P. Diaz-Montes, M.D., M.P.H.
Assistant Professor of Gynecology and Obstetrics [2006]

Faith B. Dickerson, Ph.D., M.P.H.
Assistant Professor of Psychiatry [2004]

Timm-Michael L. Dickfeld, M.D., Ph.D.
Adjunct Assistant Professor of Medicine [2004]

Karl W. Diehn, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [1982; 1981]

Francesco DiMeco, M.D.
Adjunct Assistant Professor of Neurological Surgery [2005; 2002]

Albena Todorova Dinkova-Kostova, Ph.D.
Assistant Professor of Pharmacology and Molecular Sciences [2006; 2000], Assistant Professor of Medicine [2006]

Sara A. DiVall, M.D.
Assistant Professor of Pediatrics [2008; 2006]

Diana Van Do, M.D.
Assistant Professor of Ophthalmology [2005; 2003]

Danielle J. Doberman, M.D., M.P.H.
Assistant Professor of Medicine [2009]

Rachel Anne Barnes Dodge, M.D., M.P.H.
Assistant Professor of Pediatrics [2009]

Jennifer L. Dodson, M.D.
Assistant Professor of Urology [2008; 2005]

Angelika Doetzlhofer, Ph.D.
Assistant Professor of Neuroscience [2008]

Kimberly Floy Doheny, Ph.D.
Assistant Professor of Pediatrics [1997]

Meg Caroline Doherty, M.D., Ph.D., M.P.H.
Assistant Professor of Medicine [2005]

Jun Dong, M.D., Ph.D.
Adjunct Assistant Professor of Medicine [2007; 2006]

Xinzhong Dong, Ph.D.
Assistant Professor of Neuroscience [2004]

Pamela K. Donohue, M.S.
Assistant Professor of Pediatrics [1996; 1989]

Timothy F. Doran, M.D.
Assistant Professor of Pediatrics [1989; 1985]

Susan dosReis, Ph.D.
Assistant Professor of Psychiatry [2001]

Xavier Dray, Medical Doctoral degree
Adjunct Assistant Professor of Medicine [2009; 2006]

Malcolm S. Druskin, M.D.
Assistant Professor of Medicine [1974]

Wenzhen Duan, M.D., Ph.D.
Assistant Professor of Psychiatry [2006; 2004]

Marc G. Dubin, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2005]

Robert A. Dudas, M.D.
Assistant Professor of Pediatrics [2006]

Sharon Dudley-Brown, Ph.D.
Assistant Professor of Medicine [2007]

Kerry Brandt Dunbar, M.D.
Assistant Professor of Medicine [2008; 2004]

Kimberly Lynn Duncan, Ph.D.
Visiting Assistant Professor of Surgery [1997]

R. Blaine Easley, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2004], Joint Appointment in Pediatrics [2004]

Frank R. Ebert, M.D.
Assistant Professor of Orthopedic Surgery [2003]

Israel S. Eckman, M.D.
Assistant Professor of Dermatology [2000; 1998]

Richard A.E. Edden, Ph.D.
Assistant Professor of Radiology and Radiological Science [2009] (from 09/01/09)

Barish H. Edil, M.D.
Assistant Professor of Surgery [2007; 2006], Assistant Professor of Oncology [2008]

Donald W. Edlow, M.D.
Assistant Professor of Pathology [1976]

Robert R. Edwards, Ph.D.
Adjunct Assistant Professor of Psychiatry [2008; 2004]

David Thomas Efron, M.D.
Assistant Professor of Surgery [2004; 2002], Assistant Professor of Anesthesiology and Critical Care Medicine [2006]

Lawrence D. Egbert, M.D., M.P.H.
Visiting Assistant Professor of Anesthesiology and Critical Care Medicine [2001]

W. Andrew Eglseder, Jr., M.D.
Assistant Professor of Plastic Surgery [1994], Assistant Professor of Orthopedic Surgery [2001]

David Jon Eisner, M.D.
Assistant Professor of Radiology and Radiological Science [1992; 1990]

Harrold T. Elberfeld, M.D.
Assistant Professor of Gynecology and Obstetrics [1975]

Zayd A. Eldadah, M.D., Ph.D.
Adjunct Assistant Professor of Medicine [2004]

Lois J. Eldred, Dr.P.H.
Assistant Professor of Medicine [2007]

John J. Elias, Ph.D.
Assistant Professor of Orthopedic Surgery [2005]

Richard Marcus Ellerkmann, M.D.
Assistant Professor of Gynecology and Obstetrics [2005; 1999]

Richard A. Elliott, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2004]

Michael J. Elman, M.D.
Assistant Professor of Ophthalmology [1954; 1985]

Christopher J. Endres, Ph.D.
Assistant Professor of Radiology and Radiological Science [2003; 1999]

Lilly D. Engineer, Dr.P.H., M.D., M.H.A.
Assistant Professor of Anesthesiology and Critical Care Medicine [2009]

Michael A. Erdek, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2000], Assistant Professor of Oncology [2006]

Gurkan Erkula, M.D.
Assistant Professor of Orthopedic Surgery [2003]

Monique Ernst, M.D., Ph.D.
Visiting Assistant Professor of Psychiatry [1996]

Jesus Esquivel, M.D.
Assistant Professor of Gynecology and Obstetrics [2006]

Louis Kofi Essandoh, M.D.
Assistant Professor of Medicine [1997; 1992]

Michelle Estrella, M.D.
Assistant Professor of Medicine [2007; 2006]

Noriko Esumi, M.D., Ph.D.
Assistant Professor of Ophthalmology [2003; 1997]

Anita Smith Everett, M.D.
Assistant Professor of Psychiatry [2004]

Paul M. Evitts, Ph.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2009]

Andrew J. Ewald, Ph.D.
Assistant Professor of Cell Biology [2008], Assistant Professor of Oncology [2009]

Camellus O. Ezeugwu, M.D.
Assistant Professor of Medicine [2000]

Amanda Nickles Fader, M.D.
Assistant Professor of Gynecology and Obstetrics [2009] (from 09/02/09)

Jeffrey John Fadrowski, M.D.
Assistant Professor of Pediatrics [2005]

Jennifer E. Fairman, M.A.
Assistant Professor of Art as Applied to Medicine [2007; 2006]

Seyed Ali Fatemi, M.D.
Assistant Professor of Neurology [2008], Assistant Professor of Pediatrics [2008]

Henry George Fein, M.D.
Assistant Professor of Medicine [2006]

Andrew G. Feinberg, M.D.
Assistant Professor of Psychiatry [1995; 1985]

Richard L. Feinberg, M.D.
Assistant Professor of Surgery [2008]

Leonard S. Feldman, M.D.
Assistant Professor of Medicine [2006; 2004], Assistant Professor of Pediatrics [2007]

Gregory Fernandopulle, M.B.B.S.
Assistant Professor of Psychiatry [1976; 1974], Lecturer in Pediatrics [2001; 1974]

Jeanne Steman Findlay, R.N., M.N.
Assistant Professor of Dermatology [2008; 2006]

Ira T. Fine, M.D.
Assistant Professor of Medicine [1994; 1982]

Janice Finkelstein, M.D.
Assistant Professor of Pediatrics [1992]

Joseph Finkelstein, M.D., Ph.D.
Assistant Professor of Medicine [2008], Joint Appointment in Health Sciences Informatics [2008]

Mary Jo Fishburn, M.D.
Assistant Professor of Physical Medicine and Rehabilitation [1994; 1989]

Marc Fishman, M.D.
Assistant Professor of Psychiatry [1995; 1993]

Melinda D. Fitting, Ph.D.
Assistant Professor of Medical Psychology in the Department of Psychiatry [1985; 1984]

Craig Anthony Fletcher, D.V.M., Ph.D.
Assistant Professor of Molecular and Comparative Pathobiology [2006; 2005]

Jaime Ivan Flores, M.D.
Assistant Professor of Plastic Surgery [2008; 2005]

Bradley Foerster, M.D.
Assistant Professor of Radiology [2009]

Eric C. Ford, Ph.D.
Assistant Professor of Radiation Oncology and Molecular Radiation Sciences [2005], Assistant Professor of Oncology [2005]

Perry Jay Foreman, M.D., Ph.D.
Assistant Professor of Neurology [2006]

Yolanda M. Fortenberry, Ph.D.
Assistant Professor of Pediatrics [2006], Assistant Professor of Biological Chemistry [2006; 2007]

Patricia D. Fosarelli, M.D.
Assistant Professor of Pediatrics [1983]

David Foster, Ph.D.
Assistant Professor of Neuroscience [2008]

Majid Fotuhi, M.D., Ph.D.
Assistant Professor of Neurology [2003]

Michael R. Fox, M.D.
Assistant Professor of Psychiatry [1980; 1979]

Michelle Candice Fox, M.D., M.P.H.
Assistant Professor of Gynecology and Obstetrics [2009]

Sonia Franco, Ph.D., M.D.
Assistant Professor of Radiation Oncology and Molecular Radiation Sciences [2008], Assistant Professor of Oncology [2008]

Dana H. Frank, M.D.
Assistant Professor of Medicine [1987; 1983]

Wayne A. I. Frederick, M.D.
Adjunct Assistant Professor of Oncology [2007]

Paul D. Freeswick, M.D.
Assistant Professor of Surgery [1999]

Nathaniel Michael Fried, Ph.D.
Adjunct Assistant Professor of Urology [2006; 2000]

Baruch Friedman, M.D.
Assistant Professor of Medicine [2001; 1990]

Melvin M. Friedman, M.D.
Assistant Professor of Orthopedic Surgery [1988; 1977]

Jeffrey P. Froehlich, M.D.
Assistant Professor of Medicine [2009; 2007] (to 08/13/09)

Emily J. Frosch, M.D.
Assistant Professor of Psychiatry [1995; 1993]

Dominique Frueh, Ph.D.
Assistant Professor of Biophysics and Biophysical Chemistry [2010] (from 02/01/10)

Ralph J. Fuchs, M.D., Ph.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2004]

Kathleen Gabrielson, D.V.M., Ph.D.
Assistant Professor of Molecular and Comparative Pathobiology [2002; 2000]

Jyothi Gadde, M.B.B.S.
Assistant Professor of Medicine [1994; 1985]

Giorgio Giovanni Galetto, M.D.
Assistant Professor of Medicine [1996], Joint Appointment in Emergency Medicine [1996]

Gary Louis Gallia, M.D., Ph.D.
Assistant Professor of Neurological Surgery [2008]

Gerard Gallucci, M.D.
Assistant Professor of Psychiatry [1994; 1988]

Samuel M. Galvagno, Jr., D.O.
Assistant Professor of Anesthesiology and Critical Care Medicine [2009] (from 07/14/09)

Charlene E. Gamaldo, M.D.
Assistant Professor of Neurology [2006], Assistant Professor of Medicine [2008; 2006]

Dheeraj Gandhi, M.B.B.S.
Assistant Professor of Radiology [2008], Assistant Professor of Neurological Surgery [2009], Assistant Professor of Neurology [2009]

Peisong Gao, M.D., Ph.D.
Assistant Professor of Medicine [2008; 2005]

Wei Dong Gao, M.D., Ph.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2002]

Juan R. Garcia, M.A.
Assistant Professor of Art as Applied to Medicine [2001; 1997]

Pedro Garcia, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [1986; 1968]

Darryl J. Garfinkel, M.D.
Assistant Professor of Radiology and Radiological Science [1977]

Ira M. Garonzik, M.D.
Assistant Professor of Neurological Surgery [2004; 2003]

John Gartner, Ph.D.
Assistant Professor of Psychiatry [1994; 1993]

Devin Sumner Gary, Ph.D.
Assistant Professor of Neurology [2005]

Luis Andres Garza, M.D., Ph.D.
Assistant Professor of Dermatology [2009]

Brian R. Gastman, M.D.
Assistant Professor of Plastic Surgery [2006]

Susan Lyn Gearhart, M.D.
Assistant Professor of Surgery [2002], Assistant Professor of Oncology [2005]

Duvuru Geetha, M.D.
Assistant Professor of Medicine [2001; 1998]

Clarence W. Gehris, Jr., M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [1976; 1975]

Fouad E. Gellad, M.D.
Assistant Professor of Radiology and Radiological Science [1998]

Thomas Genuit, M.D.
Assistant Professor of Surgery [2004]

Richard T. George, M.D.
Assistant Professor of Medicine [2007]

Christos S. Georgiades, M.D., Ph.D.
Assistant Professor of Radiology [2003]

Kevin B. Gerold, D.O., J.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2002], Joint Appointment in Emergency Medicine [2007]

Khalil G. Ghanem, M.D.
Assistant Professor of Medicine [2004]

Bidyut Ghosh, Ph.D.
Assistant Professor of Surgery [2005; 2001]

Brian K. Gibbs, Ph.D., M.P.A.
Assistant Professor of Medicine [2009], Associate Dean for Diversity and Cultural Competence [2009]

B. Robert Gibson, M.D.
Assistant Professor of Surgery [2007; 2006]

Glen Randall Gibson, M.D.
Assistant Professor of Surgery [2008]

Samuel A. Giday, M.D.
Assistant Professor of Medicine [2007; 2006]

Assaf A. Gilad, Ph.D.
Assistant Professor of Radiology and Radiological Science [2007; 2006]

Jon Tyler Giles, M.D.
Assistant Professor of Medicine [2006; 2005]

Harmindar K. Gill, M.D.
Assistant Professor of Radiology and Radiological Science [2002; 2000]

Maureen Marie Gilmore, M.D.
Assistant Professor of Pediatrics [2001]

Marta Marsh Gilson, Ph.D.
Assistant Professor of Surgery [2007; 2006]

Luis F. Gimenez, M.D.
Assistant Professor of Medicine [1986; 1985]

Mark R. Ginsberg, Ph.D.
Assistant Professor of Psychiatry [1993], Joint Appointment in Medicine [1994]

Peter Girolami, Ph.D.
Assistant Professor of Psychiatry [2007]

Robert L. Giuntoli, II, M.D.
Assistant Professor of Gynecology and Obstetrics [2003], Assistant Professor of Oncology [2004]

Dean Steven Glaros, M.D.
Assistant Professor of Ophthalmology [2003]

Sheldon D. Glass, M.D.
Assistant Professor of Psychiatry [1968]

David B. Glasser, M.D.
Assistant Professor of Ophthalmology [1996]

Sean T. Gloth, M.D.
Assistant Professor of Medicine [1993]

Kristine Glunde, Ph.D.
Assistant Professor of Radiology and Radiological Science [2005; 2004], Instructor in Oncology [2005]

Sheldon M. Glusman, M.D.
Assistant Professor of Pathology [1973]

Fernando S. Goes, M.D.
Assistant Professor of Psychiatry [2008]

Bernadette Cullen Goggins, M.B.B.Ch.
Assistant Professor of Psychiatry [2001] (on leave of absence to 07/06/09)

Xavier Golay, Ph.D.
Assistant Professor of Radiology [2002; 2000]

Harry R. Goldberg, Ph.D.
Assistant Professor of Biomedical Engineering [2002; 2000], Joint Appointment in Health Sciences Informatics [2002], Assistant Dean/Director of the Office of Academic Computing [2001]

Melissa C. Goldberg, Ph.D.
Assistant Professor of Psychiatry [2000]

William Christopher Golden, M.D.
Assistant Professor of Pediatrics [2004; 2001]

Edward J. Goldman, M.D.
Assistant Professor of Ophthalmology [1990]

Judith E. Goldstein, O.D.
Assistant Professor of Ophthalmology [2006], Assistant Professor of Physical Medicine and Rehabilitation [2006]

Mitchell Alan Goldstein, M.D.
Assistant Professor of Pediatrics [2006; 1998]

Andrew C. Goldstone, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [1996]

Harold M. Goll, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [1986; 1985]

Jonathan E. Golub, Ph.D., M.P.H.
Assistant Professor of Medicine [2004; 2002]

Mary P. L. Gomella, M.D.
Assistant Professor of Pediatrics [2001; 1987]

Gary Xin Gong, M.D., Ph.D.
Assistant Professor of Radiology and Radiological Science [2005; 2004]

Marlis Gonzalez-Fernandez, M.D.
Assistant Professor of Physical Medicine and Rehabilitation [2008; 2004]

David W. Goodman, M.D.
Assistant Professor of Psychiatry [1997; 1986]

Amy K. Goodwin, Ph.D.
Assistant Professor of Behavioral Biology in the Department of Psychiatry [2009; 2006]

Amy H. Gordon, M.D.
Assistant Professor of Medicine [1995; 1992]

Rebecca F. Gottesman, M.D., Ph.D.
Assistant Professor of Neurology [2007; 2006]

Aysegul Gozu, M.D., M.P.H.
Assistant Professor of Medicine [2007]

Nancy Grace, Ph.D.
Assistant Professor of Psychiatry [1994; 1993]

Thomas Grader-Beck, M.D.
Assistant Professor of Medicine [2007; 2006]

Marco A. Grados, M.D.
Assistant Professor of Psychiatry [2000; 1996]

David R.M. Graham, Ph.D.
Assistant Professor of Molecular and Comparative Pathobiology [2007], Assistant Professor of Medicine [2007; 2005]

Boris L. Gramatikov, Ph.D.
Assistant Professor of Ophthalmology [2003; 2000]

Michael P. Grant, M.D., Ph.D.
Assistant Professor of Ophthalmology [2002]

Edward S. Gratz, M.D.
Assistant Professor of Neurology [1997]

Warren L. Grayson, Ph.D.
Assistant Professor of Biomedical Engineering [2009] (from 09/01/09)

Isabel C. Green, M.D.
Assistant Professor of Gynecology and Obstetrics [2008]

Jordan J. Green, Ph.D.
Assistant Professor of Biomedical Engineering [2008]

Robert I. Griffiths, Sc.D.
Assistant Professor of Medicine [1993]

Stephen Elliot Grill, M.D., Ph.D.
Assistant Professor of Neurology [2002; 1996]

Cordelia T. Grimm, M.D.
Assistant Professor of Medicine [2006]

Kelly Grogan, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2004]

Lori L. Grover, O.D.
Assistant Professor of Ophthalmology [2007; 2005]

Francis C. Grumbine, M.D.
Assistant Professor of Gynecology and Obstetrics [1980; 1978]

Yun Guan, M.D., Ph.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2006]

Alexander M. Guba, M.D.
Assistant Professor of Plastic Surgery [1982]

Anthony Lawrence Guerrero, Jr., M.D., Ph.D.
Assistant Professor of Pediatrics [2009]

Pamela Ann Guerrero, Ph.D., M.D.
Assistant Professor of Pediatrics [2009]

Sachin K. Gujar, M.B.B.S.
Assistant Professor of Radiology [2008]

Charles S. Gulotta, Ph.D.
Assistant Professor of Behavioral Biology in the
Department of Psychiatry [2003; 1999]

Meral Gunay-Aygun, M.D.
Assistant Professor of Pediatrics [2008]

Amita Gupta, M.D.
Assistant Professor of Medicine [2005; 2003]

Ayse P. Gurses, Ph.D.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2008]

Michael A. Guttman, M.S.E.
Assistant Professor of Biomedical Engineering
[2009] (from 09/01/09)

Patrick K. Ha, M.D.
Assistant Professor of Otolaryngology-Head and
Neck Surgery [2006]

Jennifer Pardo Habashi, M.D.
Assistant Professor of Pediatrics [2006]

Mehran Habibi, M.D.
Assistant Professor of Surgery [2007]

David N. Hager, M.D., M.P.H.
Assistant Professor of Medicine [2009; 2007]

Adil H. Haider, M.D.
Assistant Professor of Surgery [2007; 2006],
Assistant Professor of Anesthesiology and Critical
Care Medicine [2009]

Ann Carol Halbower, M.D.
Adjunct Assistant Professor of Pediatrics [2001]

Marc K. Halushka, M.D., Ph.D.
Assistant Professor of Pathology [2005; 2004]

Abdel-Rahim A. Hamad, Ph.D., D.V.M.
Assistant Professor of Pathology [2003; 2000],
Assistant Professor of Medicine [2005]

James P. Hamilton, M.D.
Assistant Professor of Medicine [2007]

Hans Joerg Hammers, M.D., Ph.D.
Assistant Professor of Oncology [2009]

Dima Hammoud, M.D.
Assistant Professor of Radiology [2003]

Kamal A. Hamod, M.D.
Assistant Professor of Gynecology and Obstetrics
[1980; 1978]

Fayez Mahmoud Hamzeh, M.B.B.S., Ph.D.
Adjunct Assistant Professor of Medicine [2004;
1994]

Sharon Frances Handel, M.D.
Assistant Professor of Psychiatry [2007; 2001]

Christine L. Hann, M.D., Ph.D.
Assistant Professor of Oncology [2008]

Marie N. Hanna, M.B.B.Ch.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2005]

Nadia N. Hansel, M.D., M.P.H.
Assistant Professor of Medicine [2006; 2004]

Annette L. Hanson, M.D.
Assistant Professor of Psychiatry [2001]

Marta Hanson, Ph.D.
Assistant Professor of History of Medicine [2004]

Laura A. Hanyok, M.D.
Assistant Professor of Medicine [2008; 2006]

Uzma Jalal Haque, M.D.
Assistant Professor of Medicine [2003]

Joseph B. Harlan, Jr., M.D.
Assistant Professor of Ophthalmology [2001; 1998]

Allan C. Harrington, M.D.
Assistant Professor of Dermatology [2003; 1995]

Joyce Nolan Harrison, M.D.
Assistant Professor of Psychiatry [2007; 2005]

Katharine Santos Harrison, M.D.
Assistant Professor of Medicine [1998]

Adam Lindsay Hartman, M.D.
Assistant Professor of Neurology [2007], Assistant
Professor of Pediatrics [2007]

Theresa Lynn Hartsell, M.D., Ph.D.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2002]

Waleed A. Hassen, M.D.
Assistant Professor of Urology [2008]

Elliott Richard Haut, M.D.
Assistant Professor of Surgery [2004], Assistant
Professor of Anesthesiology and Critical Care
Medicine [2006]

Jennifer L. Hayashi, M.D.
Assistant Professor of Medicine [2007; 2004]

Allison Gamboa Hays, M.D.
Assistant Professor of Medicine [2009]

Carlton Haywood, Jr., Ph.D.
Assistant Professor of Medicine [2008]

Richard Hazlett, Ph.D.
Assistant Professor of Medical Psychology in the
Department of Psychiatry [1997; 1992]

Jennifer A. Heller, M.D.
Assistant Professor of Surgery [2002]

Janice L. Henderson, M.D.
Assistant Professor of Gynecology and Obstetrics
[2002]

William M. Henderson, D.D.S.
Assistant Professor of Oral Surgery [2005; 2001]

Magdi H.G. Henein, M.B.B.Ch.
Assistant Professor of Orthopedic Surgery [1970]

Charles Alan Henrikson, M.D., M.P.H.
Assistant Professor of Medicine [2005]

Joseph M. Herman, M.D.
Assistant Professor of Radiation Oncology and
Molecular Radiation Sciences [2007; 2005],
Assistant Professor of Oncology [2007; 2005],
Assistant Professor of Surgery [2007]

William Joseph Herring, M.D., Ph.D.
Assistant Professor of Neurology [1999; 1997]

Bruce Hershfield, M.D.
Assistant Professor of Psychiatry [1985; 1980]

Daniel A. Herzka, Ph.D.
Assistant Professor of Biomedical Engineering [2008]

William R. Herzog, Jr., M.D.
Assistant Professor of Medicine [2003]

Kenneth Heyman, M.A.
Adjunct Assistant Professor of Art as Applied to Medicine [2009]

James Patrick Higgins, M.D.
Assistant Professor of Plastic Surgery [2006; 2002]

Hugh F. Hill, III, M.D., J.D.
Assistant Professor of Emergency Medicine [2006; 1997]

Peter M. Hill, M.D.
Assistant Professor of Emergency Medicine [2000; 1998]

Ginette Hinds, M.D.
Assistant Professor of Dermatology [2009]

Howard C. Hines, M.D.
Assistant Professor of Dermatology [1993; 1984]

Endrika L. Hinton, M.D.
Assistant Professor of Gynecology and Obstetrics [1995; 1993]

Richard Y. Hinton, M.D., M.P.H.
Assistant Professor of Orthopedic Surgery [1999]

Kenzo Hirose, M.D.
Assistant Professor of Surgery [2008]

Glenn A. Hirsch, M.D.
Assistant Professor of Medicine [2006; 2004]

Marc J. Hirschbein, M.D.
Assistant Professor of Ophthalmology [2007; 2000]

Ricky Regina Hirschhorn, Ph.D.
Adjunct Assistant Professor of Psychiatry [2004]

Nicola C. Ho, M.D.
Assistant Professor of Pediatrics [2001]

Tony Wei-hsiu Ho, M.D.
Assistant Professor of Neurology [1998; 1997]

Evanne V. Loh Hoehn-Saric, M.D.
Assistant Professor of Psychiatry [1988; 1983]

Robert E. Hoesch, M.D., Ph.D.
Assistant Professor of Neurology [2008]

Beatrice Hoffmann, M.D., Ph.D.
Assistant Professor of Emergency Medicine [2005]

Gerald A. Hofkin, M.D.
Assistant Professor of Medicine [1992; 1991]

Lawrence V. Hofmann, M.D.
Assistant Professor of Radiology [2000]

Christine F. Hohmann, Ph.D.
Assistant Professor of Psychiatry [1990; 1989]

Henry H. Holcomb, M.D.
Assistant Professor of Psychiatry [1998], Assistant Professor of Radiology and Radiological Science [1985]

Kathryn W. Holmes, M.D.
Assistant Professor of Pediatrics [2006]

Susan E. Holmes, Ph.D.
Assistant Professor of Psychiatry [2000; 1999]

Peter A. Holt, M.D.
Assistant Professor of Medicine [1989; 1983]

Charles Chong-Hwa Hong, M.D., Ph.D.
Assistant Professor of Psychiatry [1998]

Kelvin K. Hong, M.B.B.S.
Assistant Professor of Radiology [2004]

Julie Elizabeth Hoover-Fong, M.D.
Assistant Professor of Pediatrics in Genetic Medicine [2002]

Mohammad Obaidul Hoque, Ph.D., D.D.S.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2007; 2006], Assistant Professor of Oncology [2008], Assistant Professor of Urology [2008]

Alena Horska, Ph.D.
Assistant Professor of Radiology and Radiological Science [2000; 1997]

William T. Hosek, M.D.
Assistant Professor of Emergency Medicine [2005; 2001]

Barbara J. Howard, M.D.
Assistant Professor of Pediatrics [1996]

William T. Howard, M.D.
Assistant Professor of Psychiatry [1999]

Randolph Michael Howes, M.D., Ph.D.
Adjunct Assistant Professor of Plastic Surgery [2004]

Wen-son Hsieh, M.D.
Assistant Professor of Oncology [2001]

Yu-Hsiang Hsieh, Ph.D., M.S.
Assistant Professor of Emergency Medicine [1998]

Jeffrey H. Hsu, M.D.
Assistant Professor of Psychiatry [2002; 1999]

Stephanie C. Hsu, M.D., Ph.D.
Adjunct Assistant Professor of Pediatrics [2004]

Matthew Timothy Hueman, M.D.
Assistant Professor of Surgery [2009; 2007]

Nancy Ann Hueppchen, M.D.
Assistant Professor of Gynecology and Obstetrics [1998; 1996]

Carol Ann Huff, M.D.
Assistant Professor of Oncology [2001], Assistant Professor of Medicine [2005]

Mark Thomas Hughes, M.D.
Assistant Professor of Medicine [1997]

Mary Margaret Huizinga, M.D., M.P.H.
Assistant Professor of Medicine [2008]

Ianessa A. Humbert, Ph.D.
Assistant Professor of Physical Medicine and Rehabilitation [2008]

Laura K. Hummers, M.D.
Assistant Professor of Medicine [2005; 2003]

Chien-Fu Hung, Ph.D.
Assistant Professor of Pathology [2003; 2000], Assistant Professor of Gynecology and Obstetrics [2009], Assistant Professor of Oncology [2005]

Marc Wilson Hungerford, M.D.
Assistant Professor of Orthopedic Surgery [1998]

Elizabeth Anne Hunt, M.D., M.P.H.
Assistant Professor of Anesthesiology and Critical Care Medicine [2003], Assistant Professor of Pediatrics [2006]

Wayne P. Hunt, Ed.D.
Assistant Professor of Psychiatry [1999; 1992]

David F. Hutcheon, M.D.
Assistant Professor of Medicine [1979; 1977]

Heidi E. Hutton, Ph.D.
Assistant Professor of Psychiatry [1998; 1993]

Paul M. Hwang, M.D., Ph.D.
Assistant Professor of Medicine [2001]

Iredell W. Iglehart, III, M.D.
Assistant Professor of Medicine [1997; 1988]

Miho Iijima, Ph.D.
Assistant Professor of Cell Biology [2006; 2004]

Peter Bela Illei, M.D.
Assistant Professor of Pathology [2005]

Dwight D. Im, M.D.
Assistant Professor of Gynecology and Obstetrics [1995; 1993] (to 08/31/09)

Thomas V. Inglesby, M.D.
Assistant Professor of Medicine [1999]

Peter C. Innis, M.D.
Assistant Professor of Orthopedic Surgery [1994; 1990]

Takanari Inoue, Ph.D.
Assistant Professor of Cell Biology [2008]

Gillian Raemi Isaac, M.D., Ph.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2009]

Lisa Earnest Ishii, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2007; 2005]

Masaru Ishii, M.D., Ph.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2002]

Stacey Lynn Ishman, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2006; 2005], Assistant Professor of Pediatrics [2008]

Robert Ivkov, Ph.D.
Visiting Assistant Professor of Radiation Oncology and Molecular Radiation Sciences [2008]

Izlem Izbudak, M.D.
Assistant Professor of Radiology [2008; 2006]

Bernard G. Jaar, M.D.
Assistant Professor of Medicine [2003; 2002]

Mahmood Jaber, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2003]

Heather A. Jacene, M.D.
Assistant Professor of Radiology [2006; 2005]

Annette Marie Jackson, Ph.D.
Assistant Professor of Medicine [2006]

Eric V. Jackson, Jr., M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2001]

Lisa K. Jacobs, M.D.
Assistant Professor of Surgery [2004]

Michael A. Jacobs, M.D.
Assistant Professor of Orthopedic Surgery [1993]

Sanjay Jain, M.D.
Assistant Professor of Pediatrics [2006; 2005], Assistant Professor of Radiology [2009] (from 08/01/09)

Sanjay Raj Jain, M.B.B.S., Ph.D.
Adjunct Assistant Professor of Oncology [2009] (from 07/26/09)

Julian Jakobovits, M.B.B.S.
Assistant Professor of Medicine [1996; 1991]

Michael J. James, D.O.
Assistant Professor of Anesthesiology and Critical Care Medicine [2008; 2007]

Roxanne M. Jamshidi, M.D.
Assistant Professor of Gynecology and Obstetrics [2004; 2002]

Yoon-Young Jang, M.D., Ph.D.
Assistant Professor of Oncology [2008; 2005]

Niraj D. Jani, M.D.
Assistant Professor of Medicine [2008]

John Sheppard Jeffreys, Ed.D.
Assistant Professor of Psychiatry [2000; 1988]

Jennifer Lee Jenkins, M.D.
Assistant Professor of Emergency Medicine [2007; 2006]

Jacky M. Jennings, Ph.D., M.P.H.
Assistant Professor of Pediatrics [2007; 2006]

Riyaz H. Jinnah, M.B.B.Ch.
Assistant Professor of Orthopedic Surgery [1986]

Hylton Victor Joffe, M.D.
Assistant Professor of Medicine [2008; 2006]

Amballur David John, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2003; 2002]

Matthew W. Johnson, Ph.D.
Assistant Professor of Psychiatry [2009; 2007]

Pamela Tecce Johnson, M.D.
Assistant Professor of Radiology [1954]

Sara B. Johnson, Ph.D., M.P.H.
Assistant Professor of Pediatrics [2007]

Sheree M. Johnson, Ph.D.
Visiting Assistant Professor of Pediatrics [2008]

Timothy S. Johnson, M.D.
Assistant Professor of Orthopedic Surgery [2005; 2002]

Wallace Robert Johnson, Jr., M.D.
Visiting Assistant Professor of Medicine [2001]

Deirdre M. Johnston, M.B.B.Ch.
Assistant Professor of Psychiatry [2005]

Peter V. Johnston, M.D.
Assistant Professor of Medicine [2008]

Catherine H. Jones, M.D., Ph.D.
Assistant Professor of Pediatrics [2004]

Steven R. Jones, M.D.
Visiting Assistant Professor of Medicine [2008]

Lori Chaffin Jordan, M.D.
Assistant Professor of Neurology [2008; 2007],
Assistant Professor of Pediatrics [2008; 2007]

Christophe C. Jouny, Ph.D.
Assistant Professor of Neurology [2008; 2003]

Juan M. Juanteguy, M.D.
Assistant Professor of Surgery [1981; 1980]

Rosalyn Anne Juergens, M.D.
Assistant Professor of Oncology [2007], Assistant
Professor of Medicine [2009] (from 08/01/09)

Julianna Jung, M.D.
Assistant Professor of Emergency Medicine [2007;
2002]

Aaron N. Juni, Ph.D.
Assistant Professor of Physical Medicine and
Rehabilitation [2009] (from 09/08/09)

David W. Kaczka, M.D.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2004], Assistant Professor of
Biomedical Engineering [2004]

David R. Kafonek, M.D.
Assistant Professor of Medicine [1988; 1986]

SungWoo Kahng, Ph.D.
Assistant Professor of Psychiatry [2001]

Mihoko Kai, Ph.D.
Assistant Professor of Radiation Oncology and
Molecular Radiation Sciences [2008], Assistant
Professor of Oncology [2008]

Theodore H. Kaiser, M.D.
Assistant Professor of Psychiatry [1967], Assistant
Professor of Pediatrics [1967]

Anthony Kam, M.D., Ph.D.
Assistant Professor of Radiology and Radiological
Science [2008]

Barbara J. Kaminski, Ph.D.
Assistant Professor of Behavioral Biology in the
Department of Psychiatry [1993; 1992]

Atsushi Kamiya, Ph.D., M.D.
Assistant Professor of Psychiatry [2008; 2007]

Melinda E. Kantsiper, M.D.
Assistant Professor of Medicine [2009; 2004]

Luke I. Kao, M.D.
Assistant Professor of Neurology [1976; 1975]

Adam Ian Kaplin, M.D., Ph.D.
Assistant Professor of Psychiatry [2001; 2000],
Assistant Professor of Neurology [2006]

Bill G. Kapogiannis, M.D.
Assistant Professor of Pediatrics [2009]

Petros C. Karakousis, M.D.
Assistant Professor of Medicine [2005]

Baktiar O. Karim, D.V.M., Ph.D.
Assistant Professor of Molecular and Comparative
Pathobiology [2007; 2006]

Wikrom W. Karnsakul, M.D.
Assistant Professor of Pediatrics [2008]

Yvette L. Kasamon, M.D.
Assistant Professor of Oncology [2005], Assistant
Professor of Medicine [2005]

Matthew Lewis Kashima, M.D.
Assistant Professor of Otolaryngology-Head and
Neck Surgery [2001]

Elizabeth Kastelic, M.D.
Assistant Professor of Psychiatry [2004; 2001]

Wendy G. Kates, Ph.D.
Assistant Professor of Psychiatry [1993; 1990]

Sudhir Kathuria, M.D.
Assistant Professor of Radiology and Radiological
Science [2008]

Yoshinori Kato, Ph.D.
Assistant Professor of Radiology [2008; 2006]

Laura S.R. Katta, M.B.B.S.
Assistant Professor of Gynecology and Obstetrics
[1979]

Eugene Katz, M.D.
Assistant Professor of Gynecology and Obstetrics
[2006]

Rebecca A. Kazin, M.D.
Assistant Professor of Dermatology [2005]

Khaled M. Kebaish, M.B.B.Ch.
Assistant Professor of Orthopedic Surgery [2000;
1999]

Jeffrey Renn Keefer, M.D., Ph.D.
Assistant Professor of Pediatrics [2005; 2003]

Jean M. Keller, B.S.
Assistant Professor of Gynecology and Obstetrics
[2008; 1993]

Newton E. Kendig, M.D.
Assistant Professor of Medicine [1999; 1991]

Hayden O. Kepley, Ph.D.
Assistant Professor of Psychiatry [2006]

Candace L. Kerr, Ph.D.
Assistant Professor of Gynecology and Obstetrics
[2008; 2003]

Jeanne Couturier Keruly, M.S.
Assistant Professor of Medicine [2005; 1998]

Sanjay C. Keswani, M.B.B.S.
Adjunct Assistant Professor of Neurology [2003]

Marwan R. Khalifeh, M.D.
Assistant Professor of Plastic Surgery [2008;
2006]

Saeed R. Khan, Ph.D.
Adjunct Assistant Professor of Oncology [2008;
1999], Adjunct Assistant Professor of Radiology
[2008; 2005]

Akhil Jay Khanna, M.D.
Assistant Professor of Orthopedic Surgery [2004],
Assistant Professor of Biomedical Engineering
[2007]

Harpal S. Khanuja, M.D.
Assistant Professor of Orthopedic Surgery [2001;
2000]

Ron Khazan, M.D.
Assistant Professor of Radiology and Radiological
Science [1991; 1989] (on leave of absence)

Victor A. Khouzami, M.D.
Assistant Professor of Gynecology and Obstetrics [1986; 1979]

Ramesh K. Khurana, M.B.B.S.
Assistant Professor of Neurology [1995]

Earl D.R. Kidwell, Jr., M.D.
Assistant Professor of Ophthalmology [1980; 1978]

Hyun (Kevin) S. Kim, M.D.
Assistant Professor of Radiology and Radiological Science [2001; 1999]

Jean Kim, M.D., Ph.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [1996; 1995], Assistant Professor of Medicine [1996; 1995]

Matthew I. Kim, M.D.
Assistant Professor of Medicine [2003; 2002] (to 10/15/09), Joint Appointment in Health Sciences Informatics [2003] (to 10/15/09)

Young Choo Kim, M.D.
Assistant Professor of Radiology and Radiological Science [1979; 1971]

Young Jun Kim, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2005], Assistant Professor of Oncology [2009] (from 08/01/09)

Mark King, M.D.
Assistant Professor of Emergency Medicine [2000]

Tracy Meicha King, M.D.
Assistant Professor of Pediatrics [2005; 2004]

Arnold S. Kirshenbaum, M.D.
Assistant Professor of Pediatrics [1990]

Flora N. Kisuule, M.D.
Assistant Professor of Medicine [2007; 2004]

Mitchell Klapper, M.D.
Assistant Professor of Dermatology [1992]

Alison Patricia Klein, Ph.D.
Assistant Professor of Oncology [2004], Assistant Professor of Pathology [2004]

Jonathan Tzvi Klein, M.D.
Assistant Professor of Medicine [1994]

Lawrence E. Klein, M.D.
Assistant Professor of Medicine [1981; 1980]

Amy M. Knight, M.D.
Assistant Professor of Medicine [2003; 2000]

Thomas W. Koenig, M.D.
Assistant Professor of Psychiatry [1996; 1994], Associate Dean for Student Affairs [2004]

Richard J. Kolker, M.D.
Assistant Professor of Ophthalmology [1986; 2004]

Marian Kollarik, M.D.
Assistant Professor of Medicine [2007; 2004]

Lisa A. Kolp, M.D.
Assistant Professor of Gynecology and Obstetrics [2001; 1999]

Scott Lee Kominsky, Ph.D.
Assistant Professor of Orthopedic Surgery [2003], Assistant Professor of Oncology [2003]

Theda C. Kontis, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [1999; 1992]

Frederick K. Korley, M.D.
Assistant Professor of Emergency Medicine [2007]

Kathleen Bechtold Kortte, Ph.D.
Assistant Professor of Physical Medicine and Rehabilitation [2003]

Eric H.W. Kossoff, M.D.
Assistant Professor of Neurology [2002], Assistant Professor of Pediatrics [2002]

Sabine Kost-Byerly, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2001; 2000]

Ayman A. Koteish, M.D.
Assistant Professor of Medicine [2004; 2003]

Olga N. Kovbasnjuk, Ph.D.
Assistant Professor of Medicine [2000; 1999]

Nicholas A. Kozauer, M.D.
Assistant Professor of Psychiatry [2007]

Brian Gustav Kral, M.D., M.P.H.
Assistant Professor of Medicine [2009]

Steven J. Kravet, M.D., M.B.A.
Assistant Professor of Medicine [2001; 1995]

Robert Kimball Kritzler, M.D.
Assistant Professor of Pediatrics [2007]

Alfred Kronthal, M.D.
Assistant Professor of Ophthalmology [1993]

Esther I. Krug, M.D.
Assistant Professor of Medicine [2005]

Pawel Kudela, Ph.D.
Assistant Professor of Neurology [2008; 2003]

Ricky C. Kue, M.D.
Assistant Professor of Emergency Medicine [2008; 2007]

Kanupriya A. Kumar, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2009] (from 08/10/09)

Patricia F. Kurtz, Ph.D.
Assistant Professor of Psychiatry [1996; 1993]

Hiroto Kuwabara, M.D., Ph.D.
Assistant Professor of Radiology and Radiological Science [2005; 2003]

John H. Kwon, M.D., Ph.D.
Assistant Professor of Medicine [2004]

Michael J. Labellarte, M.D.
Assistant Professor of Psychiatry [1997; 1996]

Scott E. LaBorwit, M.D.
Assistant Professor of Ophthalmology [1999; 1998]

Aaron LacKamp, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2009]

John Gregory Ladas, M.D., Ph.D.
Assistant Professor of Ophthalmology [2001; 2000]

Hong Lai, M.P.H., Ph.D.
Assistant Professor of Radiology [2008], Assistant Professor of Ophthalmology [2001]

Gyanu Lamichhane, Ph.D.
Assistant Professor of Medicine [2006]

Thomas F. Lansdale, III, M.D.
Assistant Professor of Medicine [1997; 1994]

Michael Edward Lantz, M.D.
Assistant Professor of Gynecology and Obstetrics [1995]

Sophie M. Lanzkron, M.D.
Assistant Professor of Medicine [2000], Assistant Professor of Oncology [2000]

Justine Julia Larson, Ph.D.
Assistant Professor of Psychiatry [2007]

Gregory Latham, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2009] (to 08/16/09)

Asad Latif, M.B.B.S.
Assistant Professor of Anesthesiology and Critical Care Medicine [2008] (on leave of absence 08/13/09-08/17/09)

Bryan Lau, Ph.D.
Assistant Professor of Medicine [2006; 2004]

Maren R. Laughlin, Ph.D.
Adjunct Assistant Professor of Radiology and Radiological Science [2008]

Josh David Lauring, M.D., Ph.D.
Assistant Professor of Oncology [2008]

Bennett Lavenstein, M.D.
Assistant Professor of Neurology [1997]

Paul A. Law, M.D., M.P.H.
Assistant Professor of Pediatrics [2006]

Cathleen Escallon Lawson, M.S.
Assistant Professor of Gynecology and Obstetrics [2006; 1994]

Shari Martin Lawson, M.D.
Assistant Professor of Gynecology and Obstetrics [2008]

Mark G. Lazarev, M.D.
Assistant Professor of Medicine [2009] (from 08/01/09)

Dung Thi Le, M.D.
Assistant Professor of Oncology [2009; 2007]

William Leahy, M.D.
Assistant Professor of Neurology [1978]

Noah Lechtzin, M.D., M.H.S.
Assistant Professor of Medicine [2001], Assistant Professor of Neurology [2003]

Henry Alexander Leder, M.D.
Assistant Professor of Ophthalmology [2009; 2008]

Benjamin H. Lee, M.D., M.P.H.
Assistant Professor of Anesthesiology and Critical Care Medicine [2002]

Carlton K. K. Lee, Pharm.D., M.P.H.
Assistant Professor of Pediatrics [1995; 1992]

Hochang Benjamin Lee, M.D.
Assistant Professor of Psychiatry [2003]

Jai Sung Lee, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2004]

Judy Mon-Hwa Lee, M.D., M.P.H.
Assistant Professor of Gynecology and Obstetrics [2003; 2000]

Linda A. Lee, M.D.
Assistant Professor of Medicine [1995; 1994]

Maria Teresa Lee, M.D.
Assistant Professor of Pathology [2008; 2002]

Melissa Ann Lee, M.D.
Assistant Professor of Psychiatry [2005; 2000]

Michelle Kim Leff, M.D.
Adjunct Assistant Professor of Psychiatry [2005; 1996]

Susan W. Lehmann, M.D.
Assistant Professor of Psychiatry [1992; 1989]

Gregory K. Lehne, Ph.D.
Assistant Professor of Medical Psychology in the Department of Psychiatry [1983]

Mesfin A. Lemma, M.D.
Assistant Professor of Orthopedic Surgery [2003; 2002]

Sean Xiao Leng, M.D., Ph.D.
Assistant Professor of Medicine [2003; 2002]

Mary L. O'Connor Leppert, M.B.B.Ch.
Assistant Professor of Pediatrics [2000; 1995]

Eric Benjamin Levey, M.D.
Assistant Professor of Pediatrics [2003; 1999]

Scott Ryan Levin, M.D.
Assistant Professor of Emergency Medicine [2008]

Rachel B. Levine, M.D.
Assistant Professor of Medicine [2004]

Stuart M. Levine, M.D.
Assistant Professor of Medicine [2004; 2003]

Dale R. Levitz, M.S.
Adjunct Assistant Professor of Art as Applied to Medicine [1999; 1976]

Howard Philip Levy, M.D., Ph.D.
Assistant Professor of Medicine [2000]

Amy Feldman LeWanda, M.D.
Assistant Professor of Pediatrics [1994]

John Lewin, III, Pharm.D.
Adjunct Assistant Professor of Anesthesiology and Critical Care Medicine [2006]

Qing Kay Li, M.D., Ph.D.
Assistant Professor of Pathology [2006]

Tong Li, Ph.D.
Assistant Professor of Pathology [2008; 2002]

Xuhang Li, Ph.D.
Assistant Professor of Medicine [2004; 2002]

Zhiping Li, M.D.
Assistant Professor of Medicine [2004; 2003]

Horace K. Liang, M.D.
Assistant Professor of Emergency Medicine [1990; 1987]

Samuel M. Libber, M.D.
Assistant Professor of Pediatrics [1985; 1983]

Bernard Liberman, Ph.D.
Assistant Professor of Medical Psychology in the Department of Psychiatry [1970; 1968]

Anne O. Lidor, M.D.
Assistant Professor of Surgery [2004; 2003]

Nanette J. Liegeois-Kwon, M.D., Ph.D.
Assistant Professor of Dermatology [2003] (to 09/30/09), Assistant Professor of Oncology [2009], Assistant Professor of Otolaryngology-Head and Neck Surgery [2005], Assistant Professor of Plastic Surgery [2007]

Scott David Lifchez, M.D.
Assistant Professor of Plastic Surgery [2006]

Noah I. Lightman, M.D.
Assistant Professor of Radiology and Radiological Science [1975]

Michael Lim, M.D.
Assistant Professor of Neurological Surgery [2007], Assistant Professor of Oncology [2007]

Vanessa Limawararut, M.D.
Assistant Professor of Ophthalmology [2007]

Susan Lee Limb, M.D.
Assistant Professor of Medicine [2006]

Doris D.M. Lin, M.D., Ph.D.
Assistant Professor of Radiology [2003; 2002]

Li Lin, Ph.D.
Adjunct Assistant Professor of Medicine [2000]

Steven E. Lindauer, Ph.D.
Assistant Professor of Psychiatry [2005]

Nikeea Copeland Linder, Ph.D.
Assistant Professor of Pediatrics [2007]

Shari Miura Ling, M.D.
Assistant Professor of Medicine [1996]

John Timothy Little, M.D.
Adjunct Assistant Professor of Psychiatry [2006; 1999]

Gordon S. Livingston, M.D.
Assistant Professor of Psychiatry [1976; 1974]

Thomas E. Lloyd, M.D., Ph.D.
Assistant Professor of Neurology [2008]

Heather Virginia Lochner, M.D.
Assistant Professor of Orthopaedic Surgery [2009]

Charles F.S. Locke, M.D.
Assistant Professor of Medicine [2000; 1998]

Paula J. Lockhart, M.D.
Assistant Professor of Psychiatry [1995; 1991]

Martin Anthony Lodge, Ph.D.
Assistant Professor of Radiology and Radiological Science [2006]

David M. Loeb, M.D., Ph.D.
Assistant Professor of Oncology [2001; 2000], Assistant Professor of Pediatrics [2001; 2000]

Joseph S. Lombardo, M.S.
Assistant Professor of Health Sciences Informatics [2009]

Andrew London, M.D.
Assistant Professor of Gynecology and Obstetrics [2003; 1978]

J. Craig Longenecker, M.D., M.P.H.
Assistant Professor of Medicine [1999; 1998]

Gilberto de Lima Lopes, Jr., M.D.
Assistant Professor of Oncology [2007]

Tamara Levin Lotan, M.D.
Assistant Professor of Pathology [2008]

Meredith Buonanno Loveless, M.D.
Assistant Professor of Gynecology and Obstetrics [2006; 2004], Assistant Professor of Pediatrics [2006]

Marc Lowen, M.D.
Assistant Professor of Gynecology and Obstetrics [1993; 1983]

Nancy Ryan Lowitt, M.D.
Assistant Professor of Medicine [1997; 1994]

Lisa H. Lubomski, Ph.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2005]

Ronald W. Luethke, M.D.
Assistant Professor of Plastic Surgery [1992; 1990]

Andreas R.J. Luft, M.D.
Adjunct Assistant Professor of Neurology [2004]

Jun Luo, Ph.D.
Assistant Professor of Urology [2002], Assistant Professor of Oncology [2007]

Shawn E. Lupold, Ph.D.
Assistant Professor of Urology [2005], Assistant Professor of Oncology [2009]

Thomas Lynch, M.B.B.Ch.
Assistant Professor of Psychiatry [1986; 1962]

Loralie D. Ma, M.D., Ph.D.
Adjunct Assistant Professor of Radiology [2006]

Steven R. Machlin, M.D.
Assistant Professor of Psychiatry [2004]

Crystal L. Mackall, M.D.
Assistant Professor of Oncology [1998], Assistant Professor of Pediatrics [1998]

David H. Madoff, M.D., Ph.D.
Assistant Professor of Medicine [1997]

Gustavo H.B. Maegawa, M.D.
Assistant Professor of Pediatrics in Genetic Medicine [2009]

Ronald H. Magarick, Ph.D.
Assistant Professor of Gynecology and Obstetrics [1986; 1979]

Jeffrey Lance Magaziner, M.D.
Assistant Professor of Medicine [2001; 1997]

Priscilla Magno, M.D.
Adjunct Assistant Professor of Medicine [2007; 2006]

Gina M. Magyar-Russell, Ph.D.
Adjunct Assistant Professor of Psychiatry [2009; 2007]

Christine Lan Mai, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2009] (from 08/01/09)

Mohammad Maisami, M.D.
Assistant Professor of Psychiatry [1978], Assistant Professor of Pediatrics [1978]

Mahmoud B. Malas, M.D.
Assistant Professor of Surgery [2005]

Andrew L. Mammen, M.D., Ph.D.
Assistant Professor of Neurology [2007], Assistant Professor of Medicine [2009]

Michele Ann Manahan, M.D.
Assistant Professor of Plastic Surgery [2007]

Steven F. Mandell, M.S.
Assistant Professor of Health Sciences Informatics [2001]

Allen S. Mandir, M.D., Ph.D.
Assistant Professor of Neurology [1999; 1998]

Lisa L. Maragakis, M.D.
Assistant Professor of Medicine [2004]

Christopher M. Marano, M.D.
Assistant Professor of Psychiatry [2008]

Arik V. Marcell, M.D., M.P.H.
Assistant Professor of Pediatrics [2006]

Mohamed K. Mardini, M.D.
Assistant Professor of Pediatrics [1986]

Zoltan Mari, M.D.
Assistant Professor of Neurology [2006]

Spyridon S. Marinopoulos, M.D., M.B.A.
Assistant Professor of Medicine [2002; 2001]

Nicholas Marsh-Armstrong, Ph.D.
Assistant Professor of Neuroscience [2001], Joint Appointment in Ophthalmology [2005]

Don Richard Martin, M.D.
Assistant Professor of Medicine [1994; 1992]

L. David Martin, M.D.
Assistant Professor of Medicine [2007; 2003]

Neil Alexander Martinson, M.B.B.Ch., M.P.H.
Assistant Professor of Medicine [2006; 2002]

Shanthi Marur, M.B.B.S.
Assistant Professor of Oncology [2009; 2007] (from 09/01/09), Instructor in Oncology [2007] (to 08/31/09)

Richard P. Marvel, M.D.
Assistant Professor of Gynecology and Obstetrics [2004]

Andrea Slotkoff Marx, M.D.
Assistant Professor of Medicine [1999; 1998]

Barry S. Marx, M.D.
Assistant Professor of Pediatrics [1998; 1985]

Stephen C. Mathai, M.D., M.H.S.
Assistant Professor of Medicine [2009; 2008] (from 08/01/09), Instructor in Medicine [2008] (to 07/31/09)

Debra JH Mathews, Ph.D.
Assistant Professor of Pediatrics [2006]

Rasika Ann Mathias, Sc.D.
Assistant Professor of Medicine [2009]

Vineesh Mathur, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2009; 2005]

Pamela Mathy, Ph.D.
Assistant Professor of Psychiatry [2008]

Brian Richard Matlaga, M.D.
Assistant Professor of Urology [2006]

Rebecca E. Matsakis, M.D.
Assistant Professor of Pediatrics [1984; 1983]

Alan K. Matsumoto, M.D.
Assistant Professor of Medicine [1993]

Koichiro Matsuo, D.D.S.
Adjunct Assistant Professor of Physical Medicine and Rehabilitation [2008; 2005]

Leslie S. Matthews, M.D.
Assistant Professor of Orthopedic Surgery [1981]

Robert Samuel Mayer, M.D.
Assistant Professor of Physical Medicine and Rehabilitation [2007]

Susan A. Mayer, M.D.
Assistant Professor of Medicine [2004]

Andrew R. Mayrer, M.D.
Assistant Professor of Medicine [1984]

Reza Mazhari, Ph.D.
Adjunct Assistant Professor of Medicine [2003; 2002]

Teri Metcalf McCambridge, M.D.
Assistant Professor of Pediatrics [2003; 2000]

Robert Emmett McCarthy, III, M.D.
Assistant Professor of Medicine [1998]

Jeanne M. McCauley, M.D., M.P.H.
Assistant Professor of Medicine [1997]

Michael E. McCollum, M.D.
Assistant Professor of Gynecology and Obstetrics [1997]

Meredith Christine McCormack, M.D., M.H.S.
Assistant Professor of Medicine [2009; 2008]

Susan Sifford McDermott, M.D.
Assistant Professor of Neurology [2002]

Michael A. McDevitt, M.D., Ph.D.
Assistant Professor of Medicine [2002], Assistant Professor of Oncology [2006]

John F. McDyer, M.D.
Assistant Professor of Medicine [2000]

Henry F. McFarland, M.D.
Assistant Professor of Neurology [1973]

Bernard M. McGibbon, M.B.B.S.
Assistant Professor of Plastic Surgery [1971]

Brian M. McGinley, M.D.
Assistant Professor of Pediatrics [2006]

Laura Young McGirt, M.D.
Assistant Professor of Dermatology [2009] (from 07/13/09)

Marsden McGuire, M.D.
Assistant Professor of Psychiatry [1997; 1993]

Maura J. McGuire, M.D.
Assistant Professor of Medicine [1994; 1989]

Joseph D. McInerney, M.S.
Visiting Assistant Professor of Pediatrics [2000]

Robin McKenzie, M.D.
Assistant Professor of Medicine [1997]

Anne B. McKusick, M.D.
Assistant Professor of Medicine [1969; 1953]

Rhondalyn C. McLean, M.D.
Assistant Professor of Medicine [2008]

Gabrielle Lynn McLemore, Ph.D.
Adjunct Assistant Professor of Pediatrics [2004; 2002]

Michael T. McMahon, Ph.D.
Assistant Professor of Radiology [2006; 2003]

Matthew K. McNabney, M.D.
Assistant Professor of Medicine [1998]

Todd R. McNutt, Ph.D.
Assistant Professor of Radiation Oncology and Molecular Radiation Sciences [2005], Assistant Professor of Oncology [2005]

Simon C. Mears, M.D., Ph.D.
Assistant Professor of Orthopedic Surgery [2003]

Alan K. Meeker, Ph.D.
Assistant Professor of Pathology [2005], Assistant Professor of Oncology [2009], Assistant Professor of Urology [2005]

Mollie K. Meffert, M.D., Ph.D.
Assistant Professor of Biological Chemistry [2004], Assistant Professor of Neuroscience [2004]

Sherif M. Meleka, M.B.B.Ch.
Assistant Professor of Neurological Surgery [1995; 1993]

Elizabeth Pynadath Menachery, M.D.
Assistant Professor of Medicine [2006; 2001]

Pedro Alejandro Mendez-Tellez, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2000], Assistant Professor of Surgery [2001]

Avedis Meneshian, M.D.
Assistant Professor of Surgery [2009]

Christian A. Merlo, M.D., M.P.H.
Assistant Professor of Medicine [2006; 2004]

James H. Mersey, M.D.
Assistant Professor of Medicine [1994; 1977]

John O. Meyerhoff, M.D.
Assistant Professor of Medicine [1996]

Jon Hamilton Meyerle, M.D.
Assistant Professor of Dermatology [2006; 2005]

Caren L. Freel Meyers, Ph.D.
Assistant Professor of Pharmacology and Molecular Sciences [2005], Assistant Professor of Oncology [2009]

Theresa M. Michele, M.D.
Assistant Professor of Medicine [2004]

Erin Donnelly Michos, M.D.
Assistant Professor of Medicine [2008; 2007]

Hubert S. Mickel, M.D.
Assistant Professor of Emergency Medicine [1995]

Michelle M. Mielke, Ph.D.
Assistant Professor of Psychiatry [2007; 2006]

Americo Aniello Migliaccio, Ph.D.
Adjunct Assistant Professor of Otolaryngology-Head and Neck Surgery [2008; 2004], Adjunct Assistant Professor of Biomedical Engineering [2008; 2006]

Lorraine A. Milio, M.D.
Assistant Professor of Gynecology and Obstetrics [1996]

Julie Marie Miller, M.D.
Assistant Professor of Medicine [1999]

Leslie R. Miller, M.D.
Assistant Professor of Psychiatry [2008]

Susan R. Miller, Sc.D.
Assistant Professor of Gynecology and Obstetrics [2009]

Katherine Miller-Bass, M.D.
Assistant Professor of Gynecology and Obstetrics [1991]

Michael G. Millin, M.D., M.P.H.
Assistant Professor of Emergency Medicine [2006; 2004]

Aaron Michael Milstone, M.D.
Assistant Professor of Pediatrics [2007]

John S. Minkowski, M.D.
Assistant Professor of Ophthalmology [1985; 1984]

Nanhi R. Mitter, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2009]

Scott H. Mittman, M.D., Ph.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [1996; 1994]

Abhay Moghekar, M.B.B.S.
Assistant Professor of Neurology [2008; 2006]

Alison Rae Moliterno, M.D.
Assistant Professor of Medicine [1976]

Mark Mollenhauer, M.D.
Assistant Professor of Psychiatry [1996; 1994]

Brian E. Mondell, M.D.
Assistant Professor of Neurology [1985]

Anna T. Monias, M.D.
Assistant Professor of Medicine [2007]

Michael B. Monias, M.D.
Assistant Professor of Gynecology and Obstetrics [1975]

Constance L. Monitto, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [1996; 1993]

David J. Monroe, M.D.
Assistant Professor of Pediatrics [2000]

Richard J. Montali, D.V.M.
Assistant Professor of Molecular and Comparative Pathobiology [1971; 1970]

Eric T. Moolchan, M.D.
Visiting Assistant Professor of Pediatrics [2001; 2000]

Chulso Moon, M.D., Ph.D.
Adjunct Assistant Professor of Otolaryngology-Head and Neck Surgery [2008; 2001]

Margaret R. Moon, M.D., M.P.H.
Assistant Professor of Pediatrics [2004]

Graham Mooney, Ph.D.
Assistant Professor of History of Medicine [2006; 2003] (on leave of absence to 08/31/09)

G. William Moore, M.D., Ph.D.
Adjunct Assistant Professor of Pathology [1997]

Athir Morad, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2009; 2008]

Basil S. Morgan, M.D.
Assistant Professor of Ophthalmology [1985; 1982]

Yuriko Mori, M.D., Ph.D.
Assistant Professor of Medicine [2006]

Patrice Jean-Luc Morin, Ph.D.
Adjunct Assistant Professor of Pathology [2006; 1998]

Brett Michael Morrison, M.D., Ph.D.
Assistant Professor of Neurology [2007; 2006]

Ali Moshirfar, M.D.
Assistant Professor of Orthopedic Surgery [2004]

Nathan Moskowitz, M.D., Ph.D.
Assistant Professor of Neurological Surgery [1992; 1990]

James O. Mudd, M.D.
Assistant Professor of Medicine [2008]

Girish S. Munavalli, M.D.
Assistant Professor of Dermatology [1988]

Cynthia Shelton Munro, Ph.D.
Assistant Professor of Medical Psychology in the Department of Psychiatry [2002; 2000]

Beth Brianna Murinson, M.D., Ph.D.
Assistant Professor of Neurology [2002]

Jamie D. Murphy, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2008; 2007]

Michael S. Murphy, M.D.
Assistant Professor of Orthopedic Surgery [2003; 1995]

Donna I. Myers, M.D.
Assistant Professor of Medicine [1980; 1977]

Elliott Howard Myrowitz, O.D., M.P.H.
Assistant Professor of Ophthalmology [2002; 1998]

Neal Jamison Naff, M.D.
Assistant Professor of Neurological Surgery [1998; 1997]

Samer S. Najjar, M.D.
Assistant Professor of Medicine [2000]

Jason W. Nascone, M.D.
Assistant Professor of Orthopedic Surgery [2005]

Hind Nassar, M.D.
Assistant Professor of Pathology [2007]

Tariq Ali Nayfeh, Ph.D., M.D.
Assistant Professor of Orthopedic Surgery [2006]

Saman Nazarian, M.D.
Assistant Professor of Medicine [2007]

Donna Maria Neale, M.D.
Assistant Professor of Gynecology and Obstetrics [2005]

Dale M. Needham, M.D., Ph.D.
Assistant Professor of Medicine [2006; 2003], Assistant Professor of Physical Medicine and Rehabilitation [2008]

Kristen L. Nelson, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2007], Assistant Professor of Pediatrics [2007]

Dionissios Neofytos, M.D., M.P.H.
Assistant Professor of Medicine [2009]

Enid R. Neptune, M.D.
Assistant Professor of Medicine [2003; 2000]

Dale M. Netski, Ph.D.
Adjunct Assistant Professor of Medicine [2007; 2001]

David Neubauer, M.D.
Assistant Professor of Psychiatry [1986; 1985]

Philip R. Neubauer, M.D.
Assistant Professor of Orthopaedic Surgery [2009; 2008] (from 09/01/09)

Karin Jane Neufeld, M.D., M.P.H.
Assistant Professor of Psychiatry [1996]

Mary M. Newman, M.D.
Assistant Professor of Medicine [1992; 1984]

David Edward Newman-Toker, M.D.
Assistant Professor of Neurology [2002], Joint Appointment in Emergency Medicine [2006], Joint Appointment in Health Sciences Informatics [2002], Joint Appointment in Ophthalmology [2002], Assistant Professor of Otolaryngology-Head and Neck Surgery [2002]

Julie R. Newman-Toker, M.D.
Assistant Professor of Psychiatry [2004]

Geoffrey C. Nguyen, M.D., Ph.D.
Adjunct Assistant Professor of Medicine [2007]

Hien Tan Nguyen, M.D.
Assistant Professor of Surgery [2009; 2008]

Thai Tran Nguyen, M.D., Ph.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2005; 2003]

Theresa T.H. Nguyen, M.D.
Assistant Professor of Pediatrics [2003; 2000]

Thien T. Nguyen, M.D., Ph.D.
Assistant Professor of Neurology [2005]

William A. Niermann, M.D.
Assistant Professor of Pediatrics [1967; 1958]

Jack E. Nissim, M.D.
Assistant Professor of Medicine [1997; 1978]

Hany R. Nosir, M.D.
Adjunct Assistant Professor of Physical Medicine and Rehabilitation [2007]

Emmanuel Nchinda Nsah, M.D.
Assistant Professor of Medicine [1998]

Frederick Nucifora, Jr., D.O., Ph.D.
Assistant Professor of Psychiatry [2008]

Eric Nuermberger, M.D.
Assistant Professor of Medicine [2003; 2000]

Gary W. Nyman, M.D.
Assistant Professor of Psychiatry [1974]

Paul Nyquist, M.D.
Assistant Professor of Neurology [2004], Assistant Professor of Anesthesiology and Critical Care Medicine [2004]

Julia T. O'Connor, Ph.D.
Assistant Professor of Behavioral Biology in the Department of Psychiatry [2003; 1995]

Naomi P. O'Grady, M.D.
Assistant Professor of Medicine [2004]

Thomas P. O'Toole, M.D.
Adjunct Assistant Professor of Psychiatry [2003]

Lale E. Odekon, Ph.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2007]

Mathias Oelke, Ph.D.
Assistant Professor of Pathology [2004; 2003]

C. Jean Ogborn, M.D.
Assistant Professor of Pediatrics [1993; 1991]

Thomas J. Oglesby, M.D.
Assistant Professor of Psychiatry [1992]

Esther S. Oh, M.D.
Assistant Professor of Medicine [2008; 2005], Instructor in Pathology [2005], Joint Appointment in Psychiatry [2009]

Shinji Ohara, M.D., Ph.D.
Adjunct Assistant Professor of Neurological Surgery [2006; 2002]

Kenichi Oishi, M.D.
Assistant Professor of Radiology and Radiological Science [2009; 2008]

Sande Okelo, M.D.
Assistant Professor of Pediatrics [2003]

Patrick I. Okolo, III, M.B.B.S., M.P.H.
Assistant Professor of Medicine [2001]

Yngvild Olsen, M.D., M.P.H.
Assistant Professor of Medicine [2004]

Tola Omotosho, M.D.
Assistant Professor of Gynecology and Obstetrics [2009] (from 09/01/09)

Patrick Onyango, Ph.D.
Assistant Professor of Medicine [2004; 2003]

Chiadi U. Onyike, M.D.
Assistant Professor of Psychiatry [2004; 2002]

Joseph C. Orlando, M.D.
Assistant Professor of Plastic Surgery [1983; 1982], Assistant Professor of Physical Medicine and Rehabilitation [1983]

Diane Julie Orliinsky, M.D.
Assistant Professor of Dermatology [2000; 1998], Assistant Professor of Medicine [2004]

Peggy R. Orr, M.P.H.
Assistant Professor of Ophthalmology [2002; 1995]

Eduardo Ortiz, M.D., M.P.H.
Visiting Assistant Professor of Health Sciences Informatics [2003]

Cynthia S. Osborne, M.S.W.
Assistant Professor of Psychiatry [2001; 2000]

Greg M. Osgood, M.D.
Assistant Professor of Orthopaedic Surgery [2009] (from 08/15/09)

Ronald Ouwerkerk, Ph.D.
Assistant Professor of Radiology and Radiological Science [2003; 1998]

Elba M. Pacheco, M.D.
Assistant Professor of Ophthalmology [1992; 1989]

Theodosia Paclawskyj, Ph.D.
Assistant Professor of Psychiatry [2003; 2001]

Kathleen R. Page, M.D.
Assistant Professor of Medicine [2008; 2006]

Sara Isabel Pai, M.D., Ph.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2007], Assistant Professor of Oncology [2009] (from 08/01/09)

Sara Palmer, Ph.D.
Assistant Professor of Physical Medicine and Rehabilitation [1999]

Xiaowu Pang, Ph.D.
Adjunct Assistant Professor of Otolaryngology-Head and Neck Surgery [2007]

Louis M. Panlilio, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2004]

Susan R. Panny, M.D.
Assistant Professor of Pediatrics [1997; 1981]

Maryland Pao, M.D.
Assistant Professor of Psychiatry [1993]

Nazareno Paolucci, M.D., Ph.D.
Assistant Professor of Medicine [2002]

Alexander Papangelou, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2009; 2008]

Shruti Makarand Paranjape, M.D.
Assistant Professor of Pediatrics [2005]

Anand K. Parekh, M.D., M.P.H.
Adjunct Assistant Professor of Medicine [2005]

Choon Myong Park, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [1979; 1978]

EunMi Park, Ed.D.
Assistant Professor of Medicine [2005]

Nicole M. Parrish, Ph.D.
Assistant Professor of Pathology [2002; 2001]

Cameron F. Parsa, M.D.
Assistant Professor of Ophthalmology [2000; 1997] (to 12/31/09)

Michael John Parsons, Ph.D.
Assistant Professor of Surgery [2004]

Leonard M. Parver, M.D.
Assistant Professor of Ophthalmology [1985]

Catherine Passaretti, M.D.
Assistant Professor of Medicine [2008]

Manisha J. Patel, M.D.
Assistant Professor of Dermatology [2008; 2007]

Arvind P. Pathak, Ph.D.
Assistant Professor of Radiology and Radiological Science [2005; 2004], Assistant Professor of Oncology [2005]

Susheel P. Patil, M.D., M.P.H.
Assistant Professor of Medicine [2008; 2004]

Scott Mitchell Paul, M.D.
Adjunct Assistant Professor of Biomedical Engineering [2009]

Jennifer Payne, M.D.
Assistant Professor of Psychiatry [2003]

Aldo T. Paz-Guevara, M.D.
Assistant Professor of Medicine [1996; 1975]

Ido Paz-Priel, M.D.
Assistant Professor of Oncology [2008; 2005]

Craig Douglas Peacock, Ph.D.
Assistant Professor of Oncology [2008; 2006]

Kimberly S. Peairs, M.D.
Assistant Professor of Medicine [1997; 1996]

Richard N. Peeler, M.D.
Assistant Professor of Medicine [1977; 1955]

Jessica M. Peirce, Ph.D.
Assistant Professor of Psychiatry [2004; 2000]

Cathy A. Pelletier, Ph.D.
Assistant Professor of Physical Medicine and Rehabilitation [2008]

Joseph V. Pergolizzi, Jr., M.D.
Adjunct Assistant Professor of Medicine [2000]

Myria Petrou, M.B.B.Ch.
Assistant Professor of Radiology and Radiological Science [2008]

Michelle A. Petrovic, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2007]

Mark F. Peyrot, Ph.D.
Assistant Professor of Medicine [1997; 1988]

Dzung L. Pham, Ph.D.
Assistant Professor of Radiology [2002]

Julius Cuong Pham, M.D.
Assistant Professor of Emergency Medicine [2005], Assistant Professor of Anesthesiology and Critical Care Medicine [2004]

Daniel L. Picard, M.D.
Assistant Professor of Surgery [1994]

Joseph P. Pillion, Ph.D.
Assistant Professor of Physical Medicine and Rehabilitation [2001]

Sally Mae Pinkstaff, M.D., Ph.D.
Assistant Professor of Medicine [2005; 2004]

Mark F. Pittenger, Ph.D.
Adjunct Assistant Professor of Medicine [2007; 2005]

Rohan Varuna Piyasena, M.D.
Assistant Professor of Radiology [2009; 2008]

Christopher Vine Plowe, M.D., M.P.H.
Assistant Professor of Medicine [1995]

Michelle A. Poirier, M.D., Ph.D.
Assistant Professor of Psychiatry [2004; 2001]

Gregory S. Pokrywka, M.D.
Assistant Professor of Medicine [2005]

Albert J. Polito, M.D.
Assistant Professor of Medicine [1997]

Sarah Polk, M.D.
Assistant Professor of Pediatrics [2007]

Andrew N. Pollak, M.D.
Assistant Professor of Orthopedic Surgery [2005; 1996]

Joel L. Pomerantz, Ph.D.
Assistant Professor of Biological Chemistry [2004]

Gregory M. Pontone, M.D.
Assistant Professor of Psychiatry [2008]

James K. Porterfield, M.D.
Assistant Professor of Medicine [1987]

Thomas Pozefsky, M.D.
Assistant Professor of Medicine [1970]

Kalpna Rao Prakasa, M.B.B.S.
Assistant Professor of Medicine [2007]

Nijaguna B. Prasad, Ph.D.
Assistant Professor of Surgery [2008; 2005]

Keith W. Pratz, M.D.
Assistant Professor of Oncology [2009]

Gregory P. Prokopowicz, M.D., M.P.H.
Assistant Professor of Medicine [1997]

Elizabeth W. Pugh, Ph.D., M.P.H.
Assistant Professor of Pediatrics [1999]

Pere Puigserver, Ph.D.
Visiting Assistant Professor of Cell Biology [2006; 2002]

Michael J. Purtell, M.D., Ph.D.
Assistant Professor of Oncology [2004; 1985]

Aliaksei Pustavoitau, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2008; 2007]

Hans Adrian Puttgen, M.D.
Assistant Professor of Neurology [2009; 2008], Assistant Professor of Anesthesiology and Critical Care Medicine [2009]

Katherine Brown Puttgen, M.D.
Assistant Professor of Dermatology [2008; 2007]

Rehan Qayyum, M.B.B.S.
Assistant Professor of Medicine [2006]

Feng Qian, Ph.D.
Assistant Professor of Medicine [2002; 1995]

Jiang Qian, Ph.D.
Assistant Professor of Ophthalmology [2003; 2002], Assistant Professor of Oncology [2008]

Sandra D. Quartner, M.D.
Assistant Professor of Gynecology and Obstetrics [1981]

William S. Queale, M.D.
Assistant Professor of Medicine [2001]

Patricia M. Quigley, M.D.
Assistant Professor of Pediatrics [1994]

Bruce A. Rabin, M.D., Ph.D.
Assistant Professor of Neurology [1996; 1994]

Shervin Rabizadeh, M.D.
Adjunct Assistant Professor of Pediatrics [2008]

Ariel N. Rad, M.D., Ph.D.
Assistant Professor of Surgery [2009]

Lewis Joseph Radonovich, M.D.
Adjunct Assistant Professor of Medicine [2004]

Martin G. Radvany, M.D.
Assistant Professor of Radiology [2009]

Arman Rahmim, Ph.D.
Assistant Professor of Radiology and Radiological Science [2005]

Rudrajit M. Rai, M.D.
Assistant Professor of Medicine [2007]

Saras Ramanathan, M.D.
Assistant Professor of Ophthalmology [2003]

Jessica C. Ramella-Roman, Ph.D.
Adjunct Assistant Professor of Medicine [2008]

Oscar M. Ramirez, M.D.
Assistant Professor of Plastic Surgery [1987; 1984]

Pradeep Ramulu, M.D., Ph.D.
Assistant Professor of Ophthalmology [2007]

Padmini D. Ranasinghe, M.B.B.S., M.P.H.
Assistant Professor of Medicine [2007; 2006]

Harry G. Randall, M.D.
Assistant Professor of Ophthalmology [1982; 1966]

Srinivas S. Rao, D.V.M., Ph.D.
Adjunct Assistant Professor of Molecular and Comparative Pathobiology [2007]

Darius A. Rastegar, M.D.
Assistant Professor of Medicine [1998]

Neda Ratanawongsa, M.D., M.P.H.
Assistant Professor of Medicine [2007]

Elizabeth Ratchford, M.D.
Assistant Professor of Medicine [2007]

Roman E. Ratych, M.D.
Assistant Professor of Surgery [1985; 1984]

William J. Ravekes, M.D.
Assistant Professor of Pediatrics [2000]

Rajani K. Ravi, Ph.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2008], Assistant Professor of Oncology [2002; 1998]

Mark J. Reader, Ph.D.
Assistant Professor of Medical Psychology in the Department of Psychiatry [1988; 1987]

Sarah A.J. Reading, M.D.
Assistant Professor of Psychiatry [2004; 2002]

Lauri E. Reamer, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2004; 2001]

Karen L. Reddy, Ph.D.
Assistant Professor of Biological Chemistry [2009]

Graham W. Redgrave, M.D.
Assistant Professor of Psychiatry [2006; 2003]

Stephanie L. Reel, M.B.A., B.S.
Assistant Professor of Health Sciences Informatics [2003]

Linda Regan, M.D.
Assistant Professor of Emergency Medicine [2007]

Douglas David Reh, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2007]

Daniel Salo Reich, M.D., Ph.D.
Adjunct Assistant Professor of Neurology [2009] (from 08/01/09), Adjunct Assistant Professor of Radiology [2009] (from 08/01/09)

Ruben Reider, M.D.
Assistant Professor of Medicine [2000]

Thomas Reifsnnyder, M.D.
Assistant Professor of Surgery [2006]

Maura Reinblatt, M.D.
Assistant Professor of Plastic Surgery [2008]

Shauna Pencer Reinblatt, M.D.
Assistant Professor of Psychiatry [2006]

Megan Elizabeth Reller, M.D., M.P.H.
Assistant Professor of Pathology [2007]

Baltazar Reynafarje, M.D., Ph.D.
Visiting Assistant Professor of Biological Chemistry [1986; 1979]

Steven J. Reynolds, M.D.C.M., M.P.H.
Assistant Professor of Medicine [2003]

Marcia Ribeiro, M.D.
Assistant Professor of Neurology [2000; 1998]

John Jeremy Rice, Ph.D.
Adjunct Assistant Professor of Biomedical Engineering [2001]

Elisabeth G. Richard, M.D.
Assistant Professor of Dermatology [2009] (from 09/21/09)

Rafael Mayo Richards, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2009], Assistant Professor of Anesthesiology and Critical Care Medicine [2009]

Gina S. Richman, Ph.D.
Assistant Professor of Psychiatry [1990; 1987]

Jeremy D. Richmon, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2008; 20]

Ronald C. Richter, M.D.
Assistant Professor of Ophthalmology [1986; 1982]

Stefan Riedel, M.D., Ph.D.
Assistant Professor of Pathology [2007]

Kristin A. Riekert, Ph.D.
Assistant Professor of Medicine [2006; 2003]

Reed D. Riley, M.D.
Assistant Professor of Medicine [1999; 1996]

Sheryl L. Rimrodt, M.D.
Assistant Professor of Pediatrics [2006; 2005]

Vivian Rismondo-Stankovich, M.D.
Assistant Professor of Ophthalmology [2000]

Eva Katharina Ritzl, M.D.
Assistant Professor of Neurology [2003]

Juan J. Rivera, M.D.
Assistant Professor of Medicine [2009]

Paul R. Rivkin, M.D.
Assistant Professor of Psychiatry [1998]

Paul E. Roberts, M.D.
Assistant Professor of Psychiatry [1985]

Hector A. Robles, M.D., M.P.H.
Assistant Professor of Radiology and Radiological Science [1999]

Jose M. Rodriguez-Paz, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2006]

John F. Rogers, M.D.
Assistant Professor of Medicine [1984]

Glen Stanley Roseborough, M.D.
Assistant Professor of Surgery [2000]

Jason D. Rosenberg, M.D.
Assistant Professor of Neurology [2006; 2003]

Paul B. Rosenberg, M.D.
Assistant Professor of Psychiatry [2003]

Jo Ann Rosenfeld, M.D.
Assistant Professor of Medicine [2000]

Ariella M. Rosengard, M.D.
Adjunct Assistant Professor of Pathology [1999; 1994]

Richard R. Rosenthal, M.D.
Assistant Professor of Medicine [1975; 1973]

Mark I. Rossberg, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [1997; 1996]

Judith P. Rossiter, M.D.
Assistant Professor of Gynecology and Obstetrics [1994]

Gedge David Rosson, M.D.
Assistant Professor of Plastic Surgery [2005; 2004]

David M. Roth, Ph.D.
Assistant Professor of Medical Psychology in the Department of Psychiatry [1980]

Kate Rothko, M.D.
Adjunct Assistant Professor of Pathology [1989; 1987]

Wilma A. Rowe, M.D.
Adjunct Assistant Professor of Medicine [2004]

Anastasia Rowland-Seymour, M.D.
Assistant Professor of Medicine [2007]

Cindy N. Roy, Ph.D.
Assistant Professor of Medicine [2007]

James Rubenstein, M.D.
Assistant Professor of Neurology [2007; 2001],
Instructor in Pediatrics [2001]

Michelle A. Rudek, Ph.D., Pharm.D.
Assistant Professor of Oncology [2003; 2001]

Dobriła D. Rudnicki, Ph.D.
Assistant Professor of Psychiatry [2009; 2006]

Jeffrey A. Rumbaugh, M.D., Ph.D.
Assistant Professor of Neurology [2004] (to 10/31/09)

Walter L. Rush, M.D.
Assistant Professor of Dermatology [2005]

John D. Rybock, M.D.
Assistant Professor of Neurological Surgery [1979; 1977], Assistant Dean and Compliance Officer for Graduate Medical Education [2004]

Janice Ryden, M.D.
Assistant Professor of Medicine [1996; 1992]

Sarven Sabuncuyan, Ph.D.
Assistant Professor of Pediatrics [2009; 2007]

K. George Sachariah, M.D.
Assistant Professor of Radiology and Radiological Science [1981; 1980]

Cristina L. Sadowsky, M.D.
Assistant Professor of Physical Medicine and Rehabilitation [2005]

Neal T. Sakima, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [1991; 1989]

Rachel Marie E. Salas, M.D.
Assistant Professor of Neurology [2008], Assistant Professor of Medicine [2008]

Betty Jo Salmeron, M.D.
Adjunct Assistant Professor of Psychiatry [2006]

Cynthia F. Salorio, Ph.D.
Assistant Professor of Physical Medicine and Rehabilitation [2005; 2002]

Donald I. Saltzman, M.D.
Assistant Professor of Orthopedic Surgery [1990; 1974]

John B. Sampson, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2004]

Jack F. Samuels, Ph.D.
Assistant Professor of Psychiatry [1997; 1991]

Quincy Miles Samus, Ph.D.
Assistant Professor of Psychiatry [2008; 2007]

Devin Douglas Sanders, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2005]

Alvin M. Sanico, M.D.
Assistant Professor of Medicine [1999; 1998]

Christine A. Sannerud, Ph.D.
Assistant Professor of Behavioral Biology in the Department of Psychiatry [1990; 1988]

Antonio Santillan-Gomez, M.D., M.B.A.
Assistant Professor of Gynecology and Obstetrics [2007]

Patricia B. Santora, Ph.D.
Assistant Professor of Psychiatry [1996; 1992]

M. Catherine Sargent, M.D.
Assistant Professor of Orthopedic Surgery [2005] (to 08/31/09)

Maryam Sattari, M.D.
Assistant Professor of Medicine [2008]

William Jacob Savage, M.D.
Assistant Professor of Pathology [2009]

Joseph Mark Savitt, M.D., Ph.D.
Assistant Professor of Neurology [2003]

Alena V. Savonenko, Ph.D., M.D.
Assistant Professor of Pathology [2006; 2001],
Assistant Professor of Neurology [2008]

John C. Scatarige, M.D.
Assistant Professor of Radiology [2000]

John A. Schaefer, M.S.
Assistant Professor of Medicine [1994]

Allen H. Schaeffer, M.D.
Assistant Professor of Medicine [1989]

Edward M. Schaeffer, M.D., Ph.D.
Assistant Professor of Urology [2007], Assistant
Professor of Oncology [2009]

Stephen Schatz, M.D.
Assistant Professor of Urology [2009] (from
09/01/09)

Janet Nagel Scheel, M.D.
Assistant Professor of Pediatrics [1999]

Adam J. Schiavi, M.D., Ph.D.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2009; 2008]

Michael W. Schlund, Ph.D.
Assistant Professor of Psychiatry [2001]

Hartmut Schneider, M.D., Ph.D.
Assistant Professor of Medicine [2005; 2001]

Karen Schneider, M.D.
Assistant Professor of Pediatrics [2006; 2002]

Christine R. Schneyer, M.D.
Assistant Professor of Medicine [1990; 1988]

Miguel Antonio Schoen, Ph.D.
Assistant Professor of Art as Applied to Medicine
[2000; 1998]

Richard T. Scholz, M.D.
Assistant Professor of Ophthalmology [1987; 1984]

Lew C. Schon, M.D.
Assistant Professor of Orthopedic Surgery [2003],
Assistant Professor of Biomedical Engineering
[2009]

Steven A. Schonfeld, M.D.
Assistant Professor of Medicine [1982]

Robert K. Schreter, M.D.
Assistant Professor of Psychiatry [1981; 1978]

Pamela Rose Schroeder, M.D., Ph.D.
Assistant Professor of Medicine [2009; 2006]

Michael C. Schubert, Ph.D.
Assistant Professor of Otolaryngology-Head and
Neck Surgery [2005; 2004]

Clarence G. Schulz, M.D.
Assistant Professor of Psychiatry [1975; 1966]

Thomas G. Schulze, M.D.
Adjunct Assistant Professor of Psychiatry [2009]

Gail F. Schwartz, M.D.
Assistant Professor of Ophthalmology [2000;
1996]

Jamie McElrath Schwartz, M.D.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2005]

Joseph M. Schwartz, M.D.
Assistant Professor of Psychiatry [1997; 1995]

Michael K. Schwartz, D.D.S.
Assistant Professor of Oral Surgery [1985]

Steven J. Schwartz, M.D.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2008; 2007], Assistant Professor
of Surgery [2009]

Deborah A. Schwengel, M.D.
Assistant Professor of Anesthesiology and Critical
Care Medicine [1994; 1992]

Marcus Francesco Sciadini, M.D.
Assistant Professor of Orthopedic Surgery [2005]

Daniel M. Sciubba, M.D.
Assistant Professor of Neurological Surgery
[2009], Assistant Professor of Oncology [2009],
Assistant Professor of Orthopaedic Surgery [2009]

Diana G. Scorpio, D.V.M.
Assistant Professor of Molecular and Comparative
Pathobiology [2005; 2003]

Adrienne Williams Scott, M.D.
Assistant Professor of Ophthalmology [2008]

Thomas W. Sedlak, Jr., M.D., Ph.D.
Assistant Professor of Psychiatry [2006]

Keith A. Segalman, M.D.
Assistant Professor of Orthopedic Surgery [1994]

Gerami D. Seitzman, M.D.
Assistant Professor of Ophthalmology [2005]

Florin Marian Selaru, M.D.
Assistant Professor of Medicine [2009]

Stuart E. Selonick, M.D.
Assistant Professor of Medicine [1981; 1980],
Assistant Professor of Oncology [1983]

Jyoti Misra Sen, Ph.D., M.Sc.
Adjunct Assistant Professor of Medicine [2006]

Philip Seo, M.D.
Assistant Professor of Medicine [2005; 2000]

Jehuda P. Sepkuty, M.D.
Adjunct Assistant Professor of Neurology [2007;
1998]

Victor L. Serebruany, M.D., Ph.D.
Adjunct Assistant Professor of Neurology [2006]

Jean-Michel Serfaty, M.D.
Visiting Assistant Professor of Radiology [2002]

Hiromi Sesaki, Ph.D.
Assistant Professor of Cell Biology [2006; 2002]

Jonathan E. Sevransky, M.D.
Assistant Professor of Medicine [2002; 1999]

Catherine Angela Sewell, M.D.
Assistant Professor of Gynecology and Obstetrics
[2007]

Janel D. Sexton, Ph.D.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2006]

Tariq Shafi, M.B.B.S.
Assistant Professor of Medicine [2009; 2008]

Ashish S. Shah, M.D.
Assistant Professor of Cardiac Surgery [2005]

Michael Joseph Shablott, Ph.D.
Assistant Professor of Neurology [2008]

Punita T. Sharma, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2005; 2002]

Susan J. Shaw, M.D., Ph.D.
Adjunct Assistant Professor of Neurology [2009]

Joanne E. Shay, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2004]

Wen Shen, M.D., M.P.H.
Assistant Professor of Gynecology and Obstetrics [2005; 2002]

James Christopher Shepherd, M.D., Ph.D.
Adjunct Assistant Professor of Medicine [2005]

Michael E. Sherlock, M.D.
Assistant Professor of Pediatrics [1983; 1976]

Steven H. Sherman, M.D.
Assistant Professor of Ophthalmology [1986; 1984]

John Timothy Sherwood, M.D.
Assistant Professor of Surgery [2005]

Mary Sheu, M.D.
Assistant Professor of Dermatology [2009; 2007]

Nicole Ann Shilkofski, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2007], Assistant Professor of Pediatrics [2007]

Eun Ji Shin, M.D.
Assistant Professor of Medicine [2009; 2008]

Robert B. Shochet, M.D.
Assistant Professor of Medicine [1994]

Lillie Shockney, M.A.S., B.S., R.N.
University Distinguished Service Assistant Professor of Breast Cancer in the Department of Surgery [2007; 2006], Assistant Professor of Gynecology and Obstetrics [2007]

Ronald N. Shore, M.D.
Assistant Professor of Dermatology [1978]

Charles I. Shubin, M.D.
Assistant Professor of Pediatrics [1971; 1969]

Yin Yao Shugart, Ph.D.
Assistant Professor of Pediatrics [1999]

Marshall G. Hussain Shuler, Ph.D.
Assistant Professor of Neuroscience [2008]

George Kelly Siberry, M.D.
Assistant Professor of Pediatrics [2003]

Erica M.S. Sibinga, M.D.
Assistant Professor of Pediatrics [2004; 2000]

Venkataramana K. Sidhaye, M.D.
Assistant Professor of Medicine [2009; 2006]

Ann N. Sieber, M.S.
Assistant Professor of Orthopedic Surgery [2000; 1998]

Andrew W. Siegel, Ph.D., J.D.
Assistant Professor of Gynecology and Obstetrics [2003]

Everett R. Siegel, M.D.
Assistant Professor of Psychiatry [1994; 1986]

Ulgan I. Sila, M.D.
Assistant Professor of Pediatrics [1970; 1966]

Glenn M. Silber, M.D.
Assistant Professor of Pediatrics [1987]

Harry A. Silber, M.D., Ph.D.
Assistant Professor of Medicine [2000]

Janet M. Siliciano, Ph.D.
Assistant Professor of Medicine [2005; 1998]

Ronald Paul Silverman, M.D.
Assistant Professor of Plastic Surgery [2000]

Oliver P. Simmons, M.D.
Assistant Professor of Plastic Surgery [2006]

Eva Simmons-O'Brien, M.D.
Assistant Professor of Dermatology [1994; 1993], Assistant Professor of Medicine [1994; 1993]

Lisa Simonson, M.D.
Assistant Professor of Medicine [1996; 1993]

Crystal F. Simpson, M.D.
Assistant Professor of Medicine [2003], Assistant Dean for Student Affairs [2004]

Alon Sinai, Ph.D.
Adjunct Assistant Professor of Neurology [2008]

Andrew Lawrence Singer, M.D., Ph.D.
Assistant Professor of Surgery [2008; 2006]

H. Rosy Singh, M.D.
Assistant Professor of Radiology and Radiological Science [1992]

Navin Singh, M.D.
Assistant Professor of Plastic Surgery [2001; 1999], Assistant Professor of Gynecology and Obstetrics [2006], Assistant Professor of Neurological Surgery [2006]

Rameet Singh, M.D.
Assistant Professor of Gynecology and Obstetrics [2005; 2003]

Sonal Singh, M.B.B.S., M.P.H.
Assistant Professor of Medicine [2009]

Debasish Sinha, Ph.D.
Assistant Professor of Ophthalmology [2001]

Gita Sinha, M.D., M.P.H.
Assistant Professor of Medicine [2008; 2007]

Sunil Kumar Sinha, M.D.
Assistant Professor of Medicine [2005]

Lynne Ann Skaryak, M.D.
Assistant Professor of Surgery [2003]

Margaret Leigh Skinner, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2008]

Mary D. Skinner, M.D.
Assistant Professor of Medicine [1977]

Richard Leroy Skolasky, Jr., M.A.
Assistant Professor of Orthopedic Surgery [2004]

Sheri Slezak, M.D.
Assistant Professor of Plastic Surgery [1989; 1988]

Peter Jeffrey Sloane, M.D.
Assistant Professor of Medicine [1998; 1994]

Martin Konrad Slodzinski, M.D., Ph.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2002]

Beth S. Slomine, Ph.D.
Assistant Professor of Medical Psychology in the Department of Psychiatry [2000; 1997]

Christopher L. Smith, M.D.
Assistant Professor of Radiology [2007; 2006]

David P. Smith, M.D.
Assistant Professor of Radiology and Radiological Science [1994; 1991]

Jeffrey M. Smith, M.D., M.P.H.
Assistant Professor of Gynecology and Obstetrics [1996; 1994] (on leave of absence to 09/30/09)

Seth A. Smith, Ph.D.
Assistant Professor of Radiology and Radiological Science [2009; 2008]

Stephen R. Smith, M.D.
Assistant Professor of Medicine [1982; 1981]

Wanli Smith, Ph.D.
Assistant Professor of Psychiatry [2006; 2005]

Constance L. Smith-Hicks, M.D., Ph.D.
Assistant Professor of Neurology [2008; 2006]

Tracey L. Smith-Stierer, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [1995; 1993]

Claire Snyder, Ph.D.
Assistant Professor of Medicine [2005], Assistant Professor of Oncology [2005]

Janet M. Soeffing, M.D.
Assistant Professor of Medicine [2007]

Steven F. Solga, M.D.
Visiting Assistant Professor of Medicine [2007; 2004]

Steven J. Sollott, M.D.
Assistant Professor of Medicine [1992]

Barry Scott Solomon, M.D., M.P.H.
Assistant Professor of Pediatrics [2002]

Clifford T. Solomon, M.D.
Assistant Professor of Neurological Surgery [1999; 1992]

David Solomon, M.D., Ph.D.
Assistant Professor of Neurology [2004], Assistant Professor of Otolaryngology-Head and Neck Surgery [2004]

Sharon D. Solomon, M.D.
Assistant Professor of Ophthalmology [2002; 2000], Occupying the Katherine Graham Professorship in Ophthalmology

Danny Y. Song, M.D.
Assistant Professor of Radiation Oncology and Molecular Radiation Sciences [2004], Assistant Professor of Oncology [2004], Assistant Professor of Urology [2004]

Christine Chia-Chi Soong, M.D.
Assistant Professor of Medicine [2009; 2007]

Gabriel Soudry, M.D.
Assistant Professor of Radiology and Radiological Science [2008]

Philippe Alain Soyer, M.D.
Assistant Professor of Radiology and Radiological Science [1995]

Lisa A. Spacek, M.D., Ph.D.
Assistant Professor of Medicine [2004]

Christopher John Sperati, M.D.
Assistant Professor of Medicine [2007]

Melissa Riedy Spevak, M.D.
Assistant Professor of Radiology and Radiological Science [1995]

Ethan J. Spiegler, M.D.
Assistant Professor of Radiology and Radiological Science [1993; 1990], Instructor in Medicine [1991]

David Douglass Spragg, M.D.
Assistant Professor of Medicine [2006]

Sharmila Srireddy, M.S., M.A.
Assistant Professor (Audiology & Speech) of Otolaryngology-Head and Neck Surgery [2000; 1997]

Janet F. Staab, Ph.D.
Assistant Professor of Medicine [2008]

Simona Stager, Ph.D.
Assistant Professor of Pharmacology and Molecular Sciences [2005]

Heather Maureen Starmer, M.A.
Assistant Professor (Audiology & Speech) of Otolaryngology-Head and Neck Surgery [2009; 2006]

Joseph William Stauffer, D.O.
Assistant Professor of Anesthesiology and Critical Care Medicine [2005]

P. Zoe Stavri, Ph.D.
Visiting Assistant Professor of Health Sciences Informatics [2001]

Duncan Scott Stearns, M.D.
Adjunct Assistant Professor of Pathology [2008]

Joshua Daniel Stearns, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2006]

Cynthia D. Steele, M.P.H.
Assistant Professor of Psychiatry [2005; 1989]

Kimberly Eden Steele, M.D.
Assistant Professor of Surgery [2007; 2005]

David H. Stein, M.D., M.P.H.
Assistant Professor of Dermatology [1995; 1992]

Martin Irwin Steinberg, M.D.
Assistant Professor of Psychiatry [1997; 1996]

Steven Jeffrey Steinberg, Ph.D.
Assistant Professor of Neurology [2003; 2000]

Claudia A. Steiner, M.D., M.P.H.
Assistant Professor of Medicine [1994]

Laura Marie Sterni, M.D.
Assistant Professor of Pediatrics [1996]

Kent A. Stevens, M.D.
Assistant Professor of Surgery [2008]

Rosalyn W. Stewart, M.D., M.S.
Assistant Professor of Medicine [2004]

William M. Stiers, Ph.D.
Assistant Professor of Physical Medicine and Rehabilitation [2005]

Monique F. Stins, Ph.D.
Assistant Professor of Neurology [2008; 2007]

Andrew I. Stolbach, M.D.
Assistant Professor of Emergency Medicine [2007]

Kenneth B. Stoller, M.D.
Assistant Professor of Psychiatry [2000; 1998]

Nancy V. Strahan, M.D.
Assistant Professor of Medicine [1999; 1985]

Eric David Strauch, M.D.
Assistant Professor of Pediatric Surgery [1999; 1995]

John J. Strouse, M.D.
Assistant Professor of Pediatrics [2006; 2004],
Assistant Professor of Medicine [2008]

Geetha Subramaniam, M.B.B.S.
Assistant Professor of Psychiatry [2003; 1998]

Aruna Kumar Subramanian, M.D.
Assistant Professor of Medicine [2001]

G. Mani Subramanian, M.D., Ph.D.
Assistant Professor of Medicine [2001]

Sangeeta Dileep Sule, M.D.
Assistant Professor of Pediatrics [2004; 2003],
Instructor in Medicine [2003]

Charlotte J. Sumner, M.D.
Assistant Professor of Neurology [2006]

Zhaoli Sun, M.D., Ph.D.
Assistant Professor of Surgery [2003; 1999]

Jennifer Unjoo Sung, M.D.
Assistant Professor of Ophthalmology [2001]

Andrew J. Surmak, M.D.
Assistant Professor of Surgery [1981]

Stacy J. Suskauer, M.D.
Assistant Professor of Physical Medicine and
Rehabilitation [2008; 2007]

Marc S. Sussman, M.D.
Assistant Professor of Surgery [1993]

Ronald J. Sweren, M.D.
Assistant Professor of Dermatology [2009; 1989]

Heather J. Symons, M.D.
Assistant Professor of Oncology [2007]

Katsuyuki Taguchi, Ph.D.
Assistant Professor of Radiology and Radiological
Science [2007; 2005]

Clifford Mitsuo Takemoto, M.D.
Assistant Professor of Pediatrics [1999], Assistant
Professor of Pediatrics [1999]

Eiki Takimoto, Ph.D.
Assistant Professor of Medicine [2007; 2006]

Kellie Louise Tamashiro, Ph.D.
Assistant Professor of Psychiatry [2008]

Erwin Tan, M.D.
Assistant Professor of Medicine [2004]

Shiv Darius Tandon, Ph.D.
Assistant Professor of Pediatrics [2006; 2002]

Harikrishna Tandri, M.B.B.S.
Assistant Professor of Medicine [2008]

Nelson Tang, M.D.
Assistant Professor of Emergency Medicine [1987]

Craig P. Tanio, M.D.
Assistant Professor of Medicine [1997]

Jennifer Williams Tanio, M.D.
Assistant Professor of Medicine [1998; 1996]

Feng Tao, M.D., Ph.D.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2009; 2005] (from 09/01/09),
Instructor in Anesthesiology and Critical Care
Medicine [2007; 2005] (to 08/31/09)

Xuguang (Grant) Tao, M.D., Ph.D.
Assistant Professor of Medicine [2003]

Janis Marie Taube, M.D.
Assistant Professor of Dermatology [2009] (from
08/01/09), Assistant Professor of Pathology [2009]
(from 08/01/09)

Sean Dixon Taverna, Ph.D.
Assistant Professor of Pharmacology and
Molecular Sciences [2008]

Dean R. Taylor, M.D.
Assistant Professor of Medicine [1971; 1970]

Gregory Harry Taylor, M.D.
Adjunct Assistant Professor of Medicine [2005]

Aylin Tekes, M.D.
Assistant Professor of Radiology [2008]

Christiane Tellefsen, M.D.
Assistant Professor of Psychiatry [1993]

Christiane Theda, M.D.
Visiting Assistant Professor of Pediatrics [2009;
1996]

Asha Thomas, M.D.
Assistant Professor of Medicine [2007]

Claudia Lynn Thomas, M.D.
Assistant Professor of Orthopedic Surgery [1992]

Darcy A. Thompson, M.D.
Assistant Professor of Pediatrics [2006]

David A. Thompson, D.N.Sc.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2004]

John Tilynn Thompson, M.D.
Assistant Professor of Ophthalmology [2001]

William Reid Thompson, III, M.D.
Assistant Professor of Pediatrics [1992]

Robert William Thomsen, M.D.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2005], Assistant Professor of
Surgery [2008]

Katherine Anne Thornton, M.D.
Assistant Professor of Oncology [2007]

Rachel Johnson Thornton, M.D., Ph.D.
Assistant Professor of Pediatrics [2009]

Jagan N. Thupari, Ph.D., M.B.B.S.
Adjunct Assistant Professor of Pathology [2008;
2001]

John R. Ticehurst, M.D.
Assistant Professor of Pathology [1995]

Stuart A. Tiegel, M.S.W.
Assistant Professor of Psychiatry [2001; 1995]

Donna Clark Tippet, M.A., M.P.H.
Assistant Professor of Otolaryngology-Head and Neck Surgery [1997], Assistant Professor of Physical Medicine and Rehabilitation [1997; 1990]

John E. Tis, M.D.
Assistant Professor of Orthopaedic Surgery [2008]

P. Justin Tortolani, M.D.
Assistant Professor of Orthopaedic Surgery [1988]

Pegah Touradji, Ph.D.
Assistant Professor of Physical Medicine and Rehabilitation [2007; 2006]

Phuoc T. Tran, M.D., Ph.D.
Assistant Professor of Radiation Oncology and Molecular Radiation Sciences [2009] (from 08/17/09)

Maria Trent, M.D.
Assistant Professor of Pediatrics [2001]

Michael Edward Trice, M.D.
Assistant Professor of Orthopedic Surgery [2006]

Barry Trink, Ph.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [2000]

Patrick Todd Triplett, M.D.
Assistant Professor of Psychiatry [2008; 2004], Joint Appointment in Emergency Medicine [2008]

Louis C. Tripoli, M.D.
Adjunct Assistant Professor of Medicine [1998]

Jeffrey C. Trost, M.D.
Assistant Professor of Medicine [2006; 2005]

Melissa Katrina Trovato, M.D.
Assistant Professor of Physical Medicine and Rehabilitation [2005; 2001]

Cristina I. Truica, M.D.
Assistant Professor of Medicine [2007]

Li-Hui Tseng, M.D., Ph.D.
Visiting Assistant Professor of Oncology [2008]

Takashi Tsukamoto, Ph.D.
Assistant Professor of Neurology [2009]

David N. Tuchman, M.D.
Assistant Professor of Pediatrics [1986]

Sean R. Tunis, M.D.
Adjunct Assistant Professor of Medicine [1996]

Sharon Turban, M.D.
Assistant Professor of Medicine [2009; 2007]

Clifford Turen, M.D.
Assistant Professor of Orthopedic Surgery [1994]

Janet E. Turner, Ph.D.
Assistant Professor of Physical Medicine and Rehabilitation [2001]

L. Michelle Tuten, M.S.W.
Assistant Professor of Psychiatry [2008; 2006]

Betty Tyler, B.A.
Assistant Professor of Neurological Surgery [2005; 2004]

Richard M. Ugarte, M.D., M.P.H.
Assistant Professor of Medicine [2006; 2004]

Magdalena Uhart, M.D.
Assistant Professor of Medicine [2008; 2007]

Annie Umbricht, M.D.
Assistant Professor of Psychiatry [2002], Joint Appointment in Medicine [2003; 1994]

Christopher B. Umbricht, M.D., Ph.D.
Assistant Professor of Surgery [2000], Assistant Professor of Oncology [2001], Assistant Professor of Pathology [2000]

John C. Urbaitis, M.D.
Assistant Professor of Psychiatry [1974; 1972]

Sinisa Urban, Ph.D.
Assistant Professor of Molecular Biology and Genetics [2006]

Victor C. Urrutia, M.D.
Assistant Professor of Neurology [2005]

Dhananjay M. Vaidya, Ph.D., M.P.H., M.B.B.S.
Assistant Professor of Medicine [2005]

Varsha Vaidya, M.B.B.S.
Assistant Professor of Psychiatry [2000; 1996]

Daniel J. Valaik, M.D.
Assistant Professor of Orthopedic Surgery [2009]

Mustafa Shakir Vali, M.B.B.S.
Assistant Professor of Radiology [2003]

Cristianna Vallera, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2009; 2008]

Ryan Vandrey, Ph.D.
Assistant Professor of Psychiatry [2008; 2007]

Ravi Varadhan, Ph.D.
Assistant Professor of Medicine [2004; 20]

Stuart R. Varon, M.D.
Assistant Professor of Psychiatry [2001; 1994]

Roma A. Vasa, M.D.
Assistant Professor of Psychiatry [2002; 1997]

Arun Venkatesan, Ph.D., M.D.
Assistant Professor of Neurology [2007; 2006]

Michael Y. Viksman, M.D., Ph.D.
Assistant Professor of Medicine [1996]

Virginia Susan Villani, M.D.
Assistant Professor of Psychiatry [2000]

Nikos Vlahos, M.D.
Assistant Professor of Gynecology and Obstetrics [2000; 1999]

Jens Vogel-Claussen, M.D.
Assistant Professor of Radiology and Radiological Science [2007] (on leave of absence from 10/01/09)

Becky Marie Vonakis, Ph.D.
Assistant Professor of Medicine [2001]

Carolyn Clymer Voorhees, Ph.D., M.B.A.
Assistant Professor of Medicine [1996; 1993]

Alexander Vu, D.O., M.P.H.
Assistant Professor of Emergency Medicine [2005]

Milena Vuica-Ross, M.D.
Assistant Professor of Pathology [2004; 2003]

Lee Elizabeth Wachtel, M.D.
Assistant Professor of Psychiatry [2006; 2003]

Herschel V. Wade, Ph.D.
Assistant Professor of Biophysics and Biophysical Chemistry [2006]

J. Ronald Walcher, M.D.
Assistant Professor of Pediatrics [1972]

Piotr Walczak, M.D.
Assistant Professor of Radiology [2008; 2006]

A. Terry Walman, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [1984; 1982]

Hao Wang, Ph.D.
Assistant Professor of Oncology [2009] (from 08/31/09)

Jean S. Wang, M.D.
Assistant Professor of Medicine [2005; 2004] (to 08/31/09)

Jian Wang, Ph.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2008; 2006]

Jian Wang, M.D.
Assistant Professor of Medicine [2007; 2001]

Ming-Hsien Wang, M.D.
Assistant Professor of Urology [2009] (from 09/01/09)

Nae-Yuh Wang, Ph.D.
Assistant Professor of Medicine [2001; 1998]

Tao Wang, M.D., Ph.D.
Assistant Professor of Pediatrics in Genetic Medicine [2002]

Tian-Li Wang, Ph.D.
Assistant Professor of Gynecology and Obstetrics [2003], Assistant Professor of Oncology [2004]

H. Richard Waranch, Ph.D.
Assistant Professor of Medical Psychology in the Department of Psychiatry [1981; 1979]

Julianna Ward, Ph.D.
Assistant Professor of Psychiatry [2005; 2003]

Daniel Scott Warren, Ph.D.
Assistant Professor of Surgery [2003; 2000]

Barbara A. Wasowska, Ph.D.
Assistant Professor of Pathology [1999; 1996]

David Neil Watkins, M.D., Ph.D.
Assistant Professor of Oncology [2003; 2002]

Stanley P. Watkins, Jr., M.D.
Assistant Professor of Oncology [1987; 1977]

Julie Watson, Vet.M.B.
Assistant Professor of Molecular and Comparative Pathobiology [2002]

Debbie L. Weaver, M.D.
Assistant Professor of Psychiatry [1994; 1990]

Kim Webster, M.A.
Assistant Professor (Audiology & Speech) of Otolaryngology-Head and Neck Surgery [2009; 1999]

Michael Riley Weed, Ph.D.
Adjunct Assistant Professor of Behavioral Biology in the Department of Psychiatry [2008; 2001], Adjunct Assistant Professor of Molecular and Comparative Pathobiology [2008; 2005]

Sharon Lynn Weintraub, M.D.
Assistant Professor of Surgery [2008]

Carlos O. Weiss, M.D., M.H.S.
Assistant Professor of Medicine [2006]

Clifford R. Weiss, M.D.
Assistant Professor of Radiology and Radiological Science [2008]

Margaret A. Weiss, M.D.
Assistant Professor of Dermatology [1993; 1982]

Alyson Wells, M.D.
Assistant Professor of Plastic Surgery [2004], Assistant Professor of Otolaryngology-Head and Neck Surgery [2004]

Weili Weng, M.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [2002]

Debra S. Wertheimer, M.D.
Assistant Professor of Medicine [1998]

Katharine Ashley Whartenby, Ph.D.
Assistant Professor of Oncology [2003; 2000]

Sarah Wheelan, M.D., Ph.D.
Assistant Professor of Oncology [2006]

Brent R. Whitaker, D.V.M.
Assistant Professor of Art as Applied to Medicine [2001]

Elizabeth C. Wick, M.D.
Assistant Professor of Surgery [2008]

Brigitte C. Widemann, M.D.
Assistant Professor of Oncology [2000], Assistant Professor of Pediatrics [2000]

Holly C. Wilcox, Ph.D.
Assistant Professor of Psychiatry [2006; 2005]

Lora B. Wilder, Sc.D.
Assistant Professor of Medicine [1993; 1986]

Hans R. Wilhelmsen, M.D., D.D.S.
Assistant Professor of Plastic Surgery [1995]

Eric H. Williams, M.D.
Assistant Professor of Plastic Surgery [2009; 2006]

Kayode Ayodele Williams, M.D., M.B.A.
Assistant Professor of Anesthesiology and Critical Care Medicine [2005]

Mark F. Williams, M.D.
Assistant Professor of Otolaryngology-Head and Neck Surgery [1999]

Marlene Stephanie Williams, M.D.
Assistant Professor of Medicine [1999]

Richard Bland Williams, III, M.D.
Adjunct Assistant Professor of Medicine [2009]

Stephen Bryan Williams, M.D., M.P.H.
Assistant Professor of Medicine [2008]

Virginia Lea Willour, Ph.D.
Assistant Professor of Psychiatry [2004; 2001]

Lucy Edlin Wilson, M.D.
Adjunct Assistant Professor of Medicine [2008; 2002]

William C. Wimmer, M.D.
Assistant Professor of Psychiatry [1978]

Bradford D. Winters, M.D., Ph.D.
Assistant Professor of Anesthesiology and Critical Care Medicine [1998; 1997], Assistant Professor of Neurological Surgery [1998], Assistant Professor of Neurology [1998], Assistant Professor of Surgery [2001]

James B. Wirth, M.D., Ph.D.
Assistant Professor of Psychiatry [1977]

Amy B. Wisniewski, Ph.D.
Assistant Professor of Pediatrics [2003; 2002]

Timothy F. Witham, M.D.
Assistant Professor of Neurological Surgery [2006; 2005]

Ilan Shor Wittstein, M.D.
Assistant Professor of Medicine [1998]

Andrew Wolfe, Ph.D.
Assistant Professor of Pediatrics [2007; 2006], Assistant Professor of Physiology [2008]

Leah Wolfe, M.D.
Assistant Professor of Medicine [2003; 2001]

Christopher L. Wolfgang, M.D., Ph.D.
Assistant Professor of Surgery [2005; 2004], Assistant Professor of Oncology [2008]

Michael J. Wolfgang, Ph.D.
Assistant Professor of Biological Chemistry [2008]

Jean-Paul Wolinsky, M.D.
Assistant Professor of Neurological Surgery [2005; 2004], Assistant Professor of Oncology [2009]

Karl L. Womer, M.D.
Assistant Professor of Medicine [2006]

Bang Thoai Wong, M.A.
Adjunct Assistant Professor of Art as Applied to Medicine [2001]

Conrad Jung Liang Wong, Ph.D.
Adjunct Assistant Professor of Behavioral Biology in the Department of Psychiatry [2003; 2000]

Guang William Wong, Ph.D.
Assistant Professor of Physiology [2008]

Patricia Wong, M.D.
Assistant Professor of Medicine [2008]

Elizabeth Wood, M.S.
Assistant Professor of Gynecology and Obstetrics [2008; 2003]

Katherine C. Wu, M.D.
Assistant Professor of Medicine [2000]

Mark N. Wu, M.D., Ph.D.
Assistant Professor of Neurology [2009] (from 08/01/09), Assistant Professor of Medicine [2009] (from 08/01/09)

Tinghuai Wu, M.D., Ph.D.
Assistant Professor of Ophthalmology [1999] (on leave of absence to 09/14/09)

Jie Xiao, Ph.D.
Assistant Professor of Biophysics and Biophysical Chemistry [2006]

Qian-Li Xue, Ph.D.
Assistant Professor of Medicine [2004]

Andrew Yang, M.D.
Assistant Professor of Radiology and Radiological Science [1992; 1988]

Samuel Yang, M.D.
Assistant Professor of Emergency Medicine [2005; 2002]

Sevil Yasar, M.D.
Assistant Professor of Medicine [2001]

Youseph Yazdi, Ph.D., M.B.A.
Assistant Professor of Biomedical Engineering [2009] (from 09/01/09)

Ricardo A. Yazigi, M.D.
Assistant Professor of Gynecology and Obstetrics [2006]

Srinivasan Yegnasubramanian, M.D., Ph.D.
Assistant Professor of Oncology [2008; 2006]

Hsin-Chieh Yeh, Ph.D.
Assistant Professor of Medicine [2008; 2005]

Anna Yemelyanova, M.D.
Assistant Professor of Pathology [2008; 2005]

Howard S. C. Ying, M.D., Ph.D.
Assistant Professor of Ophthalmology [2004; 2002]

Sarah H. Ying, M.D.
Assistant Professor of Neurology [2004], Assistant Professor of Ophthalmology [2004]

Elaine Yong, M.D.
Visiting Assistant Professor of Medicine [2007; 2006]

Kiyoshi Yoshimura, M.D., Ph.D.
Assistant Professor of Surgery [2007; 2006], Assistant Professor of Oncology [2007; 2006]

Jeffery Hunter Young, M.D., M.H.S.
Assistant Professor of Medicine [2002; 2000]

Mark Allen Young, M.D.
Assistant Professor of Physical Medicine and Rehabilitation [2009]

Rex Chin-Wei Yung, M.D.
Assistant Professor of Medicine [2000], Assistant Professor of Oncology [2000]

T. Andrew Zabel, Ph.D.
Assistant Professor of Psychiatry [2005; 2003]

Natasha E. Zachara, Ph.D.
Assistant Professor of Biological Chemistry [2005]

Nicholas Zachos, Ph.D.
Assistant Professor of Medicine [2008; 20]

Kathleen M. Zackowski, Ph.D.
Assistant Professor of Physical Medicine and Rehabilitation [2006; 2004], Assistant Professor of Neurology [2006]

Atif Zaheer, M.D.
Assistant Professor of Radiology and Radiological Science [2008]

Cynthia Ann Zahnow, Ph.D.
Assistant Professor of Oncology [2001; 2000]

Ari L. Zaiman, M.D., M.P.H.
Assistant Professor of Medicine [2008; 2004]

Khwaja Javid Zakriya, M.B.B.S.
Assistant Professor of Anesthesiology and Critical
Care Medicine [2002]

Elias Thomas Zambidis, M.D., Ph.D.
Assistant Professor of Oncology [2005; 2004],
Assistant Professor of Pediatrics [2005; 2004]

Richard C. Zellars, M.D.
Assistant Professor of Radiation Oncology and
Molecular Radiation Sciences [2001; 2003],
Assistant Professor of Oncology [2001]

Aglaia Zellos, M.D.
Visiting Assistant Professor of Pediatrics [2000;
1999]

Hui Zhang, Ph.D.
Assistant Professor of Pathology [2006]

Jiangyang Zhang, Ph.D.
Assistant Professor of Radiology and Radiological
Science [2006; 2005]

Kechen Zhang, Ph.D.
Assistant Professor of Biomedical Engineering
[2002; 20], Assistant Professor of Neuroscience
[2003]

Rong Zhang-Howard, M.D., Ph.D.
Assistant Professor of Medicine [2009; 2001]

Lei Zheng, M.D., Ph.D.
Assistant Professor of Oncology [2009]

Tao Zheng, M.D.
Assistant Professor of Medicine [2004; 20]

Feng-Quan Zhou, Ph.D.
Assistant Professor of Orthopaedic Surgery
[2005], Assistant Professor of Neuroscience
[2005]

Jinyuan Zhou, Ph.D.
Assistant Professor of Radiology and Radiological
Science [2001; 1999]

Yong-di Zhou, Ph.D.
Adjunct Assistant Professor of Neurological
Surgery [2009; 2001]

Yun Zhou, Ph.D.
Assistant Professor of Radiology [2003; 2002]

Heng Zhu, Ph.D.
Assistant Professor of Pharmacology and
Molecular Sciences [2004], Assistant Professor of
Oncology [2005]

Yao-Yao Zhu, M.D., Ph.D.
Assistant Professor of Medicine [2000]

Wendy C. Ziai, M.D.
Assistant Professor of Neurology [2003; 2001],
Assistant Professor of Anesthesiology and Critical
Care Medicine [2003; 2001], Assistant Professor
of Neurological Surgery [2003]

Susan Jane Ziemann, M.D.
Assistant Professor of Medicine [2001]

J. Samuel Zigler, Jr., Ph.D.
Assistant Professor of Ophthalmology [2007;
2006]

Bashir Ahmed Zikria, M.D.
Assistant Professor of Orthopedic Surgery [2007]

Karen Paul Zimmer, M.D.
Assistant Professor of Pediatrics [2005]

Brian Michael Zimnitzky, M.D.
Assistant Professor of Psychiatry [2002]

Eva S. Zinreich, M.D.
Assistant Professor of Radiation Oncology and
Molecular Radiation Sciences [2003]

Peter K. Zucker, M.D.
Assistant Professor of Gynecology and Obstetrics
[1984]

Rhonda L. Zuckerman, M.D.
Assistant Professor of Anesthesiology and Critical
Care Medicine [1990; 1988], Joint Appointment in
Gynecology and Obstetrics [1992]

Edward Lee Zuroweste, M.D.
Assistant Professor of Medicine [2001]

ASSISTANT PROFESSORS EMERITI

George C. Alderman, M.D.
Assistant Professor Emeritus of Otolaryngology-
Head and Neck Surgery [1999; 1956]

Harold Joseph Alfert, M.D.
Assistant Professor Emeritus of Urology [1989]

Shaukat A. Ashai, M.B.B.S.
Assistant Professor Emeritus of Gynecology and
Obstetrics [2009; 1976]

Arthur Baitch, M.D.
Assistant Professor Emeritus of Orthopedic
Surgery [1992; 1967]

Frank T. Barranco, M.D.
Assistant Professor Emeritus of Orthopedic
Surgery [1992; 1962]

H. Vaughan Belcher, M.D.
Assistant Professor Emeritus of Surgery [1989;
1973]

Mary Jane Blaustein, R.N.
Assistant Professor Emerita of Psychiatry [1992;
1974]

James B. Brooks, M.D.
Assistant Professor Emeritus of Orthopedic
Surgery [1992; 1955]

Mervyn L. Carey, M.D.
Assistant Professor Emeritus of Gynecology and
Obstetrics [1981; 1956]

Gaylord L. Clark, Jr., M.D.
Assistant Professor Emeritus of Orthopedic
Surgery [1969; 1964]

Walter E. Dandy, Jr., M.D.
Assistant Professor Emeritus of Anesthesiology
and Critical Care Medicine [1991; 1952]

Erlinda F. Deleon-Gaston, M.D.
Assistant Professor Emerita of Radiology [1990;
1969]

James H. Dorsey, M.D.
Assistant Professor Emeritus of Gynecology and
Obstetrics [2001; 1964]

Albert E. Dreyfus, M.D.
Assistant Professor Emeritus of Psychiatry [1998;
1950]

James R. Duke, M.D.
Assistant Professor Emeritus of Ophthalmology
[1983; 1955]

Robert E. Ensor, M.D.
Assistant Professor Emeritus of Radiology and Radiological Science [1990; 1972]

John J. Fahey, M.D.
Assistant Professor Emeritus of Orthopedic Surgery [1992; 1955]

William F. Fritz, M.D.
Assistant Professor Emeritus of Medicine [1992; 1955]

Kurt Glaser, M.D.
Assistant Professor Emeritus of Psychiatry [1981], Assistant Professor Emeritus of Pediatrics [1981; 1972]

Gerald A. Glowacki, M.D.
Assistant Professor Emeritus of Gynecology and Obstetrics [2001; 1968]

Emily M.S. Haller, M.D.
Assistant Professor Emerita of Gynecology and Obstetrics [1980; 1976]

Harriet L. Haskins, A.M.
Assistant Professor (Audiology & Speech) Emerita of Otolaryngology-Head and Neck Surgery [1976; 1949]

Elmer Hoffman, M.D.
Assistant Professor Emeritus of Surgery [1994; 1955]

Thomas M. Holcomb, M.D.
Assistant Professor Emeritus of Pediatrics [2000; 1969]

Thomas E. Hunt, Jr., M.D.
Assistant Professor Emeritus of Orthopedic Surgery [1992; 1956]

C. Ramadas Kamath, M.D.
Assistant Professor Emeritus of Otolaryngology-Head and Neck Surgery [1983; 1981]

Anne J. Krush, M.S.S.A.
Assistant Professor Emerita of Medicine [1985; 1976]

Arnold F. Lavenstein, M.D.
Assistant Professor Emeritus of Pediatrics [1982; 1958]

James Lawrence, III, M.D.
Assistant Professor Emeritus of Otolaryngology-Head and Neck Surgery [1976; 1973]

Paul M. Leand, M.D.
Assistant Professor Emeritus of Surgery [1968]

Samuel M.M. Lumpkin, M.D.
Assistant Professor Emeritus of Otolaryngology-Head and Neck Surgery [1979; 1966]

Roger H. Michael, M.D.
Assistant Professor Emeritus of Orthopedic Surgery [1992; 1976]

Ambadas Pathak, M.D.
Assistant Professor Emeritus of Pediatrics [1978]

Howard H. Patt, M.D.
Assistant Professor Emeritus of Surgery [1984; 1956]

Lydia L. Pauli, M.D.
Assistant Professor Emerita of Pediatrics [1985; 1954]

Thomas H. Powell, M.D.
Assistant Professor Emeritus of Orthopedic Surgery [1992; 1969]

Harold E. Ramsey, M.D.
Assistant Professor Emeritus of Surgery [1980; 1969], Assistant Professor Emeritus of Otolaryngology-Head and Neck Surgery [1980]

Anne B. Redfern, M.D.
Assistant Professor Emerita of Plastic Surgery [1997; 1977]

Nasser Rezai, M.D.
Assistant Professor Emeritus of Gynecology and Obstetrics [1979; 1973]

Edward H. Richardson, Jr., M.D.
Assistant Professor Emeritus of Gynecology and Obstetrics [1982; 1947]

William F. Rienhoff, III, M.D.
Assistant Professor Emeritus of Surgery [1992; 1953]

Charles Savage, M.D.
Assistant Professor Emeritus of Psychiatry [1982; 1965]

Peter Schilder, M.D., Ph.D.
Assistant Professor Emeritus of Neurology [2006; 1992]

Frank F. Schuster, M.D.
Assistant Professor Emeritus of Neurology [1993; 1969]

Woodrow Seamone, B.S.
Assistant Professor (Research) Emeritus of Orthopedic Surgery [1991; 1980]

Waldron M. Sennott, M.D.
Assistant Professor Emeritus of Radiology and Radiological Science [1974; 1966]

Sylvan M.E. Shane, D.D.S.
Assistant Professor Emeritus of Oral Surgery [1989; 1980]

Lex B. Smith, M.D.
Assistant Professor Emeritus of Psychiatry [1968; 1954]

Thomas W. Snider, M.D.
Assistant Professor Emeritus of Radiology and Radiological Science [1994; 1962]

Donald B. Spangler, M.D.
Assistant Professor Emeritus of Gynecology and Obstetrics [2001; 1982]

Alvin A. Stambler, M.D.
Assistant Professor Emeritus of Pediatrics [1972; 1960]

Edward L. Suarez-Murias, M.D.
Assistant Professor Emeritus of Psychiatry [1972; 1943]

Bernard Tabatznik, M.B.B.Ch.
Assistant Professor Emeritus of Medicine [1990; 1961]

Alan J. Tapper, M.D.
Assistant Professor Emeritus of Gynecology and Obstetrics [1975; 1972]

Mahmud Thamer, M.D.
Assistant Professor Emeritus of Medicine [1997;
1970]

Kirby L.C. VonKessler, M.D.
Assistant Professor Emeritus of Orthopedic
Surgery [2004; 1967]

Barbara Young, M.D.
Assistant Professor Emerita of Psychiatry [1993;
1953]

Robert E. Zadek, M.D.
Assistant Professor Emeritus of Orthopedic
Surgery [1992; 1961]

INSTRUCTORS

Fouad M. Abbas, M.D.
Instructor in Gynecology and Obstetrics [2006]

Riad Zuhdi Abdelkarim, M.D.
Instructor in Medicine [2008]

Gautam Agrawal, M.D.
Instructor in Radiology [2006]

Abdullah Shafique Ahmad, Ph.D.
Instructor in Anesthesiology and Critical Care
Medicine [2008]

Hassan M. Ahmad, M.D.
Instructor in Anesthesiology and Critical Care
Medicine [2007]

Akinwande A. Akintola, M.D.
Instructor in Psychiatry [2003]

Samuel Robert Akman, M.D.
Instructor in Gynecology and Obstetrics [2007]

Nada Alachkar, M.D.
Instructor in Medicine [2008]

Eli B. Alegado, M.D.
Instructor in Medicine [2005]

Jihad M. Alhariri, M.D.
Instructor in Dermatology [2008]

Suleiman S. Alibhai, O.D.
Instructor in Ophthalmology [1995]

Saadia Alizai-Cowan, M.D.
Instructor in Psychiatry [2005]

Ravi Kumar Aloor, M.B.B.S.
Instructor of Plastic Surgery [2007]

Ruben Amarasingham, M.D.
Instructor in Medicine [2006]

Muhammad Amer, M.D.
Instructor in Medicine [2007]

Merrill Ansher, M.D.
Instructor in Neurology [1993]

William C. Anthony, M.D.
Instructor in Medicine [1984]

Alvin Kandanatt Antony, M.D.
Instructor in Physical Medicine and Rehabilitation
[2008]

Colette M.J. ap Rhys, Ph.D.
Instructor in Neurological Surgery [2007]

Raya Armaly, M.D.
Instructor in Ophthalmology [2002]

W. Perry Arnold, M.D.
Instructor in Radiology and Radiological Science
[1976]

Beth L. Aronson, M.D.
Instructor in Gynecology and Obstetrics [1985]

Pedro Pablo Arrabal, M.D.
Instructor in Gynecology and Obstetrics [2006]

Thelma S. Asare, M.D.
Instructor in Gynecology and Obstetrics [2007]

Paul L. Asdourian, M.D.
Instructor in Orthopedic Surgery [1988]

Walter F. Atha, M.D.
Instructor in Emergency Medicine [2000]

Samer Attar, M.D.
Instructor in Orthopaedic Surgery [2009] (from
09/01/09)

John Nathaniel Aucott, M.D.
Instructor in Medicine [1996]

Shahid Aziz, M.D.
Instructor in Pediatrics [1992]

Richard Babkes, M.D.
Instructor in Neurology [1981]

Michelle L. Bahrain, D.O.
Instructor in Medicine [2004]

Susan Elaine Bailey, M.D.
Instructor in Psychiatry [2003]

Alva Sayrs Baker, III, M.D.
Instructor in Psychiatry [1999]

Ashwin Balagopal, M.D.
Instructor in Medicine [2009]

Janaki Balakrishnan, M.D.
Instructor in Radiology and Radiological Science
[1983]

Eric Darius Balighian, M.D.
Instructor in Pediatrics [2009]

Sylvia Chen Bank, M.D.
Instructor in Pediatrics [2003]

Nia Danielle Banks, M.D., Ph.D.
Instructor of Plastic Surgery [2009]

Eli E. Bar, Ph.D.
Instructor in Pathology [2008]

Michael S. Barr, M.D.
Instructor in Medicine [2000]

David C. Bastacky, D.M.D.
Instructor in Otolaryngology-Head and Neck
Surgery [2004]

Marcelo Batkis, M.D.
Instructor in Psychiatry [2007]

Michael J. Battaglia, II, M.D.
Instructor in Orthopedic Surgery [2006]

Pierre-Louis Bazin, Ph.D.
Instructor in Radiology [2009; 2006]

Sheldon B. Bearman, M.D.
Instructor in Radiology and Radiological Science
[1974]

C. Elizabeth Beasley, M.D.
Instructor in Psychiatry [1991]

Andrew N. Becker, D.O.
Instructor in Medicine [2005]

Daniel Becker, M.D.
Instructor in Neurology [2008]

Shahnaz Begum, Ph.D., M.B.B.S.
Instructor in Pathology [2008]

Heidi Beilis, M.D.
Instructor in Radiology and Radiological Science [1997]

Azin Elizabeth Bekhrad, M.D.
Instructor in Psychiatry [2005]

Samuel I. Benesh, M.D.
Instructor in Medicine [1997]

Jared Berkowitz, M.D.
Instructor in Urology [2009]

Adam Richard Berliner, M.D.
Instructor in Medicine [2006]

Benjamin D. Bernstein, M.D.
Instructor in Dermatology [1988]

Arun K. Bhasin, M.D.
Instructor in Anesthesiology and Critical Care Medicine [2003]

Mario Antonio Bianchet, Ph.D.
Instructor in Biophysics and Biophysical Chemistry [2004]

Alexis Bilbow, M.D.
Instructor in Anesthesiology and Critical Care Medicine [2008] (to 07/31/09)

James D. Biles, M.D.
Instructor in Urology [1975]

Howard J. Birenbaum, M.D.
Instructor in Pediatrics [1985; 1984]

Bernhard Birnbaum, M.D.
Instructor in Medicine [1991; 1986]

Julius Birnbaum, M.D.
Instructor in Medicine [2008]

Kevin E. Bishoff-Carlson, M.D.
Instructor in Medicine [1998]

Sharen Bisson, M.D.
Instructor in Psychiatry [1994]

Deborah Gisriel Bittar, M.D.
Instructor in Pediatrics [1996]

Jason Wesley Black, M.D.
Instructor in Medicine [2005]

Lucien Vandy Black, M.D.
Instructor in Pediatrics [2009]

Karen Beth Bleich, M.D.
Instructor in Radiology [2005]

Brian M. Block, M.D., Ph.D.
Instructor in Anesthesiology and Critical Care Medicine [2003]

Joan L. Blomquist, M.D.
Instructor in Gynecology and Obstetrics [2001]

Lois Blum, M.M.H.
Instructor in Psychiatry [1978; 1974]

M. Barry Blum, M.D.
Instructor in Ophthalmology [1994]

Stuart D. Blumenthal, D.D.S.
Instructor in Pediatrics [1998]

Michael L. Bobrow, M.D.
Instructor in Radiology [2009]

Joanna M. Bock, M.D.
Instructor in Medicine [2009] (from 09/01/09)

Emad M. Boctor Mikhail, Ph.D.
Instructor in Radiology and Radiological Science [2007]

Richard Boehler, M.D., M.B.A.
Instructor in Medicine [2006]

Eric Boelter, Ph.D.
Instructor in Psychiatry [2009]

Catherine A. Booher, M.D.
Instructor in Medicine [1997]

Sharon P. Bord, M.D.
Instructor in Emergency Medicine [2008; 20]

Jasenka Borzan, Ph.D.
Instructor in Anesthesiology and Critical Care Medicine [2009; 2006]

Glendaliz Bosques, M.D.
Instructor in Physical Medicine and Rehabilitation [2009]

Douglas M. Bourque, M.D.
Instructor in Gynecology and Obstetrics [1984]

Sean Bouvet, M.D.
Instructor in Emergency Medicine [2009] (from 09/01/09)

Jennifer E. Bracey, M.D.
Instructor in Medicine [2009]

David A. Bradt, M.D., M.P.H.
Instructor in Emergency Medicine [1995]

Gregory William Branch, M.D.
Instructor in Medicine [1994]

Karen A. Broderick, M.D.
Instructor in Pediatrics [1987]

Howard D. Bronstein, M.D.
Instructor in Medicine [1968]

Amanda M. Brown, Ph.D.
Instructor in Neurology [2007; 2004]

Maria Karapelou Brown, M.D.
Instructor in Pediatrics [2006]

Melva Joan Brown, M.D.
Instructor in Medicine [2004]

Rochelle Vanessa Brown, M.D.
Instructor in Medicine [2007]

Ilene S. Browner, M.D.
Instructor in Oncology [2006], Joint Appointment in Medicine [2008]

Tracee Burroughs, M.D.
Instructor in Psychiatry [2008]

Anitha Byreddy, M.B.B.S., M.P.H.
Instructor in Medicine [2007]

Suzanne M. Caccamese, M.D.
Instructor in Medicine [2000]

Emilie J.B. Calvello, M.D., M.P.H.
Instructor in Emergency Medicine [2009]

Wangsen Cao, M.D., Ph.D.
Instructor in Anesthesiology and Critical Care
Medicine [2008; 1998]

Gary H. Cassel, M.D.
Instructor in Ophthalmology [1986]

Liudmila Cebotaru, M.D., J.D.
Instructor in Ophthalmology [2009; 2005]

Mayy Farid Chahla, M.D.
Instructor in Medicine [2008]

Sabrina Theresa Chaklos, M.D.
Instructor in Medicine [2009]

Anutosh Chakraborty, Ph.D.
Instructor in Neuroscience [2009; 2008] (from
09/01/09), Research Associate in Neuroscience
[2008] (to 08/31/09)

Fred T. Chan, M.D.
Instructor in Medicine [2003]

Shalini Chandra, M.D.
Instructor in Medicine [2007]

Aruna Chandran, M.D.
Instructor in Pediatrics [2008]

Larry William Chang, M.D., M.P.H.
Instructor in Medicine [2009]

Stephanie Chang, M.D., M.P.H.
Instructor in Medicine [2006]

Raquel Francine Charles, M.D.
Instructor in Medicine [2009]

Franklin E. Chatham, M.D.
Instructor in Medicine [2005]

Aditi Chatterjee, Ph.D.
Instructor in Otolaryngology-Head and Neck
Surgery [2008]

Zachary Lee Chattler, D.P.M.
Instructor in Orthopedic Surgery [2001]

Sajida Chaudry, M.D.
Instructor in Medicine [2006]

William Checkley, M.D., Ph.D.
Instructor in Medicine [2009]

Belinda Yim Chen, M.D.
Instructor in Medicine [1994]

Kenneth H. Cho, M.D.
Instructor in Radiology and Radiological Science
[2005]

Grant Victor Chow, M.D.
Instructor in Medicine [2009]

Alexander Christoff, B.S.
Instructor in Ophthalmology [2009]

Tracey Lynn Chunn, M.D.
Instructor in Medicine [2000]

Michelle J. Clarke, M.D.
Instructor in Neurological Surgery [2009]

Emmanuelle M. Clerisme-Beaty, M.D., M.H.S.
Instructor in Medicine [2009]

John Cmar, M.D.
Instructor in Medicine [2008]

Timothy P. Codd, M.D.
Instructor in Orthopedic Surgery [1995]

Nancy Codori, M.D., M.P.H.
Instructor in Medicine [2006]

Robert Norman Cole, Ph.D.
Instructor in Biological Chemistry [2000; 1998]

Brendan J. Collins, M.D.
Instructor in Surgery [2009]

Robert L. Connors, M.D.
Instructor in Medicine [2006]

Barbara G. Cook, M.D.
Instructor in Medicine [2006]

David A. Cowan, M.D.
Instructor in Dermatology [2008]

Damian D. Crawford, M.D.
Instructor in Medicine [2009]

Deidra Candice Crews, M.D.
Instructor in Medicine [2009]

Joy Elizabeth Crook, M.D.
Instructor in Emergency Medicine [2007]

Lisa Culp, M.B.A.
Instructor in Physical Medicine and Rehabilitation
[2006]

Naomi Paula Cutler, M.D.
Instructor in Medicine [2002]

Franco R. D'Alessio, M.D.
Instructor in Medicine [2008]

Nabil N. Dagher, M.D.
Instructor in Surgery [2008]

Holly Ryerson Dahlman, M.D.
Instructor in Medicine [2005]

Dean Hamid Dalili, M.D.
Instructor in Medicine [2005] (to 10/16/09)

Mahendra Damarla, M.D.
Instructor in Medicine [2009]

Elizabeth Lee Daugherty, M.D., M.P.H.
Instructor in Medicine [2008]

Kathryn B. de Medeiros, Ph.D.
Instructor in Psychiatry [2006]

Anthony Louis DeFulio, Ph.D.
Instructor in Psychiatry [2009]

Melissa DeMore, Ph.D.
Instructor in Psychiatry [2008]

Pankaj R. Desai, M.D.
Instructor in Medicine [2006]

Samit Prakash Desai, M.D.
Instructor in Emergency Medicine [2009]

Amy Elizabeth DeZern, M.D.
Instructor in Medicine [2009]

Shailaja M. Didolkar, M.D.
Instructor in Gynecology and Obstetrics [1990]

Ledy DiMarsico, M.D.
Instructor in Medicine [2005]

Joseph Peter DiPietro, M.D.
Instructor in Radiology [2009]

Susan J. Dirks, M.D.
Instructor in Medicine [1998]

Etosha Dixon, M.D.
Instructor in Medicine [2007]

Sharon Dlhosh, M.D.
Instructor in Medicine [2006]

Devon A. Dobrosielski, Ph.D.
Instructor in Medicine [2009] (from 07/31/09)

Robert F. Draper, Jr., M.D.
Instructor in Orthopedic Surgery [1977]

Anthony J. Drobnick, M.D.
Instructor in Psychiatry [1998]

Jonathan Dubois Dubin, M.D.
Instructor in Medicine [1990]

Gwen L. DuBois, M.D.
Instructor in Medicine [1989]

Karen Dunlap, O.D.
Instructor in Ophthalmology [2008]

Caroline McDonald DuPont, M.D.
Instructor in Psychiatry [1999]

Sridhar M. Durbhakula, M.D.
Instructor in Orthopedic Surgery [2005]

Stephanie Durruthy, M.D.
Instructor in Psychiatry [1989]

Jacquelyn Duval-Harvey, Ph.D.
Instructor in Psychiatry [2002; 2000]

Mary Cheffings Eaton, Ph.D.
Instructor in Psychiatry [1996]

Deena R. Ebright, M.D.
Instructor in Medicine [2003]

Shaker M. Eid, M.D.
Instructor in Medicine [2008]

Roland C. Einhorn, M.D.
Instructor in Medicine [1987]

David Lee Eisenberg, M.D.
Instructor in Medicine [2006]

AbdEl-Monem Mohamed A. El-Sharkawy, M.S.,
Ph.D.
Instructor in Radiology [2008]

Calvin Eng, M.D.
Instructor in Anesthesiology and Critical Care
Medicine [2009] (from 08/01/09)

Karen A. Engstrom, M.D.
Instructor in Gynecology and Obstetrics [1982]

Laura Maciel Erdman, M.D.
Instructor in Gynecology and Obstetrics [2005]

Joshua Benjamin Ewen, M.D.
Instructor in Neurology [2007]

Dalia A.H. Fadul, M.D.
Instructor in Radiology [2007]

Eddy Fan, M.D.
Instructor in Medicine [2007]

Jinshui Fan, M.D., Ph.D.
Instructor in Medicine [2007]

Robyn Neblett Fanfair, M.D., M.P.H.
Instructor in Medicine [2009]

Saleem Farooqui, M.D.
Instructor in Radiology [2009]

Jason Farrar, M.D.
Instructor in Oncology [2007]

Scott A. Feeser, M.D.
Instructor in Medicine [1993]

Daniel Feirtag, M.D.
Instructor in Medicine [1989; 1981]

Dorianne Rachelle Feldman, M.D.
Instructor in Physical Medicine and Rehabilitation
[2009] (from 10/01/09)

Naomi Ruth Feldman, M.D.
Instructor in Medicine [1989]

Sylvan Feldman, D.D.S.
Instructor of Plastic Surgery [2003]

Virginia Mac Veagh Ferrante, M.A.
Instructor in Art as Applied to Medicine [2002]

Marjorie Ann Fessler, Ed.D.
Instructor in Pediatrics [1995]

Gregory Charles Fey, M.D.
Instructor in Psychiatry [2004]

Dayna A. Finkenzeller, M.D.
Instructor in Gynecology and Obstetrics [2008]

Beverly A. Fischer, M.D.
Instructor of Plastic Surgery [1995]

April S. Fitzgerald, M.D.
Instructor in Medicine [2007]

Jason Fixler, M.D.
Instructor in Pediatrics [2003]

Jerold H. Fleishman, M.D.
Instructor in Neurology [1992]

Kenneth E. Fligsten, M.D.
Instructor in Psychiatry [1973]

Charles Timothy Floyd, M.D.
Instructor in Orthopedic Surgery [1998]

Jelles N. Fonda, M.D.
Instructor in Medicine [1991]

Catherine A. Foss, Ph.D.
Instructor in Radiology [2006]

Paul N. Foster, M.D.
Instructor in Medicine [2005]

James E. Fragetta, M.D.
Instructor in Pediatrics [1998]

Phillip J. Franklin, M.D., M.P.H.
Instructor in Medicine [2001]

Daniel J. Freedenburg, M.D.
Instructor in Psychiatry [1974], Joint Appointment
in Medicine [2002]

Joan Audrey Freedman, M.S.
Instructor in Art as Applied to Medicine [2002;
1993]

Kathleen Brelsford French, M.D.
Instructor in Neurological Surgery [1992]

Nancy Jane C. Friedley, M.D.
Instructor in Medicine [1999]

Neil B. Friedman, M.D.
Instructor in Surgery [1989]

Drew C. Fuller, M.D., M.P.H.
Instructor in Emergency Medicine [2006]

Sandra B. Gabelli, Ph.D.
Instructor in Biophysics and Biophysical Chemistry [2006; 2002]

Nicole Jean Gable, M.D.
Instructor in Pediatrics [2008]

Christopher Jordan Gamper, M.D., Ph.D.
Instructor in Oncology [2008]

Neeraj Gandotra, M.D.
Instructor in Psychiatry [2008]

David Gannon, D.P.M.
Instructor in Orthopedic Surgery [2002]

Travis Francis Ganunis, M.D.
Instructor in Pediatrics [2000]

Ivan H. Garcia, M.D.
Instructor in Ophthalmology [1997]

Jose Carlos Garcia-Garcia, Ph.D.
Instructor in Pathology [2008]

Donald E. Garland, D.O.
Instructor in Gynecology and Obstetrics [1981]

Nader G. Gary, M.D.
Instructor in Ophthalmology [2000]

Abraham Allan Genut, M.D.
Instructor in Neurology [1995]

Nicholas P. Georges, M.D.
Instructor in Radiology and Radiological Science [1993]

Jonathan M. Gerber, M.D.
Instructor in Medicine [2008]

Alan M. Geringer, M.D.
Instructor in Urology [1987]

Marc H. Gertner, M.D.
Instructor in Surgery [1986]

Elias Camille Ghandour, M.D.
Instructor in Medicine [1997]

Nina Glasner, M.A., M.S.W.
Instructor in Ophthalmology [1995]

Braeme S. Glaun, M.B.B.Ch.
Instructor in Neurology [2004]

Kenneth L. Glick, M.D.
Instructor in Medicine [2006]

Stephen B. Goldberg, M.D.
Instructor in Psychiatry [2000]

Jeremy Goldman, O.D.
Instructor in Ophthalmology [2008]

Michael H. Goldman, Ph.D.
Instructor in Medicine [1996]

Andrew Todd Goldstein, M.D.
Instructor in Gynecology and Obstetrics [2000]

Jason Goldstein, M.D.
Instructor in Pediatrics [2005]

Adrian J. Goldszmidt, M.D.
Instructor in Neurology [1998]

Anna Marie Gonzaga, M.D.
Instructor in Psychiatry [2003]

Denise A. Gonzales, M.D.
Instructor in Medicine [2005]

Helen Minifie Gordon, M.D.
Instructor in Medicine [2000]

Kim Lesley Goring, M.B.B.S.
Instructor in Medicine [2006] (to 09/09/09)

Madhav Goyal, M.D., M.P.H.
Instructor in Medicine [2009]

Gene E. Green, M.D.
Instructor in Medicine [2006]

Melva Isadora Green, M.D.
Instructor in Psychiatry [2004]

Carlton C. Greene, M.D.
Instructor in Medicine [1977]

Rosemarie Greyson-Fleg, M.D.
Instructor in Radiology and Radiological Science [1984]

Dmitry N. Grigoryev, M.D., Ph.D.
Instructor in Medicine [2005]

Rafael Guerrero-Preston, Ph.D., M.P.H.
Instructor in Otolaryngology-Head and Neck Surgery [2008]

Kenneth S. Gummerson, M.D., Ph.D.
Instructor in Medicine [1995]

Hilary Eileen Gwynn, M.D.
Instructor in Neurology [2007]

Florence Hackerman, M.A.
Instructor in Psychiatry [2004; 2002]

Tammy D. Hadley, M.D.
Instructor in Medicine [1995]

Charles A. Haile, M.D.
Instructor in Medicine [1996; 1983]

Sandra Watson Hairston, M.D.
Instructor in Medicine [2006]

Ellen Halle, M.M.H.
Instructor in Psychiatry [1977; 1974]

Elizabeth A. Halloran, M.D.
Instructor in Medicine [2004]

Lenard H. Hammer, M.D.
Instructor in Ophthalmology [1991]

F. Chris Hansen, III, M.D.
Instructor in Medicine [1987]

Kaleem U. Haque, M.B.B.S.
Instructor in Medicine [2003]

Daniel C. Hardesty, M.D.
Instructor in Medicine [1995]

Anthony J. Harrell, M.D.
Instructor in Medicine [2006]

Che M. Harris, M.D.
Instructor in Medicine [2009]

Raymond J. Harshbarger, III, M.D.
Instructor of Plastic Surgery [2004]

Howard W. Hauptman, M.D.
Instructor in Medicine [1991]

Ling He, M.D., Ph.D.
Instructor in Pediatrics [2009]

Xin He, Ph.D.
Instructor in Radiology and Radiological Science [2009; 2008] (from 10/01/09), Research Associate in Radiology and Radiological Science [2008] (to 09/30/09)

Michelle L. Hearn, M.D.
Instructor in Pediatrics [1998]

David Heath, Ph.D.
Instructor in Radiology and Radiological Science [1993]

Deborah L. Hebb, M.D.
Instructor in Gynecology and Obstetrics [1988]

Alvin W. Hecker, M.D.
Instructor in Pediatrics [1992]

Todd D. Heller, M.D.
Instructor in Medicine [1991]

Linda Smith Hellmann, M.S.W.
Instructor in Psychiatry [1997]

Mark Thomas Helquist, M.D.
Instructor in Radiology [2009]

Sanya Henry, M.D.
Instructor in Radiology [2009]

Leanna J. Herman, Ph.D.
Instructor in Psychiatry [2008]

Anne-Gilbert Carrie Herzke, M.D.
Instructor in Medicine [2008]

Bonnie L. Hiatt, M.D.
Instructor in Medicine [2006]

Arthur McLean Hildreth, M.D.
Instructor in Psychiatry [1996]

Stephen A. Hirsch, M.D.
Instructor in Psychiatry [1963]

Lauren R. Hodas, M.D.
Instructor in Psychiatry [1994]

Sheila Mohajer Hofert, M.D.
Instructor in Pediatrics [2009] (from 08/01/09)

Christopher J. Hoffmann, M.D., M.P.H.
Instructor in Medicine [2009]

Susan E. Hofkamp, Ph.D.
Instructor in Physical Medicine and Rehabilitation [2008]

George Martin Hoke, M.D.
Instructor in Medicine [2003]

Stephen G. Holtzclaw, M.D.
Instructor in Emergency Medicine [1995]

Marc A. Honig, M.D.
Instructor in Ophthalmology [1996]

Tana L. Hope, Ph.D.
Instructor in Psychiatry [2007]

Cescili D. Hopkins, M.D.
Instructor in Gynecology and Obstetrics [2006]

Mark Stephen Hopkins, B.S.
Instructor in Physical Medicine and Rehabilitation [2004]

Carolyn Clarkson Houk, M.D.
Instructor in Medicine [1998]

Avril Melissa Houston, M.D., M.P.H.
Instructor in Pediatrics [2008]

Lisa Simone Hovermale, M.D.
Instructor in Psychiatry [2002]

Renee P. Howard, M.D.
Instructor in Pediatrics [1986]

Erica E. Howe, M.D.
Instructor in Medicine [2008]

Vanessa Howells, M.D.
Instructor in Psychiatry [2007]

Leo Hsiao, D.O.
Instructor in Anesthesiology and Critical Care Medicine [2008] (to 07/31/09)

Robert Y. Hsiao, M.D.
Instructor in Medicine [2005]

John Michael Huete, Ph.D.
Instructor in Psychiatry [2006]

Paula J. Hurley, Ph.D.
Instructor in Urology [2008]

Andres Hurtado, M.D.
Instructor in Neurology [2008]

Constance W. Hwang, M.D., M.P.H.
Instructor in Medicine [2006]

Willy Hwang, M.D.
Instructor in Radiology [2009]

Matthew Eric Hyndman, M.D.
Instructor in Urology [2009]

Josephine O. Ibiro, O.D.
Instructor in Ophthalmology [2004] (to 09/30/09)

Sandra Schwartz Isbister, M.D.
Instructor in Gynecology and Obstetrics [2000]

Christopher Ish, M.D.
Instructor in Medicine [2006]

Allesa Paige Jackson, M.D.
Instructor in Psychiatry [2002]

Cheryl Anne Jackson, M.D.
Instructor in Medicine [1996]

Julie Mendelson Jacobstein, M.D.
Instructor in Gynecology and Obstetrics [2006]

Mariflor S. Jamora, M.D.
Instructor in Psychiatry [2000]

Alpa Laheri Jani, M.D.
Instructor in Medicine [2005]

Laura Boyle Jaweed, D.P.T.
Instructor in Physical Medicine and Rehabilitation [2009]

Fern Marie Jeffries, M.D.
Instructor in Medicine [1998]

Heather K. Jennett, Ph.D.
Instructor in Psychiatry [2008]

Gerald J. Jerome, Ph.D.
Instructor in Medicine [2006]

Na Young Ji, M.D.
Instructor in Psychiatry [2008]

Kristine Erica Johnson, M.D.
Instructor in Medicine [2008]

Carolyn V. Jones, None
Instructor in Art as Applied to Medicine [2001]

Ann E. Jones-Cole, M.D.
Instructor in Anesthesiology and Critical Care
Medicine [2001]

Milan K. Joshi, M.D.
Instructor in Psychiatry [1981]

Sushant Kachhap, Ph.D.
Instructor in Oncology [2008]

Christine Kajubi, M.D.
Instructor in Medicine [2007]

Paul J. Kaloudis, M.D.
Instructor in Emergency Medicine [2009]

Mitchel A. Kanter, M.D.
Instructor of Plastic Surgery [1990]

William R. Kanter, M.D.
Instructor of Plastic Surgery [1989]

Ira E. Kaplan, M.D.
Instructor in Medicine [2001]

George John Kargul, M.D.
Instructor in Medicine [2008]

Frederick J. Karkowski, M.D.
Instructor in Medicine [2003]

Harvey H. Kasner, M.D.
Instructor in Gynecology and Obstetrics [2007]

Robert Neil Kass, M.D.
Instructor in Medicine [2006]

Pearl Katz, Ph.D.
Instructor in Psychiatry [1986]

Sanjay Ramkrishna Kedhar, M.D.
Instructor in Ophthalmology [2008; 2003]

Courtney Pierce Keeton, Ph.D.
Instructor in Psychiatry [2008]

Gregory B. Kelly, M.D.
Instructor in Medicine [1986]

Martha M. Kennedy, M.S., Ph.D., N.P.
Instructor in Anesthesiology and Critical Care
Medicine [2006]

Julia Kharlip, M.D.
Instructor in Medicine [2008]

Adnan N. Kiani, M.P.H., M.D.
Instructor in Medicine [2008; 2006]

Barbara A. Kim, M.D.
Instructor in Psychiatry [2002]

Myoung Sook Kim, Ph.D.
Instructor in Otolaryngology-Head and Neck
Surgery [2007]

Sung E. Kim, M.D.
Instructor in Gynecology and Obstetrics [1994]

Thomas J. Kim, M.D., M.P.H.
Instructor in Medicine [2005]

Angela Kim-Lee, M.D.
Instructor in Psychiatry [2000]

Lisle R. Kingery, Ph.D.
Instructor in Psychiatry [2005]

Dmitry E. Kiyatkin, M.D.
Instructor in Medicine [2007]

Sybil Ann Klaus, M.D.
Instructor in Pediatrics [2009]

Antonie Debra Kliene, M.D.
Instructor in Pediatrics [1996]

Hazen G. Kniffin, Jr., M.D.
Instructor in Psychiatry [1962]

Leise Rose Knoepp, M.D.
Instructor in Gynecology and Obstetrics [2008]

Todd Matthew Kolb, M.D., Ph.D.
Instructor in Medicine [2009]

Sitaramma Kottapalli, M.B.B.S.
Instructor in Pediatrics [1984]

Buddy G. Kozen, Jr., M.D.
Instructor in Emergency Medicine [2007]

Chris Kraft, Ph.D.
Instructor in Psychiatry [2001]

Timothy L. Krohe, M.D.
Instructor in Medicine [1993] (to 09/27/09)

Paula J. Kue, M.D.
Instructor in Medicine [2007]

Pallavi P. Kumar, M.D.
Instructor in Medicine [2007]

Kevin K. Kwong, Ph.D.
Instructor in Medicine [2007; 20]

Delese LaCour, M.D.
Instructor in Gynecology and Obstetrics [2008]

Oliver B. Laeyendecker, M.S., M.B.A.
Instructor in Medicine [2008; 2005]

Kathy L. Lampl, M.D.
Instructor in Medicine [2004]

Edward M. Land, B.S.
Instructor in Physical Medicine and Rehabilitation
[2007]

Jeffrey S. Landsman, M.D.
Instructor in Medicine [2007]

Joanne P. Lanzo, M.D.
Instructor in Pediatrics [1991]

Erika R. Larson, M.D.
Instructor in Medicine [2006]

Tina M. Latimer, M.D.
Instructor in Emergency Medicine [2009]

Naudia Natalee Lauder, M.D.
Instructor in Medicine [2009]

Bruce S. Lebowitz, D.P.M.
Instructor in Orthopedic Surgery [2001]

James Mark Leipzig, M.D.
Instructor in Orthopedic Surgery [1998]

Eddy S. Leman, Ph.D.
Instructor in Urology [2007] (to 08/31/09)

Enzo J. Leone, D.P.M.
Instructor in Orthopedic Surgery [2005]

Jeannie-Marie Sheppard Leoutsakos, Ph.D.
Instructor in Psychiatry [2009] (from 09/01/09)

Brian C. Lerner, M.D.
Instructor in Ophthalmology [1992]

Renee A. Lerner, M.D.
Instructor in Ophthalmology [1991]

Robert A. Lessey, M.D.
Instructor in Psychiatry [1990]

Charles M. Leve, M.D.
Instructor in Anesthesiology and Critical Care Medicine [2003]

Marshall A. Levine, M.D.
Instructor in Oncology [1979]

Matthew Jason Levy, D.O.
Instructor in Emergency Medicine [2009]

Nikita A. Levy, M.D.
Instructor in Gynecology and Obstetrics [2002]

Robert I. Levy, M.D.
Instructor in Medicine [1965; 1960]

Susan M. Levy, M.D.
Instructor in Medicine [1999]

Thomas H. Ley, Ph.D.
Instructor in Psychiatry [1995]

Dai Jun Li, M.D., Ph.D.
Instructor in Pathology [2009]

Gang (Gary) Li, Ph.D.
Instructor in Medicine [2009]

Huamin Li, M.D., Ph.D.
Instructor in Medicine [2001]

Xiaoling Li, M.D.
Instructor in Anesthesiology and Critical Care Medicine [2008; 2006]

Hyung Min Lim, M.D.
Instructor in Medicine [1996]

Kheng Leong Lim, M.D.
Instructor in Radiology [2009]

Dingxie Liu, M.D., Ph.D.
Instructor in Medicine [2009]

Benjamin N. Lockshin, M.D.
Instructor in Dermatology [2007]

Bart L. Loeys, M.D.
Instructor in Pediatrics in Genetic Medicine [2004]

Dora D. Logue, M.D.
Instructor in Psychiatry [1976]

Scott D. London, M.D.
Instructor in Otolaryngology-Head and Neck Surgery [2001]

Dominique Noe Long, M.D.
Instructor in Pediatrics [2006]

Maria Del Carme Lopez-Arvizu, M.D.
Instructor in Psychiatry [2006]

Theresa R. Lorch, M.D.
Instructor in Medicine [2006]

Mark Allan Lottes, M.D., D.D.S.
Instructor in Radiology [2007]

Olga I. Lurye, M.D.
Instructor in Medicine [2007]

Henry C. Lusane, Jr., M.D.
Instructor in Radiology and Radiological Science [2006]

Kieu X. Luu, M.D.
Instructor in Anesthesiology and Critical Care Medicine [2009]

Brent Bruce Macdonald, M.D.
Instructor in Medicine [1998]

Kelvin D. MacDonald, M.D.
Instructor in Pediatrics [2009; 2008]

M. Isabelle MacGregor, M.B.B.S.
Instructor in Medicine [1974]

David Alan Madder, D.O.
Instructor in Medicine [2007]

Rajneesh Mahajan, M.D.
Instructor in Psychiatry [2007]

Pamela Belmonte Mahon, Ph.D.
Instructor in Psychiatry [2008]

Scott E. Maizel, M.D.
Instructor in Surgery [1991]

Cynthia R. Major, M.D.
Instructor in Psychiatry [2001]

Zahra Maleki, M.D.
Instructor in Pathology [2007]

Ira N. Mandell, M.D.
Instructor in Medicine [1987]

Gena Taylor Manley, M.D.
Instructor in Gynecology and Obstetrics [2006]

Rosemarie Maraj, M.D.
Instructor in Medicine [2004]

Luigi Marchionni, M.D., Ph.D.
Instructor in Oncology [2007]

Darren Mareiniss, M.D., J.D.
Instructor in Emergency Medicine [2009]

Kenneth Margolis, M.D.
Instructor in Medicine [2000]

Yvonne Mark, M.D.
Instructor in Pediatrics [2005]

Pooja Marria, M.D.
Instructor in Pediatrics [2008]

Deborah J. Martin, M.D.
Instructor in Gynecology and Obstetrics [1988]

Zachary Martin, M.D.
Instructor of Plastic Surgery [2005]

Anthony Martinez, M.D.
Instructor in Medicine [1995]

Jason J. Marx, M.D.
Instructor in Medicine [2001]

Jonathan K. Marx, M.D.
Instructor in Radiology and Radiological Science [2006]

Richard J. Mason, M.D.
Instructor in Orthopedic Surgery [2001]

Pamela A. Matson, Ph.D., M.P.H.
Instructor in Pediatrics [2007]

Jonathan Matz, M.D.
Instructor in Medicine [1992]

William D. McConnell, M.D.
Instructor in Medicine [1992]

Sharon McCormack, M.D.
Instructor in Medicine [2003]

Kathleen L. McDonald, M.D.
Instructor in Pediatrics [1996]

Raegan McDonald-Mosley, M.D.
Instructor in Gynecology and Obstetrics [2008]

Susan Rebecca McFarland, M.D.
Instructor in Pediatrics [2009]

Elizabeth C. McFarlane, Ph.D., M.P.H.
Instructor in Pediatrics [2008]

David Eliot McGinnis, M.D.
Instructor in Medicine [1996]

Karl W. McIntosh, M.D.
Instructor in Psychiatry [2003]

Marco A. Mejia, M.D.
Instructor in Medicine [2006]

Michael Melia, M.D.
Instructor in Medicine [2008]

Deepa Menon, M.B.B.S.
Instructor in Neurology [2007]

Sarah A. Mess, M.D.
Instructor of Plastic Surgery [2009] (from 09/01/09)

Jennifer M. Meuchel, M.D.
Instructor in Psychiatry [2008]

Sarah Mezban, M.B.B.Ch.
Instructor in Radiology [2008]

Dinah Miller, M.D.
Instructor in Psychiatry [1992]

Gail Wilson Miller, M.D.
Instructor in Medicine [2006]

Louis W. Miller, M.D.
Instructor in Medicine [1997]

Ryan S. Miller, M.D.
Instructor in Pediatrics [2006]

Gary A. Milles, M.D., M.P.H.
Instructor in Medicine [1997]

Keiffer J. Mitchell, M.D.
Instructor in Medicine [1971]

Rameen James Molavi, M.D.
Instructor in Medicine [2001]

Susan Melley Molinaro, M.D.
Instructor in Medicine [1988]

Richard A. Mones, M.D.
Instructor in Radiology and Radiological Science [1990]

Allan J. Monfried, M.D.
Instructor in Pediatrics [1992]

Juan A. Morales-Torres, M.D., Ph.D.
Instructor in Emergency Medicine [2009]

George W. Moran, M.D.
Instructor in Medicine [1982]

Clayton L. Moravec, Jr., M.D.
Instructor in Medicine [1973; 1971]

Athol Winston Morgan, M.D.
Instructor in Medicine [1996]

Susan K. Moriarty, M.D.
Instructor in Pediatrics [1990]

Nicholas W. Morog, M.D.
Instructor in Medicine [1998]

Ann Cassidy Morrill, M.D.
Instructor in Medicine [1993]

Deborah J. Morris, M.D.
Instructor in Medicine [1985]

Rose M. Mulaikal, M.B.B.S.
Instructor in Pediatrics [1991]

Daniel Munoz, M.D., M.P.A.
Instructor in Medicine [2009]

John J. Murphy, D.P.M.
Instructor in Orthopedic Surgery [2002]

Biljana Musicki, Ph.D.
Instructor in Urology [2007; 2001]

Palaniappan Ganesh Muthappan, M.D.
Instructor in Medicine [2009]

Alejandro Jose Necochea, M.D., M.P.H.
Instructor in Medicine [2009]

John A. Nesbitt, III, M.D.
Instructor in Medicine [1978]

Christine Pham Nguyen, M.D.
Instructor in Gynecology and Obstetrics [2007]

Sridhar Nimmagadda, Ph.D.
Instructor in Radiology and Radiological Science [2008], Joint Appointment in Medicine [2009]

Avigdor I. Niv, M.D.
Instructor in Orthopedic Surgery [1980]

Philip Jaratsak Nivatpumin, M.D.
Instructor in Medicine [2007]

Gary J. Noronha, M.D.
Instructor in Medicine [2006]

William Ellis Northington, M.D.
Instructor in Emergency Medicine [2008]

James S. Novick, M.D.
Instructor in Medicine [2002]

Irwin J. Nudelman, M.D.
Instructor in Urology [1963]

Jeanne S. Nunez, M.D.
Instructor in Pediatrics [2006]

Rajesh Kumar NV, Ph.D.
Instructor in Oncology [2009; 2007] (from 09/01/09), Research Associate in Oncology [2007] (to 08/31/09)

Thomas P. O'Brien, M.D.
Instructor in Pediatrics [1993]

John B. O'Donnell, M.D.
Instructor in Orthopedic Surgery [1989]

J. Crossan O'Donovan, M.D.
Instructor in Pediatrics [1976]

Ibironke Oduyebo, M.D.
Instructor in Medicine [2009]

Sun Young Oh, Ph.D.
Instructor in Medicine [2008]

Elizabeth Kay Olivera, M.D.
Instructor in Pediatrics [2006]

Joan Ordman, M.D.
Instructor in Medicine [2006]

Michael Orsi, M.D.
Instructor in Radiology [2009]

Lynn M. Oswald, Ph.D.
Instructor in Psychiatry [2003]

Yvonne Ottaviano, M.D.
Instructor in Medicine [1995]

David A. Pace, M.D.
Instructor in Radiology [2009]

Thomas J. Pace, M.D., M.P.H.
Instructor in Medicine [2007]

Jennifer Teitelbaum Palmer, M.D.
Instructor in Psychiatry [2008]

Dimitrios Pappas, M.D.
Instructor in Medicine [2009]

Donna F. Parker, M.D.
Instructor in Pediatrics [1985]

Glenda Ferguson Parker, M.D.
Instructor in Medicine [2008]

William S. Parker, M.D.
Instructor in Pediatrics [1966]

Kathleen Gage Parr, M.D.
Instructor in Anesthesiology and Critical Care
Medicine [2003; 2000]

Clarissa L. Parrish, M.D.
Instructor in Pediatrics [2007]

James P. Paskert, M.D.
Instructor of Plastic Surgery [1987]

Kashiben G.J. Patel, M.B.B.Ch.
Instructor in Medicine [2004]

Kavita Pattani, M.D.
Instructor in Otolaryngology-Head and Neck
Surgery [2009]

Robert Fielding Pegues, M.D.
Instructor in Gynecology and Obstetrics [2007]

Susan Perkins-Parks, Ph.D.
Instructor in Psychiatry [1997]

Michael Perline, M.D.
Instructor in Emergency Medicine [2004]

Jamila Burgess Perritt, M.D.
Instructor in Gynecology and Obstetrics [2009]

Jamie J. Perry, M.D., M.P.H.
Instructor in Pediatrics [2009]

Tara Perti, M.D.
Instructor in Medicine [2008]

Kiemanh Pham, M.D.
Instructor in Emergency Medicine [2009]

Swati Phatak, M.D.
Instructor in Medicine [2006]

Michael A. Phelps, M.D.
Instructor in Anesthesiology and Critical Care
Medicine [2008]

Karran A. Phillips, M.D.
Instructor in Medicine [2007]

Anthony Pinto, M.D.
Instructor in Pediatrics [1986]

Claro L. Pioroda, M.D.
Instructor in Surgery [1982]

Jerome S. Plasse, M.D.
Instructor of Plastic Surgery [1985]

Antonis Politis, M.D.
Instructor in Psychiatry [2003]

Steven T. Pondek, M.D.
Instructor in Medicine [2002]

Adebowale Adedayo Popoola, M.D.
Instructor in Psychiatry [2005]

John B. Posey, M.D.
Instructor in Neurological Surgery [1977]

Jeffrey N. Posner, M.D.
Instructor in Medicine [1987]

Adam Bradley Possner, M.D.
Instructor in Medicine [2009]

David Bryan Powers, M.D., D.M.D.
Instructor of Plastic Surgery [2008]

Sudeep Pramanik, M.D., M.B.A.
Instructor in Ophthalmology [2009] (from 11/01/09)

Suzanne Prestwich, M.D.
Instructor in Pediatrics [2008]

Tatiana Michelle Prowell, M.D.
Instructor in Oncology [2006]

Shanta Purcell, M.D.
Instructor in Medicine [2006]

W. Thomas Purcell, M.D.
Instructor in Oncology [2002]

Tao Qiu, Ph.D.
Instructor in Orthopaedic Surgery [2009] (from
07/15/09)

Michael Radowsky, M.B.B.Ch.
Instructor in Dermatology [1978]

Sunil Rajani, M.D.
Instructor in Medicine [1998]

Kiran C. Rajmane, M.D.
Instructor in Radiology [2009]

Murugappan Ramanathan, Jr., M.D.
Instructor in Otolaryngology-Head and Neck
Surgery [2009]

Douglas Edward Ramsey, M.D.
Instructor in Radiology [2009]

John Nolan Ratchford, M.D.
Instructor in Neurology [2009]

P. Gregory Rausch, M.D.
Instructor in Oncology [1994]

Albert C. Recio, M.D.
Instructor in Physical Medicine and Rehabilitation
[2007]

Janet Record, M.D.
Instructor in Medicine [2006]

Shirley E. Reddoch, M.D.
Instructor in Pediatrics [2008]

Lisa C. Reichenbach, Ph.D.
Instructor in Psychiatry [1995]

Jerome P. Reichmister, M.D.
Instructor in Orthopedic Surgery [1978]

Barry J. Reiner, M.D.
Instructor in Pediatrics [1992]

Rodica Retezar, M.D.
Instructor in Emergency Medicine [2007] (on leave of absence)

Charles B. Reuland, Sc.D.
Instructor in Medicine [2006]

Stasia Stott Reynolds, M.D.
Instructor in Medicine [2002]

Courtney Paige Rhoades, D.O.
Instructor in Gynecology and Obstetrics [2003]

Jeffrey M. Richardson, M.D.
Instructor in Medicine [1988]

Paul R. Ringelman, M.D.
Instructor of Plastic Surgery [1993]

Mary G. Ripple, M.D.
Instructor in Pathology [2000]

Beatrice M. Robbins, M.S.N.
Instructor in Psychiatry [2006]

Caroline G.P. Roberts, M.D.
Instructor in Medicine [2008]

David G. Roberts, III, M.D.
Instructor in Medicine [1991]

Howard N. Robinson, M.D.
Instructor in Dermatology [1985]

Robert K. Roby, M.D.
Instructor in Medicine [1991]

Maria Francesca Rodowski, M.D.
Instructor in Psychiatry [2001]

Ricardo L. Rodriguez, M.D.
Instructor of Plastic Surgery [1991]

Francisco Rojas, M.D.
Instructor in Gynecology and Obstetrics [2006]

Christopher Joseph Romero, M.D.
Instructor in Pediatrics [2008]

Mark Romig, M.D.
Instructor in Anesthesiology and Critical Care Medicine [2008]

Eva Maria Rorer, M.D.
Instructor in Ophthalmology [1999; 1996]

Lawrence Ira Rosenberg, M.D.
Instructor of Plastic Surgery [2005]

Jerome Ross, M.D.
Instructor in Ophthalmology [1991]

Patricia Roy, M.D.
Instructor in Psychiatry [2008]

Dawn S. Ruben, D.V.M.
Instructor in Molecular and Comparative Pathobiology [2007]

Allan I. Rubin, M.D.
Instructor in Gynecology and Obstetrics [2007]

Eric Daniel Rubin, M.D.
Instructor in Pediatrics [1996]

Kathryn Ruble, Ph.D.
Instructor in Oncology [2009]

Michael T. Rudikoff, M.D.
Instructor in Medicine [1977]

Paul A. Rusionis, M.D.
Instructor in Dermatology [1986]

Bahman Saatian, M.D.
Instructor in Medicine [2008]

Mustapha Saheed, M.D.
Instructor in Emergency Medicine [2008]

Rose Marie Samaniego, M.D.
Instructor in Pediatrics [1985]

Eric Samstad, M.D.
Instructor in Psychiatry [2005]

Lakshmi Santhanam, Ph.D.
Instructor in Anesthesiology and Critical Care Medicine [2009]

Geeta Sarphare, Ph.D.
Instructor in Psychiatry [2006]

Nicola C. Sater, M.D.
Instructor in Psychiatry [2003]

Mark D. Scarupa, M.D.
Instructor in Medicine [2004]

Nicoline Schiess, M.D.
Instructor in Neurology [2008]

Patricia L. Schmoke, M.D.
Instructor in Ophthalmology [1994]

Jeffrey Evan Schreiber, M.D.
Instructor of Plastic Surgery [2006]

Arthur Schroeder, M.D.
Instructor in Medicine [1984]

Jakob C.L. Schutz, M.D.
Instructor in Radiology [2009]

Jerry Ellis Seals, M.D.
Instructor in Medicine [1997]

Paul E. Segal, D.O.
Instructor in Medicine [2007]

Laura Jean Seidel, M.D.
Instructor in Psychiatry [2001]

Carlton C. Sexton, M.D.
Instructor in Radiology and Radiological Science [1983]

Ami Aalok Shah, M.D.
Instructor in Medicine [2009]

Deepak A. Shah, M.D.
Instructor in Medicine [2008]

Meir Shamay, Ph.D.
Instructor in Oncology [2007]

Lauren T. Shapiro, M.D.
Instructor in Physical Medicine and Rehabilitation [2008]

Michael B. Shapiro, M.D.
Instructor in Orthopedic Surgery [2002; 2001]

Richard Morris Shapiro, M.D.
Instructor in Anesthesiology and Critical Care Medicine [2002]

Robert A. Shaw, M.D.
Instructor in Medicine [1988]

Elias K. Shaya, M.D.
Instructor in Radiology and Radiological Science [1990], Instructor in Medicine [1990; 2007]

Ardele G. Shefchek, M.D.
Instructor in Pediatrics [1987]

Ronald L. Sherman, D.P.M.
Instructor in Orthopedic Surgery [2002]

Taha Z. Shipchandler, M.D.
Instructor in Otolaryngology-Head and Neck Surgery [2009]

Marilyn Short, M.D.
Instructor in Gynecology and Obstetrics [1988]

Kelly Showalter, M.S.
Instructor in Physical Medicine and Rehabilitation [2008]

Margaret Showel, M.D.
Instructor in Oncology [2009]

Samir F. Shureih, M.D.
Instructor of Plastic Surgery [1984]

Janet Volk Siddiqui, M.D.
Instructor in Pediatrics [2005]

Zishan K. Siddiqui, M.D.
Instructor in Medicine [2006]

Aniket R. Sidhaye, M.D.
Instructor in Pediatrics [2006], Instructor in Medicine [2007]

Allen E. Silver, M.D.
Instructor in Ophthalmology [1991]

Michael A. Silverman, M.D.
Instructor in Emergency Medicine [1998]

Eric Simball, M.D.
Instructor in Medicine [2001]

Georgette A. Sims, M.D.
Instructor in Pediatrics [1988]

Ghassan Sinada, D.D.S.
Instructor in Otolaryngology-Head and Neck Surgery [2006] (to 05/16/09)

Michele Singer, M.D.
Instructor in Pediatrics [2004]

Devinder Singh, M.D.
Instructor of Plastic Surgery [2009]

Vikesh K. Singh, M.D.
Instructor in Medicine [2008]

I-Mei Siu, Ph.D.
Instructor in Neurological Surgery [2009; 2003]

Bernard Slosberg, M.D., M.P.H.
Instructor in Medicine [2005]

Brad Tibbetts Smith, M.P.H., M.B.A.
Instructor in Medicine [2008]

Cynthia A. Smith, Ph.D.
Instructor in Psychiatry [2002]

Hermon W. Smith, M.D.
Instructor in Pediatrics [1989]

Milena H. Smith, M.D., Ph.D.
Instructor in Psychiatry [2005]

Lee Alison Snyder, M.D.
Instructor in Ophthalmology [2008; 2003]

Ramona F. Sobhani, M.D., M.P.H.
Instructor in Medicine [2006]

Jonathan David Solomon, M.D.
Instructor in Ophthalmology [2006]

Patrick Ryan Sosnay, M.D.
Instructor in Medicine [2008]

Armando Soto, M.D.
Instructor of Plastic Surgery [2002]

Paul Levi Soto, Ph.D.
Instructor in Psychiatry [2008]

Stephen Martin Sozio, M.D.
Instructor in Medicine [2009]

Matt W. Specht, Ph.D.
Instructor in Psychiatry [2008]

Anirudh Sridharan, M.D.
Instructor in Medicine [2006]

Rose Stavinocha, M.D.
Instructor in Otolaryngology-Head and Neck Surgery [2009]

Kelly Brungardt Stein, M.D.
Instructor in Medicine [2009]

Howard Steiner, M.D.
Instructor in Medicine [1990]

R. Scott Strahlman, M.D.
Instructor in Pediatrics [1985]

Leon Strauss, M.D., Ph.D.
Instructor in Ophthalmology [1990]

David Strobel, M.D.
Instructor in Dermatology [1984]

Baogen Y. Su, Ph.D.
Instructor in Anesthesiology and Critical Care Medicine [2007] (to 08/10/09)

Qingning Su, Ph.D.
Instructor in Anesthesiology and Critical Care Medicine [2005]

Troy Sullivan, M.D.
Instructor in Medicine [2008]

Meenakshi Suman, M.D.
Instructor in Psychiatry [2007]

Anil Suryaprasad, M.D.
Instructor in Medicine [2007]

Richard M. Susel, M.D.
Instructor in Ophthalmology [2006]

Labib H. Syed, M.D.
Instructor in Radiology [2008]

Boglarka Szabo, M.D.
Instructor in Psychiatry [2004]

Myron J. Szczukowski, Jr., M.D.
Instructor in Orthopedic Surgery [1998]

Darlene B. Tad-Y, M.D.
Instructor in Medicine [2008]

Jade Marie Tan, M.D.
Instructor in Pediatrics [2008]

Carol F. Tankard, Ph.D.
Instructor in Psychiatry [2007]

Elizabeth Lyn Tanzi, M.D.
Instructor in Dermatology [2005]

Lila Tarmin, M.D.
Instructor in Medicine [2000]

Eddie L. Taylor, Jr., M.D.
Instructor in Radiology [2009]

John K. Taylor, III, D.D.S.
Instructor in Otolaryngology-Head and Neck Surgery [2008]

Lori S. Taylor, M.D.
Instructor in Radiology [2009]

Raymond Taylor, Jr., M.D.
Instructor in Medicine [2006]

Nik Tchopev, M.D., M.B.A.
Instructor in Pediatrics [2008], Instructor in Medicine [2008; 2009]

Jacob Tendler, M.D.
Instructor in Psychiatry [1982]

Stephanie Alicia Terezakis, M.D.
Instructor in Radiation Oncology and Molecular Radiation Sciences [2009] (from 08/17/09)

Tamara DeShawn Terry, M.D.
Instructor in Gynecology and Obstetrics [2006]

S. Marc Testa, Ph.D.
Instructor in Psychiatry [2007]

Oleg M. Teytelboym, M.D.
Instructor in Radiology [2008] (to 07/31/09)

Rajiv N. Thakkar, M.D.
Instructor in Medicine [2006]

Sumeska Thavarajah, M.D.
Instructor in Medicine [2005]

Kathryn Thomas, Ph.D.
Instructor in Psychiatry [2005]

Jon Tilburt, M.D., M.P.H.
Instructor in Medicine [2007]

Haruka Matsubara Torok, M.D.
Instructor in Medicine [2009]

Patryce A. Toye, M.D.
Instructor in Medicine [1990]

Tina Pham Tran, M.D.
Instructor in Anesthesiology and Critical Care Medicine [2008]

Erik Tryggestad, Ph.D.
Instructor in Radiation Oncology and Molecular Radiation Sciences [2006]

Alice Ho Tsai, M.D.
Instructor in Pediatrics [2006]

Jackson T. Tsai, M.D.
Instructor in Pediatrics [2006]

Salina Doris Tsai, M.D.
Instructor in Radiology [2008]

Susan Tsai, M.D.
Instructor in Surgery [2008]

Tonya Denise Tuggle, M.D.
Instructor in Psychiatry [1998]

Elizabeth Turin, M.D.
Instructor in Psychiatry [2005]

Sayeedha Uddin, M.D., M.P.H.
Instructor in Gynecology and Obstetrics [2005] (to 08/31/09)

Tracy D. Vannorsdall, Ph.D.
Instructor in Psychiatry [2009]

Edith Margaret Vargo, M.D.
Instructor in Medicine [1998]

Rebecca Gaye Vaurio, Ph.D.
Instructor in Psychiatry [2007]

Martha Luz Velez, M.D.
Instructor in Pediatrics [2000]

Farhad Vesuna, Ph.D.
Instructor in Radiology and Radiological Science [2009]

Kittane S. Vishnupriya, M.D.
Instructor in Medicine [2007]

Thomas B. Volatile, M.D.
Instructor in Orthopedic Surgery [1998]

Stanley B. Wadsworth, M.S.
Instructor in Radiology [1975]

Barry Jay Waldman, M.D.
Instructor in Orthopedic Surgery [1998]

Chao Wan, M.D.
Instructor in Orthopaedic Surgery [2009] (from 07/15/09)

George C. Wang, M.D.
Instructor in Medicine [2008]

Hang Wang, Ph.D.
Instructor in Urology [2007]

Kenneth C. Wang, M.D.
Instructor in Radiology [2009]

Lana Warren, M.S.
Instructor in Physical Medicine and Rehabilitation [1981]

Catherine L. Washburn, M.D.
Instructor in Medicine [2006]

Carla J. Weisman, M.D.
Instructor in Gynecology and Obstetrics [2006]

David S. Weisman, D.O.
Instructor in Medicine [2004]

Claire Marie Weitz, M.D.
Instructor in Gynecology and Obstetrics [1983]

Melvin Welinsky, M.D.
Instructor in Medicine [1989]

Walter R. Welzant, M.D.
Instructor in Medicine [1964; 1962]

Bo Wen, Ph.D.
Instructor in Medicine [2009]

Michael J. West, M.D., Ph.D.
Instructor in Medicine [2008]

Mary Westergaard, M.D.
Instructor in Emergency Medicine [2008]

Jeffrey Lawrence Wexler, M.D.
Instructor in Ophthalmology [1995]

Kanthi Wickramaratne, M.D.
Instructor in Medicine [2006]

Paul R. Willging, Ph.D.
Instructor in Medicine [2006]

Donna L. Willis, M.D.
Instructor in Medicine [1991]

E. Hunter Wilson, Jr., M.D.
Instructor in Medicine [1973; 1959]

Thomas Scott Wilson, M.D., Ph.D.
Instructor in Medicine [1995]

John P. Witt, M.D.
Instructor in Psychiatry [1973; 2002]

Raymond A. Wittstadt, M.D.
Instructor in Orthopedic Surgery [2001]

Ericka L. Wodka, Ph.D.
Instructor in Psychiatry [2008]

Edward J. Wolf, M.D.
Instructor in Medicine [1994; 1986]

Irving D. Wolfe, M.D.
Instructor in Dermatology [1992]

Bruce S. Wolock, M.D.
Instructor in Orthopedic Surgery [1990]

Siew-Jyu Wong, M.D.
Instructor in Pediatrics [1991]

Dakara Rucker Wright, M.D.
Instructor in Dermatology [2009]

Renee Wright, M.D.
Instructor in Medicine [2006]

Jean Wu, M.D.
Instructor in Medicine [2006; 1999]

Shaoguang Wu, M.D.
Instructor in Medicine [2003; 1997]

Xinyan Wu, Ph.D.
Instructor in Biological Chemistry [2009]

Peter K. Wung, M.D.
Instructor in Medicine [2009]

Lisa A. Wuyek, Ph.D.
Instructor in Psychiatry [2008]

Jenel Steele Wyatt, M.D.
Instructor in Medicine [2006]

Gerald Wyse, M.D.
Instructor in Radiology [2008]

Shuli Xia, Ph.D.
Instructor in Neurology [2006]

Lisa Renee Yanek, M.P.H.
Instructor in Medicine [2009; 2000]

Jun Yang, Ph.D.
Instructor in Pediatrics [2006]

Zeng-jin Yang, M.D., Ph.D.
Instructor in Anesthesiology and Critical Care
Medicine [2009]

Laurel G. Yap, M.D.
Instructor in Pediatrics [1992]

Mohammad H. Yavari Rad, M.D.
Instructor in Physical Medicine and Rehabilitation
[2007]

Nancy Younan, M.D.
Instructor in Psychiatry [2000]

Mohammed Younus, M.D.
Instructor in Psychiatry [2001]

Albert A. Zachik, M.D.
Instructor in Psychiatry [1996]

Sammy Zakaria, M.D., M.P.H.
Instructor in Medicine [2008]

Michelle Nabulumba Zikusoka, M.D.
Instructor in Medicine [2009]

Neal B. Zimmerman, M.D.
Instructor in Orthopedic Surgery [1989]

Raymond H. Zollinger, M.D., M.B.A.
Instructor in Medicine [2003]

Jamshed A. Zuberi, M.D., M.P.H.
Instructor in Surgery [2008]

INSTRUCTORS EMERITI

John A.C. Colston, Jr., M.D.
Instructor Emeritus in Urology [1994; 1954]

Myrna T. Estruch, M.D.
Instructor Emerita in Medicine [1998; 1971]

D.C. Wharton Finney, M.D.
Instructor Emeritus in Surgery [1990; 1960]

Norman R. Freeman, Jr., M.D.
Instructor Emeritus in Medicine [1989; 1950]

Donald I. Gallagher, M.D.
Instructor Emeritus in Gynecology and Obstetrics
[1989]

Norton I. Gettes, M.D.
Instructor Emeritus in Orthopedic Surgery [1962]

James M. Hitzrot, II, M.D.
Instructor Emeritus in Orthopedic Surgery [1992;
1962]

Walter T. Kees, M.D.
Instructor Emeritus in Medicine [1974; 1951]

Clayton N. Norton, M.D.
Instructor Emeritus in Pediatrics [1989; 1957]

Proinnias O'Croinin, M.B.B.Ch.
Instructor Emeritus in Pediatrics [2000; 1974]

Michael D. Potash, M.D.
Instructor Emeritus in Psychiatry [1962]

John B. Saratsiotis, M.D.
Instructor Emeritus in Pediatrics [1981; 1972]

Jerome Sherman, M.D.
Instructor Emeritus in Medicine [1989; 1959]

Eli A. Timoll, M.D.
Instructor Emeritus in Gynecology and Obstetrics
[2006; 1977]

H. Thomas Unger, M.D.
Instructor Emeritus in Psychiatry [1997; 1967]

ASSISTANTS

Anil Thomas Abraham, M.D.
Assistant in Anesthesiology and Critical Care
Medicine [2009]

Donald W. Alves, M.D.
Assistant in Emergency Medicine [2007]

Sarah Anis, M.D.
Assistant in Ophthalmology [2009]

Charles Andrew Bergman, M.D.
Assistant in Emergency Medicine [2004]

Deborah G. Bervinchak, M.A.
Assistant (Audiology & Speech) in Otolaryngology-
Head and Neck Surgery [1998]

Anna Bordelon, M.D.
Assistant in Ophthalmology [2009]

Stephen Bowditch, M.S.
Assistant in Otolaryngology-Head and Neck
Surgery [1999]

Jill D. Brensinger Trimbath, M.S.
Assistant in Medicine [2002]

Molly E. Campion, M.S.
Assistant in Physical Medicine and Rehabilitation
[1998; 2002]

Ryan Carpenter, Au.D.
Assistant (Audiology & Speech) in Otolaryngology-
Head and Neck Surgery [2004]

Courtney L. Carver, Au.D.
Assistant (Audiology & Speech) in Otolaryngology-
Head and Neck Surgery [2004]

Kristin Marie Ceh, M.E.
Assistant in Otolaryngology-Head and Neck
Surgery [1999]

Carroll F. Celentano, M.S.N.
Assistant in Gynecology and Obstetrics [1992;
1991]

Jill E. Chinnici, M.A.
Assistant (Audiology & Speech) in Otolaryngology-
Head and Neck Surgery [1998]

Alan B. Cohen, M.D.
Assistant in Medicine [1967]

James E. Corwin, M.D.
Assistant in Emergency Medicine [2006]

Jonathan David Cuda, M.D.
Assistant in Pathology [2009]

Steven Clark Cunningham, M.D.
Assistant in Surgery [2009]

Yassine J. Daoud, M.D.
Assistant in Ophthalmology [2009]

Tejwant S. Datta, M.D.
Assistant in Surgery [2009]

Robert W. Davis, D.O.
Assistant in Ophthalmology [2009]

Tyler C. DeLange, M.D.
Assistant in Emergency Medicine [2009]

Niccolo D. Della Penna, M.D.
Assistant in Psychiatry [2007]

Aram Demirjian, M.D.
Assistant in Surgery [2009]

Mark P. Diamond, M.D.
Assistant in Medicine [1979]

Roni E. Dinkes, M.S.
Assistant in Otolaryngology-Head and Neck
Surgery [2002]

Hamid Ehsani, M.D.
Assistant in Emergency Medicine [2007]

Caren Euster, M.D., M.P.H.
Assistant in Emergency Medicine [2006]

Isadore A. Feldman, M.D.
Assistant in Emergency Medicine [2006]

E. Robert Feroli, Jr., Pharm.D.
Assistant in Medicine [1980]

Joel Mark Fradin, M.D.
Assistant in Radiology and Radiological Science
[1998; 1993]

Marianne M. Franco, M.D.
Assistant in Surgery [2009]

Hillary Ganek, M.A.
Assistant in Otolaryngology-Head and Neck
Surgery [2009] (from 07/15/09)

Jaleh Sue Garman, M.S.
Assistant (Audiology & Speech) in Otolaryngology-
Head and Neck Surgery [2002]

Helene S. Goldberg, M.P.H.
Assistant in Psychiatry [1993]

Nephtali R. Gomez, M.D.
Assistant in Surgery [2009]

Paul William Grutter, M.D.
Assistant in Orthopaedic Surgery [2008] (to
07/31/09)

Janice E. Hedblom, M.S.W.
Assistant in Psychiatry [1981; 2004]

Krista J. Heinlen, Au.D.
Assistant (Audiology & Speech) in Otolaryngology-
Head and Neck Surgery [2008]

Karen Marie Hladik, M.D.
Assistant in Emergency Medicine [2001]

Charles F. Hoesch, M.D.
Assistant in Medicine [1981]

Steven C. Hortopan, M.P.H.
Assistant in Urology [1997]

Ning Hu, M.D.
Assistant in Emergency Medicine [2009] (from
09/01/09)

Michael E. Hull, M.D.
Assistant in Emergency Medicine [2006]

Adam D. Jacobowitz, M.D.
Assistant in Ophthalmology [2009]

Nicholas Jaszczak, M.D.
Assistant in Surgery [2009] (from 07/13/09)

John A. Johansen, M.D.
Assistant in Orthopaedic Surgery [2009] (from
08/01/09)

Ryan David Katz, M.D.
Assistant in Anesthesiology and Critical Care
Medicine [2009]

Muge R. Kesen, M.D.
Assistant in Ophthalmology [2009]

Ben J. Kim, M.D.
Assistant in Ophthalmology [2008]

George J. Koenig, Jr., D.O.
Assistant in Surgery [2009] (from 07/13/09)

John J. Koo, M.D.
Assistant in Ophthalmology [2008]

Gail Glotfelty Kramer, M.D.
Assistant in Emergency Medicine [2006]

Jacklynn R. Krick, M.S.
Assistant in Pediatrics [1980]

Meredith A. Lakey, M.D.
Assistant in Pathology [2009]

Angela Teresa Lataille, Au.D.
Assistant (Audiology & Speech) in Otolaryngology-
Head and Neck Surgery [2004]

George D. Lawrence, M.D.
Assistant in Medicine [1981]

Tao Tuan Le, M.D.
Assistant in Medicine [2005]

David James Leu, M.D.
Assistant in Orthopaedic Surgery [2009] (from
08/01/09)

Aisha Ann Macedo, M.D.
Assistant in Ophthalmology [2009] (from 07/06/09)

Alexander MacKenzie, Ph.D.
Assistant in Medical Psychology in the Department
of Psychiatry [1985; 1976]

Alexis G. Malkin, O.D.
Assistant in Ophthalmology [2009]

Andrea Marlowe, M.A.
Assistant (Audiology & Speech) in Otolaryngology-
Head and Neck Surgery [2006]

Michael D. Mauro, D.O.
Assistant in Orthopaedic Surgery [2009] (from
08/01/09)

Dan H. McDougal, M.D.
Assistant in Medicine [1985]

Gregory Stuart McLoughlin, M.D.
Assistant in Orthopaedic Surgery [2009] (from
08/01/09)

Mariah P. Menichino, Au.D.
Assistant (Audiology & Speech) in Otolaryngology-
Head and Neck Surgery [2006]

David I. Miller, M.D.
Assistant in Medicine [1962]

Vijayachandra S. Nair, M.D.
Assistant in Medicine [1985]

Michael Thomas O'Malley, M.D.
Assistant in Pathology [2009]

Michael P. O'Reilly, M.D.
Assistant in Orthopaedic Surgery [2008] (to
07/31/09)

Hardin A. Pantle, M.D.
Assistant in Emergency Medicine [2004], Assistant
in Pediatrics [2004]

Jason Young Park, M.D., Ph.D.
Assistant in Pathology [2009]

Brian Pinto, Pharm.D.
Assistant in Medicine [2007]

Marshall Frank Prentice, D.D.
Assistant in Medicine [1993]

Bryan D. Propes, M.D.
Assistant in Ophthalmology [2008]

Shannon Bandy Putman, M.D.
Assistant in Emergency Medicine [2005]

Lynn Reeni Rider, M.A.
Assistant (Audiology & Speech) in Otolaryngology-
Head and Neck Surgery [2008]

Ahren C. Rittershaus, M.D.
Assistant in Pathology [2009]

Norman Robertson, M.D.
Assistant in Psychiatry [2007]

Linda Rogers, C.R.N.P., B.S.
Assistant in Psychiatry [2000]

Arthur L. Rudo, M.D.
Assistant in Medicine [1980]

Colleen E. Ryan-Bane, M.S.
Assistant (Audiology & Speech) in Otolaryngology-
Head and Neck Surgery [2000]

Saeed Salehinia, M.D.
Assistant in Psychiatry [2007]

Patricia A. Savadel, M.D.
Assistant in Medicine [1984]

Nicholas P. Schweizer, M.S.
Assistant in Psychiatry [2006]

Nathan A. Scott, III, M.D.
Assistant in Medicine [1987]

Kenneth M. Shermock, Pharm.D.
Assistant in Medicine [2009]

Chanjuan Shi, M.D., Ph.D.
Assistant in Pathology [2010] (from 01/01/10)

Dyanne Simpson, D.O.
Assistant in Psychiatry [2007]

Nathan R. Sklar, M.D.
Assistant in Radiology and Radiological Science
[1998; 1993]

Silvia Skripenova, M.D.
Assistant in Pathology [2009]

Patricia Smouse, M.S.N.
Assistant in Pediatrics [1989]

Akrit Sodhi, M.D., Ph.D.
Assistant in Ophthalmology [2008]

Divya Srikumaran, M.D.
Assistant in Ophthalmology [2009]

Kalliopi Stasi, M.D., Ph.D.
Assistant in Ophthalmology [2008] (to 07/06/09)

Donald Craver Swing, Jr., M.D.
Assistant in Pathology [2009]

David Andrew Tompkins, M.D.
Assistant in Psychiatry [2008]

Melvin B. Tuggle, II, D.D.
Assistant in Medicine [1993]

Jeffrey Jahan Vakil, M.D.
Assistant in Orthopaedic Surgery [2008] (to
07/31/09)

Herbert W. Watson, Jr., M.Div
Assistant in Medicine [1994]

Alicia D. White, M.S.
Assistant (Audiology & Speech) in Otolaryngology-
Head and Neck Surgery [2003]

Mallene Wiggin, M.A.
Assistant (Audiology & Speech) in Otolaryngology-
Head and Neck Surgery [2008]

Alice L. Wilkenfeld, M.D.
Assistant in Emergency Medicine [2004]

Lonny Brett Yarmus, D.O.
Assistant in Medicine [2009]

Jennifer Dobson Yeagle, M.E.
Assistant in Otolaryngology-Head and Neck
Surgery [1999]

LECTURERS

Kulwant S. Ahluwalia, M.D.
Lecturer in Pediatrics [2001; 1976]

David C. Allison, M.D., Ph.D.
Lecturer in Surgery [1992; 1986]

Robert J. Ancona, M.D.
Lecturer in Pediatrics [2007; 1985]

Arnold E. Andersen, M.D.
Lecturer in Psychiatry [1991; 1976]

James R. Banks, M.D.
Lecturer in Pediatrics [2007; 1984]

John E. Bennett, M.D.
Lecturer in Medicine [1980; 1977]

John A. Boscia, M.D.
Lecturer in Pediatrics [2007; 1983]

Steven E. Caplan, M.D.
Lecturer in Pediatrics [2007; 1979]

Tracey Clark, M.D.
Lecturer in Pediatrics [2006]

Michael R. Cranfield, D.V.M.
Lecturer in Molecular and Comparative
Pathobiology [1982]

Vittorio Daniore, M.D.
Lecturer in Gynecology and Obstetrics [2003]

Joseph M. Dieter, Jr.
Lecturer in Art as Applied to Medicine [1980]

Barbara A. Duffy, M.D.
Lecturer in Pediatrics [2007; 1993]

Anthony G. Durmowicz, M.D.
Lecturer in Pediatrics [2007]

Allen Foster, M.D.
Lecturer in Ophthalmology [1985]

Thomas R. Gadacz, M.D.
Lecturer in Surgery [1991; 1975]

Elizabeth M. Galik, M.S.N.
Lecturer in Psychiatry [1999]

Grace K. Gelletly, M.D.
Lecturer in Pediatrics [2007; 1987]

Dawn Goodman, D.V.M.
Lecturer in Molecular and Comparative
Pathobiology [1978]

Tasha Zemrus Greenberg, M.D.
Lecturer in Pathology [2007]

Florence P. Haseltine, M.D., Ph.D.
Lecturer in Gynecology and Obstetrics [2001]

Dennis L. Headings, M.D.
Lecturer in Pediatrics [2001; 1976]

Paul S. Hees, Ph.D.
Lecturer in Medicine [2005; 1994]

Stephen A. Holve, M.D.
Lecturer in Pediatrics [1999; 1991]

Linda Hovanec, M.Ed.
Lecturer in Psychiatry [1999]

Diana C. Hu, M.D.
Lecturer in Pediatrics [1999; 1991]

Walter T. Hughes, Jr., M.D.
Lecturer in Pediatrics [1981; 1977]

Jeffrey S. Iding, M.D.
Lecturer in Pathology [2008; 2007]

A. Everette James, Jr., M.D., J.D.
Lecturer in Radiology and Radiological Science
[1994]

Mohammed Khalid, M.D.
Lecturer in Medicine [2005]

Catherine E. Kiefe, B.S.
Lecturer in Art as Applied to Medicine [2004]

Michael E. Langbaum, M.D.
Lecturer in Pediatrics [2007; 1992]

Maira P. Larsen, M.D.
Lecturer in Pathology [1991]

James Laron Locke, M.D.
Lecturer in Pathology [1996]

Mary J. Marcin, M.D.
Lecturer in Pediatrics [2007; 1977]

Diana Weedman Molavi, M.D., Ph.D.
Lecturer in Pathology [2007; 2006]

John D. Newman, Ph.D.
Visiting Lecturer in Pediatrics [1988]

Arnold L. Oronsky, Ph.D.
Lecturer in Medicine [1982]

Byron C. Pevehouse, M.D.
Visiting Lecturer in Neurological Surgery [1991]

Henry A. Pitt, M.D.
Lecturer in Surgery [1998; 1985]

Carmel Roques, M.A.
Lecturer in Psychiatry [1999]

Steven A. Rosenberg, M.D., Ph.D.
Lecturer in Surgery [1977]

Christine A. Ruggere, M.S.
Lecturer in History of Medicine [1997]

David A. Salikof, M.D.
Lecturer in Pediatrics [2006]

Arturo Q. Santos, M.D.
Lecturer in Pediatrics [2001; 1988]

Steven S. Sharfstein, M.D.
Lecturer in Psychiatry [1987]

Melissa Marks Sparrow, M.D.
Lecturer in Pediatrics [2006]

Willard E. Standiford, M.D.
Lecturer in Pediatrics [2007]

Michael D. Walker, M.D.
Visiting Lecturer in Neurological Surgery [1986;
1974]

Joan Whitehouse-Gibble, M.D.
Lecturer in Pathology [1992; 1981]

David Yager, M.F.A.
Lecturer in Pediatrics [2006]

Julie Yeh, M.D.
Lecturer in Pediatrics [2006]

Jennifer M. Zanni, M.S.
Lecturer in Physical Medicine and Rehabilitation
[2009]

Mohsen Ziai, M.D.
Lecturer in Pediatrics [1969; 1965]

Michael J. Zinner, M.D.
Lecturer in Surgery [1992]

LECTURERS EMERITI

Gerald D. Klee, M.D.
Lecturer Emeritus in Psychiatry [1976]

George D. Zuidema, M.D.
Lecturer Emeritus in Surgery [1999; 1964]

RESEARCH ASSOCIATES

Yohannes Afework, M.Sc.
Research Associate in Radiology [2002]

Rachana Agarwal, Ph.D.
Research Associate in Medicine [2006]

Emilia Albesiano, Ph.D.
Research Associate in Oncology [2008]

Richard P. Allen, Ph.D.
Research Associate in Neurology [2002; 1980]

Ravi Kumar Anchoori, Ph.D.
Research Associate in Oncology [2008]

Daniel John Angelini, Ph.D.
Research Associate in Anesthesiology and Critical
Care Medicine [2009]

Miguel Antonio Aon, Ph.D.
Research Associate in Medicine [2004; 2001]

Todd D. Armstrong, Ph.D.
Research Associate in Oncology [2003]

Stacey Marie Arnold, Ph.D.
Research Associate in Medicine [2009]

Jennifer E. Axilbund, M.S.
Research Associate in Oncology [2005]

Charles Richard Baffi, Ph.D.
Research Associate in Oncology [2008]

Renyuan Bai, M.B.B.S.
Research Associate in Neurological Surgery
[2005]

Gilson Baia, Ph.D.
Research Associate in Neurological Surgery
[2009]

Marie Bailey-Kloch, MSW
Research Associate in Medicine [2008]

Rosanna P. Baker, M.Sc.
Research Associate in Molecular Biology and
Genetics [2006]

Rahul P. Bakshi, Ph.D.
Research Associate in Medicine [2005]

Veera Venkata Ratnam Bandaru, Ph.D.
Research Associate in Neurology [2008]

Clare Li-June Bao, M.A.
Research Associate in Medicine [2005]

Grace Link Barnes, M.P.H.
Research Associate in Medicine [2006]

Roxanne K. Barrow, B.S.
Research Associate in Neuroscience [1988]

Marian L. Batts-Turner, M.S.N.
Research Associate in Medicine [2001]

Robert M. Beaty, Ph.D.
Research Associate in Oncology [2003; 2007]

Cynthia A. Berlinicke, Ph.D.
Research Associate in Ophthalmology [2005]

Lena Bezman, M.D., M.P.H.
Research Associate in Neurology [2003]

Anil Bhunia, Ph.D.
Research Associate in Anesthesiology and Critical
Care Medicine [2008]

Imran A. Bhutto, M.B.B.S.
Research Associate in Ophthalmology [2007]

Genila M. Bibat, M.D.
Research Associate in Pediatrics [2001]

Barbara Anne Biedrzycki, M.S.N.
Research Associate in Oncology [2001]

Joan Glick Bieler, Ph.D.
Research Associate in Pathology [1995]

Subrata Biswas, Ph.D.
Research Associate in Medicine [2009]

Mark Bodner, Ph.D.
Research Associate in Neurological Surgery
[2005]

Susanne Bonekamp, Ph.D.
Research Associate in Radiology and Radiological
Science [2006]

Marta Bosch-Marce, Ph.D.
Research Associate in Neurology [2007]

Lelita Talamantez Braiterman, Ph.D.
Research Associate in Cell Biology [1998]

James Robert Brasic, M.D., M.P.H.
Research Associate in Radiology and Radiological
Science [2007]

Patricia L. Bright, Ph.D.
Research Associate in Pathology [2006]

Lynn Anne Bristol, Ph.D.
Research Associate in Neurology [1997]

Mary Elizabeth Brummet, M.S.
Research Associate in Medicine [2003]

Edward B. Bunker, M.P.H., M.S.
Research Associate in Health Sciences
Informatics [2008]

Frederick M. Burkle, Jr., M.D., M.P.H.
Research Associate in Emergency Medicine
[2002; 2000]

Youngjoo Byun, Ph.D.
Research Associate in Radiology [2007]

Huaibin Cai, Ph.D.
Research Associate in Pathology [2000]

Suyi Cao, M.D.
Research Associate in Anesthesiology and Critical Care Medicine [1999; 2004]

Shivaun A. Celano, Pharm.D.
Research Associate in Medicine [2000]

Boyoung Cha, Ph.D.
Research Associate in Medicine [2006]

Seung Hun Cha, Ph.D.
Research Associate in Biological Chemistry [2007]

Fumin Chang, Ph.D.
Research Associate in Anesthesiology and Critical Care Medicine [2008]

Chris Cheadle, Ph.D.
Research Associate in Medicine [2005]

Weiran Chen, M.D.
Research Associate in Neurology [2003]

Ying Chen, Ph.D.
Research Associate in Radiology [2008]

Jie Cheng, Ph.D.
Research Associate in Physiology [2002]

Sheila M. Cherry, Ph.D.
Research Associate in Physiology [2009]

Kristin L. Chichester, M.S.
Research Associate in Medicine [2000]

Chuang-Jiun Chiou, Ph.D.
Research Associate in Oncology [2006]

Gabriel Civallero, Ph.D.
Research Associate in Pediatrics [2009]

Michael I. Collector, B.S.
Research Associate in Oncology [1993]

Paul J. Converse, Ph.D.
Research Associate in Medicine [2002]

Frank M. Corl, M.S.
Research Associate in Radiology and Radiological Science [1998]

Sonia del Carmen Cortassa, Ph.D.
Research Associate in Medicine [2004; 2001]

Andrew H. Crabb, M.S.
Research Associate in Radiology [2000]

Poppy A.C. Crum, Ph.D.
Research Associate in Biomedical Engineering [2008]

Ying Cui, M.D.
Research Associate in Oncology [2005]

Arlene Dalcin, B.A.
Research Associate in Medicine [2009]

Nkossi C. Dambita, M.D., M.P.H.
Research Associate in Health Sciences Informatics [2007]

Lisa Wu Datta, M.S.
Research Associate in Medicine [2007]

Janice M. Davis-Sproul, M.A.S.
Research Associate in Oncology [1991; 2000]

Margaret de Cuevas, Ph.D.
Research Associate in Cell Biology [2004]

Marlin H. Dehoff, M.S.
Research Associate in Neuroscience [1999]

James T. Deremeik, M.S.
Research Associate in Ophthalmology [1999; 1994]

Francescopaolo Di Cello, Ph.D.
Research Associate in Medicine [2007]

Aling Dong, Ph.D.
Research Associate in Ophthalmology [2008]

Maire E. Doyle, Ph.D.
Research Associate in Medicine [2007]

Yong Du, Ph.D.
Research Associate in Radiology and Radiological Science [2005]

Michelle Nuttall Eakin, Ph.D.
Research Associate in Medicine [2009]

Gigi Jasmine Ebenezer, M.B.B.S., M.D.
Research Associate in Neurology [2004]

Georg Benedikt Ehret, M.D.
Research Associate in Pediatrics in Genetic Medicine [2008]

Eva Ehrlich, M.S.
Research Associate in Medicine [1989]

Julia N. Eron, Ph.D.
Research Associate in Otolaryngology-Head and Neck Surgery [2009]

Marjorie Elizabeth Ewertz, B.S.N.
Research Associate in Medicine [2006]

Mary Jo Fackler, Ph.D.
Research Associate in Oncology [2002]

Jed W. Fahey, M.S.
Research Associate in Pharmacology and Molecular Sciences [1993]

Mohamed H. Farah, Ph.D.
Research Associate in Neurology [2006]

Andreia Faria, M.D.
Research Associate in Radiology [2009]

Marcella Ferlito, Ph.D.
Research Associate in Medicine [2006]

Iwona Fijalkowska, Ph.D.
Research Associate in Medicine [2008]

Scott Finley, M.D., M.P.H.
Research Associate in Health Sciences Informatics [2004; 2003]

Raquel Formica, M.D.
Research Associate in Ophthalmology [2006]

Darren Brian Foster, Ph.D.
Research Associate in Medicine [2008]

Augusto A. Franco-Mora, Ph.D.
Research Associate in Medicine [2008; 2001]

Diane L. Frankenfield, D.P.H.
Research Associate in Pediatrics [2002]

Jodie G. Franklin, B.S.
Research Associate in Biological Chemistry [1990]

Timothy P. Friel, M.S.
Research Associate in Ophthalmology [1997]

DeXue Fu, Ph.D.
Research Associate in Oncology [2006]

Qin Fu, Ph.D.
Research Associate in Medicine [2005]

Zongming Fu, Ph.D.
Research Associate in Pediatrics [2008]

Edward J. Fuchs, M.B.A.
Research Associate in Medicine [2004]

George Shiu-Kai Fung, Ph.D.
Research Associate in Radiology [2008]

Alicia Rose Gable, M.P.H.
Research Associate in Pathology [2008]

Lucio Gama, M.Sc.
Research Associate in Molecular and Comparative Pathobiology [1998]

Shanmugasundara Ganapathy Kannappan, Ph.D.
Research Associate in Radiology [2006]

Li Gao, M.D., Ph.D.
Research Associate in Medicine [2005]

Ping Gao, Ph.D.
Research Associate in Medicine [2007]

Melissa Garland, M.S.
Research Associate in Radiology and Radiological Science [1998]

Sommer Elizabeth Gentry, Ph.D.
Research Associate in Surgery [2005]

Duane R. Geruschat, Ph.D.
Research Associate in Ophthalmology [1988]

Joseph S. Gillen, B.S.
Research Associate in Radiology and Radiological Science [1997]

Anne E. Gocke, Ph.D.
Research Associate in Neurology [2009]

Amy Lynne Goodrich, M.S.N.
Research Associate in Oncology [2005; 20]

David Green, M.P.H.
Research Associate in Ophthalmology [1999]

Joel Daniel Greenspan, Ph.D.
Research Associate in Neurological Surgery [2000]

Lydia June Gregg, M.A.
Research Associate in Radiology and Radiological Science [2007]

Sergio J. Gutierrez, M.D.
Research Associate in Neurology [2003]

Laura I. Gutierrez-Alamillo, M.D.
Research Associate in Medicine [2007]

Jane L. Halpern, M.D., M.P.H., D.P.H.
Research Associate in Medicine [1993]

Takashi Hayashi, Ph.D.
Research Associate in Neuroscience [2009] (to 08/31/09)

Bin He, Ph.D.
Research Associate in Radiology [2008]

Yiping He, Ph.D.
Research Associate in Oncology [2008]

Joseph G. Hennessey, B.S.
Research Associate in Psychiatry [1993]

J. Enrique Hererra-Galeano, M.S.
Research Associate in Medicine [2005]

Lynda D. Hester, A.A.
Research Associate in Neuroscience [1985]

Hakim Hiel, Ph.D.
Research Associate in Otolaryngology-Head and Neck Surgery [2001]

John Hilton, D.Phil.
Research Associate in Radiology and Radiological Science [1999]

Paul N. Hoffman, M.D., Ph.D.
Research Associate in Ophthalmology [1998; 1981]

Katherine Cullinan Holman, Ph.D.
Research Associate in Psychiatry [2003]

Craig M. Hooker, M.P.H.
Research Associate in Oncology [2002]

Edward Horowitz, B.A.
Research Associate in Medicine [1996]

Franck Housseau, Ph.D.
Research Associate in Oncology [2002]

Jiahua Hu, Ph.D.
Research Associate in Neuroscience [2009]

Lina Hu, M.D., Ph.D.
Research Associate in Neurology [2003]

Rong Hu, M.D., Ph.D.
Research Associate in Medicine [2008]

Hao Huang, Ph.D.
Research Associate in Radiology [2006]

Lanqing Huang, M.D., Ph.D.
Research Associate in Oncology [2004]

Yiping Huang, Ph.D., M.D.
Research Associate in Dermatology [2008]

Sherry Ann Hudson, MSB
Research Associate in Medicine [1997]

Thanh V. Huynh, Ph.D.
Research Associate in Molecular Biology and Genetics [1992]

You Sang Hwang, Ph.D.
Research Associate in Pharmacology and Molecular Sciences [2009]

Koko Ishizuka, M.D., Ph.D.
Research Associate in Psychiatry [2009] (from 09/01/09)

Susan Senchak Ishmael, Ph.D.
Research Associate in Medicine [2008]

Chuen-Chuen Jang, Ph.D.
Research Associate in Biological Chemistry [2009]

Mollie W. Jenckes, M.H.Sc.
Research Associate in Medicine [1998]

Jun Seop Jeong, Ph.D.
Research Associate in Pharmacology and Molecular Sciences [2009]

Xiaofeng Jia, M.D., Ph.D.
Research Associate in Biomedical Engineering [2007], Research Associate in Physical Medicine and Rehabilitation [2009]

Hangyi Jiang, Ph.D.
Research Associate in Radiology and Radiological Science [1999]

Chunfa (Charles) Jie, Ph.D.
Research Associate in Medicine [2002]

Zhe Jin, M.D., Ph.D.
Research Associate in Medicine [2006]

Melina Viola Jones, Ph.D.
Research Associate in Neurology [2006]

Richard Owen Jones, Ph.D.
Research Associate in Neurology [1998]

Shilpa D. Kadam, Ph.D.
Research Associate in Neurology [2008]

Laura M. Kallay, Ph.D.
Research Associate in Physiology [2007]

Yoichiro Kamimura, Ph.D.
Research Associate in Cell Biology [2008]

Parag Perry Karmarkar, M.S.
Research Associate in Radiology and Radiological Science [2002; 1998]

Varalakshmi Katuri, Ph.D.
Research Associate in Oncology [2009]

Zubair Khan, M.D., M.P.H.
Research Associate in Otolaryngology-Head and Neck Surgery [2007]

Sanjay Khare, Ph.D.
Research Associate in Oncology [2006] (to 10/05/09)

George R. Kim, M.D.
Research Associate in Pediatrics [2006],
Research Associate in Health Sciences Informatics [2006]

Hiroaki Kimura, Ph.D.
Research Associate in Pathology [2008]

Bonnie S. King, M.H.S.
Research Associate in Pathology [2009]

Jason Paul Kirkness, Ph.D.
Research Associate in Medicine [2009] (from 10/01/09)

Han Seok Ko, Ph.D.
Research Associate in Neurology [2008]

Carol Kobrin, Ph.D.
Research Associate in Oncology [2004]

Irina A. Kolosova, Ph.D.
Research Associate in Anesthesiology and Critical Care Medicine [2008]

Hiroyuki Konishi, M.D., Ph.D.
Research Associate in Oncology [2007]

Ferdynand J. Kos, Ph.D.
Research Associate in Oncology [2004]

Michael Kottgen, Ph.D., M.D.
Research Associate in Biological Chemistry [2007] (to 08/31/09)

Lisa Elinor Kratz, Ph.D.
Research Associate in Pediatrics [1996]

Balaji Krishnamachary, Ph.D.
Research Associate in Radiology and Radiological Science [2006]

Chitra Krishnan, M.S.
Research Associate in Neurology [2005]

Anil Kumar, M.B.B.S.
Research Associate in Radiology and Radiological Science [2007]

Hannah Kupfer, M.Sc.
Research Associate in Cell Biology [2004]

Herman E. A. Kwansa, Ph.D.
Research Associate in Anesthesiology and Critical Care Medicine [2003]

Bachchu Lal, Ph.D.
Research Associate in Neurology [2003]

Oleg V. Lapshin, M.D., Ph.D.
Research Associate in Medicine [2008]

Jessica Kiely Law, M.D., M.P.H.
Research Associate in Pediatrics [2006]

Ann Marie Lawler, Ph.D.
Research Associate in Physiology [2004; 2003]

Jeffrey Pettit Leal, B.A.
Research Associate in Radiology [1998; 2007]

Mohamed Lehar, M.D.
Research Associate in Otolaryngology-Head and Neck Surgery [2000]

M. Victor Lemas, Ph.D.
Research Associate in Oncology [1996]

Lisa K. Leventhal, M.S.
Research Associate in Medicine [2003]

Guanhan Li, M.D., Ph.D.
Research Associate in Neurology [2009] (from 09/26/09)

Jianguo David Li, M.D.
Research Associate in Medicine [2008]

Li Li, M.D., Ph.D.
Research Associate in Oncology [2007]

Wenxue Li, Ph.D.
Research Associate in Neurology [2004]

Xianghong Li, Ph.D.
Research Associate in Molecular Biology and Genetics [2008]

Yun Li, Ph.D.
Research Associate in Neurology [2007]

Zhao Bo Li, M.D., Ph.D.
Research Associate in Neurology [2005; 2006]

Zhi Li, Ph.D.
Research Associate in Neuroscience [2008]

Yideng Liang, M.D., Ph.D.
Research Associate in Neurology [2009]

Gangling Liao, Ph.D.
Research Associate in Oncology [2004]

Zhaohao Liao, M.D.
Research Associate in Molecular and Comparative Pathobiology [1998]

Da-Ting Lin, Ph.D.
Research Associate in Neuroscience [2007]

Chia-Ying Liu, Ph.D.
Research Associate in Radiology and Radiological Science [2009]

Guanshu Liu, Ph.D.
Research Associate in Radiology and Radiological Science [2008]

Hua Liu, Ph.D.
Research Associate in Pharmacology and Molecular Sciences [2006]

Jianyong Liu, M.D., Ph.D.
Research Associate in Oncology [2007]

Lixin Liu, Ph.D.
Research Associate in Surgery [2009]

Manchang Liu, M.D., Ph.D.
Research Associate in Medicine [2006]

Xiaoguang Liu, M.D., Ph.D.
Research Associate in Anesthesiology and Critical Care Medicine [2005]

Ye V. Liu, Ph.D.
Research Associate in Medicine [2007]

Lili Lu, Ph.D.
Research Associate in Ophthalmology [2003]

Wenju Lu, M.D.
Research Associate in Medicine [2008]

Yang Lu, Ph.D.
Research Associate in Neurology [2003]

Dong-Gen Luo, Ph.D.
Research Associate in Neuroscience [2009]

Antonio Jose Machado Segundo, M.D.
Research Associate in Radiology [2008]

Deborah MacMillan, M.S.N.
Research Associate in Gynecology and Obstetrics [2009]

Farideh Majidi, M.S.
Research Associate in Oncology [1995]

Kenji Mandai, Ph.D.
Research Associate in Neuroscience [2009]

Cherie L. Marvel, Ph.D.
Research Associate in Neurology [2006]

William B. Mathews, Ph.D.
Research Associate in Radiology and Radiological Science [1997]

Mary A. McAllister, M.A.
Research Associate in Radiology and Radiological Science [2004]

Jeffrey C. McCagh, Pharm.D.
Research Associate in Psychiatry [2003]

Nancy McCall, M.L.A.
Research Associate in History of Medicine [1982]

Deborah A. McClellan, Ph.D.
Research Associate in Health Sciences Informatics [1994], Research Associate in Pharmacology and Molecular Sciences [1986]

Sonya Nell Meeker, B.S.
Research Associate in Medicine [1997]

Tatiana Melnikova, M.D., Ph.D.
Research Associate in Pathology [2008]

Pamela Bernadette Meluh, Ph.D.
Research Associate in Molecular Biology and Genetics [2005]

David J. Meyers, Ph.D.
Research Associate in Pharmacology and Molecular Sciences [2005]

Ruifa Mi, Ph.D., M.D.
Research Associate in Neurology [2006]

Mona Adel Mohamed, M.B.B.Ch.
Research Associate in Radiology and Radiological Science [2007]

Aigul K. Moldobaeva, M.D., Ph.D.
Research Associate in Medicine [1999]

Noriko Mori, M.S.
Research Associate in Radiology [2005]

Ann S. Morrison, Ph.D.
Research Associate in Psychiatry [2005]

Ann B. Moser, B.A.
Research Associate in Neurology [1989; 1981]

Mahnaz Motevalli, M.S.
Research Associate in Pathology [2008]

Taryn F. Moy, M.S.
Research Associate in Medicine [1995]

Tracy Murray-Stewart, M.A.
Research Associate in Oncology [2009]

Menekhem Muz Zviman, Ph.D.
Research Associate in Medicine [2005]

Mohammad Naqibuddin, M.P.H.
Research Associate in Medicine [2006]

Gueno G. Nedeltchev, D.V.M.
Research Associate in Medicine [2006]

Suzanne Amato Nesbit, Pharm.D.
Research Associate in Oncology [2005]

Qiang Ni, M.S.
Research Associate in Pharmacology and Molecular Sciences [2006]

Kimberly Ann Noonan, M.P.H.
Research Associate in Oncology [2008]

Alexandru Vasile Oлару, M.D.
Research Associate in Medicine [2009]

Darin B. Ostrander, Ph.D.
Research Associate in Medicine [2008]

Baohan Pan, Ph.D.
Research Associate in Neurology [2004]

Fan Pan, Ph.D., M.D.
Research Associate in Oncology [2002]

Niranjan Pandey, Ph.D.
Research Associate in Biomedical Engineering [2009]

Jong Myun Park, Ph.D.
Research Associate in Medicine [2006]

Thomas L. Parks, M.S.
Research Associate in Medicine [2007]

Teresa L. Parsons, Ph.D.
Research Associate in Medicine [2005]

Mary Ellen Pease, M.S.
Research Associate in Ophthalmology [2007]

Zhengtong Pei, M.D.
Research Associate in Neurology [2005]

Shiwen Peng, Ph.D.
Research Associate in Pathology [2003]

Doru Stefanita Petrisor, Ph.D.
Research Associate in Urology [2008]

Paul A. Pham, Pharm.D.
Research Associate in Medicine [1998]

James Philbin, Ph.D.
Research Associate in Radiology [2005]

Klaus B. Piontek, Ph.D.
Research Associate in Medicine [1999] (to 08/31/09), Research Associate in Oncology [1999; 2009] (from 09/01/09)

Olga Pletnikova, M.D.
Research Associate in Pathology [2005]

James J. Potter, B.S.
Research Associate in Medicine [1995; 1988]

Umair Qazi, M.D., M.P.H.
Research Associate in Surgery [2008]

Di Qian, M.S.
Research Associate in Radiology and Radiological Science [2004]

Lu Qin, B.S.
Research Associate in Oncology [2002]

Qin Qin, Ph.D.
Research Associate in Radiology and Radiological Science [2009]

Tamara Ratovitski, M.Sc.
Research Associate in Psychiatry [2004]

Amir Rattner, Ph.D.
Research Associate in Molecular Biology and Genetics [2000]

Hayden T. Ravert, Ph.D.
Research Associate in Radiology and Radiological Science [1993]

Sangeeta Ray, Ph.D.
Research Associate in Radiology and Radiological Science [2005]

Karen A. Robinson, M.Sc.
Research Associate in Medicine [2003], Joint Appointment in Health Sciences Informatics [2004; 2003]

Laura E. Rocco, M.S.
Research Associate in Medicine [1992]

Olivier Rousset, Ph.D.
Research Associate in Radiology and Radiological Science [2004]

Fei Ru, M.D., Ph.D.
Research Associate in Medicine [2008]

Beulah Perdue Sabundayo, Pharm.D., M.P.H.
Research Associate in Medicine [2002]

Sofiyam Saleem, Ph.D.
Research Associate in Anesthesiology and Critical Care Medicine [2009]

Gordon R. Sandford, Sc.D.
Research Associate in Oncology [2002]

Kakali Sarkar, Ph.D.
Research Associate in Medicine [2006]

Rafiquel I. Sarker, Ph.D.
Research Associate in Medicine [2004]

Masayuki Sasaki, M.D., Ph.D.
Research Associate in Neurology [2001]

James J. Scheulen, P.A., M.B.A.
Research Associate in Emergency Medicine [2000]

Barbara W. Schweizer, B.S.
Research Associate in Psychiatry [2004]

Jane Ruble Scocca, Ph.D.
Research Associate in Medicine [2001]

Emily G. Severance, Ph.D.
Research Associate in Pediatrics [2008]

Sena Feride Sezen, Ph.D.
Research Associate in Urology [2006]

David M. Shade, J.D.
Research Associate in Medicine [2001]

Syed Mahmood Shah, M.B.B.S.
Research Associate in Ophthalmology [2006] (to 07/15/09)

Tariq Shah, Ph.D.
Research Associate in Radiology [2009]

Judy B. Shahan, M.S.
Research Associate in Emergency Medicine [1999]

Jikui Shen, M.D., Ph.D.
Research Associate in Ophthalmology [2002]

Jung Hoon Shin, Ph.D.
Research Associate in Neuroscience [2005] (to 09/30/09)

Wendy S. Shore, Ph.D.
Research Associate in Physical Medicine and Rehabilitation [2006]

Kurt A. Simons, Ph.D.
Research Associate in Ophthalmology [1997; 1984]

Victoria J. Sinibaldi, M.S.
Research Associate in Oncology [2002; 20]

Chad Slawson, Ph.D.
Research Associate in Biological Chemistry [2006]

Adele M. Snowman, B.A.
Research Associate in Neuroscience [1985]

Jitka Sojkova, M.D.
Research Associate in Radiology [2009]

Meiyappan Solaiyappan, B.S.
Research Associate in Radiology and Radiological Science [1998; 1996]

Meena Somanchi, Ph.D.
Research Associate in Medicine [2007]

Hong Song, Ph.D.
Research Associate in Radiology and Radiological Science [2009] (from 10/01/09)

Zhimin Song, M.D.
Research Associate in Medicine [1994]

Tuck Wah Soong, Ph.D.
Research Associate in Biomedical Engineering [2001]

Ioannis A. Stasinopoulos, D.Phil.
Research Associate in Radiology and Radiological Science [2007]

Joseph Webster Stayman, Ph.D.
Research Associate in Biomedical Engineering [2009] (from 09/01/09)

Martin J. Stumpf, M.A.
Research Associate in Radiology and Radiological Science [2003]

Surojit Sur, Ph.D.
Research Associate in Oncology [2008]

Lee J. Swartz, M.B.A.
Research Associate in Medicine [2005]

Katalina Szabo, M.D.
Research Associate in Radiology and Radiological Science [1994]

Charles Conover Talbot, Jr., B.S.
Research Associate in Medicine [1999; 2003] (to 10/16/09)

Paul Tan, Ph.D.
Research Associate in Pharmacology and Molecular Sciences [2008]

Jing Tang, Ph.D.
Research Associate in Radiology and Radiological Science [2008]

Larisa Gennadievna Tereshchenko, M.D., Ph.D.
Research Associate in Medicine [2009] (from 09/01/09)

William P. Tew, Ph.D.
Research Associate in Biological Chemistry [1985]

Meridith Hill Thanner, Ph.D.
Research Associate in Emergency Medicine [2006]

Gareth Michael Thomas, Ph.D.
Research Associate in Neuroscience [2005]

Ling Tiah, M.B.B.S.
Research Associate in Emergency Medicine [2008]

Wenjing Tong, Ph.D.
Research Associate in Pathology [2006]

Kyran Tsapkini, Ph.D.
Research Associate in Neurology [2009] (from 08/01/09)

Mark J. Vaal, B.S.
Research Associate in Neurology [2008]

Kartik Venkatachalam, Ph.D.
Research Associate in Biological Chemistry [2008]

Candelaria Vergara, M.D.
Research Associate in Medicine [2009]

Donna L. Vogel, M.D., Ph.D.
Research Associate in Physiology [2007]

Alka A. Vyas, Ph.D.
Research Associate in Orthopedic Surgery [2006]

Janet Ruth Walczak, B.S., M.S.
Research Associate in Oncology [2004]

Louise Juliet Walshe, R.N., M.P.H.
Research Associate in Medicine [2004]

Tongguang Wang, Ph.D.
Research Associate in Neurology [2006]

XueQing Wang, Ph.D.
Research Associate in Neurology [2009]

Yongchun Wang, M.D., Ph.D.
Research Associate in Surgery [2008]

William R.S. Webber, Ph.D.
Research Associate in Neurology [1991; 1987]

David W. West, Ph.D.
Research Associate in Pediatrics [1989]

Kristin Marie Wilcox, Ph.D.
Research Associate in Psychiatry [2009] (from 09/01/09)

Allen B. Williams, Ph.D.
Research Associate in Oncology [2003]

Donna Williams, Ph.D.
Research Associate in Medicine [1991]

Paul Winnard, Jr., Ph.D.
Research Associate in Radiology [2004]

Jerry M. Wright, Ph.D.
Research Associate in Physiology [1997]

Feng Wu, M.D.
Research Associate in Medicine [2005]

Xiangwei Wu, M.D.
Research Associate in Orthopaedic Surgery [2009] (from 07/15/09)

Minghui Xiang, Ph.D.
Research Associate in Medicine [2009]

Bo Xiao, M.D., Ph.D.
Research Associate in Neuroscience [2008; 1999]

Huiqing Xiao, M.D.
Research Associate in Medicine [1994]

Yi Xie, Ph.D.
Research Associate in Molecular Biology and Genetics [2009]

Desheng Xu, M.D.
Research Associate in Neuroscience [2002]

Jia Xu, Ph.D.
Research Associate in Neuroscience [2009]

Jingyan Xu, Ph.D.
Research Associate in Radiology and Radiological Science [2005]

Wenlian Xu, Ph.D.
Research Associate in Molecular Biology and Genetics [2008] (to 07/12/09)

Yi Xu, M.D.
Research Associate in Molecular and Comparative Pathobiology [2006]

Kazuyo Yamaji-Kegan, Ph.D.
Research Associate in Anesthesiology and Critical Care Medicine [2006]

Xiao Ping Yang, M.D., Ph.D.
Research Associate in Medicine [2004]

Xiao-Ru Yang, Ph.D., M.D.
Research Associate in Medicine [2008]

Xiaoju Yang, M.D.
Research Associate in Medicine [2000]
Sheng Yao, Ph.D.
Research Associate in Oncology [2009]
Xiaobu Ye, M.D.
Research Associate in Oncology [2008]
Ray-Whay Chiu Yen, M.S.
Research Associate in Oncology [1991]
Hong Yu, M.D., Ph.D.
Research Associate in Oncology [2003]
Qilu Yu, Ph.D.
Research Associate in Medicine [2006]
Wei (Wayne) Yu, Ph.D.
Research Associate in Oncology [2003]
Yanxing Yu, Ph.D.
Research Associate in Oncology [2008; 2004]
Daniel S. Yuan, M.D.
Research Associate in Molecular Biology and Genetics [2004]
Jie Yuan, M.D.
Research Associate in Neurology [2002]
Asifa K. Zaidi, Ph.D.
Research Associate in Medicine [2008]
Karen I. Zeller, Ph.D.
Research Associate in Medicine [2004]
Emil Zeynalov, M.D.
Research Associate in Anesthesiology and Critical Care Medicine [2009] (to 11/09/09)
Dongming Zhang, M.S., M.L.S.
Research Associate in Health Sciences Informatics [2003]
Huafeng Zhang, Ph.D.
Research Associate in Oncology [2008]
Ping-Wu Zhang, M.D., Ph.D.
Research Associate in Neurology [2008]
Yimao Zhang, M.S.
Research Associate in Radiology and Radiological Science [2004]
Yonggang Zhang, M.D.
Research Associate in Radiation Oncology and Molecular Radiation Sciences [1992; 2003],
Research Associate in Oncology [1992]
Ming Zhao, Ph.D.
Research Associate in Oncology [2000]
Gefeng (Gloria) Zhu, Ph.D.
Research Associate in Oncology [2009]
Wenlian Zhu, Ph.D.
Research Associate in Radiology and Radiological Science [2009]
Jianchao Zong, Ph.D.
Research Associate in Oncology [1997]

RESEARCH ASSOCIATES EMERITI

Michael Guarnieri, Ph.D., M.P.H.
Research Associate Emeritus in Neurological Surgery [1996]

Pamela Talalay, Ph.D.
Research Associate Emerita in Neurology [2007; 1983]

VISITING SCIENTISTS

Summer Acevedo, Ph.D.
Visiting Scientist in Neurology [2009]
Manuel H. Aguiar-Oliveira, M.D.
Visiting Scientist in Medicine [2009]
Ruth Ashery-Padan, Ph.D.
Visiting Scientist in Ophthalmology [2008] (to 08/01/09)
Weiliang Bai, M.D.
Visiting Scientist in Otolaryngology-Head and Neck Surgery [2009] (from 09/01/09)
Walid Khaled Barbour, M.D., Ph.D.
Visiting Scientist in Ophthalmology [2008; 20]
Anastasios G. Bezerianos, Ph.D.
Visiting Scientist in Biomedical Engineering [2009] (from 01/04/10)
Shridhar Bhat, Ph.D.
Visiting Scientist in Pharmacology and Molecular Sciences [2005]
Gregory F. Burton, Ph.D.
Visiting Scientist in Neurology [2001] (to 08/31/09)
Cuneyt Calisir, M.D.
Visiting Scientist in Radiology [2008]
Yuzhen Cao, Ph.D.
Visiting Scientist in Biomedical Engineering [2009]
Marek Cebrat, Ph.D.
Visiting Scientist in Pharmacology and Molecular Sciences [2006]
Donald L. Champagne, Ph.D.
Visiting Scientist in Ophthalmology [2008]
Dimitrios Chatzidimitriou, M.D., Ph.D.
Visiting Scientist in Pathology [2009]
Yuehsen Juliette Chung, Ph.D.
Visiting Scientist in History of Medicine [2009]
Keith Warren Crawford, Ph.D., R.Ph.
Visiting Scientist in Medicine [2008]
Pierre Croisille, M.D.
Visiting Scientist in Radiology and Radiological Science [1999; 1997]
Zhigang Dai, M.D.
Visiting Scientist in Orthopaedic Surgery [2009]
Haiyan Ding, Ph.D.
Visiting Scientist in Biomedical Engineering [2009]
Craig A. Dionne, Ph.D.
Visiting Scientist in Oncology [2003]
Kenyon M. Evans-Nguyen, Ph.D.
Visiting Scientist in Pharmacology and Molecular Sciences [2008] (to 07/31/09)
Ann M. Ferrie, B.S.
Visiting Scientist in Neuroscience [2008]
Thomas Kwok-Fah Foo, Ph.D.
Visiting Scientist in Radiology and Radiological Science [1998]

- Masahiro Fujimuro, Ph.D.
Visiting Scientist in Oncology [2009]
- Masahiro Fukaya, Ph.D.
Visiting Scientist in Neuroscience [2008]
- Wesley David Gilson, Ph.D.
Visiting Scientist in Radiology and Radiological Science [2007]
- Sandeep N. Gupta, Ph.D.
Visiting Scientist in Radiology and Radiological Science [1998]
- Gyu Cheol Han, M.D.
Visiting Scientist in Otolaryngology-Head and Neck Surgery [2007]
- William David Hankins, Ph.D.
Visiting Scientist in Medicine [1991]
- William Frederick Heinz, Ph.D.
Visiting Scientist in Physiology [2003]
- Thomas R. Hynes, Ph.D.
Visiting Scientist in Cell Biology [2008]
- Li Jiang, M.D.
Visiting Scientist in Radiology [2007]
- Robert Thomas Kambic, Ph.D.
Visiting Scientist in Health Sciences Informatics [2006]
- Peter Keating, Ph.D.
Visiting Scientist in History of Medicine [2010] (from 01/01/10)
- Christian James Ketchum, Ph.D.
Visiting Scientist in Physiology [2005], Visiting Scientist in Cell Biology [2005]
- Eun-Kyoung Kim, Ph.D.
Visiting Scientist in Neuroscience [2006]
- Hocheol Kim, Ph.D.
Visiting Scientist in Anesthesiology and Critical Care Medicine [2006] (to 07/31/09)
- Juno Kim, M.S.
Visiting Scientist in Neuroscience [2008]
- Yong Sik Kim, M.D.
Visiting Scientist in Medicine [2008]
- Alan P. Kozikowski, Ph.D.
Visiting Scientist in Pharmacology and Molecular Sciences [2003]
- Seung Han Lee, M.D., Ph.D.
Visiting Scientist in Neurology [2009]
- Weiqi Lei, M.S.
Visiting Scientist in Orthopaedic Surgery [2009] (from 07/15/09)
- Chavonne Danielle Lenoir, Dr.P.H.
Visiting Scientist in Pediatrics [2006]
- Cong Li, Ph.D.
Visiting Scientist in Radiology [2009]
- Jun Li, M.D.
Visiting Scientist in Orthopaedic Surgery [2009] (from 07/15/09)
- Ming-Chang Li, Ph.D., M.D.
Visiting Scientist in Neurological Surgery [2009]
- Xiaoping Li, Ph.D.
Visiting Scientist in Biomedical Engineering [2008] (to 08/31/09)
- Ming De Lin, Ph.D.
Visiting Scientist in Radiology [2008]
- Yu-yi Lin, M.D., Ph.D.
Visiting Scientist in Molecular Biology and Genetics [2009] (from 10/16/09)
- Xingdang Liu, M.D., Ph.D.
Visiting Scientist in Radiology and Radiological Science [2009]
- David Gordon Longstaff, Ph.D.
Visiting Scientist in Molecular Biology and Genetics [2009]
- Mohammed Abdul Majid, Ph.D.
Visiting Scientist in Biological Chemistry [2006]
- Per-Uno Malmstrom, M.D., Ph.D.
Visiting Scientist in Urology [2009]
- Barry J. Margulies, Ph.D.
Visiting Scientist in Pharmacology and Molecular Sciences [2003]
- Arseni Markov, Ph.D.
Visiting Scientist in Medicine [2008]
- Gesine Marquardt, Ph.D.
Visiting Scientist in Psychiatry [2009]
- Ernesto Torres de Azevedo Marques, Jr., M.D., Ph.D.
Visiting Scientist in Pharmacology and Molecular Sciences [2009; 1999]
- Cheil Moon, Ph.D.
Visiting Scientist in Neuroscience [2005]
- Luis Fernando Moreira, M.D.
Visiting Scientist in Surgery [2009] (from 09/01/09)
- De-guang Mu, Ph.D.
Visiting Scientist in Medicine [2009]
- Kathryn E. Muratore, Ph.D.
Visiting Scientist in Pharmacology and Molecular Sciences [2008]
- Erez Nevo, M.D., D.Sc.
Visiting Scientist in Medicine [1999]
- Rebecca Osthus, Ph.D.
Visiting Scientist in Medicine [2004]
- Li Pan, Ph.D.
Visiting Scientist in Radiology and Radiological Science [2006]
- Lijuan Pang, M.D.
Visiting Scientist in Orthopaedic Surgery [2009] (from 07/15/09)
- Keykavous Parang, Ph.D.
Visiting Scientist in Pharmacology and Molecular Sciences [2000]
- Chang-Shin Park, Ph.D.
Visiting Scientist in Medicine [2008] (to 08/31/09)
- Yoon-Mean Park, M.D.
Visiting Scientist in Medicine [2009]
- Kerry Ann Pickin Paumi, Ph.D.
Visiting Scientist in Pharmacology and Molecular Sciences [2007]

Silvia A. Pineiro, Ph.D.
Visiting Scientist in Biophysics and Biophysical Chemistry [2009]

Jose W. Rodriguez, M.D.
Visiting Scientist in Neurology [2008]

Jong-Lyel Roh, M.D., Ph.D.
Visiting Scientist in Otolaryngology-Head and Neck Surgery [2008]

Takashi Sato, M.S.
Visiting Scientist in Oncology [2008]

Michael Schar, M.S.
Visiting Scientist in Radiology and Radiological Science [2005]

Frank V. Schraml, M.D.
Visiting Scientist in Radiology [2000]

Nicola Scichilone, M.D.
Visiting Scientist in Medicine [2003]

Steven M. Shea, Ph.D.
Visiting Scientist in Radiology [2005]

Anding Shen, Ph.D.
Visiting Scientist in Medicine [2006]

Kui Shen, Ph.D.
Visiting Scientist in Pharmacology and Molecular Sciences [2005]

Changqing Shi, M.D.
Visiting Scientist in Neurology [2009]

Sa Shi, Ph.D.
Visiting Scientist in Medicine [2009]

Kye-Shik Shim, M.D.
Visiting Scientist in Pediatrics [2009] (from 09/01/09)

Om Vir Singh, Ph.D.
Visiting Scientist in Pediatrics [2009]

Glenn Slavin, Ph.D.
Visiting Scientist in Radiology and Radiological Science [1999]

Can Solakoglu, M.D.
Visiting Scientist in Neurological Surgery [2008]

Piotr Suffczynski, Ph.D.
Visiting Scientist in Neurology [2009]

Hiroyuki Suganuma, Ph.D.
Visiting Scientist in Pharmacology and Molecular Sciences [2009]

Haiyan Sun, Ph.D.
Visiting Scientist in Neuroscience [2009]

Gihan I. Tennekoon, M.B.B.S.
Visiting Scientist in Neuroscience [2009]

Elizabeth Tran, Ph.D.
Visiting Scientist in Neuroscience [2008]

Zhibo Wen, M.D.
Visiting Scientist in Radiology [2008]

Lu Xia, M.D., Ph.D.
Visiting Scientist in Medicine [2009]

Xu Yao, M.D.
Visiting Scientist in Medicine [2009]

Bing Yu, M.D.
Visiting Scientist in Orthopaedic Surgery [2009] (from 07/15/09)

Jie (Jane) Zeng, M.S.
Visiting Scientist in Pathology [2009]

Jie Zhang, Ph.D.
Visiting Scientist in Neuroscience [1994]

Qun Zhou, M.D., Ph.D.
Visiting Scientist in Oncology [2008; 2006]

Yanfei Zhou, Ph.D.
Visiting Scientist in Otolaryngology-Head and Neck Surgery [2007]

INTERDIVISIONAL JOINT APPOINTMENTS

Patricia A. Abbott, Ph.D.
Joint Appointment in Health Sciences Informatics [2001]

Peter C. Agre, M.D.
Joint Appointment in Biological Chemistry [2008; 1993]

Miriam H. Alexander, M.D., M.P.H.
Joint Appointment in Medicine [2006]

Jerilyn K. Allen, Sc.D.
Joint Appointment in Medicine [1988]

Robert Harry Allen, Ph.D.
Joint Appointment in Gynecology and Obstetrics [2009]

Gerard F. Anderson, Ph.D.
Joint Appointment in Medicine [1994]

Mehran Armand, Ph.D.
Joint Appointment in Orthopedic Surgery [2007]

Brad C. Astor, M.D., Ph.D.
Joint Appointment in Medicine [2005]

Joel S. Bader, Ph.D.
Joint Appointment in Biomedical Engineering [2008]

Susan P. Baker, M.P.H.
Joint Appointment in Emergency Medicine [1989]
Joint Appointment in Pediatrics [1983]

Gregory F. Ball, Ph.D.
Joint Appointment in Neuroscience [2000]

Marion J. Ball, Ed.D.
Joint Appointment in Health Sciences Informatics [2003]

Karen Bandeen-Roche, Ph.D.
Joint Appointment in Medicine [2004]

Patrick E. Barta, M.D., Ph.D.
Joint Appointment in Psychiatry [2003; 1989]

Terri H. Beaty, Ph.D.
Joint Appointment in Oncology [1995]

Michael Bender, Ed.D.
Joint Appointment in Pediatrics [1983; 1973]

David M. Bishai, M.D., Ph.D., M.P.H.
Joint Appointment in Pediatrics [1998]

Shyam Sundar Biswal, Ph.D.
Joint Appointment in Medicine [2004], Joint Appointment in Oncology [2001]

Robert E. Black, M.D.
Joint Appointment in Medicine [1985]

Robert W.M. Blum, M.D., Ph.D., M.P.H.
Joint Appointment in Pediatrics [2004]

Lee R. Bone, M.P.H.
Joint Appointment in Medicine [1990]

Charles E. Boulton, M.D., M.P.H., M.B.A.
Joint Appointment in Medicine [2001]

John C.S. Breitner, M.D., M.P.H.
Joint Appointment in Psychiatry [1998]

Patrick N. Breyse, Ph.D., M.H.S.
Joint Appointment in Medicine [2008]

Terry R. Brown, Ph.D.
Joint Appointment in Pediatrics [1991; 1978]

Donald Scott Burke, M.D.
Joint Appointment in Medicine [2000]

Thomas A. Burke, Ph.D., M.P.H.
Joint Appointment in Oncology [1995]

Gilbert M. Burnham, M.D., Ph.D.
Joint Appointment in Medicine [1992]

Benjamin Caballero, M.D., Ph.D.
Joint Appointment in Pediatrics [1990]

David DuPuy Celentano, Sc.D.
Joint Appointment in Medicine [2002]

Jeanne Charleston, R.N.
Joint Appointment in Medicine [2005]

Lawrence J. Cheskin, M.D.
Joint Appointment in Medicine [2001; 1986]

Josef Coresh, M.D., Ph.D.
Joint Appointment in Medicine [1994]

Pierre A. Coulombe, Ph.D.
Joint Appointment in Biological Chemistry [2008; 1992]; Joint Appointment in Dermatology [2008; 1992]

Susan M. Courtney, Ph.D.
Joint Appointment in Neuroscience [2001]

Rosa M. Crum, M.D.
Joint Appointment in Psychiatry [1991]

Mary F. Cwik, Ph.D.
Joint Appointment in Psychiatry [2009]

Arthur M. Dannenberg, Jr., M.D., Ph.D.
Joint Appointment in Pathology [1978; 1964]

Cheryl R. Dennison, Ph.D., R.N.
Joint Appointment in Health Sciences Informatics [2007]

Marie Diener-West, Ph.D.
Joint Appointment in Ophthalmology [1990; 1986]

Janet A. DiPietro, Ph.D.
Joint Appointment in Gynecology and Obstetrics [1993]

Andrew S. Douglas, Ph.D.
Joint Appointment in Biomedical Engineering [1989]

Anna Palmer Durbin, M.D.
Joint Appointment in Medicine [1999]

Sydney E Morss Dy, M.D.
Joint Appointment in Medicine [2002; 2001], Joint Appointment in Oncology [2002]

William W. Eaton, Ph.D.
Joint Appointment in Psychiatry [1995]

Michael Aaron Eddin, Ph.D.
Joint Appointment in Medicine [1994], Joint Appointment in Pathology [1999]

Howard Elliott Egeth, Ph.D.
Joint Appointment in Neuroscience [2002]

Jennifer H. Elisseeff, Ph.D.
Joint Appointment in Orthopedic Surgery [2003]

Margaret E. Ensminger, Ph.D.
Joint Appointment in Psychiatry [1983]

Ruth R. Faden, Ph.D.
Joint Appointment in Medicine [1992], Occupying the Philip Franklin Wagley Chair in Biomedical Ethics

DeLisa Fairweather, Ph.D.
Joint Appointment in Pathology [2005; 2003]

Margaret Daniele Fallin, Ph.D.
Joint Appointment in Medicine [2003]

Gabor Fichtinger, Ph.D.
Joint Appointment in Radiology [2001]

Nancy E. Fink, M.P.H.
Joint Appointment in Medicine [1998]

Robert S. Fitzgerald, Ph.D.
Joint Appointment in Medicine [1990], Joint Appointment in Physiology [1978; 1977]

Jean G. Ford, M.D.
Joint Appointment in Medicine [2003], Joint Appointment in Oncology [2002]

Eric Scott Fortune, Ph.D.
Joint Appointment in Neuroscience [2001]

Ernesto Freire, Ph.D.
Joint Appointment in Biophysics and Biophysical Chemistry [2004]

Kevin D. Frick, Ph.D.
Joint Appointment in Ophthalmology [2001]

Michela Gallagher, Ph.D.
Joint Appointment in Neuroscience [1998]

Tiffany L. Gary, Ph.D., M.P.H.
Joint Appointment in Medicine [2005]

Fannie Gaston-Johansson, Dr.Med.Sc.
Joint Appointment in Oncology [1996]

Pearl S. German, Sc.D.
Joint Appointment in Medicine [1985]

Michael Christopher Gibbons, M.D.
Joint Appointment in Medicine [2003]

Robert H. Gilman, M.D.
Joint Appointment in Medicine [1985; 1975]

Lynn R. Goldman, M.D., M.P.H.
Joint Appointment in Emergency Medicine [2005]

Patti E. Gravitt, Ph.D.
Joint Appointment in Oncology [2008]

Jeffrey J. Gray, Ph.D.
Joint Appointment in Oncology [2005]

M. Diane E. Griffin, M.D., Ph.D.
Joint Appointment in Medicine [1994; 1973], Joint Appointment in Neurology [1994; 1975]

John D. Groopman, Ph.D.
Joint Appointment in Oncology [1994]

Deborah Gross, D.N.Sc.
Joint Appointment in Psychiatry [2008]

Eliseo Guallar, M.D., M.P.H.
Joint Appointment in Medicine [2005]

Bernard Guyer, M.D.
Joint Appointment in Pediatrics [1990]

Neal A. Halsey, M.D.
Joint Appointment in Pediatrics [1985]

Justin Hanes, Ph.D.
Joint Appointment in Biomedical Engineering [1998], Joint Appointment in Neurological Surgery [1998; 2009], Joint Appointment in Oncology [1998; 2005]

J. Marie Hardwick, Ph.D.
Joint Appointment in Neurology [1995; 1988], Joint Appointment in Oncology [1999], Joint Appointment in Pharmacology and Molecular Sciences [1988]

Samer S. Hattar, Ph.D.
Joint Appointment in Neuroscience [1965]

Martha N. Hill, Ph.D.
Joint Appointment in Medicine [1990]

Peter C. Holland, Ph.D.
Joint Appointment in Neuroscience [2001]

David Robert Holtgrave, Ph.D.
Joint Appointment in Medicine [2006], Joint Appointment in Oncology [2006]

Kalina Hristova, Ph.D.
Joint Appointment in Biomedical Engineering [2002]

Han-Yao Huang, M.P.H., Ph.D.
Joint Appointment in Oncology [2005] (to 08/31/09)

Karen Huss, Ph.D., D.N.Sc.
Joint Appointment in Medicine [1995]

Pablo A. Iglesias, Ph.D.
Joint Appointment in Biomedical Engineering [2003]

Rafael A. Irizarry, Ph.D.
Joint Appointment in Medicine [2009]

Jeffrey V. Johnson, Ph.D.
Joint Appointment in Medicine [1989]

Hee-Soon Juon, Ph.D.
Joint Appointment in Oncology [2005]

Norma Kanarek, M.P.H., Ph.D.
Joint Appointment in Oncology [2001]

Wen Hong Linda Kao, Ph.D.
Joint Appointment in Medicine [2006]

Robert H. Kargon, Ph.D.
Joint Appointment in History of Medicine [1984]

Ruth A. Karron, M.D.
Joint Appointment in Pediatrics [1989]

Joanne Katz, Sc.D.
Joint Appointment in Ophthalmology [1994; 1982]

Marguerite Kearney, D.N.Sc.
Joint Appointment in Anesthesiology and Critical Care Medicine [2003; 1988]

Thomas W. Kensler, Ph.D.
Joint Appointment in Oncology [1995], Joint Appointment in Pharmacology and Molecular Sciences [1985]

Sharon Elizabeth Kingsland, Ph.D.
Joint Appointment in History of Medicine [1991]

Gregory D. Kirk, M.D., M.P.H., Ph.D.
Joint Appointment in Medicine [2005]

Ann Carroll Klassen, Ph.D.
Joint Appointment in Oncology [1996]

Konstantinos Konstantopoulos, Ph.D.
Joint Appointment in Biomedical Engineering [1998], Joint Appointment in Oncology [2008]

Joan Ellen Kub, Ph.D.
Joint Appointment in Medicine [1995]

Rejji Kuruvilla, Ph.D.
Joint Appointment in Neuroscience [2007]

Barbara Landau, Ph.D.
Joint Appointment in Neuroscience [2001]

Thomas A. LaVeist, Ph.D.
Joint Appointment in Oncology [2005]

Robert Swan Lawrence, M.D.
Joint Appointment in Medicine [1996]

Philip Leaf, Ph.D.
Joint Appointment in Psychiatry [1991]

Stuart W. Leslie, Ph.D.
Joint Appointment in History of Medicine [1990]

John R. Lever, Ph.D.
Joint Appointment in Radiology [1985]

Jonathan M. Links, Ph.D.
Joint Appointment in Emergency Medicine [1983; 2005], Joint Appointment in Radiology [1983]

Ellen J. MacKenzie, Ph.D.
Joint Appointment in Emergency Medicine [1981], Joint Appointment in Physical Medicine and Rehabilitation [1999]

Richard Macksey, Ph.D.
Joint Appointment in History of Medicine [1991]

Joseph B. Margolick, M.D., Ph.D.
Joint Appointment in Medicine [1989]

Richard B. Markham, M.D.
Joint Appointment in Medicine [1988]

Michael Joseph Matunis, Ph.D.
Joint Appointment in Cell Biology [2001]

Lawrence S. Mayer, Ph.D.
Joint Appointment in Psychiatry [2002]

Oliver Lee McCabe, III, Ph.D.
Joint Appointment in Psychiatry [2007; 1995]

Michael Edward McCloskey, Ph.D.
Joint Appointment in Neuroscience [2001]

Lucy A. Meoni, Sc.M.
Joint Appointment in Medicine [2006; 1990]

Cynthia Schaffer Minkovitz, M.D.
Joint Appointment in Pediatrics [1996]

Wayne Mitzner, Ph.D.
Joint Appointment in Anesthesiology and Critical Care Medicine [1990], Joint Appointment in Biomedical Engineering [1992], Joint Appointment in Medicine [1990]

Ramin Mojtabai, M.D., Ph.D., M.P.H.
Joint Appointment in Psychiatry [2008]

William John Moss, M.D., M.P.H.
Joint Appointment in Pediatrics [1999]

Kenrad E. Nelson, M.D.
Joint Appointment in Medicine [1987]

Myaing M. Nyunt, M.D., Ph.D., M.P.H.
Joint Appointment in Medicine [2008]

Sharon Jean Olsen, M.S.
Joint Appointment in Oncology [1999]

Anna O. Orlova, Ph.D.
Joint Appointment in Health Sciences Informatics [2001]

David M. Paige, M.D.
Joint Appointment in Pediatrics [1978; 1969]

Nathaniel F. Pierce, M.D.
Joint Appointment in Medicine [1997; 1966]

Fernando Javier Pineda, Ph.D.
Joint Appointment in Health Sciences Informatics [2002]

Elizabeth A. Platz, M.P.H., Sc.D.
Joint Appointment in Oncology [1999], Joint Appointment in Urology [2001]

Sekhar PothiReddy, Ph.D.
Joint Appointment in Oncology [2000]

Sean T. Prigge, Ph.D.
Joint Appointment in Biophysics and Biophysical Chemistry [2002; 1999]

Jerry L. Prince, Ph.D.
Joint Appointment in Biomedical Engineering [1993], Joint Appointment in Radiology [1989]

Milo A. Puhan, M.D., Ph.D.
Joint Appointment in Medicine [2009]

M. Hafizur Rahman, Ph.D.
Joint Appointment in Medicine [2006; 2004]

Brenda C. Rapp, Ph.D.
Joint Appointment in Neuroscience [2001]

George W. Rebok, Ph.D.
Joint Appointment in Psychiatry [1994]

Raymond Reid, M.D.
Joint Appointment in Medicine [1985; 1984]

Anne W. Riley, Ph.D.
Joint Appointment in Psychiatry [1991; 1987]

Rajiv N. Rimal, Ph.D.
Joint Appointment in Oncology [2005]

George D. Rose, Ph.D.
Joint Appointment in Biophysics and Biophysical Chemistry [2002; 1994]

Noel R. Rose, M.D., Ph.D.
Joint Appointment in Medicine [1982], Professor of Pathology [1994]

Leon A. Rosenberg, Ph.D.
Joint Appointment in Pediatrics [1988; 1964], Joint Appointment in Psychiatry [1988; 1963]

Debra L. Roter, D.P.H.
Joint Appointment in Medicine [1986], Joint Appointment in Oncology [1986; 2005]

Andrea J. Ruff, M.D.
Joint Appointment in Pediatrics [1987]

Cynda Hylton Rushton, D.N.Sc.
Joint Appointment in Pediatrics [2004]

David A. Sack, M.D.
Joint Appointment in Medicine [1985; 1976]

R. Bradley Sack, M.D., Sc.D.
Joint Appointment in Medicine [1985; 1972]

Mathuram Santosham, M.D., M.P.H.
Joint Appointment in Pediatrics [1985; 1976]

Edyth H. Schoenrich, M.D.
Joint Appointment in Medicine [1978; 1949]

Brian S. Schwartz, M.D.
Joint Appointment in Medicine [1990]

Elizabeth Selvin, Ph.D., M.P.H.
Joint Appointment in Medicine [2007]

Keerti V. Shah, M.B.B.S., Dr.P.H.
Joint Appointment in Oncology [2000]

Amy Lynne Shelton, Ph.D.
Joint Appointment in Neuroscience [2002]

MacHiko Shirahata, M.D.
Joint Appointment in Anesthesiology and Critical Care Medicine [1990; 1988]

Jane C. Shivnan, M.Sc.N.
Joint Appointment in Oncology [2009] (from 08/01/09)

Katherine Clegg Smith, Ph.D.
Joint Appointment in Oncology [2005]

Barbara H. Starfield, M.D.
Joint Appointment in Pediatrics [1978; 1963]

Mark C. Steinhoff, M.D.
Joint Appointment in Pediatrics [1987]

Donald M. Steinwachs, Ph.D.
Joint Appointment in Health Sciences Informatics [2006], Joint Appointment in Medicine [1988], Joint Appointment in Psychiatry [1986]

Ina Burrows Stephens, M.D.
Joint Appointment in Pediatrics [1995]

Frances Stillman, Ed.D.
Joint Appointment in Oncology [2005]

Paul T. Strickland, Ph.D.
Joint Appointment in Oncology [1995]

Veit Stuphorn, Ph.D.
Joint Appointment in Neuroscience [2005]

David Joseph Sullivan, Jr., M.D.
Joint Appointment in Medicine [1998]

Moyses Szklo, M.D., M.P.H.
Joint Appointment in Medicine [2000]

Kawsar R. Talaat, M.D.
Joint Appointment in Medicine [2007]

David N. Taylor, M.D.
Joint Appointment in Medicine [2003]

Russell H. Taylor, Ph.D.
Joint Appointment in Radiology [1995], Joint
Appointment in Surgery [1995; 2005]

Stephen P. Teret, J.D.
Joint Appointment in Emergency Medicine [1989],
Joint Appointment in Pediatrics [1984]

James M. Tielsch, Ph.D.
Joint Appointment in Ophthalmology [1994; 1982]

Michael A. Trush, Ph.D.
Joint Appointment in Oncology [1997]

Barbara L. Van de Castle, M.S.N.
Joint Appointment in Health Sciences Informatics
[2001]

Kala Visvanathan, M.B.B.S.
Joint Appointment in Oncology [2003]

David Vlahov, Ph.D.
Joint Appointment in Medicine [1990]

Jiou Wang, Ph.D.
Joint Appointment in Neuroscience [2009] (from
10/01/09)

Virginia Marie Weaver, M.D., M.P.H.
Joint Appointment in Medicine [1993], Joint
Appointment in Oncology [1996]

Jonathan P. Weiner, D.P.H.
Joint Appointment in Health Sciences Informatics
[1982; 2007], Joint Appointment in Medicine [1982]

William M. Weiss, Dr.P.H.
Joint Appointment in Health Sciences Informatics
[2007]

Jennifer A. Wenzel, Ph.D.
Joint Appointment in Oncology [2009] (from
08/01/09)

Keith Parker West, Jr., D.P.H.
Joint Appointment in Ophthalmology [1994; 1982]

Denis Wirtz, Ph.D.
Joint Appointment in Oncology [2008]

Lawrence S. Wissow, M.D.
Joint Appointment in Pediatrics [1997; 1984], Joint
Appointment in Psychiatry [2001]

Jennifer L. Wolff, Ph.D.
Joint Appointment in Medicine [2003]

Albert W. Wu, M.D.
Joint Appointment in Medicine [1990], Joint
Appointment in Surgery [2007]

James D. Yager, Jr., Ph.D.
Joint Appointment in Oncology [1995]

Steven Yantis, Ph.D.
Joint Appointment in Neuroscience [2001]

Laurie S. Zabin, Ph.D.
Joint Appointment in Gynecology and Obstetrics
[1986; 1979]

Peter P. Zandi, Ph.D., M.P.H., M.H.S.
Joint Appointment in Psychiatry [2006]

Ying Zhang, M.D., Ph.D.
Joint Appointment in Medicine [2004]

Barry R. Zirkin, Ph.D.
Joint Appointment in Gynecology and Obstetrics
[1991]

INTERDIVISIONAL JOINT APPOINTMENTS EMERITI

Donald A. Cornely, M.D.
Joint Appointment Emeritus in Pediatrics [1991;
1966]

Sheppard G. Kellam, M.D.
Joint Appointment Emeritus in Psychiatry [2000;
1982]

Thomas W. Simpson, M.D.
Joint Appointment Emeritus in Medicine [1983;
1970]



Postdoctoral Fellows 2009-2010

ANESTHESIOLOGY AND CRITICAL CARE MEDICINE

Olatunbosun Olukayode Aganga, M.D.¹
Chinwe Chi Chi Ajuba-Iwujii, M.D.¹
Reza Amini, M.S., Ph.D. to 01/11/2010
Ankur Anand, M.D.¹
Promise Temidayo Ariyo, M.D.¹
Nadya Averbach, M.D. to 12/16/2009¹
Chinyere Chinenye Azuogu, M.D.¹
Mosunmola O. Babade, M.D.¹
Nana Dwemoh Benneh, M.D.¹
Ramola Bhambhani, M.B.B.S. to 09/08/2009¹
Ramola Bhambhani, M.B.B.S. from 10/01/2009
Kerry Kusz Blaha, M.D.¹
Elena Blasco-Colmenares, M.B.B.S., Ph.D. to 08/21/2009
Anna Todaro Brown, M.D.¹
Charles Hugh Brown, IV, M.D.¹
Laura Boeck Burton, M.D.¹
Veronica Ortiz Busso, M.D.¹
Chun-Lin Chen, Ph.D. to 10/31/2009
Cindy Hsin-I Chen, M.D.¹
Patrick Wade Clark, M.D.¹
Lia Ellen Clattenburg, M.D., M.P.H.¹
Kimberly Anne Cover, M.D.¹
Pierre-Antoine Francois Crassous, Ph.D. to 11/30/2009
Yasser Mohamed Dahab, M.D.¹
Amir Omar Elhassan, M.D.¹
Elizabeth Marie Elliott, M.D.¹
Mark Raymond Ettinger, M.D.¹
Chunling Fan, M.S., Ph.D.
Christopher Faustin, M.D., M.S.¹
Marcos De Sousa Ferreira, M.D. from 10/26/2009
Artemus Flagg, II, M.D., M.P.H.¹
Jennifer Lorayne Fuller, M.D.¹
Nishant Ashok Gandhi, D.O.¹
Harold Joseph Gelfand, M.D. from 08/20/2009
Steven L. Gibson, M.D.¹
Aditya Ashokkumar Goel, Ph.D. (on leave of absence from 10/23/2009 to 11/06/2009)
Andrew Joseph Goins, D.O.¹
Anastassia Grigorieva, M.D.¹
Justin Thames Hamrick, M.D.¹
Sayeh Hamzehzadeh, M.D.¹
Matthew Paul Harper, M.D.¹
Lihua He, Ph.D. to 04/30/2010
Fay Anne Horng, M.D.¹
Jeremy M. Huff, D.O.¹
Joseph C. Hung, M.D.¹
Monique Elesha James, M.D.¹
Stacie Nicole Johnson, M.D.¹
Sheng-Chin Kao, M.D. from 08/01/2009
Shruti Gupta Kapoor, M.D., M.P.H.¹
Yun Tai Kim, Ph.D.
Grace Kong, M.B.B.S.¹
Chun-Yi Lee, Ph.D. from 08/01/2009
Frank Hanchong Lee, M.D. from 07/13/2009 to 07/31/2009
Rung-Chi Li, M.Sc., Ph.D. to 07/31/2009
Wesley Liao, M.D.¹
Elaina Ewei Lin, M.D.¹
Peter Charlie Lin, M.D.¹
Jonathan Lissauer, M.D.¹
Raina Marie Lourens, M.D.¹
Bo Ma, Ph.D.

Michael Fernandez Mantinan, M.D.¹
Ty Asher Martindale, D.O., M.H.S.¹
Christina Rose Miller, M.D.¹
Kyaw Soe Mon, M.D.¹
Sang-Kwan Moon, Ph.D. to 02/28/2010
Arnab Mukherjee, M.D.¹
Young Jun Oh, M.D., Ph.D. to 02/28/2010
John Young Ok, M.D.¹
Sean Michael Owens, D.O.
Tiffany S. Owens, M.D.¹
Tanveer Kaur Pannu, M.D.¹
Melissa Lynn Pant, M.D.¹
Amit Manu Patel, M.D.¹
Ketan B. Patel, M.D.¹
Andre Poloczek, M.D. to 04/30/2010
Jane Radov, M.D.¹
Rebecca Lynn Reeves, D.O.¹
Philip E.F. Roman, M.D.¹
James Adam Rothschild, M.D.¹
Sungwoo Ryoo, Ph.D. to 10/31/2009
Rosanne Bravin Sheinberg, M.D.¹
Ming-Hung Shih, M.D. to 07/27/2009
Gautam Sikka, M.D.
Jochen Steppan, M.D.¹
Shawn Michelle Sumida, M.D.¹
Dora Syin, M.D.¹
Babak Tabatabai, M.D.¹
Carin Marie Tauriello, M.D.¹
Brandon Michael Togioka, M.D.¹
Jonelon Gabriel Tsang, M.B.B.S.¹
Matthew Robert Vana, M.D.¹
April Joy Runa Villamayor, M.D.¹
Bing Wang, M.D. to 03/25/2010
Emmett E. Whitaker, M.D. (on leave of absence to 09/15/2009)¹
Jamie Rene Wingate, M.D.¹
Caroline Culbertson Wright, M.D.¹
Christopher Lee Wright, Ph.D. to 07/17/2009
He Wu, Ph.D. from 10/12/2009
Sarah Elaine Wyhs, M.D.¹
Ji-Tian Xu, Ph.D.
Dawn Yan, M.D.¹
Ya Yang, Ph.D. to 02/08/2010
Jian Zhang, M.D., Ph.D. to 04/30/2010
Xiuli Zhao, Ph.D.
Gehua Zhen, M.D.
Fei Zheng, M.D., M.P.H.¹
Jianhong Zhu, Ph.D. to 01/31/2010
Zachary Matthew Zumbar, M.D., M.P.H.¹

Adult Cardiothoracic Anesthesiology

Tricia Desvarieux, M.D.
Rabi Kumar Panigrahi, M.B.B.S.
Michele Leigh Sumler, M.D.
Darcy Louise Towsley, M.D.

Critical Care Medicine

Houssam Farres, M.D. to 07/13/2009
Samuel Michael Galvagno, Jr., D.O. to 07/13/2009
Randeep Gill, M.D. from 07/13/2009
Caron Hong, M.D. from 07/13/2009
Absar Mirza, M.B.B.S. from 07/13/2009
Michael Eniang Nottidge, M.B.B.S., M.P.H. to 07/31/2009
Sadeq Ali Quraishi, M.D. from 07/13/2009
Imani Thornton, M.D. from 07/13/2009

Trung Quang Vu, M.D. to 07/13/2009

Pain Medicine

Meredith Claire Brandt Adams, M.D. from 07/15/2009
Haitham A. Al-Grain, M.D. from 07/15/2009
Karsten Bartels, M.D. from 08/19/2009
Brandon Jesse Goff, D.O. to 08/31/2009
Steven Marshall Harrison, M.D. to 09/28/2009
Spencer Scott Heaton, M.D. from 08/15/2009
Paul Kuy Seang Ky, D.O. to 07/13/2009
Jing Wang, M.D., Ph.D. to 07/13/2009

Pediatric Critical Care

Sunita Prakash Bhandare, M.B.B.S. from 09/26/2009 to 10/11/2009
Jason Wayne Custer, M.D.
Apryle Y. Funderburk, M.D. from 07/29/2009 to 08/25/2009
Rachel A. Gast, M.D. from 10/21/2009 to 11/17/2009
Dheeraj Goswami, M.D.
Malika Gupta, M.B.B.S. from 11/18/2009 to 12/16/2009
John James Holcroft, M.D.
Sapna Ravi Kudchadkar, M.D.
Jennifer Kim Lee-Summers, M.D. to 12/31/2009
Richard A. Lirio, M.D. from 09/23/2009 to 10/20/2009
Justin Lawrence Lockman, M.D.
Michael Conor McCrory, M.D. to 06/15/2010
Nivedita Mohari, M.B.B.S. to 07/29/2009
Michael Earl Nemergut, M.D., Ph.D.
Corina Noje, M.D.
Melissa Jerdonek Sacco, M.D., M.S.
Michael Campbell Spaeder, M.D.
Christopher Michael Watson, M.D.
Chris Park Yang, M.D.

Pediatrics

Jessica Anne George, M.D.
Andrew John Iskander, M.D. from 10/05/2009
Eric Lee, M.D. from 07/06/2009
Christine Lan Mai, M.D. to 07/20/2009
Oyetokunbo Olubukola Oyetunde, M.D. to 07/26/2009
Shivani Mayank Patel, M.B.B.S.
Charles Wainwright Zahalka, M.D. to 07/06/2009

BIOLOGICAL CHEMISTRY

Bradley Chun-Yee Akitake, Ph.D.
Michael Andrew Anderson, Ph.D. from 10/01/2009
Ronald Jarrod Copeland, Ph.D.
Daryle Joseph Depianto, Ph.D. to 08/31/2009
Melissa Ann Fowler, Ph.D. from 09/14/2009
Susan Mei-Ching Huang, Ph.D. to 05/31/2010
Yuchen Jiao, M.D., Ph.D. to 02/28/2010
Ji Hoon Kim, M.S., Ph.D. to 09/30/2009
Youngsoeck Lee, Ph.D.
Clare Hannah Munns, Ph.D.
Suman Yadav Nanda, Ph.D.
Mohit Prasad, Ph.D. to 04/30/2010
Qining Qin, Ph.D.
Qiuting Ren, Ph.D. from 09/09/2009 to 03/09/2010
Gang Shi, Ph.D.
Jiang Tao, Ph.D. to 11/30/2009
Becky JoAnne Tu-Sekine, Ph.D.
Marquis Terrell Walker, Ph.D.
Jianyang Wang, Ph.D.
Xiaobo Wang, Ph.D.

Xiaoyue Wang, Ph.D. from 12/02/2009

BIOMEDICAL ENGINEERING

Yong Ping Chen, Ph.D.
Young Seok Choi, Ph.D.
Stacey Deleria Finley, Ph.D. from 09/08/2009
Adrian Mark Haith, Ph.D. from 12/01/2009
Li Huo, Ph.D.
Princess Izevbua Imoukhuede, Ph.D.
Jun Izawa, Ph.D.
Toufic Gerges Jabbour, M.S., Ph.D. from 12/20/2009
Rosy Rani Joshi-Mukherjee, Ph.D.
Aysha Saad Keisler, Ph.D.
Gang Liu, Ph.D.
Xiaodong Liu, Ph.D.
Anil Digambar Maybhate, Ph.D.
Vignesh Muthuvijayan, Ph.D. to 04/30/2010
Paul Christian Nelson, Ph.D.
Jean-Jacques Orban de Xivry, M.S., Ph.D.
Michael Scott Osmani, Ph.D.
Amina Ann Qutub, Ph.D. to 07/31/2009
Corban Gregory Rivera, Ph.D.
Elena Victoria Rosca, Ph.D.
Sean Joseph Slee, Ph.D.
Marianne Odile Stefanini, M.A., M.S., Ph.D.
Michael Raphael Tadross, M.D., Ph.D. to 11/30/2009
Caitlin Susannah Torgerson, Ph.D.
Yicong Wu, Ph.D.
In Hong Yang, Ph.D. from 09/21/2009
Matthew Ralph Zahner, Ph.D.
Yuying Zhang, Ph.D. from 11/16/2009
Desheng Zheng, Ph.D. to 09/25/2009
Yi Zhou, Ph.D.

BIOPHYSICS AND BIOPHYSICAL CHEMISTRY

Colin Echeverria Aitken, Ph.D. from 12/10/2009
Christopher Edward Berndsen, Ph.D.
Eduardo Emilio Chufan, Ph.D. to 09/15/2009
Ajit Bikram Datta, Ph.D.
Kamau Mudada Fahie, Ph.D. from 10/21/2009 to 05/27/2010
Guo Fu, Ph.D.
Tao Huang, Ph.D.
Jennifer Marie Kavran, Ph.D.
Kwangsoo Kim, Ph.D.
Min Sung Kim, Ph.D.
Ping Liu, M.S., Ph.D.
Simon Amadeus Messing, Ph.D.
Jagpreet Singh Nanda, Ph.D.
Vaishnavi Rajagopal, Ph.D. from 09/08/2009
Sarah Elizabeth Walker, Ph.D.
Reuven Wiener, Ph.D.

CELL BIOLOGY

Marina Allary, Ph.D.
Yulia Artemenko, Ph.D.
Jemima R. Barrowman, Ph.D.
Rita Thomas Brookheart, Ph.D. from 12/16/2009
Huaqing Cai, M.S., Ph.D.
Chun-Lin Chen, Ph.D. from 11/01/2009
Se Yeon Chung, Ph.D.
Rebecca Marie Fox, Ph.D.
Jonathan Chen Kiat Franca-Koh, Ph.D. to 08/31/2009
Zachary Richard Gagnon, Ph.D. from 09/08/2009
Morten Frier Gjerstorff, Ph.D. from 10/21/2009 to 12/19/2009
Ryan S. Gray, Ph.D. from 07/06/2009

Chuan-Hsiang Huang, M.D., Ph.D. to 05/31/2010
Hiroshi Ike, Dr. Sc., M.A.
Afshan Ismat, Ph.D.
Bilal Ersen Kerman, Ph.D. to 07/31/2009
Toru Komatsu, Ph.D. to 04/19/2010
Tianzhi Luo, Ph.D.
Rika Maruyama, Ph.D.
James Edward Mullally, Ph.D.
Wei Shao, Ph.D.
Alexandra Surcel, Ph.D.
Yasushi Tamura, Ph.D.
Zongtian Tong, Ph.D. to 01/18/2010
Tasuku Ueno, Ph.D. to 03/31/2010
Junko Wakabayashi, Ph.D.
Yu Wang, M.S., Ph.D.
Zhongyan Zhang, Ph.D.
QiongQiong Zhou, Ph.D.

DERMATOLOGY

Christopher John Bengson, M.D., M.H.S. ¹
Alice Ya-Chun Chuang, M.D.
Ali Dana, M.D., Ph.D. ¹
Amena Marie DeLuca, M.D. ¹
Yelena Mirensky Frankel, M.D., M.P.H. ¹
Anne Han, M.D.
Adrianna Janell Jackson, M.D. ¹
Catherine Hee Yong Lee, M.D., M.Sc. ¹
David Alvin Lee, M.D. ¹
Sofia Marica Shea, M.D. ¹
Noelle Starr Sherber, M.D. ¹
Mark Minh Tran, M.D. ¹

Dermatopathology

John Harland Irlam, D.O. from 09/01/2009 to
09/30/2009
Giuseppe Militello, M.D.
Arun Prakash Venkat, M.B.A., M.D.
Joseph Anthony Whitten, M.D., M.S. to 07/31/2009

Pediatric Dermatology

Eric Paul Brumwell, M.D. from 01/04/2010 to
01/31/2010
Rebekah Hewett Clifford, M.D. from 09/01/2009 to
09/30/2009
Mark Edward Eaton, M.D. from 09/01/2009 to
09/30/2009
Jeffrey J. Kelly, D.O. from 12/01/2009 to
12/31/2009

EMERGENCY MEDICINE

John William Burger, M.D., M.P.H. ¹
Sarah Jean Carle, M.D. ¹
Emily Streyer Carlisle, M.A., M.D. ¹
Kuan-Fu Chen, M.D. to 03/05/2010
Michael Christopher Cordeiro, M.D. ¹
Chidiebere Uzoma Ekeocha, M.B.A., M.D. ¹
Tiffany Clair Fong, M.D. ¹
David Douglas Gilbert, D.O.
Mark Adam Goldstein, M.D. ¹
Martha Noelle Goodin, M.D. ¹
Sommer Nikishia Gripper, M.D. ¹
Latonya Michelle Hendricks, D.O. ¹
Harry E. Heverling, Jr., D.O. ¹
Bridget Helen Highet, M.D. ¹
John Matthew Holst, D.O. ¹
Trishena Rene Jones, M.D. ¹
Samiur Rahman Khandker, M.D. ¹
Bret Kilker, M.D. ¹
Brian Jeremy Kipe, M.D. ¹
Timothy Christopher Laeger, M.D. ¹

Darren Peter Mareiniss, J.D., M.D.
Tyler Martinez, D.O. ¹
Michael R. Melia, M.D. from 07/02/2009
Melinda Jane Morton, M.D., M.P.H. ¹
Markhabat Omirdinovna Muminova, M.D. to
10/06/2009 ¹
Kenneth Mwatha, M.D. ¹
Hares Ahmad Najand, M.D. ¹
Seungkyung Park, Ph.D. from 08/01/2009 to
10/31/2009
Susan Marie Peterson, M.D. ¹
Randall Trenton Rhyne, M.D. ¹
Jordan Michael Sax, M.D. ¹
Sheha Harshad Shah, M.D. ¹
Cyrus G. Shahpar, M.D., M.P.H. ¹
Ryan Scott Shanahan, M.D. ¹
Stephani Lynn Simon, D.O. ¹
Sarah Anne Stewart De Ramirez, M.D., M.P.H.,
M.Sc. ¹
Roshni Ishwarsinh Thakore, M.D. ¹
Jonathan Sidney Thierman, M.D., Ph.D. ¹
Stephen Charles Viel, M.D. ¹
Andrew C. Yoon, M.D. ¹
Sania Zubair, M.D. ¹

FUNCTIONAL ANATOMY AND EVOLUTION

Rachel Heather Dunn, Ph.D.

GYNECOLOGY AND OBSTETRICS

Modupe Veronique Agueh, M.D. ¹
Francisco Aguirre, M.D. ¹
Alejandra Denisse Alvarez, M.D. ¹
Joyce Nuqui Barlin, M.D. ¹
Shazia Bashir, M.D., M.P.H. ¹
Codi Dawn Beam, M.D. ¹
Meredith Lee Birsner, M.D. ¹
Alaina Joelle Brown, M.D. ¹
Alexandre Buckley De Meritens, M.D. ¹
Mindy Sue Christianson, M.D. ¹
Sarah Lauren Cohen, M.D. ¹
Abigail Elizabeth Dennis, M.D. ¹
Jennifer Ann Ducie, M.A., M.D. ¹
Cindy Moria Duke, M.D. ¹
Jill Edwardson, M.D., M.P.H. ¹
Maureen Elise Grundy, M.D. ¹
Camille Catherine Gunderson, M.D. ¹
Sarah Jean Hanson, M.D. ¹
Sherrine Adele Ibrahim, M.D. ¹
Amelia Marie Jernigan, M.D. ¹
Clark Timothy Johnson, M.D., M.P.H. ¹
Michelle Joanne Khan, M.D., M.P.H. ¹
Lauren Dorothy Smith Krill, M.D. ¹
Kimberly Lynn Levinson, M.D., M.P.H. ¹
Amr Mohamed Monir Madkour, M.D. ¹
Tiffany Samara McNair, M.D. ¹
Alok Pant, M.D. ¹
Elizabeth O'Connor Purcell, M.D. ¹
Melissa Lauren Russo, M.D. ¹
Sangini Bhadrak Shah Sheth, M.D., M.P.H. ¹
Khara Michelle Simpson, M.D. ¹
Julie Sara Solomon, M.D. ¹
Hindi Elaine Stohl Posy, M.D. ¹
Sarahn Malena Wheeler, M.D. ¹
Abigail Duncan Winder, M.D. ¹
Jizhong Zou, M.S., Ph.D.

Gynecologic Oncology

Aimee C. Fleury, M.D.
Okechukwu Anthony Ibeanu, M.B.B.S., M.P.H.
Stefanie Masako Ueda, M.D.

Maternal-Fetal Medicine

Anya Jeannine Bailis, M.D.
Christopher Scott Ennen, M.D.
Teresa Martino, D.O. to 12/31/2009
Kristy Ann Ruis, M.D.
Amanda P. Stewart, M.D.
Linda Marie Szymanski, M.D., Ph.D.

Reproductive Endocrinology

Paul Robert Brezina, M.B.A., M.D.
Aimee Catherine Jacobs, M.D. from 11/30/2009 to 12/31/2009
Nneka N. McNeal-Jackson, M.D. from 10/05/2009 to 10/31/2009
Kerri M. Nardone, D.O. from 08/31/2009 to 10/02/2009
Dana Lynn Shanis, M.D. from 11/01/2009 to 11/30/2009
Brad Blachly Swelstad, M.D.
Melissa Marie Yates, M.D.

HEALTH SCIENCES INFORMATICS

Yair G. Rajwan, Dr. Sc., M.Sc. from 09/01/2009
Terry Hsin-Yi Shen, M.P.H., Ph.D. from 09/01/2009

HISTORY OF MEDICINE

Karen Kruse Thomas, M.A., Ph.D.

MCKUSICK-NATHANS INSTITUTE OF GENETIC MEDICINE

Eva Andres-Mateos, Ph.D.
Pallav Bhatnagar, Ph.D.
Thi Vu Bui, Ph.D. from 12/01/2009
Grzegorz Maciej Burzynski, Ph.D. from 08/18/2009
Raghothama Chaerkady, Ph.D.
Tsung-Cheng Chang, Ph.D.
Erica Ellen Davis, M.S., Ph.D. to 10/31/2009
Betty Quynh-Huong Doan, M.P.H., Ph.D.
Vishal Kirtikant Doshi, M.B.B.S., M.P.H.
Jefferson James Doyle, M.B.B.Ch., M.H.S.
Eran Elhaik, Ph.D. to 01/26/2010
Elena Gallo, Ph.D.
Santhi Kalaichelvi Ganesh, M.D.
Simone Gupta, M.Sc., Ph.D. from 11/15/2009
Yen-Yi Ho, Ph.D. from 08/10/2009
Qian Jiang, Ph.D.
Natini Jinawath, M.D., Ph.D.
Ashish Kapoor, M.Sc., Ph.D.
Oliver Andrew Kent, Ph.D.
Vinayak Kottoor, M.B.B.S.
Yangjian Liu, Ph.D.
David Charles Loch, Ph.D.
Weibo Luo, Ph.D.
Rebeca Maria Mejias-Estevez, Ph.D.
Ronald Alan Miller, II, Ph.D. to 08/03/2009
Edwin Oh, Ph.D. to 10/15/2009
Vasyl Pihur, M.S., Ph.D. from 08/10/2009
Sergio Rey, Ph.D.
Sheikh Amer Riazuddin, Ph.D. to 10/31/2009
Srirangan Sampath, Ph.D.
Neeraj Sharma, Ph.D.
Christel van Erp, Ph.D.
Lei Wang, Ph.D. to 03/30/2010
Ying Wang, M.D., Ph.D.
Hong Wei, M.D.
Chak Lui Wong, Ph.D. from 08/17/2009
Yi Yang, Ph.D.
Regina Margarita Zambrano, M.D.
Xuechu Zhao, Ph.D. to 10/30/2009

MEDICINE

Johns Hopkins Hospital House Staff-Internal Medicine

Nisha Aggarwal, M.D.
Christine Campo Alewine, M.D., Ph.D.
Gobind Anand, M.D.
Clarissa Grace Barnes, M.D.
Julia Ann Beaver, M.D.
Lauren Dara Block, M.D.
Natalie McCarter Bowman, M.D., M.Phil.
Emily Pfeil Brigham, M.D.
Gabriel C. Brooks, M.D.
Lorrel Elizabeth Brown, M.D.
Monica Belinda Bueso, M.D.
Angel T. Chan, M.D.
Eunpi Cho, M.D.
Jonathan Chrispin, M.D.
James N. Cooper, M.D.
Ashwini Sagar Davison, M.D.
Rebecca Hope Dezube, M.D.
Jonathan Walter Dukes, M.D.
Justin Matthew Dunn, M.A., M.D., M.P.H.
Adel Rafeh El Boueiz, M.D.
Romanus Roland Faigle, M.D.
Natasha Noelle Fontaine, M.D.
Sravanya Gavini, M.D.
Kevin Gibbs, M.D.
Daniel Lee Gilstrap, M.D.
Raymond Carlos Givens, M.D., Ph.D.
Christian Burris Gocke, M.D., Ph.D.
Adena Hope Greenbaum, M.D., M.P.H.
Keiko Iwahara Greenberg, M.D.
Robert Stewart Hagan, M.D., Ph.D.
Charles Franklin Haines, M.D.
Robert William Hallowell, M.D.
Timothy James Harris, M.D., Ph.D.
Fiona Patricia Havers, M.A., M.D.
Margaret Mary Hayes, M.D.
Barbara Lawson Heil, M.D.
Ashley Procopio Helgeson, M.D.
David Joseph Heller, M.D., M.P.H.
Estebes Akira Hernandez, M.D.
Brian Allan Houston, M.D.
Lynn Jackson Howie, M.D.
Steven Hsu, M.D.
Richard Johnson, M.D.
Christopher George Kanakry, M.D.
Clare Kelleher, M.D.
Sara Condron Keller, M.D., M.P.H.
Rina G. Khatri, M.D.
Sharon Bokyong Kim, M.D.
Matthew Christopher Konerman, M.D.
Monica Arlene Konerman, M.D.
Rupa Radhika Krishnaswamy, M.D.
Mikhailia Wanakee Lake, M.D.
Lakshmi Devi Lattimer, M.D.
Abigail Ames Lenhart, M.D.
Berkeley Nguyen Limketkai, M.D., M.S.
Anna Litvak, M.D.
Kara Mari Loubser, M.D.
Donald Ray Lynch, Jr., M.D.
Julia Anne Marsh, M.D.
Scott Coleman Matherly, M.D.
John William McEvoy, M.B.B.Ch.
Camille Michael Minder, M.D.
Jason Robert Mock, M.D.
Payam Mohassel, M.D.
Venkata Anupama Narla, M.D.

Jennifer Sparr Nayor, M.D.
 Matthew Gregory Nayor, M.D.
 Dara Lee Neuman-Sunshine, M.D.
 Phuong-Khanh Jessica Nguyen-Trong, M.D.
 Timothy Michael Niessen, M.D., M.P.H.
 Veronique Rachele Nussenblatt, M.D., M.H.S.
 Ifeoma Obiageli Onuorah, M.D.
 Zoe Anne Orecki, M.D., M.P.H.
 Heather Anne Parsons, M.D., M.P.H.
 Harsh Patel, M.D.
 Joanna Miller Peloquin, M.D.
 Steven Casey Pugliese, M.D.
 Susan Yuani Quan, M.D.
 Deepa Rangachari, M.D.
 Shaline Daliparthi Rao, M.D.
 Kim Anna Reiss, M.D.
 Julie Lorraine Rosenthal, M.D.
 Bruce Fernando Sabath, M.D.
 Joyce Lynette Sanchez, M.D.
 Todd Nathaniel Senn, M.D.
 Kavita Sharma, M.D.
 Michael Gordon Silverman, M.D.
 Davis Lok Sim, M.D., Ph.D.
 Emily Claire Speelmon, M.D., Ph.D.
 Benjamin Adam Steinberg, M.D.
 Anthony Derek Sung, M.D.
 Karthik S. Suresh, M.D.
 James Hagop Tabibian, M.D.
 Brian Michael Thomas, M.D.
 Hilary Robbins Thomas, M.D.
 Randell Croft Thomas, Jr., M.D.
 Geoffrey Huang Tison, M.D., M.P.H.
 Tuan Manh Tran, M.D., Ph.D.
 Jason Bernard Turowski, M.D.
 Christina Altovise Twyman, M.D.
 Rohan Ravindra Wagle, M.D.
 Stacy Wang, M.D.
 Sasrutha Rasika Wickramasinghe, M.D., Ph.D.
 Benjamin Robert Winders, M.D.
 Tinsay Ambachew Woreta, M.D., M.P.H.
 Jennifer Ann Yates, M.D.
 Rana Ramzi Yehia, M.D.
 Jean Yoo Campbell, M.D.
 Omair Khwaja Yousuf, M.D.
 Joshua Franklin Zeidner, M.D.
 Eric Stafford Zollars, M.D., Ph.D.

Johns Hopkins Bayview Medical Center House Staff-Internal Medicine

Sean Tabi Agbor-Enoh, M.D.
 Frank Akwaa, M.D.
 Jemilat Olapeju Badamas, M.D.
 Lora Georgieva Bankova, M.D.
 LaPrincess Cerise Brewer, M.D., M.P.H.
 Jennifer Lynn Brown, M.D., M.S.
 Margaret Welsh Cavanaugh-Hussey, M.D., M.P.H.
 David Shi-Ann Chang, M.D.
 Jennifer Kylien Chen, M.D.
 Mok-Chung Jennifer Cheng, M.D.
 Ryan Edwin Childers, M.D.
 Justin David Chronister, D.O.
 Cecilia Pilar Chung-Nakandakari, M.D.
 Melissa Nicole Dattalo, M.D., M.P.H.
 Brian James Doyle, M.D.
 Claudia P. Dumfeh, M.D.
 Mary Katherine Elfrey, D.O.
 Olufunmilayo Olubukola Falade, M.D.
 Elizabeth Ann Felton, M.D.
 Kristina Michelle Frogale, M.D.
 Jeneen Manlangit Gifford, M.D.

Emmanuel Cruz Gorospe, M.D., M.P.H.
 Ashul Govil, M.D.
 Ariel Ruth Green, M.D., M.P.H.
 Elizabeth Edith Harris, M.D.
 John Patrick Hemming, M.D.
 Ramin Sedaghat Herati, M.D.
 Ashleigh Mica Hicks, M.D.
 Roger Sai-kit Ho, M.D., M.S.
 Brian M. Howard, M.D.
 Nicole Janee Hunt, M.D.
 Hamid Majid Kargbo, M.D.
 Joyce Michelle Koh, M.D.
 Marc Robert Larochelle, M.D.
 Stanley Shi-Dan Liu, M.D.
 Kit Yu Lu, M.D.
 Christine S. Mativo, M.D.
 Sarah Elizabeth Miller, M.D.
 Meta M. Mobula, M.D.
 Melissa Danielle Morgan, M.D.
 Wachirapon Jordan Piluek, M.D.
 Theresa Anne Rowe, D.O.
 Michael Wayne Sauder, M.D., M.P.H.
 Nancy Schoenborn, M.D.
 Sarah Elizabeth Sharfstein, M.D.
 Bradley Charles Strunk, M.D.
 Benjamin Y. Tu, M.D.
 Paul Ravi Waldron, M.D., M.P.H.
 Tanyaporn Wansom, M.D.
 Kai Tai Xu, M.D.

Johns Hopkins University/Sinai Hospital Program-Internal Medicine

Rtika Ryfka Abraham, M.B.B.S. to 06/22/2010
 Teamrat Araia Adhanom, M.D. to 06/23/2010
 Jurga Adomaityte, M.D. to 06/23/2010
 Jay Paul Agrawal, M.D. to 06/22/2010
 Hasmik Arzumanyan, M.D. to 06/23/2010
 Aarti Khushal Bhatia, M.B.B.S. to 06/22/2010
 Amit Kumar Bhise, M.B.B.S. to 06/22/2010
 Bobby Ray Burches, Jr., D.O. to 06/22/2010
 Marc Jason Caligtan, M.D. to 06/22/2010
 Rashmi Chandra, M.B.B.S. to 06/22/2010
 Pamela Rondi Dammis, M.D. to 06/23/2010
 Vu Hung Dang, M.D. to 06/22/2010
 Schonze Frances Del Pozo, M.D. to 06/23/2010
 Graham Dondlinger, M.D. 06/22/2010
 Anupama Doraiswamy, M.B.B.S. to 05/31/2010
 Aparna V. Gadekar, M.B.B.S. to 06/23/2010
 Kapil Gangwal, M.B.B.S. to 06/23/2010
 Jean Gauvin, M.D., Ph.D. to 06/22/2010
 Helen Gharwan, M.D. to 06/23/2010
 Mohit Girotra, M.B.B.S. to 06/23/2010
 Aneta Petrova Gramatikova, M.D. to 06/22/2010
 Rajeev Gupta, M.B.B.S. to 06/22/2010
 Miruais S. Hamed, M.D. to 05/31/2010
 Jonathan A. Henesch, M.D. to 06/22/2010
 Cleve Orian James, M.D. to 06/22/2010
 Kusuma Kanaparthi, M.B.B.S. to 08/20/2009
 Brinder Singh Kanda, M.D. to 06/22/2010
 Ravi Kant, M.B.B.S. to 06/22/2010
 Sumit Kapoor, M.B.B.S. to 06/22/2010
 Markos Kashiouris, M.D. to 06/22/2010
 Javaid M. Khan, D.O. to 06/22/2010
 Sriratna Koneru, M.B.B.S. to 06/22/2010
 Spas V. Kotev, M.D. to 06/22/2010
 Martin Kubin, M.D. to 06/22/2010
 Tara Lynne McColgin, M.D. to 06/22/2010
 Ana-Maria Orbai, M.D. 06/22/2010
 Margaret Ayo Owegi, D.O. to 09/22/2009
 Manjari Pandey, M.B.B.S. to 06/22/2010

Tejas Baldevbhai Patel, M.B.B.S.
 Oana-Valeria Paun, M.D. to 06/22/2010
 Harish Bhanudevan Pillai, M.B.B.S. to 06/22/2010
 Marina Louise Pratt, M.D. to 06/22/2010
 Deepa Raghavan, M.B.B.S. to 06/22/2010
 Bharat Rattan, M.B.B.S. to 06/22/2010
 Amadeo Denina Rivera, Jr., M.D. to 06/22/2010
 Nira Amrita Roonnarinesingh, M.B.B.S. to 06/22/2010
 Luis A. Rosas Calderon, M.B.B.S.
 Viplove Senadhi, D.O. to 06/22/2010
 Arun Sharma, M.B.B.S. to 06/22/2010
 Shailendra Singh, M.B.B.S. to 06/22/2010
 Lori Ann Suffredini, D.O. to 06/22/2010
 Naseem Mohammed Mousa Sunnoqrot, M.B.B.Ch.
 Manish Talwar, M.B.B.S. to 06/22/2010
 Panagiotis Tzevelekos, M.D. 06/22/2010
 Susanna V. Ulahannan, M.D. to 06/22/2010
 Aditya Vidushi, M.B.B.S. to 06/22/2010
 Sunny Yadav, M.B.B.S. to 06/22/2010
 Cecilia Hiromi Yshii Tamashiro, M.D. to 06/22/2010
 Jason Jen-Che Yu, M.D. to 06/22/2010

Cardiovascular

Giulio Agnetti, Ph.D.
 Rukhsar Ahmed, M.B.B.S. from 08/01/2009
 Takeshi Aiba, Ph.D.
 Ashwin Sivappa Akki, M.B.B.S., Ph.D.
 Andre Luiz Cerqueira Almeida, M.D. to 05/31/2010
 Luciano Costa Amado, M.D.
 Marietta Samantha Ambrose, M.D.
 Fariba Ariaei, M.S., Ph.D. from 09/01/2009
 Elisabeth Karin Arkenbout, Ph.D.
 Hiroshi Ashikaga, M.D., Ph.D.
 Sandeep Bansal, M.D., M.P.H.
 Andreas Sebastian Barth, M.D., Ph.D.
 Valeriani Raphael Bead, M.D.
 Ram Hari Belbase, M.B.B.S. from 11/16/2009 to 11/30/2009
 Cassius Diego Belfonte, M.B.B.S. from 09/01/2009 to 09/15/2009
 Scott Adam Berkowitz, M.B.A., M.D.
 Michael Joseph Blaha, M.D.
 Catherine Young Campbell, M.D.
 Rodrigo Julio Cercl, M.D.
 Khalid Chakir, M.S., Ph.D.
 Karuna Chilukuri, M.B.B.S.
 Eui Young Chof, M.D.
 Sang Il Choi, M.D.
 Seong Hoon Choi, M.A., M.D., Ph.D.
 Andrew Paul DeFilippis, M.D.
 Deeptankar Demazumder, M.D.
 Veronica Lea Jumarang Dimaano, M.D.
 David Nash Edwards, M.D., Ph.D.
 Kristian Eskesen, M.D. from 09/01/2009
 Heidi Luise Estner, M.D.
 Justyna Patrycja Fert-Bober, Ph.D.
 Dmitrii Andreyevich Gagarin, M.D. from 08/31/2009 to 09/24/2009
 Gustavo Khattar Godoy, M.D.
 Garth Nigel Graham, M.D.
 Rebekah Lynn Gundry, Ph.D.
 Ashish Gupta, M.S., Ph.D.
 Anchal Gusain, M.S.C., Ph.D. from 11/20/2009
 Colleen Mary Harrington, M.D.
 Rani Khalil Hasan, M.D.
 Toyoko Hiroi, D.V.M., Ph.D.
 Ronald Joseph Holewinski, Ph.D.
 Aaron Horne, Jr., M.B.A., M.D.
 Christian John Hunter, M.D.

Cathrine Husberg, D.Sc., M.Sc.
 Chao-Wei Hwang, M.D.
 Rahul Jain, M.B.B.S.
 Nicholaos Kakourous, M.B.B.S. from 10/16/2009
 Nina Kaludercic, Ph.D.
 Sivajothi Kanagalingam, M.D.
 Brinder Singh Kanda, M.D. from 09/17/2009 to 10/14/2009
 Satish Kenchaiah, M.B.B.S., M.P.H.
 Kerunne Segametsi Ketlogetswe, M.D.
 Jonathan Alder Kirk, Ph.D. from 09/01/2009
 Norimichi Koitabashi, M.D., Ph.D.
 Dong Ik Lee, Ph.D.
 Andrew Robert Leventhal, M.D., Ph.D.
 Ting Liu, M.S., Ph.D.
 Vishal C. Mehra, M.B.B.S.
 Nathan Oliver Mewton, M.D. from 01/01/2010
 Kiran Musunuru, M.D., Ph.D.
 Christian Daniel Nagy, M.D.
 Chiadi Ericson Ndumele, M.D.
 Anders Opdahl, M.D. from 07/02/2009
 Gurusher Singh Panjra, M.B.B.S.
 Kapil Parakh, M.B.B.Ch., M.P.H.
 Aurelio Carvalho Pinheiro, M.D.
 Alban Benoit Redheuil, M.D.
 Rosanne Rouf, M.D.
 Miguel Santaularia Tomas, M.D.
 Takeshi Sasaki, M.D. from 10/01/2009
 Kelly Hulett Schlendorf, M.D.
 Florian Sebastian Schoenhoff, M.D.
 Karl Heinz Schuleri, M.D.
 Rajesh Babu Sekar, M.S., Ph.D. to 08/15/2009
 Kinya Seo, Ph.D. from 07/15/2009
 Farooq Hameed Sheikh, M.D.
 Lincoln Takura Shenje, M.B.B.Ch., M.S.C., Ph.D.
 Brian Allan Stanley, Ph.D.
 Brad Steven Sutton, M.D.
 Yelena Sergeevna Tarasova, D.M.D.
 Ryan James Tedford, M.D.
 Gisela Teixido-Tura, M.D. from 01/01/2010
 Carlo Gabriele Tocchetti, M.D.
 Emily Joy Tsai, M.D. to 09/30/2009
 Helge Uhrigshardt, Ph.D. from 11/01/2009
 Carolina Isabel Valdiviezo Schlomp, M.D.
 Jose Danilo Vargas, M.D., Ph.D.
 Sourabh Verma, M.B.B.S. from 09/25/2009 to 10/22/2009
 Shengbing Wang, Ph.D.
 Heba Sabri Fouad Wassif, M.B.B.Ch., M.P.H.
 Vabren L. Watts, Ph.D. from 07/08/2009
 Hulya Yalcin, M.D. from 11/01/2009 to 04/01/2010
 Raymond Tze-Heng Yan, M.D. to 09/30/2009
 Kihei Yoneyama, M.D. from 10/01/2009
 Khurram Shahzad Zakaria, M.B.B.S.
 Dou Zhang, M.D., Ph.D.
 Manling Zhang, M.D.
 Pingbo Zhang, Ph.D.
 Lufang Zhou, M.S., Ph.D.
 Guangshuo Zhu, M.D. from 10/01/2009
 Lingyun Zu, M.D. to 03/31/2010

Clinical and Molecular Rheumatology

Karunakar Akasapu, M.B.B.S. from 11/30/2009 to 12/31/2009
 Sameer Sadashiv Chaudhari, M.B.B.S. from 07/29/2009 to 09/01/2009
 Nikolay Guinev Delev, M.D.
 Geetha Doddaiyanapalya Somashekar, M.B.B.S. from 09/28/2009 to 10/17/2009

Caroline D'Souza, M.D. from 07/31/2009 to 10/01/2009
John Clayton Hall, Ph.D.
Charles Franklin Henderson, M.D.
Dhruv Joshi, M.B.B.S. from 10/30/2009 to 11/29/2009
Sabih Khan, M.D.
Sanjivani Avinash Kolge, M.B.B.S. from 09/30/2009 to 10/29/2009
Aisha Lateef, M.B.B.S. from 11/30/2009 to 05/31/2010
Rebecca Lynn Manno, M.D.
Janet Willoughby Maynard, M.D.
Zsuzsanna Hortobagyi McMahan, M.D.
Kristi Vergena Mizelle, M.D., M.P.H.
Malini Moni, B.D.S. to 03/23/2010
Zin Min Nwe, M.B.B.S. to 07/30/2009
Ana-Maria Orbai, M.D. from 09/18/2009 to 11/11/2009
Jin Kyun Park, M.D.
Marzouq A. Qubti, M.D.
Saru Sachdeva, M.B.B.S. from 11/02/2009 to 12/15/2009
Shinji Sato, M.D.
Archana Sharma, M.B.B.S. from 10/26/2009 to 11/13/2009
Maryna Shayuk, M.D. from 08/17/2009 to 10/18/2009
Ritu Valiyil, M.D.
Nandini Umesh Yadav, M.D. from 08/31/2009 to 09/29/2009

Clinical Cardiac Electrophysiology

Fawaz Sulaiman Alhumaid, M.D.
Cassius Diego Belfonte, M.B.B.S. from 09/16/2009 to 09/30/2009
Aravindan Kolandaivelu, M.D.
Ravi Ranjan, M.D., Ph.D.
Boon Yew Tan, M.B.B.Ch.
Larisa Gennadievna Tereshchenko, M.D. to 08/31/2009
Christine Marie Tompkins, M.D., M.S.
Andrew Zhigalin, M.D.

Clinical Immunology

Jelena Bogdanovic, Ph.D. to 07/31/2009
Laura Kimberly Chong, M.D.
Yang-Ling Chou, Ph.D.
Marisha Liana Cook, M.D.
Matthew Michael Hewitt, Ph.D.
Jae Won Jeong, M.D., M.S., Ph.D.
Yoon Keun Kim, M.D., Ph.D.
Youn Seup Kim, M.D., Ph.D.
Waseem Makhoul, M.D.
Yukiko Muroi, Ph.D. from 08/01/2009
Ho Jeong Na, Ph.D.
Miya Okada Paterniti, M.D.
Carl Robert Potenzieri, Ph.D.
George John Pyrgos, M.D.
Jessica Rabe Savage, M.D., M.S.
Mi-Kyung Shin, Ph.D. from 11/01/2009
Jenny Stitt, M.D. from 10/01/2009 to 10/31/2009
Jinho Yu, M.D., Ph.D.
Baojun Yuan, M.D. from 11/01/2009
Yufeng Zhou, M.D.

Clinical Pharmacology

Jianmeng Chen, M.D., Ph.D.
Kelly Elise Dooley, M.D., M.P.H.

Francisco Jose Leyva, M.D., Ph.D. from 08/26/2009
Liye Li, M.D., Ph.D.
Florence Marine McAllister, M.D.

Endocrinology and Metabolism

Zakaria Abdel-Ghaffar Youssef Abd Elmageed, Ph.D. from 09/01/2009 to 10/31/2009
Shabina Roohi Ahmed, M.D.
Elie Alcheikh, M.D. from 10/12/2009 to 11/08/2009
Murugan Avaniyapuram Kannan, Ph.D.
Shivam Amrut Champaneri, M.D.
Ari Shye Eckman, M.D.
Diala El-Maouche, M.D., M.S. from 09/14/2009 to 09/28/2009
Ana B. Emiliano, M.D.
Nadeen Hosein, M.D.
Peng Hou, M.S., Ph.D. to 08/31/2009
Kavita Iyengar, M.B.B.S. from 10/01/2009 to 10/30/2009
Rita Rastogi Kalyani, M.D.
Swapna Kolukula, M.B.B.S. from 11/10/2009 to 12/07/2009
Zhi Liu, Ph.D.
Jennifer Sophie Roberts Mammen, M.D., M.Phil.
Marco Martari, M.Sc., Ph.D. to 07/31/2009
Nestoras Nicolas Mathioudakis, M.D.
Maria Belen Menucci, M.D. from 07/31/2009 to 10/01/2009
Kendall Ford Moseley, M.D.
Miguel Munoz, M.D.
Alessia Sagazio, M.D. from 09/14/2009
Naseem Mohammed Mousa Sunnoqrot, M.B.B.Ch. from 11/12/2009 to 12/09/2009
Sanin Syed, M.D. from 07/06/2009 to 07/31/2009
Vanessa Jeannette Walker Harris, M.D.
Dongqing Wang, M.D.

Gastroenterology

Stuart Kevin Amateau, M.D., Ph.D.
Vivian Abena Asamoah, M.D.
Rukshana Nadia Cader, M.B.B.Ch.
Guldane Cengiz-Seval, M.D. to 09/25/2009
Vinay Chandrasekhara, M.D.
Lea Ann Chen, M.D.
Tian-E Chen, Ph.D. to 01/14/2010
Stefan David, M.D.
Sameer Dhalla, M.D.
Zhen Ding, M.D., Ph.D.
Xiaojun Feng, Ph.D. from 08/01/2009
Amit Ghosh, Ph.D.
Lihong Gu, M.D., Ph.D. from 09/01/2009
Winoah Anya Henry, M.B.B.S.
Naveen Kumar Jha, M.S., Ph.D. from 01/02/2010
Cristina Jimeno-Ayllon, M.D. from 09/01/2009 to 11/30/2009
Shi Jin, Ph.D. from 11/16/2009
Daniela Jodorkovsky, M.D.
Edmundo Samuel Justino, M.D.
Mirajul Hoque Kazi, M.Sc., Ph.D.
Tamika Salima Khan, M.D. from 09/28/2009 to 10/23/2009
Mouen A. Khashab, M.D. from 08/01/2009 to 08/31/2009
Seakwoo Lee, M.S., Ph.D.
Zhaoxia Li, M.D., Ph.D.
David Benjamin Liang, M.D.
Shuwen Liang, M.S., Ph.D. to 04/29/2010
Rong Lin, M.D. to 10/01/2009
Zhihong Lin, Ph.D. to 01/08/2010

Valeriy Ivanovich Lukyanenko, Ph.D. from 11/30/2009
Delgermaa Luvsanjav, Ph.D. from 09/28/2009 to 06/07/2010
Anne Marie O'Broin Lennon, M.B.B.Ch., Ph.D.
Kenolisa Onwueme, M.D., Ph.D.
Bogdan Constantin Paun, M.D. to 07/31/2009
Octavia Evette Pickett-Blakely, M.D.
Jennifer Cohen Price, M.D.
Daniil Rolshud, M.D.
Mobin Shah, M.B.B.S.
Zhaohui Tang, M.D., Ph.D.
Anne Graves Tuskey, M.D.
Ming-Hsi Wang, M.D. to 07/31/2009
Ming-Hsi Wang, M.D. from 12/01/2009 to 12/31/2009
Mei Ye, Ph.D.
Xinjun Zhu, M.D., M.S.

General Internal Medicine

Reza Alavi, M.D.
Elie Alcheikh, M.D. from 12/07/2009 to 01/03/2010
Saul Bryan Blecker, M.D.
Sarah Stark Casagrande, M.H.S., Ph.D. from 09/08/2009
Nadine Esther Chen, M.D.
Dana Kelly Christo, M.P.H., Ph.D.
Kimberly A. Gudzone, M.D.
Jessie Katherine Kimbrough-Sugick, M.D., M.P.H.
Rashmi Prem Kumar, M.D.
Kimberly Daniella Martin, Ph.D. from 10/01/2009
Henry Joseph Michtalik, M.D., M.P.H.
Anne Kress Monroe, M.D., M.S.P.H.
Ranee Chatterjee Montgomery, M.D.
Sadie Anthea Peters, M.D.
Ileana Lucia Ponor, M.D. from 11/30/2009 to 12/31/2009
Lipika Samal, M.D.
Letitia Jeanna Wright, M.D.

Geriatric Medicine

Alia Alhumaid, M.D.
Scott Adam Berkowitz, M.B.A., M.D.
Jessica Leigh Colburn, M.D.
Erin Rand Giovannetti, Ph.D.
Mily Kannarkat, M.D.
Fred Chau-Yang Ko, M.D., M.S.
Amy Mahoney Matteini, Ph.D.
Kendall Ford Moseley, M.D.
Atoosa Rabiee, M.D.
Samir Kumar Sinha, D.Phil., M.D., M.Sc.
Gregory Lind Taylor, II, M.D.
Mya Sanda Thein, M.B.B.S.
Yanhua Wu, M.D. to 09/19/2009

GI Advanced Therapeutics

Mouen A. Khashab, M.D. from 09/09/2009

Hematology

Anupa Baral, M.B.B.S. from 08/28/2009 to 09/24/2009
Amy M. Belton, Ph.D.
Joelle Anne Hillion, Ph.D.
Xiaosong Huang, Ph.D. from 10/12/2009 to 05/08/2010
Biju Joseph, M.S., Ph.D.
Quy Hoa Le Thi, M.D.
Dwella Kimyada Nelson, Ph.D.
Zahra Pakbaz, M.D. from 09/28/2009 to 10/25/2009

Rachna Raman, M.B.B.S. from 11/24/2009 to 12/04/2009
Sheenu Sheela, M.B.B.S. from 11/20/2009 to 12/27/2009
Peng Sun, Ph.D. to 05/17/2010
Gabriel Tinoco, M.D. from 11/11/2009 to 12/17/2009
Zhaohui Ye, M.S., Ph.D. from 10/06/2009

Infectious Diseases

Nisheeth Agarwal, M.Sc., Ph.D. to 04/30/2010
Deepak Vinay Gregory Almeida, Ph.D. to 01/20/2010
Carolyn Dahlen Alonso, M.D.
Nicole C. Ammerman, Ph.D. from 12/01/2009
Claire Andrejak, M.D. from 11/01/2009
Rangolee Shrawan Arora, M.D. to 07/30/2009
Justin Richard Bailey, M.D., Ph.D.
Stephen Arthur Berry, M.D.
Michael Anand Chattergoon, M.D., Ph.D.
Neelkamal Chaudhary, Ph.D.
Daniel Stephen Chertow, M.D.
Jessica Christensen, M.D. from 08/03/2009 to 10/01/2009
Kausik Datta, Ph.D.
Christine Marie Durand, M.D.
Celine Rani Gounder, M.D., Sc.M.
Muhammad Abdurrahman Halwani, Ph.D. from 10/05/2009
Anup Kumar Kesavan, M.Sc., Ph.D.
Lee G. Klinkenberg, Ph.D.
Rahul M. Kohli, M.D., Ph.D.
Olof Christer Larsson, Ph.D.
Jong Hee Lee, Ph.D. to 07/31/2009
Lin Liu, M.D., Ph.D.
Shichun Lun, D.V.M., M.Sc., Ph.D.
Rajat Madan, M.B.B.S. from 11/02/2009 to 11/29/2009
Alberto Moriggia, M.D.
Eduardo M. Nascimento, Ph.D. to 07/31/2009
William Owen Osburn, M.S., Ph.D.
Carleitta La'Sharn Paige, Ph.D.
Zahoor Ahmad Parry, Ph.D.
Damani Arnold Piggott, M.D.
Andrew Davidson Redd, Ph.D.
Alleluiah Rutebemberwa, Ph.D. to 03/14/2010
Maria Aneesa Said, M.D., M.H.S.
Paul Girgis Saleeb, M.D. to 07/31/2009
Maunank Rajendrakumar Shah, M.D.
Adam Mitchell Spivak, M.D.
Emily R.M. Sydnor, M.D.
Rokeya Tasneen, M.B.B.S., Ph.D. to 07/24/2009
Dinesh Taylor, M.B.B.S. to 08/26/2009
Seema Madhumal Thayil, M.S., Ph.D.
Edward Alan Weinstein, M.D.
Ryan P. Westergaard, M.D., M.P.H.
Eleanor Mckenna Pitt Wilson, M.D. from 10/01/2009 to 11/30/2009
Tianyu Zhang, Ph.D.

Interventional Cardiology

Agustus Alexander Beck, M.D.
Todd Andrew Dorfman, M.D.
Michael Patrick Flaherty, M.D.

Lupus Fellowship

Waleed Abbas Bolad, M.D. to 11/19/2009
Parul Sharma, D.O. to 11/15/2009 (on leave of absence from 08/10/2009 to 08/31/2009)

Medical Genetics

Hooi Sian Eng, Ph.D. from 11/01/2009

Molecular Medicine

Delphine Danielle Fradin, Ph.D.

Hong Ji, Ph.D.

Christine Marie Ladd-Acosta, Ph.D. from 09/25/2009

Winston George Timp, Ph.D.

Nephrology

Veena Kalmanje Acharya, M.D.

Syed Mustafa Ahmed, M.B.B.S. from 09/25/2009 to 10/22/2009

Amir Said Alizadeh Naderi, M.D.

Jean-Claude N. Bassila, M.D. to 07/31/2009

Jean-Claude N. Bassila, M.D. from 11/03/2009 to 11/16/2009

Leandro Bernardo, M.D. from 10/02/2009 to 11/01/2009

Ganga Bhavani Boobilli, M.B.B.S. from 09/01/2009 to 09/30/2009

Teresa Katie Chen, M.D.

Rutul Jagdish Dalal, M.B.B.S. from 12/01/2009 to 12/31/2009

Pravati Das, M.B.B.S.

Monthida Fangtham, M.D. from 12/01/2009 to 12/22/2009

Neetu Gandhi, M.B.B.S. from 08/03/2009 to 08/31/2009

Judit Gordon, M.D.

Morgan Erika Grams, M.D.

Gaurav Gupta, M.B.B.S.

Yanfei Huang, M.D., Ph.D.

Clarissa M. Jonas, M.D.

Hyunho Kim, Ph.D.

Gang-Jee Ko, Ph.D.

Weizhe Li, Ph.D.

Xiang Li, Ph.D. to 12/30/2009 (on leave of absence from 09/01/2009 to 11/15/2009)

Dongyan Liu, M.D.

Luis Fernando Carvalho Menezes, M.D., Ph.D. to 10/18/2009

Patricia Outeda Garcia, Ph.D.

Rudolf Pullmann, M.D. from 09/01/2009 to 11/30/2009

Julia Jarrard Scialla, M.D.

Sanjeev Rashmikant Shah, M.D.

Qian Mei Sun, Ph.D. from 01/02/2010

I-Chun Tsai, Ph.D.

Jinxiang Yu, Ph.D. from 12/01/2009

Asif Mohammad Zakaria, Ph.D.

Nephrology (Bayview)

Ralph Michel Daher, M.D.

John Paul Havill, M.B.B.S.

Adrien L. Janvier, M.D., Ph.D.

Aastha Sethi, M.B.B.S.

Occupational Medicine

Sammy Jafar Almashat, M.D.

Danny Theja Kumar Avula, M.D. to 07/31/2009

Helen Carol Azzam, M.D.

Nyasha J. Bakare, M.D.

Eileen Marie Birmingham, M.D.

Kevin Lee Bowman, M.B.A., M.D.

Shrey Anilchandra Desai, M.B.B.S. to 09/30/2009

Erin E. Duffy, M.D.

Jennifer Lipkowitz Eaton, M.D., M.P.H.

Christopher Gareth Hardy, D.O.

Mark Edward Humphrey, M.D.

Julia Minjung Kim, M.D.

Clarence K. Lam, M.D.

Marcia Bennette LoBrano, M.D.

Alefiyah K. Mesiwala, M.D.

Mame Khouredia Niang, M.D.

Charles Marshall Preston, M.D.

Gayatri Guduru Reddy, M.D.

Alexander Prakash Samuel, M.D. to 08/31/2009

Sherry Sood, M.D. to 08/31/2009

June Thalia Spector, M.D.

Ken Lin Tai, M.D.

Jennifer Lynn Tinch, M.D.

Aldo Tinoco, M.D.

Kanika Michele Whitehead, M.D.

Pulmonary and Critical Care Medicine

Ola Abdelrehim Ahmed Abdelrehim, M.B.B.Ch. to 12/13/2009

Neil Raj Aggarwal, M.D.

Jason Atticus Akulian, M.D., M.P.H.

Cristine Elizabeth Berry, M.D. to 06/29/2010

Christian Bime, M.D.

Katharine Elliot Black, M.D.

Sonali Bose, M.D. to 06/29/2010

Andrew Thierman Braun, M.D.

Aranzazu Campo Ezquibela, M.B.B.S.

Som Nath Chaise, M.B.B.S. from 08/03/2009 to 08/31/2009

Chien-Hung Chin, M.D.

Ji-Young Choi, Ph.D. from 02/01/2010

Samuel Lester Collins, Ph.D.

Geoffrey Robert Connors, M.D. to 06/29/2010

Danna Doratotaj, M.D. from 11/09/2009 to 12/06/2009

Luciano Ferreira Drager, M.D. from 08/25/2009

Michael Bradley Drummond, M.D.

Padmaraj D. Duvvuri, M.B.B.S. from 08/03/2009 to 08/31/2009

Michael Hermann Eberlein, M.D., Ph.D.

Hala El Chami, M.D. from 02/01/2010

Jason Matthew Elinoff, M.D.

Daniel Clark Files, M.D. to 06/29/2010

William Arthur Fischer, II, M.D. to 06/29/2010

Brian Thomas Garibaldi, M.D. to 06/29/2010

Abhijeet Govind Ghatol, M.B.B.S. to 07/30/2009

Abhijeet Govind Ghatol, M.B.B.S. from 10/01/2009 to 10/30/2009

Mark Jason Hamblin, M.D. to 06/29/2010

SeungHye Han, M.D. from 11/09/2009 to 12/09/2009

Adam Breaux Hernandez, M.D.

Monica Ann Hoffman, M.D. from 11/19/2009 to 02/04/2010

Rajani Jagana, M.B.B.S. from 09/01/2009 to 09/30/2009

Cheilonda Johnson, M.D.

Jonathan C. Jun, M.D.

Biren Bharat Kamdar, M.D.

Bo Soo Kim, M.D. to 06/29/2010

Jerome Le Pavec, Ph.D. to 10/31/2009

Elizabeth Ann Lendermon, M.D.

Oktai Mamedov, M.D. from 08/03/2009 to 08/31/2009

Vikramjit Mukherjee, M.B.B.S. from 09/02/2009 to 09/30/2009

David John Murphy, M.D.

Shivakumar Narayanan, M.B.B.S. from 12/16/2009 to 01/14/2010

Maria Pallayova, M.D.
Maria Grazia Perino, Ph.D. from 01/04/2010
Matthew Robert Pipeling, M.D.
Hataya Kristy Poonyagariyagorn, M.D.
Robert Michael Reed, M.D. to 06/29/2010
Christian Reinke, M.D.
Otgonchimeg Rentsendorj, M.Sc., Ph.D.
Robert Randall Rusher, M.D.
Timothy Jude Scialla, M.D. to 06/29/2010
Robert Scott Stephens, M.D.
Hui Sun, Ph.D. from 08/01/2009
Alexander Dung Truong, M.D., M.P.H.
Abhaya Varma, M.B.B.S. from 02/25/2010 to
03/29/2010
Natalie Elliott West, M.D.
Hemang Yadav, M.B.B.S. from 09/03/2009

Transplant Hepatology

Dawn McDowell Torres, M.D.

MOLECULAR AND COMPARATIVE PATHOBIOLOGY

Shahin Assefnia, D.V.M. from 08/10/2009
Nicole Minnette Azene, D.V.M., M.S.
Emily J. Bailey, D.V.M.
Sarah Evelyn Beck, D.V.M.
Kathleen Kelly Brennan, D.V.M.
Angela Kathleen Brice, D.V.M., Ph.D. to 01/31/2010
Eric Kenneth Hutchinson, D.V.M.
Simon Yat-Ming Long, V.M.D. from 07/06/2009
Maria Lorenzo, D.V.M.
Maria Carmen Martino-Cardona, D.V.M.
Kelly Ann Metcalf Pate, D.V.M.
Denise A. Schultz, D.V.M.
Gillian Curtis Shaw, D.V.M., M.S.
Brian Wesley Simons, D.V.M.
Teresa L. Southard, D.V.M., Ph.D. to 09/30/2009
Polina Sysa, M.D.
Ceereena Ubaida Mohien, Ph.D. from 12/01/2009
Joanna Lynn Walker, D.V.M.

MOLECULAR BIOLOGY AND GENETICS

Tudor Constantin Badea, M.A., M.D., Ph.D.
Courtney Rae Busch, Ph.D.
Hugh Brian Cahill, Ph.D.
Jing Cai, Ph.D.
Hao Chang, Ph.D.
Qian Chen, Ph.D.
Ki Young Choi, Ph.D.
Eric Michael Cooper, Ph.D.
Junbiao Dai, Ph.D.
Lixin Dai, Ph.D.
Karen Kate Ocampo David, Ph.D.
Sergej Djuranovic, Ph.D.
Rui Duan, Ph.D.
Hosam El-Din Mohamed Ahmed Ewis, Ph.D.
Christopher Michael Gallo, Ph.D.
Sunil Gangadharan, Ph.D.
Brian Michael Green, Ph.D.
Erik Edmund Griffin, Ph.D.
Nini Guo, Ph.D.
Nicholas Raymond Gloydosh, Ph.D. from
07/16/2009
Bo Huang, Ph.D.
Nuttara Jamonnak, Ph.D.
Ji Hoon Kim, M.S., Ph.D. from 10/12/2009
Sang Joon Kim, Ph.D.
Yu-Yi Lin, M.D., Ph.D. to 08/31/2009
Chen Ling, Ph.D.

Yun Liu, Ph.D. from 11/03/2009
Syed Mohammad Moin, Ph.D.
Tammy Morrish, Ph.D.
Fumio Motegi, Ph.D.
Heloise Marie Muller, Ph.D. from 10/01/2009
Ali Nahvi, Ph.D.
Anna Maria Niewiadomska, Ph.D. from 10/01/2009
to 12/31/2009
Anne Norris, Ph.D. to 11/15/2009
Kathryn Ann O'Donnell Mendell, Ph.D.
Slavica Pavlovic-Djuranovic, Ph.D. to 02/15/2010
Alexandros Petropoulos, Ph.D.
Lisa Z. Scheifele, Ph.D. to 08/15/2009
Maria Sevdali, Ph.D. from 12/07/2009
Khurts Shilagardi, Ph.D. to 06/07/2010
Ekaterina Voronina, M.Sc., Ph.D.
Hao Wu, Ph.D.
Kefang Xie, Ph.D.
Robert Mace Yarrington, Ph.D. to 01/31/2010
Feng Yin, M.D., Ph.D.
Jianzhong Yu, Ph.D.
Hani Zaher, Ph.D.
Shiliang Zhang, Ph.D. to 07/17/2009
Yonggang Zheng, Ph.D.
Rebecca Elizabeth Zordan, Ph.D.

NEUROLOGICAL SURGERY

Pragathi Achanta, Ph.D.
Hadie Adams, M.D. from 11/23/2009
Luca Basaldella, M.D. to 10/14/2009
Chetan Bettogowda, M.D., Ph.D. ¹
Mohamad Bydon, M.D. ¹
Justin Michael Caplan, M.D. ¹
Kaisorn Lee Chaichana, M.D. ¹
Jennifer Jay Cheng, M.D., M.S. ¹
Geoffrey Philip Colby, M.D., Ph.D. ¹
Alexander Lewis Coon, M.D. ¹
Michael Joseph Dorsi, M.D. ¹
James Louis Frazier, III, M.D. ¹
Tomas Garzon-Muvdi, M.D.
Rachel Grossman, M.D.
Mari Louise Asaoka Groves, M.D. ¹
Hugo Guerrero-Cazares, M.D., Ph.D.
Wesley Hsu, M.D. ¹
David Mohammad Ibrahim, M.D.
Avadhut Divakar Joshi, Ph.D.
Sivashakthi Kanagalingam, M.B.Ch.B.
Ryan Michael Kretzer, M.D. ¹
Jason Andrew Liauw, M.D. ¹
Li-Mei Lin, M.D. ¹
Chang-Chia Liu, Ph.D.
Sheng-fu Larry Lo, M.D., M.H.S. ¹
Matthew Joseph McGirt, M.D. ¹
Ahmed Medhat Mohyeldin, Ph.D. from 07/06/2009
Debraj Mukherjee, M.D., M.P.H. from 08/03/2009
Jonathan Auram Pindrik, M.D. ¹
Gustavo Pradilla, M.D. ¹
Shaan Mohammed Raza, M.D. ¹
Pablo Fernando Recinos, M.D. ¹
Vafi Salmasi, M.D. from 10/09/2009
Rachel Sarabia-Estrada, Ph.D. from 09/08/2009
Verena Staedtke, M.D. to 08/02/2009
Graeme Frederick Woodworth, M.D. ¹

Pediatric Neurosurgery

David Andrew Chesler, M.D. from 01/01/2010 to
03/31/2010
Christopher Michael Maulucci, M.D. to 09/30/2009
Violette Mathilde Renard Recinos, M.D.

NEUROLOGY

- Chidamber Bharath Alamelumangapuram, M.B.B.S. from 08/04/2009 to 08/31/2009
Lavinia Alberi, Ph.D. to 02/28/2010 (on leave of absence from 08/01/2009 to 09/16/2009)
Syed Shaida Ahmad Andrabi, M.Sc., Ph.D.
Rahila Ansari, M.D., M.S.¹
Martinson Kweku Arnan, M.D.¹
Koichi Ayukawa, Ph.D. to 03/31/2010
Arun K. Azhagiri, M.Sc., Ph.D.
Mihyun Bae, Ph.D. from 11/02/2009
Jean-Claude N. Bassila, M.D. from 12/01/2009 to 12/22/2009
Ram Hari Belbase, M.B.B.S. from 02/01/2010 to 03/01/2010
Leandro Bernardo, M.D. from 01/02/2010 to 01/31/2010
Bharathi, Ph.D.
Michael A. Bonaguidi, Ph.D.
Jessica Sharon Carmen, Ph.D.
Dominic T. Cheng, M.S., Ph.D.
Zhikai Chi, M.D., Ph.D. from 11/01/2009
Yolanda Chik, M.D.¹
Kimberly Michele Christian, Ph.D. from 09/01/2009
Christhunesa Soundararajan Christudass, M.Sc., Ph.D.
Cynthia Ann DeBoy, Ph.D. to 07/31/2009
Renee Nicole Douville, Ph.D. to 12/31/2009
Josh Lee Duckworth, M.D.
Stephen Matthew Eacker, Ph.D.
Christopher Paul Eckstein, M.D.
Amos Akintayo Fatokun, Ph.D.
Yuanzheng Gao, Ph.D.
Susan George, M.B.B.S. from 07/31/2009 to 09/24/2009
Mehdi Ghasemi, M.D. from 10/01/2009
Abhijeet Govind Ghatol, M.B.B.S. from 07/31/2009 to 09/01/2009
Ozge Gunduz, Ph.D. from 09/21/2009
Ichiro Hamazaki, Ph.D.
Daniel M. Harrison, M.D.
Holly Elaine Hinson, M.D.
Karen G. Hirsch, M.D.¹
Laura Beth Jaeger, Ph.D.
Mi-Hyeon Jang, M.S., Ph.D. to 03/31/2010
Parastoo Jangouk, M.D.
Shyian S. Jen, M.D.¹
Madhavi Jinka, M.B.B.S.¹
Tarja Alison Juopperi, D.V.M., M.S., Ph.D.
Satish Kabra, M.B.B.S. from 09/02/2009 to 10/01/2009
Ho Chul Kang, Ph.D.
Navaz Karanjia, M.D.
Senthilkumar Shanmugam Karuppagounder, Ph.D. from 09/01/2009
Charlotte M. Kastl, M.D. from 11/01/2009 to 11/30/2009
Ju Young Kim, M.S., Ph.D. to 05/09/2010
Woon Ryoung Kim, Ph.D.
Edward Lukianos Isak Knapp, Ph.D.
Swapna Kolkula, M.B.B.S. from 09/01/2009 to 09/28/2009
Lingling Kong, Ph.D.
Anna Korzeniewska-Janiszewska, M.S., Ph.D. to 11/30/2009
Anvita Kumar, Ph.D. to 07/31/2009
Lori Ann Lebson, Ph.D. to 02/28/2010
Byoung Dae Lee, Ph.D.
Myoung Hwa Lee, Ph.D. to 02/28/2010
Youngjin Lee, Ph.D.
Yun-Il Lee, Ph.D. to 04/30/2010
Angelo Carmen Lepore, Ph.D.
Michael Levy, M.D., Ph.D. to 09/30/2009
Guanhan Li, M.D., M.S., Ph.D. to 09/25/2009
Ying Li, Ph.D.
Jose Luis Lopez, Jr., M.D.¹
Dengke K. Ma, Ph.D. to 08/31/2009
Concepcion Maldonado Adrian, Ph.D. to 03/31/2010
Manjunath Markandaya, M.B.B.S.
Elisabeth Breese Marsh, M.D.¹
Scott A. Marshall, Jr., M.D. to 07/31/2009
Ian Martin, Ph.D.
Raya Massoud, M.D.¹
Jennifer McGuire, M.D. from 08/03/2009 to 08/31/2009
Manasa Madhuri Metireddy, M.B.B.S. from 01/05/2010 to 02/01/2010
Melissa Motta, M.D., M.P.H.¹
Melanie Mueller, Ph.D. from 08/15/2009
Ravindranath Chowdary Nallamothu, M.B.B.S. from 11/24/2009 to 12/21/2009
Shivakumar Narayanan, M.B.B.S. from 10/02/2009 to 11/01/2009
Senthilkumar Natesan, D.V.M., Ph.D. to 08/31/2009
Scott Douglas Newsome, D.O. to 12/31/2009
Kwan Leung Ng, M.D.¹
Yazmin Odia, M.D., M.S.¹
Ozioma Chima Okonkwo, Ph.D.
Sophia Theodore Papadeas, Ph.D.
Suchitra Paranjji, M.B.B.S. from 11/02/2009 to 11/30/2009
Valeriy V. Parfenov, M.D.¹
Brian Nathaniel Pasley, Ph.D. from 07/28/2009
Sranvanthy Pataparla, M.D. from 09/29/2009 to 10/26/2009
Emily Grace Potter, Ph.D.
John Calvin Probasco, M.D.¹
Abid Y. Qureshi, M.D.¹
David Shannon Race, Ph.D.
Aruna Suresh Rao, M.B.B.S.¹
Liana Isa Shapiro Rosenthal, M.D.¹
Nidhi Rumpal, M.S., Ph.D. to 09/30/2009
Bogachan Sahin, M.D., Ph.D.¹
Xiaoyan Shan, M.D., Ph.D.
Anjail Z. Sharrief, M.D.¹
Avgusta Y. Shestyuk, Ph.D.
Xiaohai Shi, Ph.D. from 09/01/2009
Sangwoo Shim, Ph.D. to 02/28/2010
Jooho Shin, Ph.D.
Krupa Hemantkumar Shukla, Ph.D. from 11/16/2009
Shawn F. Smyth, M.D.
Juan Song, Ph.D.
Wenji Sun, M.D. to 12/14/2009
Kyongje Sung, Ph.D. to 12/31/2009
Nino Tabatadze, Ph.D. to 07/31/2009
Alexander Andrea Tarnutzer, M.D. from 08/01/2009
Katherine Page Thomas, M.D.
Jing Tian, Ph.D. to 04/30/2010
F. Rainer von Coelln, M.D.
Angela Wabulya, M.B.Ch.B.¹
Yingfei Wang, Ph.D. to 04/30/2010
Zhexing Wen, Ph.D. from 08/01/2009
Sharifia Shunta Wills, Ph.D.

James Piper Woodrow, M.D. from 07/27/2009 to 08/23/2009
Megan C. Wright, Ph.D.
Yanjue Wu, Ph.D. to 11/30/2009
Chang Xia, M.D. from 07/07/2009 to 08/03/2009
Wei Xiong, M.D.
Yulan Xiong, Ph.D.
Hangxiu Xu, M.D., Ph.D.
Jinchong Xu, Ph.D. from 01/01/2010
Yongjie Yang, M.S., Ph.D.
Jeffrey Min-In Yau, Ph.D. from 10/01/2009
Mahdi Yazdany, M.D. to 07/30/2009
Huimei Yu, Ph.D.
Changqing Yuan, Ph.D. from 08/02/2009
Chun Zhong, Ph.D. from 12/01/2009
Jing Zhu, Ph.D.

Clinical Neurophysiology

Mackenzie Carpenter Cervenka, M.D.
Deivasumathy Muthugovindan, M.B.B.S.
Tung T. Tran, M.D.

Kennedy Krieger Institute

Vinay Choubey, Ph.D. from 10/22/2009
Andre Wayne Phillips, Ph.D. to 03/31/2010
Jaswinder Kaur Sharma, M.D. from 10/01/2009 to 04/13/2010
Simona Spinelli, Ph.D.
Raj Amin Stewart, Ph.D. to 02/04/2010
Peng Sun, Ph.D.
Mingyao Ying, Ph.D.

Neuroimmunology and Neurological Infections

Shiv Saidha, M.B.B.Ch. from 10/01/2009
Ik Lin Tan, M.B.B.S. from 01/18/2010

Neurology-Vascular

Richard Leigh, M.D.
Steven Robert Zeiler, M.D., Ph.D.

Neuromuscular Medicine

Erika L.F. Hedderick, M.D.
Lyle W. Ostrow, M.D., Ph.D.
Ricardo Horacio Roda, M.D., Ph.D.

Pediatric Neurology

Rooman Ahad, M.D. ¹
Adam Brett Edwards, M.D. from 12/01/2009 to 12/31/2009
Ryan Jordan Felling, M.D. ¹
Sarah Aminoff Kelley, M.D. ¹
Paul R. Lee, Jr., M.D., Ph.D. ¹
Christopher Brandon Oakley, M.D. ¹
Sandra Kristina Ruby, M.D. from 09/01/2009 to 09/30/2009
David Scott Wolf, M.D., Ph.D. ¹

Sleep Medicine

Nishiema Sharad Gandhi, M.D., M.P.H.

NEUROSCIENCE

Amit Agarwal, Ph.D. from 01/04/2010
Victor Anggono, Ph.D.
Yoichi Araki, Ph.D.
Matthew Ryan Barton, M.D.
Yair Ben-Chaim, Ph.D.
Rajnish Bharadwaj, M.B.B.S., Ph.D. to 12/31/2009
Hannah Justine Block, Ph.D.
Mardi Susanna Byerly, Ph.D.
Li-Hui Cao, Ph.D.

Ivana Celic, Ph.D.
Shu-Ling Chiu, Ph.D.
Jeonghoon Choi, Ph.D.
Yunsook Choi, Ph.D. to 09/30/2009
Roger Lee Clem, Ph.D.
Robert H. Cudmore, Ph.D. from 08/17/2009
Jimmy de Melo, Ph.D.
Alicia Laura Degano, Ph.D. to 09/07/2009
Christopher David Deppmann, Ph.D. to 11/30/2009
Michael Tri Hoang Do, Ph.D.
Zhaobing Gao, Ph.D.
Liang Han, Ph.D. from 09/01/2009
Anthony Weldon Harrington, Ph.D.
Ethan Garrett Hughes, Ph.D. from 08/31/2009
Natasha Hussain, Ph.D. (on leave of absence to 08/15/2009)
Sangyun Jeong, Ph.D.
Qingguang Jiang, Ph.D.
Zheng Jiang, Ph.D. from 08/26/2009
Yunju Jin, Ph.D.
Krishna Rangadhamarao Juluri, Ph.D.
Shin Hyeok Kang, M.S., Ph.D.
Paul Moonwhan Kim, M.D., Ph.D.
Seyun Kim, M.S., Ph.D.
Cheng-Hang Liu, Ph.D.
Man Maggie Liu, Ph.D. to 11/15/2009
Qin Liu, Ph.D. to 01/31/2010
Wenqin Luo, Ph.D.
David Maag, Jr., Ph.D.
Takako Makita, Ph.D. to 09/30/2009
Joseph William McFadden, Ph.D. from 08/03/2009
Janna Leigh Merte, Ph.D. to 07/31/2009
Akishi Onishi, Ph.D. to 08/11/2009
Joo Min Park, Ph.D. to 05/14/2010
Sungjin Park, Ph.D.
Martin Paukert, M.D.
Bindu Diana Paul, M.S., Ph.D.
Goran Periz, Ph.D. to 11/30/2009
Brad Erich Pfeiffer, Ph.D.
Santosh Ramamurthy, Ph.D.
Martin Miguel Riccomagno, M.S., Ph.D.
Juan Ignacio Sbodio, Ph.D.
Balakrishnan Selvakumar, M.Sc., Ph.D.
Nilkantha Sen, Ph.D.
Kamal Deep Sharma, M.Sc., Ph.D.
Xiaohai Shi, Ph.D. to 08/31/2009
Gek Ming Sia, Ph.D.
Ileana Soto-Reyes, Ph.D. to 08/31/2009
Srinivasa Subramaniam, Ph.D.
Zongxiang Tang, Ph.D.
Gelsy Torres-Oviedo, Ph.D.
Tracy Samantha Tran, M.S., Ph.D.
Erin Virginia Lamont Vasudevan, Ph.D.
Lenora Joanne Volk, Ph.D.
Hao-Ran Wang, Ph.D. from 07/13/2009 to 06/14/2010
Qiang Wang, Ph.D. to 01/31/2010
Zhen Wang, Ph.D. from 08/25/2009
Kevin Michael Wright, Ph.D.
Jing Wu, Ph.D. to 03/31/2010
Meng Wu, Ph.D. to 01/29/2010
Tian Xue, Ph.D.
Wei Yan, Ph.D. to 05/14/2010
Ye Yan, Ph.D. to 04/04/2010
Haibo Yu, Ph.D.
Wei Zhang, Ph.D. to 11/15/2009
Wenchi Zhang, Ph.D. from 01/25/2010
Yong Zhang, Ph.D.
Jing Zhu, Ph.D.
Camila Lidia Zold, M.S., Ph.D. from 09/17/2009

Beiyuan Zou, Ph.D.

ONCOLOGY CENTER

Martin Joseph Ankrah Aryee, Ph.D.
Liudmila Vladimirovna Danilova, Ph.D.
Jie Ding, M.S., Ph.D. to 09/30/2009
Alexander Vladimirovich Favorov, Ph.D. (on leave
of absence from 09/01/2009 to 11/29/2009)
Elana Judith Fertig, Ph.D.
Liangfeng Han, M.D., Ph.D.
Kideok Jin, M.S., Ph.D.
Daniel Kejzman, M.D.
Vanessa Ferreira Merino, M.A., Ph.D.
Loris Mularoni, Ph.D.
Raquel Maria Silhy, M.D.
Svitlana Tyekucheva, Ph.D. to 09/11/2009
Leyao Wang, Ph.D.

Cancer Biology

Yi Cai, Ph.D.
Daming Chen, Ph.D.
Ian Shen-Yi Cheong, Ph.D.
Su Mi Choi, Ph.D. from 08/04/2009
Young Bong Choi, Ph.D.
Devin Charles Dressman, Ph.D.
Hariharan P. Easwaran, M.Sc., Ph.D.
Elana S. Ehrlich, Ph.D.
Soma Ghosh, M.S., Ph.D.
Christin Lee Hanigan, Ph.D. from 10/01/2009
Megan Albert Healey, Ph.D.
Mohammad Zulfiqer Hossain, Ph.D. from
08/10/2009
Hee Jung Hwang, Ph.D.
Tianyun Jiang, M.D.
Lihua Jin, Ph.D.
Sian Jones, Ph.D.
Christine G. Joseph, Ph.D.
Chandrashekar Dwarkanath Kamat, Ph.D. from
11/09/2009
Kasey Anne Karen, Ph.D. from 10/26/2009
Huilii Li, Ph.D.
Renfeng Li, Ph.D.
Liang Liang, Ph.D.
Hua Liu, M.D., Ph.D.
Il Minn, Ph.D.
Anjali Mishra, Ph.D.
Helai Mohammad, Ph.D.
Ebba Jenny Nissen, M.D. from 10/05/2009 to
12/07/2009
Heather Maureen O'Hagan, Ph.D.
Srinivas Reddy Papaiahgari, M.S., Ph.D. to
08/31/2009
Kalpeshkumar Govindbhai Patel, M.B.B.S. from
11/02/2009
Yuan Qiao, Ph.D.
Carlo Rago, Ph.D.
Marcelo Martins Reis, M.D., Ph.D.
Yunzhao Ren, M.D., Ph.D.
Yvonne Margaret Saenger, M.D. to 07/15/2009
Oleg Andreas Schmidt-Kittler, Ph.D.
Francesca Scrimieri, Ph.D.
Subhojit Sourendra Sen, Ph.D.
Megan Jean Stine, Ph.D. to 08/07/2009
Susanna V. Ulahannan, M.D. from 07/23/2009 to
09/02/2009
Maria Cristina Villarroel, M.D. to 08/31/2009
Shondelle Marie Wilson, Ph.D.
Jian Wu, A.M., M.Phil., Ph.D. to 10/31/2009
Yu Wu, M.D., Ph.D.
Jian Yang, Ph.D. to 06/14/2010

JooMi Yi, M.S., Ph.D.
Wei Zhang, Ph.D.
Rebekah Lorah Zinn, Ph.D.

Experimental Therapeutics

Heike Bernert, D.V.M., Dr. Med. Vet, Ph.D. to
11/30/2009
Madhavi Billam, Ph.D. to 08/15/2009
Shuangling Chen, M.D.
Yong Soon Chun, M.D., Ph.D.
Grace Ann Cornblatt, Ph.D.
Jason Matthew D'Antonio, Ph.D.
John Paul Gustin, Ph.D.
Michael C. Haffner, M.D.
Preethi Chandran Korangath, Ph.D. from
09/28/2009
Maya Blagojeva Kostova, Ph.D.
Xiaohui Liang, B.M.
Pang-Kuo Lo, Ph.D.
Simon Alexander Williams, Ph.D.
Qingsong Zhu, M.Sc., Ph.D. to 10/31/2009

Hematologic Malignancies

Zita Arany, Ph.D.
Alena Dabrazhynetskaya, Ph.D. to 12/31/2009
Nadira Durakovic, M.D. from 08/01/2009 to
12/15/2009
Tamer E. Fandy, M.S.C., Ph.D.
Arturo Loaiza-Bonilla, M.B.B.S. from 08/31/2009
to 09/24/2009
Thomas Prebet, M.D. from 10/01/2009

Hematology/Medical Oncology

Ritika Ryfka Abraham, M.B.B.S. from 09/15/2009
to 10/12/2009
Durga Dhot Adhikari, M.B.B.S. from 09/01/2009 to
09/30/2009
Emmanuel Stylianou Antonarakis, M.B.B.Ch.
Christopher Timmons Badger, M.D. from
12/01/2009 to 12/31/2009
Ani Sarkis Balmanoukian, M.D.
Aditya Bardia, M.B.B.S.
Aarti Khushal Bhatia, M.B.B.S. from 07/21/2009 to
08/21/2009
Timothy Francis Burns, M.D., Ph.D.
Kevin J. Cheung, M.D.
Nabila Chowdhury, M.B.B.S. from 09/28/2009 to
10/25/2009
Roisin M. Connolly, M.B.B.S.
Rafael Almeida De Oliveira, M.D. to 07/30/2009
Ana M. DeJesus-Acosta, M.D.
Graham Dondlinger, M.D. to 07/20/2009
Ashkan Emadi, M.D., Ph.D.
Amir Fathi, M.D.
Stephanie Louise Gaillard, M.D., Ph.D.
Gabriel Ghiaur, M.D., Ph.D.
Nilanjan Ghosh, M.B.B.S.
Michael Richard Grunwald, M.D.
Michaela Jane Higgins, M.B.B.Ch.
Matthias Holdhoff, M.D., Ph.D.
Christopher Simon Hourigan, B.M.-B.Ch., D.Phil.
Hatim Husain, M.D.
Danijela Jelovac, M.D.
Neha Korde, M.D. from 10/26/2009 to 11/22/2009
Evan Jacob Lipson, M.D.
Florence Marine McAllister, M.D.
Kelly Westbrook Mitchell, M.D.
Rakhi Prakash Naik, M.D.
George Reinhold Oliver, M.D., Ph.D.

Vandana Palagiri, M.B.B.S. from 10/30/2009 to 11/30/2009
 Channing J.C. Paller, M.D.
 Manjari Pandey, M.B.B.S. from 10/13/2009 to 11/09/2009
 Jong Chul Park, M.D. from 11/02/2009 to 11/17/2009
 Rabindra Nath Paul, M.B.B.S. from 11/01/2009 to 11/30/2009
 Harish Bhanudevan Pillai, M.B.B.S. from 11/10/2009 to 12/07/2009
 Jeffrey J. Pu, M.D.
 Camila Sahebi, M.D. from 11/09/2009 to 12/04/2009
 Brian Carl Shaffer, M.D. from 08/31/2009 to 09/27/2009
 Brady Lee Stein, M.D.
 Paul D. Sychangco, M.D. from 07/31/2009 to 08/31/2009
 Gabriel Tinoco, M.D. from 10/01/2009 to 10/31/2009
 Panagiotis Tzevelekos, M.D. from 08/18/2009 to 09/14/2009
 Ming-Hsi Wang, M.D. from 10/01/2009 to 10/29/2009
 Breelyn Ann Wilky, M.D.
 John Wrangle, M.D., M.P.H.
 Chang Xia, M.D. from 09/01/2009 to 09/28/2009
 Cecilia Hiroimi Yshii Tamashiro, M.D. from 12/08/2009 to 01/04/2010
 Huichun Zhan, M.D.
 Zheng Zhou, M.D. from 07/27/2009 to 08/23/2009

Immunology/Hematopoiesis

Joseph James Barbi, M.S., Ph.D.
 Yukan Duan, Ph.D.
 Justin Philip Edwards, Ph.D.
 Stephen Richard Lee Goding, Ph.D.
 Monica Vanina Goldberg, M.D., Ph.D.
 Joseph Frank Grosso, Ph.D.
 Tomoe Higuchi, M.D., Ph.D.
 Silvia Kimpfler, Ph.D. to 01/11/2010
 Yan Liu, M.D., M.Sc., Ph.D. from 08/31/2009
 Eric Richard Lutz, Ph.D.
 Ana Markovic, Ph.D. from 08/17/2009
 Jennifer Nichole Uram, Ph.D. to 10/31/2009
 Jun Wang, Ph.D.
 Hung-Rong Yen, M.D. to 01/31/2010
 Kyung Hee Yi, M.S., Ph.D.
 Linghua Zheng, Ph.D.
 Yuwen Zhu, M.S., Ph.D.

Medical Oncology

Jonathan Kimball Alder, Ph.D.
 Elizabeth Alice Griffiths, M.D. to 12/31/2009
 Akil Abid Merchant, M.D.
 Christian Frederick Meyer, M.D., M.S., Ph.D.
 Zeshaan Ahmed Rasheed, M.D., Ph.D.
 David Hong-En Wang, M.D. to 07/31/2009

Pediatric Oncology

Colleen Elizabeth Annesley, M.D.
 Fernanda I. Arnaldez, M.D.
 James Thomas Curry Badgett, M.D., Ph.D.
 Paul Wesley Burridge, Ph.D.
 Nataliya A. Buxbaum, M.D.
 Christian Matthew Capitini, M.D.
 Emi Hojo Caywood, M.D. to 08/15/2009
 Lea C. Cunningham, M.A., M.D.
 Deepika Saxena Darbari, M.B.B.S.

Hema Kishore Dave, M.B.B.S.
 Julia E. Doohar, M.S., Ph.D.
 Patrick Joseph Grohar, M.D., Ph.D.
 Hong Guo, Ph.D.
 Sun Hwa Hong, M.S., Ph.D.
 Chimen A. Kesserwan, M.D.
 Calvin K. Lee, M.D.
 Daniel W. Lee, III, M.D.
 Deena Rachel Levine, M.D.
 Ou Ma, Ph.D. from 10/01/2009
 Leigh Jessica Marcus, M.D.
 Ashley Taylor-King Munchel, M.D.
 Francis Jay Mussai, M.A., M.B.B.Ch.
 Sandeep Singh Negi, Ph.D.
 Tea Soon Park, Ph.D.
 Devang Jagdish Pastakia, M.D.
 Marina V. Pryzhkova, Ph.D.
 Eric Hutton Raabe, M.D., Ph.D.
 Rachel Elizabeth Rau, M.D.
 Eric Stephen Schafer, M.D.
 Nilay Shah, M.D.
 Nirali N. Shah, M.D.
 Preeti Shah, M.Sc., Ph.D.
 Jessica Carolyn Shand, M.D., M.H.S.
 Edward Allan R. Sison, M.D.
 Yang Song, Ph.D. from 11/09/2009
 Matteo M. Trucco, M.D.
 Lisa Marie Williams, M.D.
 Li Zhang, Ph.D.
 Qingsong Zhu, M.Sc., Ph.D. from 11/01/2009

OPHTHALMOLOGY

Takayuki Baba, Ph.D.
 Delphine Bonnet, Ph.D.
 Bryn Melissa Burkholder, M.D.¹
 John Peter Campbell, M.D., M.P.H.¹
 Esther I-Ping Chang, M.D.¹
 Connie June Chen, M.D.¹
 Benedicte Marie Dupas, M.D. to 10/05/2009
 Malia Michelle Edwards, Ph.D. from 09/01/2009
 John Anthony Fuller, Ph.D.
 Yan Ge, M.D. to 05/18/2010
 Nguyen Khoi Ha, M.D.¹
 Laszlo Hackler, Ph.D. to 04/30/2010
 Noriyasu Hashida, M.D. from 08/24/2009
 Houman David Hemmati, M.D., Ph.D.¹
 Elizabeth Houle, M.D.¹
 Jianfei Hu, Ph.D.
 Hu Huang, Ph.D. to 11/30/2009
 Takeshi Iwase, M.D.
 Renata Tiemi Kashiwabuchi, M.D.
 Bryan S. Lee, M.D.¹
 Jeong Hee Lee, Ph.D. from 09/01/2009
 Sun Young Lee, M.D.
 Ilya Michael Leyngold, M.D.¹
 Sophie Daisy Liao, M.D.¹
 Xiaochun Liu, B.M.-B.Ch., Ph.D. to 09/21/2009
 Tomohiro Masuda, Ph.D.
 Allison Norah McCoy, M.D., Ph.D.¹
 Christina Soyoung Moon, M.D.¹
 Ala Moshiri, M.D., Ph.D.¹
 Daisuke Muramatsu, M.D. to 01/04/2010
 Afshan Amin Nanji, M.D., M.P.H.¹
 Daniel Matthew Paskowitz, M.D., Ph.D.¹
 David James Ramsey, M.D., Ph.D.¹
 Shameema Sikder, M.D.¹
 Maria Natalia Vergara, Ph.D.
 Karl Jonas Wahlin, M.S., Ph.D.
 Yanhong Wei, B.M., Ph.D.
 Derek Stuart Welsbie, M.D., Ph.D.¹

Christina Yeeka Weng, M.D.¹
Adam Scott Wenick, M.D., Ph.D.¹
Fasika Ambachew Woreta, M.D., M.P.H.¹
Zhenhua Xu, Ph.D.
Zhiyong Yang, M.D., Ph.D.
Takeshi Yoshida, Ph.D. to 02/08/2010
Tsunehiko Yoshida, Ph.D.
Xiufeng Zhong, Ph.D. to 05/31/2010

Cornea and Anterior Segment Service

Je-Min Chae, D.V.M. to 08/31/2009
Sungdong Chang, M.D., Ph.D. from 08/21/2009
Christoph Engler, M.D.
Yasin A. Khan, M.D. to 01/29/2010
Clar Nicheilleachair, M.B.B.Ch., M.Sc. to 12/31/2009
Yutaro Nishi, M.D. to 07/31/2009
Simone Santos, M.D. to 05/31/2010
Woranart Tattiyakul, M.D. to 06/14/2010
Canan A. Utine, M.D. to 12/31/2009

Glaucoma Service

Phenpan Hirunyachote, M.D.
Eugenio A. Maul, M.D. to 04/30/2010

Neuro-ophthalmology/Orbital Unit

Masoud Aghsaei-Fard, M.D. from 08/03/2009
Jing Liang Loo, M.B.B.S. from 03/15/2010
Cristian Marcelo Salgado, M.D. to 07/31/2009
Valerie Toutou, M.D. to 10/23/2009
Zoe Rebecca Williams, M.D. to 07/24/2009
Wen Ying Helena Wu-Chen, M.D. from 07/13/2009

Retinal Vascular Service

Katayoon Baradaran Ebrahimi, M.D.
Marisol del Valle Cano, Ph.D.
Jangwon Heo, Ph.D. from 01/15/2010
Afsheen Amin Khwaja, M.B.B.S.
Naoshi Kondo, M.D.
Thomas Kin-Man Lee, M.D.
Akiko Miki, M.D.
Katsuaki Miki, M.D., Ph.D.
Geetha Parthasarathy, M.Sc., Ph.D.
Laura Pinni, M.D.
Murilo Felix Roggia, M.D. to 05/31/2010
Gitanjali Sehrawat, Ph.D.
Peykan Turkuoglu, M.D. from 07/13/2009
Jun Wan, Ph.D.
Jianmin Wang, M.D. to 02/22/2010
Zhi Xie, Ph.D.
Shiri Zayit-Soudry, M.D. from 08/24/2009
Mingbing Zeng, M.D. from 09/14/2009

Strabismus and Pediatric Ophthalmology

Didar S. Anwar, M.B.B.Ch. from 07/29/2009
Natthira Chairsisawadsuk, M.D. from 01/01/2010
Kristina Irsch, Ph.D.
Pittaya Phamonvaechavan, M.D. to 01/31/2010

Vitreo-Retinal Surgical Service

Elham Hatef Naimi, M.D.
Mohamed A. Ibrahim, M.B.B.Ch.

ORTHOPAEDIC SURGERY

Mehmet Serdar Alp, M.D. to 07/31/2009
Rishi Balkissoon, M.D., M.P.H.¹
Jonathan Alexander Bernard, M.D. from 07/15/2009¹

Danielle Joy Casagrande, M.D. from 11/16/2009 to 01/24/2010
Jean-Claude Gregoire D'Alleyrand, M.D. from 11/19/2009 to 12/24/2009
Ashvin Kumar Dewan, M.D.¹
Monthida Fangtham, M.D. from 09/02/2009 to 10/01/2009
Payam Farjoodi, M.D.¹
Michael Thomas Freehill, M.D.¹
Joseph P. Gjolaj, M.D.¹
Elan Michael Goldwyn, M.D. from 12/25/2009 to 01/30/2010
Hamid Hassanzadeh, M.D.¹
Michael A. Hawks, M.D. to 07/31/2009
Casey Jo Humbyrd, M.D.¹
Eun Mi Hur, Ph.D.
James Cooper Johnston, M.D.¹
Anita Kaw, M.B.B.S. from 10/02/2009 to 11/01/2009
Sayed Alimuddin Kazi, M.B.B.S. from 07/31/2009 to 09/01/2009
Julie Michelle Keller, M.D. from 10/13/2009 to 11/18/2009
Elisa Jeanne Knutsen, M.D. from 09/07/2009 to 11/15/2009
Wen Min Lau, Ph.D. to 10/16/2009
Rushyuan Jay Lee, M.D.¹
Zhaoyang Li, Ph.D. from 11/02/2009
David Michael Anthony Macias, M.D.¹
Oktai Mamedov, M.D. from 11/02/2009 to 11/30/2009
Natalia Maroz, M.D. from 07/10/2009 to 07/30/2009
Daniel Marsland, M.B.B.Ch. from 10/20/2009
Emmanuel Nganku Menga, M.D.¹
Maria Belen Menucci, M.D. from 12/01/2009 to 01/01/2010
Addisu Mesfin, M.D.¹
Stuart Hopper Myers, M.D.¹
Sergiy Nesterenko, M.D.¹
Andres Eduardo O'Daly, M.D.
David Eirin Oji, M.D.¹
Derek Francis Papp, M.D.¹
Benjamin McVay Petre, M.D.¹
Carmen Paz Pichard, M.D.¹
Kristoff R. Reid, M.D.¹
Ryan Christopher Riddle, Ph.D. from 07/06/2009
Thomas Milleret Ring, M.D., M.S.¹
David Malachy Rose, M.B.B.S. to 09/30/2009
Saijilafu, Ph.D. to 10/28/2009
Nima Salari, M.D.¹
Swapnil B. Shah, M.D. from 09/07/2009 to 10/12/2009
Swapnil B. Shah, M.D. from 03/09/2010 to 04/13/2010
Michael A. Sirota, M.D. to 12/31/2009¹
Umasuthan Srikumar, M.D.¹
Benjamin Eric Stein, M.D.¹
Sara Elisabeth Strebbe, M.D. from 08/01/2009 to 09/06/2009
Eric Wan Tan, M.D., M.S.¹
Miho Jean Tanaka, M.D.¹
Peter Ronald Thomas, M.D., M.S. to 09/30/2009
Augusta Catherine Whitney, M.D. to 09/06/2009
Alan Yong Yan, M.D.¹

Shoulder Surgery

Pingal Anilbhai Desai, M.B.B.S. to 04/30/2010
Juan Garzon-Muvdi, M.D. to 01/31/2010

OTOLARYNGOLOGY-HEAD AND NECK SURGERY

Yuri Agrawal, M.D.¹
Joeanna Cecilia Arthur, Ph.D. to 10/30/2009
Simon Roderick Alfred Best, M.D.¹
Sheetal Bhan, M.Sc., Ph.D.
Mariana Brait Rodrigues DeOliveira, M.Sc., Ph.D.
Jason Ying Kuen Chan, M.B.B.S.¹
Steven Shih-Wei Chang, M.D.¹
Xiaofei Chang, B.M., Ph.D.
Seok-Hyun Cho, M.D., Ph.D. from 09/01/2009
Yong Gu Cho, M.M.S., Ph.D. to 03/16/2010
James Henri Clark, M.B.B.Ch. from 07/07/2009
Chenkai Dai, Ph.D.
Santanu Dasgupta, M.S., Ph.D.
Steven Jeffrey Eliades, M.D., Ph.D.¹
Carole Fakhry, M.D., M.P.H. to 12/31/2009¹
Carole Fakhry, M.D., M.P.H. from 01/01/2010
Gene Yevgeny Fridman, M.S., Ph.D. to 11/30/2009
Yumei Fu, Ph.D.
Daria A. Gaykalova, Ph.D. from 11/09/2009
Chad Alan Glazer, M.D.¹
Lisa Grant, Ph.D. to 02/23/2010
Yubin Hao, Ph.D.
Patrick Thomas Hennessey, M.D.¹
Alexander Tell Hillel, M.D.¹
Gi Jung Im, M.D., M.M.S., Ph.D. from 02/16/2010
Sung Koo Kang, M.S., Ph.D.
Amit Kochhar, M.D.¹
Jee-Hyun Kong, Ph.D. to 03/29/2010
Kulsoom Laeeq, M.B.B.S.
Amanda Marie Lauer, M.S., Ph.D.
Pamela Alejandra Leal Rojas, Ph.D. from 10/01/2009 to 10/31/2009
Cynthia LeBron, Ph.D.
Ryan Jeffrey Li, M.D.¹
Frank Robert Lin, M.D., Ph.D. to 12/31/2009¹
Myriam Del Mar Loyo, M.D.¹
Sofia Lyford-Pike, M.D.
Leonel Francisco Maldonado-Gonzalez, M.D. to 04/11/2010
Rodrigo Martinez Monedero, M.B.B.S. to 02/28/2010
Thuy-Anh Nguyen Melvin, M.D.¹
Atta Mohyuddin, M.B.B.S. to 10/23/2009
Wojciech Krzysztof Mydlarz, M.D.¹
Louis John Nkrumah, M.D., M.S., Ph.D.¹
Jahn Natalie O'Neil, Ph.D.
Kimberly L. Ostrow, M.A., Ph.D.
Prodipto Pal, Ph.D. to 02/15/2010
Il-Seok Park, Ph.D. to 08/31/2009
Isabelle Catherina Roux, Ph.D.
Tanusree Sen, Ph.D.
Meena Seshamani, M.D., Ph.D.¹
Chunbo Shao, Ph.D. to 06/14/2010
David Falace Smith, M.D.¹
Ian Michael Smith, M.D.¹
Ethan Soudry, M.D.
Babar Sultan, M.D.¹
Wenyue Sun, Ph.D.
Marietta Tan, M.D.¹
Justin H. Turner, M.D.¹
David Marcel Vasquez, M.D., Ph.D.
Bryan Kevin Ward, M.D.¹
Eric Laurent Wersinger, Ph.D.
Gaosong Wu, Ph.D. from 01/02/2010
Eunyoung Yi, Ph.D.
Xiaoli Zhong, Ph.D. to 03/03/2010
Gang-Ming Zou, M.D., Ph.D. to 07/31/2009

Dental and Oral Medicine

David Kyle Clark, D.D.S. from 09/01/2009 to 10/31/2009
David Kyle Clark, D.D.S. from 03/01/2010 to 03/31/2010
Eugene Huang, D.D.S.¹
Antoine Gerard Johnson, D.D.S. from 11/01/2009 to 01/31/2010
Seokhwan Oh, D.D.S.¹
Huy Chi Trinh, D.D.S. to 08/31/2009
Huy Chi Trinh, D.D.S. from 02/01/2010 to 02/28/2010

Otology-Neurotology

Wade W. Chien, M.D.
Charles Matthew Stewart, M.D., Ph.D.

PATHOLOGY

Joseph Aoki, M.D.¹
David Vincent Baewer, M.D., Ph.D.¹
Justin Avery Bishop, M.D.¹
Erin Michelle Carney, M.D.¹
Alex Gee Mun Chang, M.D.¹
Guoli Chen, M.D.¹
Ashley Marie Cimino-Mathews, M.D.¹
Carla Lashannon Ellis, M.D., M.S.¹
Hillary Rose Elwood, M.D.¹
Baojin Fu, M.D.¹
Cheng-Ying Ho, M.D.¹
Kathryn Jockovic, M.D.¹
Matthew Scott Karafin, M.D.¹
Julie Katz Karp, M.D.¹
Robert Eric LeBlanc, M.D.¹
Gloria Huang Lewis, M.D.¹
Chad Michael McCall, M.D.¹
Oliver Gene McDonald, M.D., Ph.D.¹
Zina Meriden, M.D.¹
Delicia La Shaun Munfus-McCray, M.D.¹
Matthew Theodore Olson, M.D.¹
Brent Alan Orr, M.D.¹
Nemanja Rodic, M.D.¹
Hillary Maren Ross, M.D.¹
Safia Nawazish Salaria, M.B.B.S.¹
Mark Atienza Samols, M.D., Ph.D.¹
John J. Schmieg, M.D., Ph.D.¹
Aatur Dilip Singhi, M.D., Ph.D.¹
Andrea Proctor Subhawong, M.D.¹
Matthew Paul Tilson, M.D.¹
Christopher James VandenBussche, M.D., Ph.D.¹
Jeremy Vincent, M.D.¹
Laura DeLong Wood, M.D., Ph.D.¹
Gang Zheng, B.M., Ph.D.¹
Rui Zheng, M.D., Ph.D.¹

Autopsy Pathology

Shahin Assefnia, D.V.M. from 08/10/2009
Sarah Evelyn Beck, D.V.M.
Angela Kathleen Brice, D.V.M., Ph.D. to 09/30/2009
Simon Yat-Ming Long, V.M.D. from 07/06/2009
Denise A. Schultz, D.V.M.
Gillian Curtis Shaw, D.V.M., M.S.
Brian Wesley Simons, D.V.M.

Cardiovascular Pathology

Constantinos Anagnostopoulos, M.D. to 11/30/2009
Samarjit Das, Ph.D.
Mark Jeffrey Kohr, Ph.D. to 04/07/2010

Jason Jun Su, Ph.D. to 01/29/2010
Jianshi Yu, Ph.D. from 09/01/2009

Clinical Chemistry

Dylan Minh Bach, M.D. from 11/02/2009 to 11/30/2009

Jinong Li, Ph.D. to 04/30/2010
Yan Li, Ph.D.

Danni Li Meany, Ph.D. to 12/31/2009
Joely Ann Straseski, M.S., Ph.D.
Yuan Tian, Ph.D.

Cytopathology

Max Karl Fischer, M.D., M.P.H. from 12/01/2009 to 12/31/2009

Summer L. Nugent, M.D.
Srividya Sathiyamoorthy, M.B.B.S. from 01/01/2010 to 01/31/2010
Lisa Marie Stoll, M.D., M.P.H.

Division of Ophthalmic Pathology

Laura Asnaghi, M.S., Ph.D.
D Anand Rajan Kanagasabapathy, M.B.B.S.

GI-Liver Pathology

Hector Andres Alvarez, M.D. to 12/15/2009
Haibo Bai, Ph.D.

Savita Bisht, Ph.D. to 10/07/2009
Venugopal Chenna, M.S., Ph.D.
Toby Charles Cornish, M.D., Ph.D.
Hubert Darius J. Daniel, M.Sc., Ph.D.
Sugganth Daniel, M.B.B.S. from 08/03/2009 to 10/31/2009

Sonal Gupta, Ph.D.
Adriana Alina Handra-Luca, M.D. from 11/01/2009
Seung-Mo Hong, M.D., Ph.D.

Chaoxin Hu, Ph.D. from 10/01/2009
Hirohiko Kamiyama, M.D. to 01/31/2010
Mihoko Kamiyama, M.D. to 05/31/2010
Rajesh Kannangai, M.D. from 09/09/2009
Dora M. Lam-Himlin, M.D.

Ang Li, Ph.D.
Ming-Tseh Lin, M.D.

Hanno Ernst Goswin Matthaei, M.D. to 04/30/2010
Masamichi Mizuma, M.D. to 04/30/2010
Yoshiki Naito, Ph.D.

Vivekanandan Perumal, Ph.D. to 09/30/2009
Dipankar Pramanik, Ph.D. from 09/10/2009
Chanjuan Shi, M.D., Ph.D. to 12/31/2009
Audrey Louise Josette Vincent, Ph.D. to 03/31/2010

Meghna Waghray, Ph.D. to 03/31/2010
Shinichi Yachida, M.D.

Lanjing Zhang, M.D. from 10/05/2009 to 10/30/2009

Yi Zhong, M.D.

Gynecologic Pathology

Wen-Chung Chen, M.D. from 09/03/2009
Bin Guan, Ph.D.

Yuzhen Guo, Ph.D. to 04/19/2010
Wei-Ting Hsueh, M.D. to 11/16/2009
Subhashini Jagu, Ph.D. to 10/31/2009
Tae Heung Kang, D.Sc. to 03/31/2010
Balasubramanyam Karanam, M.Sc., Ph.D. to 08/31/2009

Elisabetta Kuhn, M.B.B.S. from 09/03/2009
Dan Lu, Ph.D.

Pradeep Kumar Panuganti, M.B.B.S. to 02/28/2010

Alexander Stoeck, Ph.D.
Michelle Marie Thiaville, Ph.D.
Wai-Hong Wu, Ph.D. from 11/20/2009
Qi Zeng, M.D. to 08/31/2009
Yuqian Zhang, Ph.D. to 09/25/2009

Hematologic Pathology

Daisy Varunni Alapat, M.D. to 07/31/2009
Junaid Baqai, M.B.B.S. from 02/01/2010 to 02/28/2010

Amy Susan Duffield, M.D., Ph.D.
Shiyama V. Mudali, M.D.

Immunopathology

Rigu Gupta, M.B.B.S. to 05/31/2010
Stanislav Vladimirovich Khoruzhenko, M.D.
Ae Ryon Kim, Ph.D.

Paola Loporati, M.D. from 10/26/2009
Davinna LaChelle Ligons, Ph.D.
Taylor Louise Reynolds, D.V.M.
Shey-Cherng Tzou, Ph.D. from 08/15/2009
Zuoxiang Xiao, Ph.D.

Informatics

Hong Tai, Ph.D.

Kidney-Urologic Pathology

Kirstie Anne-Merrea Adams, Ph.D.
Carlise Renee Bethel, Ph.D. to 03/31/2010
William Dean Brandt, Ph.D. from 08/17/2009
Fadi Brimo, M.D.

Susmita Ghosh, Ph.D. to 05/07/2010
Bora Gurel, M.D. to 01/31/2010
Xiaobing He, Ph.D. to 11/13/2009
Christopher Michael Heaphy, Ph.D.
Zhenhua Huang, Ph.D.
Shizhang Ling, Ph.D. to 01/31/2010
Sambit Kumar Mohanty, M.D. from 08/01/2009 to 08/31/2009

Brian D. Robinson, M.D.
Luciana Schultz, M.D. to 02/08/2010
Karen Sandell Sfanos, M.S., Ph.D. to 04/02/2010

Medical Microbiology

Olga V. Nikolskaia, M.D. from 07/27/2009

Molecular and Cellular Pathology

Jewel Amethyst Daniel, Ph.D.

Molecular Genetic Pathology

Shuko Harada, M.D. from 08/01/2009
Athanasios Christos Tsiatis, M.D.

Neuropathology

Kerstin Elisabeth Braunstein, Ph.D.
Qing Chang, Ph.D.
Wing Han Vivian Chow, M.Phil., Ph.D. to 05/27/2010

Kari-Elise Tryggstad Codispoti, M.D.
Emanuela Colla, M.S., Ph.D.
Sonia George, Ph.D. from 11/18/2009 to 12/13/2009

Diego Iacono, M.D., Ph.D. to 08/07/2009
Yun Ha Jeong, Ph.D.

Jae Kwang Kim, Ph.D. to 07/30/2009
Jae Kwang Kim, Ph.D. from 08/10/2009 to 08/31/2009

Ying Liu, Ph.D. to 11/29/2009
Vasiliki Machairaki, Ph.D.

Hilary Highfield Nickols, M.D., Ph.D. from
07/13/2009 to 07/31/2009
Xiu Shan, B.M., Ph.D. to 08/25/2009
Juan G. Verastegui-Jimenez, M.D. from
11/03/2009 to 11/16/2009
Steven Miles White, M.D., Ph.D. from 09/01/2009
to 09/30/2009
Leyan Xu, Ph.D. to 11/30/2009
Eduardo Daniel Zamora, M.D. from 12/01/2009 to
02/28/2010

Selective (Renal)

Danniele Gomes Holanda, M.D.

Selective (Urological)

Yingbei Chen, M.D., Ph.D.
Motohide Uemura, M.D., Ph.D. to 05/31/2010
Huihui Ye, M.D.

Surgical Pathology

Giuseppe Militello, M.D.
Arun Prakash Venkat, M.B.A., M.D.

Transfusion Medicine

Patricia A.R. Brunker, M.D. to 10/31/2009
Aaron Andrew Ross Tobian, M.D., Ph.D.

PEDIATRICS

Lubna Qazi Abdullah, M.D.¹
Jennifer Alphonso Abraham, M.A., Ph.D.
Amit Agrawal, M.D.
Rajni Ahlawat, M.B.B.S.
Sama Farheen Ahsan, M.D.¹
Catherine Michelle Albert, M.D.¹
Melissa Jayne Allman, Ph.D.
Kristin Marie Arcara, M.D.
Fidelis Eghoateh Atianjoh, Ph.D.
Dimitar Bogdanov Avtanski, M.Sc., Ph.D.
Kismet M. Baldwin, M.D. from 09/23/2009 to
10/20/2009
Viveck Baluja, M.D.
Breanna Skye Barger-Kamate, M.D.¹
Mihee Jeon Bay, M.D.
Katherine A. Beckwith-Fickas, M.D., M.P.H.¹
Hans Tomas Bjornsson, M.D., Ph.D.¹
Melissa M. Blanock Mower, Psy.D. to 08/31/2009
Ashley Marie Blouin, Ph.D.
Manish Bodas, Ph.D.
Laura Elizabeth Bodnar, M.A., Ph.D. to 08/31/2009
Kyle William Boerke, M.S., Psy.D.
Challice Lee Bonifant, M.D.¹
Alison Boyce, M.D. from 07/27/2009 to 08/31/2009
Gia Marie Bradley, M.D.
Christine Briccetti, M.D.
Christina Breisch Brooks, M.A., Psy.D. from
09/01/2009
Nicole Marie Brown, M.D.¹
Marissa Ann Brunetti, M.D.
Luis Francisco Caicedo Oquendo, M.D.
Marc Addison Callender, M.D.¹
Maria Cancio, M.B.B.Ch.¹
Rebecca Faith Carlin, M.D.¹
Mary Elizabeth Caruso-Anderson, Ph.D.
Diana Nicole Carvajal, M.D.
Sarah Elizabeth Cavanagh, Ph.D. from 09/01/2009
Alison Kristen Chapman, M.D.
Maria Izabel Chiamolera, M.D., Ph.D.
Jessica Pease Clarke-Pounder, M.D.¹
Lauren Merritt Cohee, M.D.¹

Carolyn Ann Stirling Cole, M.A., Ph.D. to
08/31/2009
Stacy Lorine Cooper, M.D.¹
Stephanie Nicole Crewe, M.D.
Sarah Kathleen Shea Crowne, Ph.D.
Susan Davidson, M.D.¹
Stephanie Solter de Wit, M.D.
Megan Hyle DeCapite, M.D.¹
Marissa Janel DeFreitas, M.D.¹
Neal Arledge deJong, M.D.¹
Seifu M. Demissie, M.D.
Shamieka Virella Dixon, M.D. from 07/06/2009
Constantine Stephen Djedjos, M.D.
Abigail A. Donaldson, M.D.
Caroline Gilpin DuCoin, Psy.D. from 09/01/2009
Letitia Kathlene Thompson Dzirasa, M.D.¹
Kelly Lee Ecker, D.O.
Abdallah Frederic Elias, M.D.¹
Lisa Tennyson Emrick, M.D.
Branden Michael Engorn, M.D.¹
Doris Olukemi Fadoju, M.D.
Jill Ann Fahrner, M.D., Ph.D.¹
Doran Leonard Fink, M.D., Ph.D.
Aisha Hughes Frazier, M.D., M.P.H.
Brandi Kaye Freeman, M.D.¹
Meghan Elizabeth Gaare, M.D.¹
Sharon Rachael Ghazarian, M.D.
Ashley Conrad Gibb, Ph.D. from 09/01/2009
Tanjala Trinette Gipson, M.D.
Melissa Luke Gonzalez, M.A., Ph.D. to 08/31/2009
William Adam Gower, M.D.
Deanna Mae Green, M.D.
Stephanie Elaine Griese, M.D.¹
Rana Farouk Hamdy, M.D., M.P.H.¹
Carla Rita Hanash, M.D.
Jessica Curley Hankinson, M.A., Ph.D. from
09/01/2009
Erum Aftab Hartung, M.D.
Ran He, Ph.D. from 07/17/2009
Melissa Collison Hendricks, Ph.D.
Judson Ryan Heugel, M.D.¹
Bernadette Anise Hillman, M.D.
Suchitra K. Hourigan, B.M.-B.Ch.¹
Jessica Ann Howlett, M.D.¹
Colleen Ann Hughes Driscoll, M.D.
Joan Jasien, M.D.
Mandeep Singh Jassal, M.D.
Punit Narayan Jhaveri, M.D.
Khaliyah Aesha Johnson, M.D.¹
Jennifer Jaime Johnston, M.D.¹
Jennifer K. Jubulis, M.D.
Kristen M. Kalymon, M.S., Ph.D.
Fariha Kamran, M.B.B.S. from 08/31/2009 to
09/30/2009
Vishnu Varohan Reddy Kanala, M.D. to
07/31/2009
Lisa Michelle Kantz, M.A., M.D.¹
Nisha Jaykumar Kapadia, M.D.¹
Corinne Allison Keet, M.D., M.S.
Michael Daniel Keller, M.D.¹
Kalpashri Kesavan, M.B.B.S.
Alisa Khan, M.D.¹
Amina Munawer Khan, M.D., M.P.H.¹
Shalineeh Khurana, M.B.B.Ch. from 08/26/2009 to
09/22/2009
Faye Oh Kim, Ph.D. from 11/01/2009
Wonha Kim, M.D.¹
Allison Layla Marie Kirk, M.D.¹
Jessica Leigh Komlos, M.D.¹
Vinayak Kottoor, M.B.B.S.

Evelyn Hwang Kow, M.D.¹
 Thomas Patrick Krupica, Jr., M.D.¹
 Eboni Ife Lance, M.D.
 Jamie Laubisch, M.D.¹
 Lacey Marie LeBlanc, Ph.D. from 11/01/2009
 Benjamin Lee, M.D.¹
 Ryan Wai Yan Lee, M.D.
 Stephanie A. Lee, Psy.D. from 09/01/2009
 Hanna Beth Lemerman, M.D., M.P.H.¹
 Monica Lemmon, M.D.¹
 Elaine Giannakos Lennox, M.D.¹
 Rachel Meredith Lestz, M.D.
 Tamorah R. Lewis, M.D.¹
 Jie Li, M.D., Ph.D.
 Jean Lindstrom Limpert, M.D.¹
 Jenny Hanching Lin, M.D.
 Michael Andrew Lind, Ph.D.
 Mark Evan Lindsay, M.D., Ph.D.
 Sarah Renee Lindstrom-Johnson, Ph.D.
 Lauren Ferrari Loeffler, M.D.
 Melissa Long, M.D.¹
 Whitney Anne Loring, M.A., Psy.D. from
 08/01/2009
 Karsten Lunze, M.D., M.P.H. to 07/01/2009¹
 Laila Aziz Mahmood, M.D. from 07/29/2009 to
 08/25/2009
 Sarah Graham Majcina, M.D.¹
 Shivarajan Manickavasgam Amudhavalli, M.B.B.S.
 from 07/29/2009 to 08/29/2009
 Nicole Briggs Marsh, M.D.¹
 Teresa Martino, D.O.
 Ravi Maruvada, Ph.D.
 Shunichi Matsumoto, M.D., Ph.D. from 10/01/2009
 Tracy Elizabeth McCallin, M.D.¹
 Courtney Stritar McGuire, M.D.¹
 Jennifer Lynn McHarg, M.D.
 Paul Michael McIntosh, M.D. to 06/15/2010¹
 Matthew Henry Merves, M.D.¹
 Stephanie Tamara Mihalas, M.A., Ph.D. to
 08/31/2009
 Justin Miller, Ph.D. to 08/31/2009
 Anna Minta, M.D., M.P.H.¹
 Douglas Mogul, M.D., M.P.H.
 Jana Lynn Mohassel, M.D.¹
 Eva Michele Moore, M.D.
 Kantahyanee Whitt Murray, M.A., Ph.D. to
 03/30/2010
 Satya Devi Narisety, M.D.
 Suzana Nesi Franca, M.D. to 09/29/2009
 Melanie Kandt Nies, M.D.¹
 Maryam Nobari Tabrizi, M.D.
 Horacio Javier Novaira, Ph.D.
 Julia Noether O'Neal, M.D.¹
 Jane Park, M.D.¹
 Jessica Lynn Perniciaro, M.D.¹
 Carisa Katherine Perry-Parrish, M.A., Ph.D.
 Kristi Lynn Masimore Phillips, Psy.D. to
 08/31/2009
 Christina Elena Pierorazio, M.D.¹
 Elyse Dara Pine-Twaddell, M.D.
 Cozumel Southern Pruette, M.D., M.S. to
 06/15/2010¹
 Elizabeth Dorothy Quaal, M.D.¹
 Rebecca Frances Rabin, M.D.¹
 Monzur Rahman, Ph.D.
 Genaro Antonio Ramirez-Correa, M.D., Ph.D.
 Parijatha Rao, Ph.D. from 12/01/2009
 Tina Louise Rezaiyan, M.D.¹
 Reagan Lynn Rinderknecht, M.S., Ph.D. to
 10/30/2009
 Michael Lawrence Rinke, M.D.¹
 Sarah R. Risen, M.D.
 Karen Anne Robbins, M.D.¹
 Delphine Rose Christine Rothoam, M.D.¹
 Tamar Beth Rubinstein, M.D.¹
 Melissa Ann Sable, M.S., Ph.D. to 08/31/2009
 Parissa Salemi, D.O. to 12/31/2009
 Amanda Wagner Santanello, Psy.D. to 08/31/2009
 Kristin Leigh Santini, M.D.¹
 Monique Dalvi Satpute, M.D.
 Andrew J. Scherbarth, Ph.D. from 09/01/2009
 Emily Dawn Shumate, Ph.D.
 Michelle Rita Sicard, M.D.
 Laura Joan Sigman, M.D.¹
 Sara Ruth Slovov, M.D.
 Tyler Kimberly Smith, M.D.
 Amy Elizabeth Sniderman, M.D.¹
 Emily Ann Spengler, M.D.¹
 Katherine Marie Steffen, M.D.¹
 Bridget Danielle Stuart, M.D.
 Gwyneth Anne Susil, M.D. to 08/25/2009¹
 Katie Goonan Sussman, M.D.¹
 Mayur Chandrakant Tamhane, Ph.D.
 Pranita D. Tamma, M.D.
 Laura Tochen, M.D.¹
 Erika Torjusen, M.D.
 Alison Christine Tribble, M.D.¹
 Megan Marie Tschudy, M.D.
 Elizabeth Winans Tucker, M.D.¹
 Erlanger A. Turner, Ph.D. from 09/01/2009
 Krishna Kumari Upadhyay, M.D., M.P.H.
 Christopher John Valente, M.D.¹
 Alexandra Vasilescu, D.O., M.S.
 Hilary Joyce Vernon, M.D., Ph.D.¹
 Michael Francis Walsh, M.D.¹
 Jennifer Lindsey Webb, M.D.¹
 Darcy Kate Weidemann, M.D.¹
 Sheng Wu, M.S., Ph.D.
 Jian-Chun Xiao, Ph.D.
 Michiyo Yamazaki, Ph.D. to 12/31/2009
 Hao Yu, Ph.D.
 Regina Margarita Zambrano, M.D.
 Longkun Zhu, Ph.D.
 Karen Leigha Zimowski, M.D.¹

PHARMACOLOGY AND MOLECULAR SCIENCES

Young-Hoon Ahn, Ph.D.
 Rashmi Bankoti, Ph.D. to 02/28/2010
 Shonoi Andrea Barnett, Ph.D. from 11/01/2009
 Adriana Bora, Ph.D. from 11/30/2009
 Chien-Sheng Chen, Ph.D. from 07/15/2009 to
 09/01/2009
 Yongjun Dang, Ph.D. to 12/31/2009
 Xinxin Gao, Ph.D.
 QingLi He, Ph.D. from 09/21/2009
 Marc A. Holbert, Ph.D.
 Shaohui Hu, Ph.D.
 Rong Huang, Ph.D.
 Kannan Karukurichi, M.Sc., Ph.D.
 Pablo Hector Horacio Lopez, Ph.D. to 07/31/2009
 Sohumi Mehta, Ph.D. from 12/01/2009
 Chandrani Mukherjee, Ph.D.
 Robert Howard Newman, Ph.D.
 Rodney Louis Nyland, II, Ph.D.
 Veronica Tiffany Pinnick, Ph.D. from 09/03/2009
 Hee Sool Rho, Ph.D.
 Tilman Hans Jorg Schneider-Poetsch, Ph.D. from
 08/04/2009 to 09/30/2009
 Wei Shi, Ph.D.

Joong Sup Shim, Ph.D.
Gregory George Simon, Ph.D. to 11/29/2009
Mary Regina Stahley, Ph.D.
Yan Sun, Ph.D. from 07/20/2009
Stephen James Swatkoski, Ph.D.
Zhihong Wang, Ph.D. to 03/09/2010
Yu Ye, Ph.D.
Jianshi Yu, Ph.D. to 08/31/2009
Jingshi Zhou, Ph.D. to 12/07/2009
Jian Zhu, M.S., Ph.D. from 07/16/2009 to
08/15/2009

PHYSICAL MEDICINE AND REHABILITATION

Anna V. Agranovich, M.A., Ph.D. from 09/01/2009
Lisa Shanel Barrett, M.D. ¹
Joseph Anthony Bax, D.O. ¹
Erik Stanton Brand, M.D., M.Sc. ¹
Margaret Anne Budd, M.P.H., Ph.D. to 08/31/2009
Philippines Garcia Cabahug, M.D. ¹
Srikrishna Chandran, M.D. ¹
Tae Hwan Chung, M.D. ¹
Michelle Cintron, D.O. ¹
Celene A. Fyffe, M.A., Ph.D.
Joseph Michael Galea, Ph.D. to 03/25/2010
Dustin Phillip Gay, M.D. from 10/01/2009 to
12/31/2009
Daniel Eli Halpert, D.O. ¹
Haroon Imran Hameed, M.B.B.S. ¹
Mariam Maira Hameed, M.B.B.S. ¹
Erik Hans Hoyer, M.D. ¹
Phong Nguyen Kieu, M.D. ¹
Shinya Mikushi, D.D.S., Ph.D. to 03/14/2010
Nathan Jon Neufeld, D.O. ¹
Nathan M. Parmer, Psy.D.
Sosuke Seki, M.D. to 02/28/2010
Vishal Thakral, D.O. ¹
Katherine Dawn Travnicsek, M.D. ¹
Jing Wang, M.D. ¹
Jessica H. Wolfman, M.S., Ph.D. from 09/01/2009
Christine L. Yantz, Ph.D.
Morvarid Yousefi, M.D. ¹

Pediatric Rehabilitation Medicine

Marykatharine Nutini, D.O. from 08/01/2009
Scott C. Schultz, M.D.

Spinal Cord Injury Medicine Program

Tapankumar N. Joshi, M.B.B.S. to 08/31/2009
Argyrios Stampas, M.D.

PHYSIOLOGY

Amanda Nell Barry, M.S., Ph.D. from 09/01/2009
Ashima Bhattacharjee, Ph.D. (on leave of absence
to 07/12/2009)
Sharmistha Bhattacharyya, Ph.D. from 12/03/2009
Arnab Gupta, Ph.D.
Yuta Hatori, Ph.D. from 11/02/2009
Chandra Mohan Khantwal, Ph.D.
Kalyan Chakravarthy Kondapalli, M.S., Ph.D.
Sharon Virginia LaMont Leitch, Ph.D.
Huiqing Li, Ph.D. from 07/20/2009
Lihua Liang, M.S., Ph.D.
Jonathan Michael Peterson, M.S., Ph.D.
Owen Maxwell Woodward, Ph.D.
Meifang Xiao, Ph.D. from 01/01/2010
Yongqiang Zhang, Ph.D.

PSYCHIATRY AND BEHAVIORAL SCIENCES

Bagrat Abazyan, M.D.
Shauna Prendergast Acquavita, Ph.D.

Sergey Sergeevich Akimov, Ph.D.
Allan Michael Andersen, M.D. ¹
Denis Godwin Antoine, II, M.D. ¹
Nicolas Arbez, Ph.D. from 12/01/2009
Eleni Aretouli, Ph.D.
Yuval Asner, M.D.
Yavuz Ayhan, M.D. to 10/13/2009
Nicholas Thomas Bello, Ph.D. to 02/28/2010
Rebecca Birnbaum, M.D. ¹
Matthew David Burke, M.D., M.P.H. ¹
Claudia Michelle Campbell, Ph.D.
Mirnova Emmanuelle Ceide, M.D. ¹
Shin-Bey Chang, M.D.
Yong Cheng, Ph.D. to 01/31/2010
Rachel Rose Chrissluis, M.D.
Crystal Tenille Clark, M.D. ¹
Nida Hennessey Corry, Ph.D. to 08/14/2009
Caitlin Rose Costello, M.D. ¹
Jennifer Marie Coughlin, M.D. ¹
Mary L. Cutler, M.D. ¹
Megan Jeanne Dailey, Ph.D.
Catherine Marie Davis, Ph.D. from 11/16/2009
James Arthur Disney, M.D. ¹
Sasikanth Doddapaneni, M.D. ¹
Angela N. Duke, Ph.D. to 04/30/2010
Kelly Elaine Dunn, Ph.D. to 05/15/2010
Laura Lynn Ebner, M.D. ¹
Nicole Renee Edmond, M.D. ¹
Daniel Patrick Evatt, Ph.D. from 07/16/2009
Chete Margaret Eze-Nliam, M.B.B.S., M.P.H. from
10/08/2009
Jinrong Fu, Ph.D.
Steven Andrew Galati, M.D. ¹
Neda F. Gould, Ph.D.
Zhihong Guo, M.D. from 07/17/2009
Akiko Hayashi, M.D., Ph.D.
Sean Philip Heffernan, M.D.
Meghann Maureen Hennelly, M.D. ¹
Porche Kirkland Henry, Ph.D. from 08/01/2009
Hideki Hiyama, M.Sc., Ph.D. to 11/30/2009
Jamie Alyson Hom, M.D.
Pamela Jean Horn, M.D. ¹
Frederick William Houts, M.D. ¹
Yong Huang, Ph.D. from 08/03/2009
Amy Laura Huberman, M.D. ¹
Koko Ishizuka, Ph.D. to 08/30/2009
Hanna Jaaro-Peled, M.Sc., Ph.D.
Mali Jiang, M.D., Ph.D.
Jing Jin, Ph.D. to 03/31/2010
Shinichi Kano, M.D., Ph.D.
Sun-Hong Kim, Ph.D.
Mary Claire Kimmel, M.D. ¹
Betha AnnaLouise Kleykamp, M.A., Ph.D.
Mikhail Nikolaas Koffarnus, Ph.D. from 08/16/2009
Minoru Koga, Ph.D. from 08/01/2009
Richard Sang Un Lee, Ph.D.
Jeannie-Marie Sheppard Leoutsakos, Ph.D. to
08/31/2009
Nu-Chu Liang, M.S., Ph.D. from 10/01/2009
Zhaohui Liu, M.S., Ph.D. to 08/31/2009
Sally Louise Long, Ph.D.
Joel D. Mack, M.D. ¹
Katherine Anne MacLean, Ph.D. from 09/16/2009
David Aaron Maroof, Ph.D. from 09/01/2009
Shawn Thomas Mason, M.S., Ph.D.
Daniel C. Mathews, M.D. ¹
Erin Ann McClure, Ph.D. to 06/15/2010
Oriol Molina Andreu, M.D. from 07/17/2009 to
09/30/2009
Lauren Virginia Moran, M.D. ¹

Harvey Melton Morris, Ph.D. to 06/29/2010
 Megan Marie Mroczkowski, M.D.¹
 Minae Niwa, Ph.D. from 10/16/2009
 Jun Nomura, Ph.D.
 Ozioma Chima Okonkwo, Ph.D. from 07/19/2009
 Renata M. Okonkwo, M.A., Ph.D. from 09/02/2009
 Christopher Justin Pagnani, M.D.¹
 Vinay Kishor Parekh, M.D.¹
 Smitta Vinubhai Patel, M.D., M.P.H.
 Mehdi Pirooznia, Ph.D.
 Vladimir Mikhailovich Pogorelov, Ph.D. from 07/27/2009
 Yair Porat-Shliom, M.Sc., Ph.D. (on leave of absence from 08/10/2009 to 11/29/2009)
 Leon Tan Que, Jr., M.D.¹
 Jennifer Barsky Reese, M.S., Ph.D.
 Chad Jason Reissig, Ph.D. to 09/24/2009
 Erica Martin Richards, M.D., Ph.D.¹
 Jose Y. Rios-Robles, M.D.¹
 Mark David Rogerson, Ph.D. from 09/01/2009
 Anne Elizabeth Ruble, M.D., M.P.H.¹
 Sina A. Saidi, M.A., M.D.¹
 Margaret Seide, M.D., M.S.¹
 Neelam Shahani, Ph.D.
 Lee Samuel Spencer, M.D.
 Ryan Edward Stagg, M.D.¹
 Grace Thammasuvimol, M.D.
 Sarah Kathryn Tighe, M.D.¹
 Punit Vijay Vaidya, M.D.¹
 Elaine Ann Waldron, D.N.Sc.
 Jiawei Wang, Ph.D. to 12/07/2009
 Yi Wang, Ph.D.
 Emerson M. Wickwire, Jr., M.S., Ph.D. to 09/01/2009
 Kristin Marie Wilcox, Ph.D. to 08/31/2009
 Jason Burke Williams, M.D.¹
 Elizabeth Caroline Winter, M.D.¹
 Laura Lynn Wulff, Ph.D. to 08/31/2009
 James Jihoon Yi, M.D., Ph.D.¹
 Lan Yu, Ph.D.
 Shanshan Zhu, Ph.D.

Child Psychiatry

Kimberly Dyan Becker, M.A., Ph.D. to 10/15/2009
 Ulas Mehmet Camsari, M.D. from 08/28/2009¹
 Ulas Mehmet Camsari, M.D. to 08/27/2009
 Natalya Chernyak, M.D.¹
 Candyce Joy Deloatch, M.D.¹
 Kelly Lynn Drake, Ph.D.
 Deirdre Mary Foster, M.D.¹
 Rhoda J. Gottfried, M.D.¹
 Carolyn Jayne Howell, M.D.¹
 Finza Iqbal, M.B.B.S. to 07/22/2009¹
 Patrick Michael Kelly, M.D.¹
 Alyssa Sunah Kwon, M.D.¹
 Tara Lynn Mathews, Ph.D. from 08/17/2009
 Linda Michelle Nugent, Ph.D. to 09/13/2009
 Heather A. Powell, M.A., Ph.D. to 10/04/2009
 Tokunboh Tinuola Rose, M.D.¹
 Heerain Ashok Shah, M.B.¹
 Jonathan Joel Shepherd, M.D.¹
 Elizabeth Mary Shumann, M.D.¹
 Cindy Y. Thygeson, M.D. to 07/24/2009¹
 Antoinette Marie Valenti, M.D.¹

Geriatric Psychiatry

Cynthia Dianne Fields, M.D.
 Oludamilola Adeniyi Salami, M.B.B.S.
 Crystal Chanel Watkins, M.D., Ph.D.

Kennedy Krieger Institute

Anne Pradella Inge, Ph.D. from 09/08/2009
 Lisa Anne Jacobson, Ph.D.
 Megan Elizabeth Kramer, Ph.D. from 09/01/2009
 Gianna M. Locascio, Psy.D. to 08/31/2009
 Stephanie Katherine Paulos, M.A., Ph.D. to 08/31/2009
 Darcy Raches, Ph.D. from 09/01/2009
 Jacqueline Horwitz Sanz, M.A., Ph.D.
 Sarah Marie Towne, Psy.D.
 Jennifer A. Ulbricht, M.Phil., Ph.D. from 09/01/2009

RADIATION ONCOLOGY AND MOLECULAR RADIATION SCIENCES

Todd C. Adams, M.D.¹
 Harold C. Agbahiwe, M.D.¹
 Baoyan Bai, Ph.D.
 David Edwin Bordonel, Ph.D. from 12/16/2009
 Jon Hua Chung, M.Sc., Ph.D.
 Stefania Clemente, Ph.D. to 07/24/2009
 Laureen Castillo Colis, Ph.D.
 Lana Maria de Souza, M.D.¹
 Donald Edward Engel, Ph.D.
 Niquiche M. Guity, Ph.D.
 Russell Kenneth Hales, M.D.¹
 Dennis Raymond Harris, Jr., Ph.D.
 Kendra Marie Harris, M.D., M.Sc.¹
 Mohammad Ali Hedayati, Ph.D.
 Jun Kang, Ph.D. to 01/26/2010
 Usama Mahmood, M.D. from 12/01/2009 to 12/31/2009
 Charles Harrison Matthews, M.D.¹
 Benjamin C. Orsburn, Ph.D.
 Kristin Ann Redmond, M.D., M.P.H.¹
 Francesco Ricchetti, M.D.
 Robert Charles Susil, M.D., Ph.D.¹
 Saravanan Thiyagarajan, Ph.D. from 10/01/2009
 Owen Clayton Thomas, M.D.¹
 Richard Tuli, M.D., Ph.D.¹
 Kenji Unno, Ph.D. from 10/01/2009 to 12/06/2009
 Deborah Fran Wilsker, Ph.D.
 Binbin Wu, Ph.D.
 Zhiming Yang, Ph.D.
 Ming Yuan, Ph.D. to 09/30/2009
 Jing Zeng, M.D.¹

RADIOLOGY AND RADIOLOGICAL SCIENCE

Ashkan A. Akhavan Malayeri, M.D.¹
 Ezana Muluneh Azene, M.D., M.S., Ph.D.¹
 Stacey Ann Bass, M.D.¹
 David Aaron Behrmann, M.D.¹
 Cary Frederick Bizzell, M.D.¹
 David Bonekamp, M.D., Ph.D.¹
 Jeremy Robert Burt, M.D.¹
 Cuneyt Calisir, M.D. to 07/14/2009
 Zachary D. Chonka, M.D.¹
 Linda Chi-Hang Chu, M.D.¹
 Christina McGraw Cinelli, M.D.¹
 Heidi Marie Cooper, M.D.¹
 Jason Dana Dunleavy, M.D.¹
 Daniel James Durand, M.D.¹
 Mark Douglas Ebert, M.D.¹
 Maryam Etesami, M.D. to 02/28/2010
 Jonathan Andrew David Farrell, Ph.D.
 Michael Andrew Fatt, M.D.¹
 Anthony Frank Fotenos, M.D.¹
 Jan Fritz, M.D.¹
 Kenneth Leslie Gage, M.D., Ph.D.¹

Jun Hua, Ph.D. to 04/10/2010
Oluwatoyin Rosemary Idowu, M.D.¹
Mehrbood Javadi, M.D.¹
Derrick Antwon Jones, M.D.¹
Dorota Anna Kedziorek, M.D.
Daniel Young Kim, M.D.¹
Nitasha Grewal Klar, M.D.¹
Cindy Lee, M.D.¹
Evelyn Andrea May, M.D.¹
Carl Norman Miller, M.D.¹
Christopher Patrick Myers, M.D., Ph.D.¹
Kelly S. Myers, M.D.¹
Jason Oaks, M.D.¹
Tarak H. Patel, M.D.¹
Ajanta Patra, M.D.¹
Sajal Sharma Pokharel, M.D., Ph.D.¹
Svati Singla Long, M.D.¹
Ty Kanyan Subhawong, M.D.
Shrey Kumar Thawait, M.B.B.S.
Collin Michael Torok, M.D.¹
Juan Wei, Ph.D.
Carlos Armando Zamora, M.D.¹

Cardiovascular and Interventional Radiology

Andrew Stephen Akman, M.B.A., M.D.
Manon Buijs, M.D.
Lemore Carmi, M.D. to 10/22/2009
Matthew David Givens, M.D.
Andrew Uriah Hines-Peralta, M.D.
Thomas Earl Keane, M.D. to 07/24/2009
Steven J. Krohmer, M.D.
Rani Kunjithapatham, Ph.D.
Byung Kook Kwak, M.D. from 09/01/2009
Eleni Apostolos Liapi, M.D.
Romaric Loffroy, M.D. from 11/01/2009
Siobhan Mc Grane, M.B.B.Ch.
Andrew Daryl Mullins, D.O.
Shinichi Ota, M.D.
Pramod Prabhakar Rao, M.B.B.S. to 12/31/2009
Jason Alan Swenson, M.D.
Labiq Hossain Syed, M.D.

Endovascular Surgical Neuroradiology

Charles William Bowkley, III, M.D.
Monica Smith Pearl, M.D.

Magnetic Resonance Research

Dian Respati Arifin, Ph.D.
Amnon Bar-Shir, Ph.D. from 09/23/2009
Mahendran Botlagunta, M.Sc., Ph.D.
Harjit K. Chahal, M.B.B.S.
Wai Yan Chan, Ph.D. from 01/01/2010
Zhihang Chen, M.S., Ph.D. to 02/12/2008
Jonghoon Choi, Ph.D. to 12/21/2009
Riham El Khouli, M.B.B.Ch.
Yingli Fu, M.S., Ph.D.
Refaat Elsayed Gabr, Ph.D. to 04/10/2010
Aditya Jain, M.B.B.S., M.P.H.
Samson Jarso, M.S., Ph.D.
Lu Jiang, Ph.D. from 10/19/2009
Suresh Emmanuel Joel, Ph.D.
Heechul Kim, Ph.D.
Ameneh Mashayekh, M.D. from 10/26/2009
Cuilian Miao, M.D.
Yoshinori Onuki, Ph.D. to 08/21/2009
Marie-France Penet, Ph.D.
Nidhi Rumpal, M.S., Ph.D. from 10/01/2009
Monda Lofty Shehata, M.D.
Jan Skrok, M.D.

Xiaolei Song, Ph.D.
Evrin Bengi Turkbey, M.D.
Silun Wang, Ph.D. from 10/12/2009
Kun Yan, Ph.D. from 07/15/2009
Khurram Shahzad Zakaria, M.B.B.S.

Medical Imaging Physics

Jochen Cammin, M.Sc., Ph.D.
Taek-Soo Lee, M.S., Ph.D. to 04/30/2010
Somesh Srivastava, Ph.D. from 09/01/2009

Neuroradiology

Alper Akca, M.D. from 09/28/2009
Asim F. Choudhri, M.D.
Ravindra Ajith DeSilva, Ph.D. from 11/16/2009
Surajit Dhara, M.Sc., Ph.D. to 12/31/2009
Ira Driscoll, Ph.D.
Sonia Kaur Ghei, M.A., M.D.
Juan Fernando Gomez, M.D.
Daniel Bryan Hawley, M.D.
George Peter Kuo, M.D.
Leonardo Lopes Macedo, M.D. to 01/31/2010
Anna Nidecker, M.D.
Ye Qiao, Ph.D.
Daniel Salo Reich, M.D., Ph.D. to 07/31/2009
Muzammil Shafi, M.B.B.S.
Haofan Wang, M.S., Ph.D.
Xin Wang, Ph.D.
Domenico Zaca, Ph.D.
Elcin Zan, M.D. to 09/14/2009
He Zhu, M.S., Ph.D.

Nuclear Medicine

Ranganathan Balasubramanian, Ph.D. to 09/30/2009
Blanca Bisuna, M.D. from 09/01/2009
Paco Eduardo Bravo Valenzuela, M.D.¹
Majid Chalian, M.D. from 12/01/2009
Muhammad A. Chaudhry, M.D. to 12/31/2009
David Chien, M.D.¹
Sean Richard Donohue, Ph.D. to 11/13/2009
Kenji Fukushima, M.D.
Yongjun Gao, Ph.D.
Hayriye Beril Gok, M.D.¹
Behnaz Goudarzi, M.D.¹
Maria Guevara, M.D.
Nedim Cuneyt Murat Gulaldi, M.D.
Yah-el H. Har-el, Ph.D. to 08/30/2009
Takahiro Higuchi, M.D., Ph.D.
Robert Francois Hobbs, Ph.D.
Kari D. Hopfer, D.O.¹
Babar Hussain, M.B.B.S.
Takuro Isoda, M.D.
Jong Ho Kim, M.D., Ph.D.
Ho Yan Lee, M.D.¹
Mohanambe Lingappa, Ph.D.
James Alfred Ntambi, M.D.¹
Rachel Aranha Potter, Ph.D. from 11/01/2009
Niklaus George Schaefer, M.D.
Hong Song, M.S., Ph.D. to 09/30/2009
Senthamizhchelvan Srinivasan, M.Sc., Ph.D.
Abdel Kader Tahari, M.D., Ph.D.¹
Don Norris Udall, M.D.¹
Melin Vranesic, M.D. to 04/19/2010
Jinsong Xia, Ph.D. to 09/14/2009

Pediatric Imaging

Gulhan Ertan, M.D. to 07/31/2009

Ayesha Iqbal, M.B.B.S. from 09/23/2009 to 10/20/2009
Arzu Ozturk, M.D.
Pedro Ricardo Pinto, M.D. from 09/01/2009 to 12/31/2009

PET Clinical Fellowship (Nuclear Medicine)

Olsev Uzuner, M.D.

SURGERY

Jeremiah Geoffrey Allen, M.D.¹
George John Arnautakis, M.D.¹
Mathew M. Augustine, M.D.¹
Jennifer Marie Bailey-Lundberg, Ph.D. from 10/05/2009
Claude Anthony Beaty, Jr., M.D.¹
Jonathan Carlin Berger, M.D.¹
Stuart Leighton St. Aubin Blackwood, M.D.¹
Gabriel Alon Brat, M.D.¹
Benjamin Sands Brooke, M.D.¹
William Reece Burns, III, M.D.¹
Zaki Salman Busbaih, M.B.B.S. to 03/31/2010
Melissa Suzanne Camp, M.D.¹
Shuming Chen, Ph.D.
Mechteld Christine de Jong, M.D. from 09/01/2009
Andrew P. Dhanasopon, M.D.¹
Stephanie Rae Downing, M.D.
Trevor Ashton Ellison, M.D.¹
Katherine Winifred Emery, M.D., M.S.¹
Charles John Galanis, M.D.¹
Jacqueline Mary Garonzik Wang, M.D.¹
Timothy Jacob George, M.D.¹
Natalia Oleg Glebova, M.D., Ph.D.¹
Seth Daniel Goldstein, M.D., M.Phil.¹
Zhen Gooi, M.D.¹
James Earl Harris, Jr., M.D.¹
Jin He, M.D.¹
Wei Huang, Ph.D. from 11/01/2009
Sameer Kaiser, M.D.¹
Amit Kaul, M.B.B.S. from 09/01/2009
Clinton Dunkel Kemp, M.D.¹
Adam Jacob Mathias Kern, M.D.¹
Abtin Hajiloo Khosravi, M.D., M.S.¹
Arman Kilic, M.D.¹
Guennadi Kouniavsky, M.D. to 01/31/2010
David Paul Kuwayama, M.D., M.P.H.¹
Angela Diane Lashofer, M.D.¹
Jia-Hua Leng, M.D. from 08/01/2009
Anne Meredith Lewis, M.D.¹
Jiang Tao Li, M.D. to 05/09/2010
Anthony Yen-Yiu Lin, M.B.Ch.B.¹
Brenessa M. Lindeman, M.D.¹
Shu Liu, Ph.D.
Yan Liu, Ph.D.
Jayme E. Locke, M.D.¹
Bonnie Elizabeth Lonze, M.D., Ph.D.¹
Radharani Marik, Ph.D.
Hiroki Matsuda, Ph.D. to 05/14/2010
Justin Brian Maxhimer, M.D.¹
Skye Carl Mayo, M.D.¹
Robert A. Meguid, M.D., M.P.H.¹
Omer Salah Nasir, M.B.Ch.B. to 02/28/2010
Hari Nathan, M.D.¹
Susanna Matsen Nazarian, M.D.¹
Naeem Akil Newman, M.D. to 06/20/2010
Vladimir Kostadinov Neychev, M.D.¹
Kelly Lynn Olino, M.D.¹
Babak John Orandi, M.D., M.Sc.¹
Dominic Joseph Papandria, M.D.¹

Emmanouil Pappou, M.D.¹
Joon Tae Park, M.S., Ph.D. to 03/31/2010
Nishant Dinesh Patel, M.D.¹
Catherine Elizabeth Pesce, M.D.¹
Mark P. Prosciak, M.D. from 07/27/2009
Elayne Renee Provost, Ph.D.
Atoosa Rabiee, M.D.
Meritxell Rovira Clusellas, Ph.D.
Christopher Michael Sciortino, M.D., M.S., Ph.D.¹
Raul Sebastian, M.D. from 09/01/2009
Kevin Cerqueira Soares, M.D.¹
Ibrahim Sultan, M.D.¹
Debasish Sundi, M.D.¹
Mario Diego Teran, M.D.¹
Kenneth Sheinje Tseng, M.D., M.P.H.¹
Kyle Jon Van Arendonk, M.D.¹
Mark Gerrit van Vledder, M.D. from 09/01/2009
Yiyun Wang, Ph.D. to 02/12/2010
Eric Spencer Weiss, M.D.¹
Matthew John Weiss, M.D.¹
Russell Noel Wesson, M.B.B.Ch.¹
Joshua Harris Wolf, M.D.¹
Dongmei Xing, M.D.
Shamila Yusuf, Ph.D.
Nikolaos Zacharias, M.D.¹
Norann Amir Zaghoul, M.S., Ph.D.
Xianjie Zhang, M.D., Ph.D. (on leave of absence from 08/24/2009 to 10/05/2009)

Cardiac Surgery

Christopher J. Barreiro, M.D.¹
Pramod Narayan Bonde, M.B.B.S. to 07/31/2009
Wirt Whitfield Cross, Jr., M.D. from 10/01/2009 to 10/31/2009
Ashraf Jamal Haddad, M.B.B.S. from 09/01/2009 to 09/30/2009
Stephen James Huddleston, M.D.¹
Harsh Jain, M.D.¹
Kaushik Mandal, M.B.B.S.¹
Gregory Duncan Rushing, M.D.¹
Maurice Antonio Smith, M.D.¹

Craniofacial

Amir H. Dorafshar, M.B.B.Ch.

Pediatric Surgery

Michael Benjamin Brewer, M.D. from 01/27/2010 to 02/28/2010
Marc Gibber, M.D. from 12/16/2009 to 01/26/2010
Mary Jo Haley, M.D. from 09/01/2009 to 10/06/2009
Rashida J. Laurence, M.D. from 10/07/2009 to 11/10/2009
Sara Kirsten Rasmussen, M.D., Ph.D.¹
Jose Humberto Salazar Osuna, M.D. to 03/01/2010
Stefan Scholz, M.D.¹
Subhadra Shashidharan, M.B.B.S. to 09/13/2009
Tiffany Alana Stoddard, M.D. from 11/11/2009 to 12/15/2009
Qihong Wang, M.D.

Plastic Surgery

Efstathia Andrikopoulou, M.D. from 11/02/2009
John George Apostolides, M.D.¹
Mazen Ibrahim Bedri, M.D.¹
Rachel Olga Bluebond-Langner, M.D.¹
Emile N. Brown, M.D.¹
Jose G. Christiano Neto, M.D.¹

Thomas Lawrence Chung, D.O.¹
Jeffrey Michael Feiner, M.D.¹
Michael J. Feldman, M.D.
Keith E. Follmar, M.D.¹
Luther Hamilton Holton, III, M.D.¹
Helen Gloria Hui-Chou, M.D.¹
Joseph Alexander Kelamis, M.D.¹
Avron Herschel Lipschitz, M.B.B.Ch.¹
Michail Magarakis, M.D.
Suhail Kamrudin Mithani, M.D.¹
Gerhard Salomo Mundinger, M.D.¹
Sanjay K. Munireddy, M.B.B.S. from 11/01/2009 to 11/30/2009
Habeeba S. Park, M.D. from 12/01/2009 to 12/31/2009
Erin Mariel Rada, M.D.¹
Sachin M. Shridharani, M.D.¹
Matthew Gokey Stanwix, M.D.¹
Jonathan A. Zelken, M.D.¹

Surgical Critical Care

Dessislava V. Boneva, M.D. from 07/13/2009
Nicholas Jaszczak, M.D. to 07/12/2009
George Joseph Koenig, Jr., D.O., M.S. to 07/12/2009

Surgical Oncology and Endocrinology

Florence Depontieu, Ph.D. to 12/15/2009

Transplant Surgery

Priyanka Govindan, M.B.B.S. to 03/14/2010
Georges Mounir Haidar, M.D. from 11/08/2009 to 12/05/2009
Masayuki Hisada, M.D.
Sunil Suhas Karhadkar, M.B.B.S.
Seoung Hoon Kim, M.D., Ph.D.
Anthony Leary Mark, M.D.
Takehiro Okabayashi, Ph.D. to 03/31/2010
Habeeba S. Park, M.D. from 01/01/2010 to 01/31/2010
Christopher Eric Simpkins, M.D., M.P.H.
Kris Burton Williams, M.D. from 10/11/2009 to 11/07/2009
Xiuying Zhang, Ph.D.

Vascular Surgery

James Lawrence Guzzo, M.D.
Ying Wei Lum, M.D.

UROLOGY

Shadi Raymond Badan, M.D. to 01/01/2010
Trinity Jude Bivalacqua, M.D., Ph.D. to 12/31/2009¹
Katherine Elizabeth Bright D'Antonio, Ph.D. to 07/17/2009
John Bernard Eifler, Jr., M.D.¹
Fernando Nestor Facio, Jr., M.D., M.Sc. to 11/30/2009
Jatinder Goyal, M.B.B.S. from 08/26/2009
Angela Devi Gupta, M.D.¹
Rong Hu, Ph.D.
Chien-Ming Huang, M.D. from 09/01/2009
Zhenhua Huang, Ph.D.
Sumit Isharwal, M.B.B.S.
YouQiang Li, M.D., Ph.D. from 01/04/2010
Chunyan Liu, B.M., Ph.D. to 07/30/2009
Stacy Leah Loeb, M.D.¹
Ifeanyichukwu Ifeyinwa Megwalu, M.D.¹
Steven Michael Mooney, Ph.D. to 05/30/2010
Amarnath Mukherjee, Ph.D.
Jeffrey Kyle Mullins, M.D.¹
Xiaohua Ni, Ph.D.
Phillip Martin Pierorazio, M.D.¹
Sefa Resim, M.D. to 10/14/2009
Judit Ribas, Ph.D.
Wilmer Burton Roberts, M.D., Ph.D.¹
Ashley Evan Ross, M.D., Ph.D.¹
Anthony John Schaeffer, M.D.¹
Michelle Jo Semins, M.D.¹
Takumi Shiraishi, M.D., Ph.D.
Abhinav Sidana, M.B.B.S.
Takahito Suyama, M.D., Ph.D. to 03/31/2010
Naser Uddin, M.Phil., Ph.D.
Shuanzeng Wei, M.D.
Ping Wu, Dr.Med.Sc., M.D.
Yi Xie, M.D. to 07/31/2009
Bo Yin, Ph.D. from 12/01/2009
Yu Zeng, Ph.D.

Pediatric Urology

Nima Baradaran, M.D. from 08/24/2009
Raimondo Maximilian Maria Cervellione, M.D. to 05/31/2010
Timothy Martin Phillips, M.D.
Andrew Alexander Stec, M.D.
Jiakai Zhu, M.D. to 12/31/2009¹

¹ House Staff, Johns Hopkins Hospital

Students 2009-2010

CANDIDATES FOR THE DEGREE OF DOCTOR OF MEDICINE

FOURTH YEAR

- Pooja Aggarwal, Madison, AL
B.A., University of Alabama, 2005
- Ashley Kandanatt Antony, Roanoke Rapids, NC
B.S., Harvard University, 2006
- Mark Wayne Ball, Harlan, KY
B.S., Centre College, 2006
- Anshuman Kumar Bansal, West Bloomfield, MI
B.S., Johns Hopkins University, 2006
- Aaron Lee Berkowitz, Broomall, PA
B.A., George Washington University, 1999
B.S., George Washington University, 1999
Ph.D., Harvard University, 2009
- Tal Eiram Berkowitz, Atlanta, GA
B.A., Emory University, 2004
- Mark Bicket, Edmond, OK
B.A., University of Oklahoma (Norman), 2006
B.A., University of Oklahoma (Norman), 2006
- Alexander Carl Billioux, Easley, SC
B.A., Northwestern State University, Louisiana, 2003
Ph.D., University of Oxford, 2006
- Matthew Mikhail Boelig, Londonderry, NH
B.S., Yale University, 2006
- Curtis William Bone, Baltimore, MD
B.S., Louisiana State University (Baton Rouge), 2004
- Andrew Thomas Boyd, Burlington, IA
B.A., University of Iowa, 2005
- Laura Christine Cappelli, Bloomfield Hills, MI
B.A., University of Pennsylvania, 2006
- Abigail Leigh Youngberg Carlson, Rochester, MN
B.A., Wellesley College, 2005
- Audrey Jacqueline Chan, Glen Burnie, MD
B.A., Johns Hopkins University, 2005
- Catherine Lee Chen, Baltimore, MD
B.A., Rice University, 2001
- Steven Tze-wei Chen, Fremont, CA
B.S., Johns Hopkins University, 2005
- Shelly Seungah Choo, Paramus, NJ
A.B., Harvard University, 2006
- Anthony Chung-Kai Chyou, Baltimore, MD
B.S., Johns Hopkins University, 2006
- Benjamin Ross Cohen, Atlanta, GA
B.A., Dartmouth College, 2005
- Gordon James Cohen, New York, NY
B.A., Cornell University, 1999
- Frank Edward Corrigan III, Atlanta, GA
B.A., Vanderbilt University, 2006
- John Patrick Costello, Neenah, WI
B.S., University of Wisconsin (Madison), 2006
- Jennifer Lynn Cuhran, New Castle, PA
B.S., Pennsylvania State University, 2006
- Keith Edward Curtis, Boulder, CO
B.A., Naropa University, 2001
- Matthew John Czarny, Burlington, WI
B.S., University of Wisconsin (Madison), 2006
- Hormuzdiyar Henry Dasenbrock, Albuquerque, NM
B.A., University of Pennsylvania, 2005
- Ghazala Amirali Dato, Stone Mountain, GA
B.S., Emory University, 2006
- Yi Deng, Galloway, NJ
B.S., Stanford University, 2006
- Catherine Lindsey Distler, Leawood, KS
B.A., University of Notre Dame, 2006
- Paul James Doherty, Washington, DC
B.A., University of Virginia, 1998
- Pavle Doroslovacki, Bethesda, MD
B.S., University of Maryland (College Park), 2006
- Wei D. Duan-Porter, State College, PA¹
B.S., Pennsylvania State University, 2000
- Fei Jamie Dy, Singapore
B.A., Johns Hopkins University, 2004
M.S., Johns Hopkins University, 2005
- Lana Rae Elpert, Madison, SD
B.S., University of Minnesota (Twin Cities), 2006
- Erica Nicole Elzey, Stone Mountain, GA
B.S., Spelman College, 2006
- Brian Robert Englum, Indianapolis, IN
B.A., Indiana University (Bloomington), 2003
B.S., Indiana University (Bloomington), 2003
- Oluwatosin Oyefolake Fatusin, Houston, TX
B.S., Baylor University, 2005
- Finbar Timothy Foley, Great Neck, NY
B.A., Yale University, 2001
M.S., Queens College (New York), 2003
- Shannon Caroline Fraser, Hamilton, NY
B.S., Cornell University, 2006
- Alodia Ashenda Gabre-Kidan, Seattle, WA
B.A., Columbia University, 2004
- Courtney Rory Goodwin, Gainesville, FL¹
B.A., University of Florida, 2002
- Lauren Elizabeth Graham, St. Louis, MO
B.A., Earlham College, 2004
- Ron Gutmark, Cincinnati, OH
B.A., Stanford University, 2005
- Tamia Alisha Harris, Atlanta, GA¹
B.S., Haverford College, 2003
- Zachary Ryan Healy, Millersville, MD
B.S., Georgia Institute of Technology, 2002
Ph.D., Johns Hopkins University, 2006
- Andrew Hunter Hughes, Toronto, Canada
B.S., McMaster University, 2006
- Ernest Taijin Jaramillo-Hanes, Napa, CA
B.S., United States Naval Academy, 2006
- Emily Louise Johnson, Rochester, MN
B.A., Dartmouth College, 2003
- Justin Michael Johnson, Fayetteville, NC
B.S., University of North Carolina (Chapel Hill), 2006

- Kristen Elaine Johnson, Arlington, VA
B.A., University of North Carolina (Chapel Hill), 2002
- Kristin Hoi-Yan Kan, Arlington, TX
B.A., Baylor University, 2005
- Julie Frances King, Annapolis, MD
B.A., Northwestern University, 1995
- Phebe Sill Ko, North Salt Lake, UT
B.S., Duke University, 2005
- Kimiyoshi James Kobayashi, Waltham, MA
B.S., Tufts University, 2004
M.B.A., Harvard Business School, 2009
- Kavitha Padmanabhan Kolappa, Chocowinity, NC
B.A., University of North Carolina (Chapel Hill), 2005
- Benjamin Dylan Kornfeld, Deerfield, IL
B.A., Washington University in St. Louis, 2006
- Thomas Adam Kosztowski, Des Plaines, IL
B.S., University of Illinois (Urbana), 2005
- Janet Lynn Kowalski, Elgin, IL
B.S., Purdue University, 2006
- Karim Shiraz Ladha, Providence, RI
B.A., Brown University, 2006
- Elizabeth Nguyen Le, Tarzana, CA
B.S., University of California (Los Angeles), 2005
- Maggie R. Lesley, Alexandria, VA
B.S., Georgia Institute of Technology, 2001
- Edward Felix Lin, N Potomac, MD
B.S., Massachusetts Institute of Technology, 2006
- Jamie Gail Lipman, Andover, MA
B.S., Brown University, 2001
- Sarah Elizabeth Lusk, Prescott, AZ
B.S., Arizona State University, 2006
- Brandon Joseph Lynch, Prescott Valley, AZ
B.S., University of Arizona, 2006
- Crystal Mercia Malvoisin, Orangeburg, SC
B.S., The University of Newcastle, 2006
- David Reeve Marker, Fredericksburg, VA
B.S., Brigham Young University, 2000
- Chintan Hansraj Maru, Brookfield, CT
B.A., Duke University, 2004
- Simon C. Mathews, Suwanee, GA
B.A., University of Virginia, 2004
- Jeremy Robin McCallum, Saginaw, MI
B.S., Johns Hopkins University, 2006
M.S., Johns Hopkins University, 2006
- Matthew Miskimon, Perry Hall, MD¹
B.S., University of Maryland (Baltimore County), 2002
- Satish Misra, Cary, NC
B.S., University of North Carolina (Chapel Hill), 2006
- Monica Nitin Modi, Henderson, NV
B.S., Yale University, 2006
- Elizabeth Lauren Munter, Chesapeake, VA
B.S., Georgia Institute of Technology, 2005
- Asif Khan Mustafa, Harleysville, PA¹
B.A., University of Pennsylvania, 2001
M.S., University of Pennsylvania, 2001
- Kimanh Duong Nguyen, Castro Valley, CA
B.A., University of California (Berkeley), 2005
B.S., University of California (Berkeley), 2005
- Rita Phi-Thuy Tran Nguyen, San Jose, CA
B.A., Stanford University, 2005
- Trang Kim Nguyen, Baltimore, MD
B.S., Johns Hopkins University, 2003
M.S., Johns Hopkins University, 2005
- Junaid Nizamuddin, Roanoke, VA
B.S., University of Virginia, 2006
- Damaris Deryu Nou, Rockville, MD
B.S., Yale University, 2005
- Eric Nou, Eden Prairie, MN
B.S., Yale University, 2005
- Nathan Coleman Nussbaum, Charleston, SC
B.A., Yale University, 2002
- Julia Elizabeth Oat-Judge, Farmington, CT
B.A., Yale University, 2006
- Teresa Mary Kateri O'Herron, Newburgh, NY
B.A., Bryn Mawr College, 2002
- James Brendan O'Keefe, Centennial, CO
B.A., Colorado College, 2006
- Meghan Elizabeth O'Neill, Urbandale, IA
B.S., University of Notre Dame, 2005
- Chinedu Ifeyinwa Onyedike, Williamsburg, VA
B.S., University of Maryland (Baltimore County), 2004
- Ryan Kenneth Orosco, Albuquerque, NM
B.S., New Mexico State University, 2006
- Kaustubha Dilip Patil, Hilliard, OH
B.S., Johns Hopkins University, 2006
- Joanna Kristine Pearson, Shelby, NC
B.A., University of North Carolina (Chapel Hill), 2002
M.A., University College Dublin, 2003
- Javier Perez-Rodriguez, Gainesville, FL
B.S., University of Florida, 2006
- Eleanor Lynne Pitz, Millers, MD
B.S., College of William and Mary, 2006
- David Yao Fei Poon, Mount Kisco, NY
B.A., Harvard University, 2006
- Srivatsan Raghavan, Pittsburgh, PA
B.S., Massachusetts Institute of Technology, 1997
M.S., Massachusetts Institute of Technology, 1998
Ph.D., Johns Hopkins University School of Medicine, 2010
- Nathaniel Thomas Readal, Allison Park, PA
B.A., Johns Hopkins University, 2005
- Zachery Roger Reichert, Crystal Lake, IL¹
B.A., Washington University in St. Louis, 2002
- Raymond E. Robinson, Davis, CA
B.S., University of California (Davis), 2004
- Sudip Kumar Saha, Louisville, KY
B.S., Johns Hopkins University, 2006
- Surajit Saha, Jackson Heights, NY
B.A., Harvard University, 2006
- Justin Michael Schaffer, Minneapolis, MN
B.S., Stanford University, 2003
M.S., University of Minnesota (Twin Cities), 2006
- Jessica Nicole Schmidt, Iowa City, IA
B.A., Grinnell College, 2002

- Melanie Schorr, Suffield, CT
B.A., Dartmouth College, 2006
- Farzad Sedaghat, Timonium, MD
B.A., University of Virginia, 2006
- Carolyn Margaret Senger, Okemos, MI
B.M.A., University of Michigan (Ann Arbor), 2006
B.S., University of Michigan (Ann Arbor), 2006
- Shannon J. C. Shan, Edmonton, Canada
B.S.C., University of Toronto, 2004
M.S., University of Toronto, 2006
- Eugenie Chia-Ching Shieh, Huntington Beach, CA
B.A., Harvard University, 2006
- Siddharth Srivastava, Baton Rouge, LA
B.A., Columbia University, 2006
- Sahael Stapleton, Quartz Hill, CA
B.S., University of California (Los Angeles), 2005
- Tomeka Lynette Suber, Greensboro, NC¹
B.S., University of North Carolina (Chapel Hill), 2002
- Timothy James Sutton, Chagrin Falls, OH
B.S., Rochester Institute of Technology, 2003
M.A., Case Western Reserve University, 2004
- Ramya Narasimha Swamy, North Potomac, MD
B.S., University of Maryland (College Park), 2005
- Shan Tang, Cary, NC
B.A., Harvard University, 2006
- Stephanie Kenfack Tankou, Baltimore, MD¹
B.S., University of Illinois (Urbana), 2001
- Joshua Tray Taylor, Tuscaloosa, AL
B.S., University of Alabama, 2006
- Savyasachi Chandrashek Thakkar, Coral Springs, FL
B.S., University of Rochester, 2005
- Beverlie Lui Ting, Vancouver, Canada
B.A., Harvard University, 2006
- Mabel Patricia Toribio, Kenner, LA
B.S., Duke University, 2006
- Yana Turovskaya, Plymouth, MN
B.S., Stanford University, 2006
- Maya Subbalakshmi Venkataramani, Clifton Park, NY
B.S., Duke University, 2006
- Cassandra Vanessa Villegas, Los Angeles, CA
B.S., Stanford University, 2000
- Khinhh Ranh Voong, Philadelphia, PA
B.A., University of Pennsylvania, 2005
- Jingya Wang, Clarksville, MD
B.A., Yale University, 2006
- Trevor Robert Williams, Clifton Park, NY
B.S., Tufts University, 2006
- Samantha Leigh Williamson, Baltimore, MD
B.A., Princeton University, 2004
- Stephen Scott Wreesman, Simi Valley, CA
B.S., Masters College, 2006
- Florence Jeniffer Wu, Coral Springs, FL
B.A., Yale University, 2006
- Ingrid Jingnan Wu, Livingston, NJ
B.A., Rutgers University, 2004
- Ming Ming Xu, Whippany, NJ
B.A., Washington University in St. Louis, 2006
- Jean Ming Yu, Arcadia, CA
B.A., University of California (Berkeley), 2004
- David Zaboli, Chicago, IL
B.S., Illinois Institute of Technology, 2006
- Hasan Aqdas Zaidi, Van Nuys, CA
B.S., University of California (Los Angeles), 2005
- Kevin Haitao Zhao, Ann Arbor, MI
B.S., University of Michigan (Ann Arbor), 2005

132

THIRD YEAR

- Ferhina Sultana Ali, Staten Island, NY
B.S., University of Rochester, 2007
- Martha Obeng Amoako, Triangle, VA
B.S., Brown University, 2007
- Maralyssa Angelique Bann, Eden Prairie, MN
B.S., University of Minnesota (Twin Cities), 2006
- Bradley Powers Barnett, Clifton, VA¹
B.A., University of Virginia, 2001
- Leonid Bartik, Tucson, AZ
B.S., University of Arizona, 2006
- Shamik Bhattacharyya, Chelmsford, MA
B.S., Yale University, 2007
M.S., Yale University, 2007
- Leah Blank, Westmount, Quebec, Canada
D.E.C., Marianopolis College, 2003
B.A., Harvard University, 2007
- Aaron Justin Bobb, Potomac, MD
B.A., Cornell University, 2003
- Jennifer Xiaojin Cai, Canton, MI
B.A., Harvard University, 2007
- Ashley Anderson Campbell, New Haven, CT
B.S., Yale University, 2007
- Elizabeth Marie Catherwood, Chevy Chase, MD
B.S., United States Air Force Academy, 2007
- Ravi Anant Chandra, Berkeley, CA
B.S., Stanford University, 2002
Ph.D., University of California (Berkeley), 2007
- Daniel S. Chang, Santa Monica, CA
B.S., University of Virginia, 2006
- Rupsa Chaudhury, Lexington, MA
B.A., Rice University, 2007
- James Xiao Chen, Boyds, MD
B.S., University of Connecticut, 2007
- Nancy Cheng, Wichita, KS
B.A., Harvard University, 2007
- Matthew Tyler Crim, Cartersville, GA
B.A., University of Georgia, 2005
B.S., University of Georgia, 2005
M.Sc., University of London, 2006
M.A., Kings College, 2008
- Taimur Dad, Billerica, MA
B.S., Brandeis University, 2007
- Daniel Dامتew, Skokie, IL
B.S., University of Illinois (Urbana), 2007
- Clare Dean, Clarksville, MD
B.S., Massachusetts Institute of Technology, 2007
- Peter James DeBartolo, Tempe, AZ
B.S., Arizona State University, 2007
- Kenneth William DeFontes III, Kingsville, MD
B.S., College of William and Mary, 2007

Joshua Adam Denney, Brmingham, AL
 B.S., University of Georgia, 2007

Edith Root McMillan Dietz, Baltimore, MD
 B.A., University of North Carolina (Chapel Hill),
 2000

Adrian Tae-Won Dokey, Carmichael, CA
 B.A., University of California (Berkeley), 2007

Xiaobo Dong, Cincinnati, OH
 B.A., Johns Hopkins University, 2005

Swathi Eluri, Chapel Hill, NC
 B.S., University of North Carolina (Chapel Hill),
 2007

Lorenza Frisoni, Philadelphia, PA
 B.S., University of Bologna, 2000
 M.H., University of Bologna, 2000

Jodel Giraud, Malden, MA
 B.S., University of Massachusetts (Boston),
 1998
 Ph.D., Harvard University, 2004

Whitney Morgen Green, Voorhees, NJ
 B.A., Princeton University, 2007

Anthony Charles Gregory II, Atlanta, GA
 B.S., Georgia State University, 2006

James Freeland Griffin, Waynesboro, GA
 B.S., University of Georgia, 2007

Lisa Renee Halbsgut, Cary, NC
 B.A., Yale University, 2007

Catherine Elizabeth Handy, Westbury, NY
 B.A., Harvard University, 2006

Aisha Harun, Madison, WI
 B.S., University of Wisconsin (Madison), 2007

Edmund Doi-Hung Hong, Alpharetta, GA
 B.S., Vanderbilt University, 2007

Ryan Patrick Houk, Louisville, KY
 B.A., University of California (Berkeley), 2004
 M.S.W., Columbia University, 2007

Adam Iddriss, Baltimore, MD
 B.S., University of Pittsburgh, 2007

Omar Farooq Ishaq, Panama City, FL
 B.S., University of Florida, 2007

Alan Richard Johnson, Lyndonville, NY
 B.S., Houghton College, 2007

Tara Lynn Johnson, Kingsville, MD¹
 B.S., Johns Hopkins University, 2002

Stephen Paul Juraschek, Dedham, MA
 B.A., Boston College, 2005

Allison June Kaeding, Fargo, ND
 B.S., University of Michigan (Ann Arbor), 2007

Anisha Khaitan, Unionville, CT
 B.S., Tufts University, 2006

Sara Adel Khalil, East Brunswick, NJ
 B.A., Rutgers University, 2007

Grace Yoonhee Kim, Arlington, TX
 B.A., Johns Hopkins University, 2007

Irene April Kim, Orange, CA
 B.S., Johns Hopkins University, 2006

Helen Irene Kinsman, Baltimore, MD
 B.S., Haverford College, 2007

Lara Cathleen Kovell, Bethel Park, PA
 B.S., Carnegie Mellon University, 2006

Kopal Shama Kulkarni, State College, PA
 B.A., Stanford University, 2007
 M.A., Stanford University, 2007

Thomas Adam Lardaro, Wakefield, RI
 B.S., University of Connecticut, 2005

Cecilia Alejandra Larocca, Bronx, NY
 B.S., Cornell University, 2006

HeeWon Lee, Denver, CO
 B.A., Harvard University, 2006

Kathleen C. Lee, Sudbury, Ontario, Canada
 B.S., Princeton University, 2007

Jessica Li, S. San Francisco, CA
 B.S., Stanford University, 2007

Daniel En-Hao Ling, San Diego, CA
 B.A., Harvard University, 2005

Christopher Matthew Long, Fayetteville, AR
 B.S., University of Arkansas, 2003
 Ph.D., Johns Hopkins University School of
 Medicine, 2009

Sydney Boi Thoi Long, Milpitas, CA
 B.A., University of California (Berkeley), 2007
 B.S., University of California (Berkeley), 2007

Lia Ilona Losonczy, Yonkers, NY
 B.A., Columbia University, 2006

Raoul James Manalac, Zachary, LA
 B.S., Louisiana State University (Baton Rouge),
 2007

Diana Lauren Mandelker, East Northport, NY¹
 B.S., Yale University, 2003

Emily Ann Marcus, Fairfield, IA
 B.A., Maharishi University of Management, 2004

Teresa Rose-Marie Mark, Aiken, SC
 B.S., University of South Carolina (Columbia),
 2007

Christopher Thomas Martin, Maple Grove, MN
 B.S., University of Wisconsin (Madison), 2007

Chad Edward McCarthy, Baltimore, MD
 B.S., University of Maryland (College Park),
 2005
 M.A., Johns Hopkins University, 2007

Ross Howard McMillan, Tallahassee, FL¹
 B.S., Morehouse College, 2007

Melanie McNally, Manchester, NH
 B.S., Boston College, 2006

Vivek Arjun Mehta, Orange, CA
 B.S., University of California (Irvine), 2006

Brandon Michael Metcalf, Catonsville, MD
 B.S., Washington College, 2006

Di Mu, Philadelphia, PA
 A.B., Harvard University, 2007

Julie Margaret Noguee, Towson, MD
 B.A., Tufts University, 2007

Ju-un Julian Park, Baltimore, MD
 B.A., Johns Hopkins University, 2006
 M.S., Johns Hopkins University, 2007

Scott Lewis Parker, Crosby, TX
 B.S., University of Texas (Austin), 2007

Amar Bhargav Patel, Anaheim, CA
 B.A., Harvard University, 2006

Lisa Harshad Patel, Houston, TX
 B.S., Stanford University, 2001
 M.E.Sc., Yale University, 2005

Yuval Adrash Dinesh Patel, Delray Beach, FL
 B.S., Duke University, 2006

Sujay Pathak, Baltimore, MD
 B.A., Boston University, 1999

Alexandra Rose Paul, Gansevoort, NY
B.S., Union College (New York), 2007

Courtney Anne Pendleton, Plainville, CT
B.S., New York University, 2004

Matthew Eugene Peters, Northumberland, PA
B.S., Pennsylvania State University, 2007
B.S., Pennsylvania State University, 2007

Richard Arthur Pollock, Lake Orion, MI
B.S., Michigan State University, 2007

Haoming Qiu, Shrewsbury, MA
B.A., Cornell University, 2007

Sarah Roxana Ramsay, New York, NY
B.A., Columbia University, 2005

Elizabeth Sara Rosenblatt, Bethesda, MD
B.S., Massachusetts Institute of Technology,
2007

Jessica Kerr Schiffman, Atlanta, GA
B.A., Cornell University, 2005

Jeremy Adam Schneider, St. Louis, MO
B.A., Stanford University, 2007

Pokmeng See, San Jose, CA
B.S., Johns Hopkins University, 2007

Kumaran Senthil, North Potomac, MD
B.S., University of Maryland (College Park),
2007
B.S., University of Maryland (College Park),
2007

Joseph P. Shader, Corvallis, OR
B.S., Oregon State University, 2006

Adam Christopher Shaner, Manhattan, KS
B.S., University of Kansas, 2007

Nathan William Skelley, Joplin, MO
B.S., Cornell University, 2007

Michael Charles Smith Jr., Waco, TX
B.A., University of Texas (Austin), 2005
M.P.H., Yale University, 2007

Justin Alexander Sobrino, Wichita, KS
B.S., University of Tulsa, 2006

Jason Frank Solus, Oak Lawn, IL
B.A., University of Chicago, 2007

Arielle Alexandra Stewart, Arlington, VA
B.A., Virginia Commonwealth University, 2006

Miriam Tamar Stewart, Baltimore, MD
B.A., Yale University, 2002

Sophia Anne Strike, Takoma Park, MD
B.S.E., Duke University, 2007

Daniel Quain Sun, Edmonton/Alberta, Canada
B.S., University of Pennsylvania, 2007

Jacob Louis Taylor, Chevy Chase, MD
B.A., Yale University, 2003

Jeffrey John Tosoian, South Lyon, MI
B.S., University of Michigan (Ann Arbor), 2007

Christine Ngoc Bich Tran, Baltimore, MD
B.S., Cornell University, 2007

Allison Leigh Tsao, Newburyport, MA
B.S., Johns Hopkins University, 2007

Natalia Vlassova, Los Angeles, CA
B.S., University of California (Los Angeles),
2007

Trang Minh Vu, Baltimore, MD
B.S., University of Maryland (College Park),
2007

Lee Le Wang, Plano, TX
B.S., Stanford University, 2007

Robert Thomas Wicks, Ocean Springs, MS
B.A., University of Mississippi, 2006

Bridget Marie Wild, Davenport, IA
B.S., University of Chicago, 2007

Maya Elena Wille, Los Angeles, CA
B.S., University of California (Los Angeles),
2004

Alonzo Woodfield, Baltimore, MD
B.A., Bowdoin College, 2001

Timothy Alfred Zeffiro, Columbia, MD
B.S., Georgetown University, 2003

Nan Zhu, San Diego, CA
B.A., Harvard University, 2007

111

SECOND YEAR

Sameer Ahmed, Edison, NJ
B.S., Cornell University, 2007

Hamid R. Alai, Tampa, FL
B.A., University of South Florida, 2008

Anubhav Gautam Amin, Hasbrouck Heights, NJ
B.S., New York University, 2008

Kamna Singh Balhara, Sugar Land, TX
B.A., Rice University, 2007

Jathin Bandari, Westborough, MA
B.S., University of Rochester, 2008

Jillian Tracey Baron, Lansdale, PA
B.A., Brown University, 2007

Hatice Basdag, Baltimore, MD
B.S., Johns Hopkins University, 2006
M.S., Johns Hopkins University, 2007

John Patrick Begly, Geneva, NY
B.S., McGill University, 2008

Matthew Travis Bender, Chicago, IL
B.A., Yale University, 2006

Catherine Stebbins Bennet, Chester, CT
B.S., Georgetown University, 2006

Allison Diane Berry, Baltimore, MD
B.A., Lawrence University, 2007

Eike Blohm, Missoula, MT
B.A., University of Montana (Missoula), 2007

Morgan Michelle Bonds, Hutchinson, KS
B.S., Kansas State University, 2008

Jessica Jane Briggs, Katy, TX
B.A., University of Texas (Austin), 2008
B.S., University of Texas (Austin), 2008

Benjamin Ashby Brinton, Salt Lake City, UT
B.A., Brigham Young University, 2006

Kevin Broderick, Columbia, MD
B.S., United States Military Academy, 2008

Kate Josephine Buretta, East Troy, WI
B.S., University of Wisconsin (Madison), 2008

Alejandro Jose Candelario, Plano, TX
B.A., Yale University, 2003

Christine Harman Cary, Oakton, VA
B.A., University of Virginia, 2008

Kevin Zou Chang, Arcadia, CA
B.A., Johns Hopkins University, 2008

Lisa Yinhua Chen, Edina, MN
B.S., Duke University, 2007

Yian Chen, Los Angeles, CA
B.S., Yale University, 2008

Alyssa Yoorim Choi, Issaquah, WA
B.A., Johns Hopkins University, 2008

Joani Marie Christensen, Santa Claus, IN
B.A., Vanderbilt University, 2007

Sabrina Ariane-Alberta Christie, Evergreen, CO
B.A., Hendrix College, 2007

Julia Dawn Colchamiro-Smart, Annapolis, MD
B.A., New York University, 2006

Kate Hannah Cole, Owings Mills, MD
B.A., Dartmouth College, 2002

Zachary Allen Cordner, Bannock, OH
B.S., Ohio State University, 2008

Solange Erlyn Cox, South Hadley, MA
B.A., Mount Holyoke College, 2008

David Do, Savage, MN
B.M.E., University of Minnesota (Twin Cities),
2008

Mahmood El-Gasim, Phoenix, AZ
B.S., Duke University, 2008

Laura Elizabeth Ellington, Greenville, TX
B.A., Austin College, 2008

Katherine Anne Fallano, Parkton, MD
B.A., Johns Hopkins University, 2007

Tom Shi Feng, Madison, MS
B.A., Princeton University, 2008

Julie Cathleen Fields, Seabrook, SC¹
B.S., University of Maryland (Baltimore County),
2008

Timothy Theodore Flerlage, Reisterstown, MD
B.S., Vanderbilt University, 2007

Edmond Nketti Fomunung, Athens, GA
B.S., University of Georgia, 2008

Shiv Gandhi, Mableton, GA¹
B.S., Johns Hopkins University, 2008
M.S., Johns Hopkins University, 2008

Mikhail Mikhailovich Gorbounov, South Windsor,
CT
B.S., Johns Hopkins University, 2008

Lark Julie Greenwald, Rancho Mirage, CA
B.S., Yale University, 2008

Inna V. Grishkan, Newton, MA¹
B.S., Boston College, 2008

Zachary David Guss, Rancho Mirage, CA
B.A., Harvard University, 2008

Sarah J. Hahn, Lutherville, MD
B.A., Johns Hopkins University, 2008

Thomas Carroll Hanff, Los Angeles, CA
B.S., University of California (Los Angeles),
2008

Amanda May Hong, Beavercreek, OH
B.A., Case Western Reserve University, 2008
B.S., Case Western Reserve University, 2008

Nigel Naichieh Hsu, Edison, NJ
A.B., Dartmouth College, 2008

Khalda Ibrahim, Alexandria, VA
A.B., Harvard University, 2004

Christopher Mitchell Jackson, Lebanon, VA
B.A., Wake Forest University, 2008

Amit Jain, Portland, OR
B.S., University of California (Berkeley), 2008

Sarah Elizabeth Johnstone, Cambridge, MA
B.A., University of Chicago, 2001
Ph.D., Massachusetts Institute of Technology,
2008

Arun Jose, Commack, NY
B.S., Johns Hopkins University, 2007

Tymoteusz Jan Kajstura, Ossining, NY¹
B.A., Oberlin College, 2007

Elizabeth Ann Ketner, Columbia, MD
B.A., University of Colorado, 2004
M.H.S., Johns Hopkins Bloomberg School of
Public Health, 2007

Christina Soojin Kim, Sammamish, WA
B.A., Johns Hopkins University, 2006

Karan Kumar, Mississauga, Canada
B.S., Cornell University, 2007

Carmen Kut, Baltimore, MD
B.S., Johns Hopkins University, 2008

Marian Grace Lacy, Flagstaff, AZ
B.S., University of Arizona, 2007

Spencer Truman Lake, Saint James, MD
B.S., Stanford University, 2003

Lisa Danielle Lareau, Westborough, MA
B.A., Harvard University, 2006

Kathleen Anne Lee, Weston, MA
B.A., Harvard University, 2006

Nicole Leistikow, Baltimore, MD
B.A., Yale University, 1996
M.Phil., University of Oxford, 2001

Xuan Thanh Le-Nguyen, Forest Park, GA
B.S., Yale University, 2008

Brian Min-hann Lin, Oakland, MI
B.A., Johns Hopkins University, 2007

Geoffrey Martin Lynn, Deland, FL¹
B.S., Elon College, 2007

Jonathan Trent Magruder, Washington, DC
B.A., Princeton University, 2008

Marisa Kristeen Mathtys, Farmington Hills, MI
B.S., University of Michigan (Ann Arbor), 2008

Elizabeth Harlan Michelle, Charlotte, NC
B.S., University of Richmond, 2008

Marko Mircetic, Des Plaines, IL
B.A., Grinnell College, 2005

Alisa Mo, Plano, TX¹
B.A., Cornell University, 2008

Amir Moheb Mohareb, Toronto, Canada
B.S., York University, 2008

Camilo Alejandro Molina, Naples, FL
B.A., Miami University, 2008

Craig Bryant Hjemdahl Mosen, Bedford, NY
B.A., Harvard University, 2008

Amanda Jane Morris, N. Potomac, MD
B.S., Massachusetts Institute of Technology,
2008

Jonathan Fink Mosser, York, PA
B.A., Middlebury College, 2006

Benjamin Clark Murphy, Charlottesville, VA
B.S., University of Virginia, 2007

Julie Chung Lam Ng, Richmond, BC, Canada
B.A., University of British Columbia, 2008
B.S., University of British Columbia, 2008

John Hone Nichols, Somerville, MA
A.B., Dartmouth College, 2001

- Kurun Partap Singh Oberoi, Queens Village, NY
B.S., University of Michigan (Ann Arbor), 2008
- Chiagozie Oluchi Ononiwu, Beltsville, MD
B.S., Howard University, 2007
- Amit Shridar Padaki, Wescosville, PA
B.S., Pennsylvania State University, 2006
M.S., Pennsylvania State University, 2007
- Esther Sung Hee Pak, Baltimore, MD
B.A., Johns Hopkins University, 2007
- Birju Suresh Patel, San Antonio, TX
B.S., Johns Hopkins University, 2008
- Laurel Dineen Pellegrino, Lambertville, NJ
B.A., Bryn Mawr College, 2008
- June Shujun Peng, Maple Valley, WA
B.S., University of Washington, 2008
- Jacqueline Lee Pipino, Kingsville, MD
B.A., Johns Hopkins University, 2008
- Yelena Prints, San Jose, CA
B.S., Stanford University, 2006
- Sarah Brown Puryear, Athens, GA
B.S., University of Georgia, 2007
- Rebecca Lynett Recker, Placentia, CA
B.A., Claremont McKenna College, 2007
- Mona Rezapour, Woodland Hills, CA
B.S., University of California (Berkeley), 2005
M.H.S., Johns Hopkins Bloomberg School of Public Health, 2008
- James Richman, Cherry Hill, NJ
B.S., Duke University, 2008
- Anne-Marie Rick, Cypress, TX
B.S., University of Notre Dame, 2007
- Ian Mathew Rosenthal, Baltimore, MD
B.S., University of Wisconsin (Madison), 2002
Ph.D., Johns Hopkins Bloomberg School of Public Health, 2007
- Christopher Robert Roxbury, Bridgewater, NJ
B.S., Johns Hopkins University, 2008
- Sherveen Shayegan Salek, Saratoga, CA
B.S., Stanford University, 2007
- Katherine Wilson Scangos, Hillsborough, CA
B.A., Amherst College, 2002
- Paul Christopher Scherer, Media, PA¹
B.A., University of Pennsylvania, 2008
- Eric Lewis Dutton Scholten, West Des Moines, IA
B.A., Saint Olaf College, 2008
- Helen Celeste Selonick, Crownsville, MD
B.A., Williams College, 2007
- Elijah Ruth Shamir, Vienna, VA¹
B.S., University of Virginia, 2008
- Kerry Lee Shannon, Belle Mead, NJ¹
B.A., Kenyon College, 2004
M.P.H., Johns Hopkins Bloomberg School of Public Health, 2007
- Anna Christina Sick, Baltimore, MD
B.S., University of Maryland (College Park), 2008
- Katherine Ann Sperle, Bethesda, MD
B.S., Georgetown University, 2008
- Philip Porter Storey, Houston, TX
B.A., Vanderbilt University, 2006
MIPH, University of Sydney, 2008
- David Alexander Stroh, Orange Park, FL
B.S., Georgia Institute of Technology, 2008
- Seth Logan Studer, Monroe City, MO
B.S., University of Missouri (Columbia), 2004
- Joel Chaim Sunshine, Potomac, MD¹
B.S., Brandeis University, 2007
M.S., Brandeis University, 2007
- Sarah Brem Sunshine, Owings Mills, MD
B.S., Brandeis University, 2008
- John Lorenzo Thurston Jr., Miramar, FL
B.S., University of Miami, 2008
- Amy Ruth Unterman, Pacific Palisades, CA
B.A., Princeton University, 2008
- Suzanne Westbrook van Landingham, Great Falls, VA
B.A., Princeton University, 2008
- Vadim Andre Villarreal, Belmont, MA
B.A., Dartmouth College, 2004
- Aaron Wendell Wallman, New York, NY
B.A., Amherst College, 2005
- Ruidi Wang, Houston, TX
B.S., Stanford University, 2008
- Paul Logan Weygandt, Johnstown, PA
B.A., Washington Jefferson College, 2007
- Aaron Tyler Wild, Quaker Hill, CT
B.A., Yale University, 2008
- Samuel Thomas Wilkinson, Hamilton, VA
B.S., Brigham Young University, 2008
- Luke Allister Wylie, Baltimore, MD
B.A., University of California (San Diego), 2007
B.S., University of California (San Diego), 2007
- Eunice Yang, Mendota Heights, MN
B.A., Harvard University, 2008
- Phyllis Shan-Chun Yang, Overland Park, KS
B.A., University of Pennsylvania, 2008
- Jithin Yohannan, Nanuet, NY
B.A., New York University, 2008
- Nance L. Yuan, San Francisco, CA
B.A., University of California (Berkeley), 2007
- Patricia Leigh Zadnik, Furlong, PA
A.B., Harvard University, 2008
- John George Zampella IV, Glenville, NY
B.A., Siena College, 2008
B.S., Siena College, 2008
- Jennifer Qi Zhang, Woodridge, IL
B.S., Massachusetts Institute of Technology, 2008

124

FIRST YEAR

- Ishrat Ahmed, Chesterfield, MO¹
B.S., Johns Hopkins University, 2009
M.S., Johns Hopkins University, 2009
- Javad Raymond Azadi, Columbus, OH
B.S., Ohio State University, 2009
- Kaylin Jessica Beck, Ridgewood, NY
B.A., Johns Hopkins University, 2009
- Justin Leandro Bellamy, Walnut Creek, CA
B.S., Yale University, 2009
- Jennifer Leigh Bennett, Edina, MN
B.A., University of Southern California, 2009
- David Lee Bernholt, Versailles, OH
B.S., Case Western Reserve University, 2009
- Neal Bhutiani, Winter Haven, FL
B.S., Duke University, 2009

Michael Ioshua Brener, Beachwood, OH
B.A., Columbia University, 2009

Tyler Steven Brown, Reno, NV
B.A., Princeton University, 2006

Megan Elizabeth Buresh, Baltimore, MD
B.A., Harvard University, 2008

Kevin Butler, Loveland, CO
B.S., University of Colorado (Boulder), 2004
M.S., University of Colorado (Boulder), 2004

Christopher Robert Cashman, Boston, MA¹
B.A., Bowdoin College, 2007

Heather Jane Chalfin, Ellicott City, MD
B.S., Carnegie Mellon University, 2009

David Sining Chen, Clarksville, MD
B.S., University of Maryland (College Park),
2009

Eben Clattenburg, Perkinsville, VT
B.A., Dartmouth College, 2009

Lauren Marie Clough, Rochester Hills, MI
B.S., Brigham Young University, 2009

Nathan E. Cutler, Peru, IN
B.S., University of Notre Dame, 2009

Meghan Desale, Sunnyvale, CA
B.A., Boston University, 2008

Avani Satish Dholakia, Middlesboro, KY
B.S., Yale University, 2009

Jonathan Carl Dudley, Grand Rapids, MI
B.S., Calvin College, 2006

Jonathan Dyal, Sarasota, FL
B.A., Stanford University, 2008

Ramy El-Diwan, Washington, DC¹
B.A., University of California (Berkeley), 2008

Katherine Yu-Ting Fan, Port Moody, Canada
B.S., Duke University, 2008

Jose Miguel Flores, Dover, PA
B.S., Pennsylvania State University, 2009

Emilee Cahill Flynn, Baltimore, MD
B.S., Canisius College, 2008

Mariam Lomaico Olivia Fofana, Edina, MN¹
A.B., Harvard University, 2006

Mirinda Ann Gillespie, Baltimore, MD
B.A., Yale University, 2005
M.S., Johns Hopkins Bloomberg School of
Public Health, 2009

Brian Chun Kim Goh, Baton Rouge, LA¹
B.S., Louisiana State University (Baton Rouge),
2009

Brian Wayne Goldner, Sacramento, CA
B.A., Emory University, 2008

Chad Samuel Gorbatkin, Decatur, GA
B.A., Dartmouth College, 2008

Rachel Jennifer Gottlieb, Williamsville, NY
B.A., Harvard University, 2009

Yihe Guan, Ann Arbor, MI
B.S., University of Michigan, 2008

Richa Gupta, El Paso, TX
B.S., University of Texas (Austin), 2009

Vikash Gupta, Towson, MD
B.S., University of Maryland (College Park), 2007
M.S., University of Maryland (College Park),
2008

Alexander Scott Harding, Baltimore, MD
B.A., Yale University, 2008

Thomas Harrison Heflin, Camino, CA
B.A., University of California (Davis), 2009
B.S., University of California (Davis), 2009

Jessica Felicia Henderson, Lithonia, GA
B.A., Hampton University, 2009

Antony Hsieh, Tucson, AZ
B.S., University of Arizona, 2008

Ian Hsu, Troy, MI
B.S., University of Michigan (Ann Arbor), 2009

Rwo-Wen Huang, Walnut, CA
B.A., Johns Hopkins University, 2008

Matthew George Huddle, Bloomington, IL
B.A., Illinois Wesleyan University, 2009

Stephen Kelly Jacobsen, Springfield, MO
B.S., University of Missouri (Rolla), 2001
M.S., Massachusetts Institute of Technology,
2003

Eric Allen JohnBull, Charlottesville, VA
B.A., Washington University in St. Louis, 2002

Rohan Rajiv Joshi, White Plains, NY
B.A., Princeton University, 2008

Bonnie Marie Kaas, Myersville, MD
B.S., Ursinus College, 2009

Benjamin William Kelemen, Ann Arbor, MI
B.A., Columbia University, 2008

Darya Aleksandrov Kizub, Baltimore, MD
B.A., Johns Hopkins University, 2008

Lakshmi Krishnan, Sugar Land, TX
B.A., Wake Forest University, 2006

Yuen-Ting Kwong, Timonium, MD
B.A., Johns Hopkins University, 2008

Janet Yum Lee, Philadelphia, PA
B.A., Princeton University, 1999
J.D., Harvard University, 2003

Jason Evan Liebowitz Jr., Rockville, MD
B.A., Johns Hopkins University, 2009

Worawan Limpitikul, Songkhla, Thailand¹
B.S., Johns Hopkins University, 2009

Thomas William Link, Holbrook, NY
B.S., Johns Hopkins University, 2007
M.S., Johns Hopkins University, 2009

Dianna Liu, Town And Country, MO
B.S., Stanford University, 2009

Lucy Hsinlu Liu, Cupertino, CA
B.S., Johns Hopkins University, 2008

Minghao Liu, Bronx, NY
B.S., Yale University, 2009

Heather Ga Hyung Lyu, Edinburg, VA
B.A., University of Virginia, 2009

Sara Aileen Madanikia, Bethesda, MD
B.S., Georgetown University, 2008

Ian-James Knute Malm, East Greenwich, RI
B.A., Macalester College (St. Paul), 2008

Chih-Ping Mao, Austin, TX¹
B.S., Johns Hopkins University, 2009

Caitlin Eileen Martin, Chapel Hill, NC
B.S., University of North Carolina (Chapel Hill),
2008

Priya Mary Mathews, Silver Spring, MD
B.S., University of Maryland (Baltimore County),
2009

Peter Christian McCaffrey, Dallas, TX
B.A., Southern Methodist University, 2009

Douglas Hale McMichael, Austin, TX
B.A., University of Texas (Austin), 2009

Steven Philip Menez, Fairmont, WV
B.A., Georgetown University, 2009

Carmel Mercado, Coral Springs, FL
B.S., Massachusetts Institute of Technology, 2009

Eric William Mills, Sterling Heights, MI¹
B.S., University of Michigan (Ann Arbor), 2009

Euphemia W. Mu, Charlotte, NC
B.A., Princeton University, 2009

Bipasha Mukherjee, San Francisco, CA¹
B.A., University of California (Berkeley), 2007

David L. Narotsky, Bronx, NY
B.A., Yale University, 2009

Daria Igorevna Nikolaeva, Champaign, IL
B.S., Johns Hopkins University, 2008

Ashwini Niranjan, Englewood, CO
B.S., Johns Hopkins University, 2008

Roosevelt U. Offoha, Baltimore, MD
B.A., Rutgers University, 2008

Ravi Rashmikant Pandit, Hollidaysburg, PA
B.S., University of Pittsburgh, 2009

John Pang, Gainesville, FL
B.S., University of Florida, 2009

Hiten Dilip Patel, Du Quoin, IL
B.A., Washington University in St. Louis, 2009

Louis Anthony Piper, Tampa, FL
B.S., University of Florida, 2003

Elisabet Pujadas, Chicago, IL¹
B.A., University of Chicago, 2009

Anirudh Ramesh, Holtsville, NY
B.S., Cornell University, 2009

Sandesh Srinivas Rao, Gaithersburg, MD
B.S., University of Maryland (Baltimore County), 2009

Nikhilesh Ray-Mazumder, Baltimore, MD
B.S., Johns Hopkins University, 2008

Naomi Rebecca Rios, Derwood, MD
B.A., Franklin and Marshall College, 2009

Jacob James Ruzevick, Coronado, CA
B.S., Massachusetts Institute of Technology, 2009

Megan Michelle Rybarczyk, Muncie, IN
B.S., University of Notre Dame, 2009

Roger William Samuels, Baltimore, MD
B.S., Syracuse University, 2004

David Rafael Santiago-Dieppa, Northridge, CA
B.S., University of California (Riverside), 2009

Kerry Margaret Schnell, St. Paul, MN
B.A., University of Chicago, 2008

Rajesh Babu Sekar, Baltimore, MD
B.Tech., Anna University, 2001
M.S., University of Virginia, 2003
Ph.D., Johns Hopkins University School of Medicine, 2009

Saranya A. Selvaraj, Lilburn, GA
B.S., Emory University, 2009

Yevgeniy R. Semenov, Owings Mills, MD
B.S., Johns Hopkins University, 2007
M.A., Johns Hopkins University, 2009

Neelam Harshad Shah, Alexandria, LA
B.A., University of Pennsylvania, 2009

Eugene Shenderov, Brooklyn, NY¹
B.A., Brooklyn College of the City University of New York, 2005

Kelly Lauren Sloane, Gladwyne, PA
B.A., University of Pennsylvania, 2006

Ashley Nicole Smith, Silver Spring, MD
B.S., Xavier University of Louisiana, 2009

Susan Edith Stanley, Saint Louis, MO¹
B.S., Stanford University, 2009

Daniel Stevens, Potsdam, NY¹
B.S., Clarkson University, 2009
B.S., Clarkson University, 2009

Carl Gustaf Streed Jr., Chicago, IL
B.A., University of Chicago, 2007
B.S., University of Chicago, 2007

Vernissia Wei-Si Tam, Providence, RI
B.S., Brown University, 2009

Martha Alazar Testalul, Houston, TX
B.A., Harvard University, 2009

John Michael Thompson, Baltimore, MD
B.S., Duke University, 2009

Elbert Emanuel Vaca, Coral Springs, FL
B.S., University of Florida, 2008

Pavan Anil Vaswani, Vancouver, WA¹
B.S., University of Washington, 2009

Christina Ann Velasquez, Dyer, IN
B.S., Purdue University, 2009

Matthew Norman Paul Vogt, Germantown, WI
B.S., University of Wisconsin (Madison), 2009

Brian Wilson Waldersen, Mesa, AZ
B.A., University of California (Berkeley), 2005
B.S., University of California (Berkeley), 2005

Sarah Katherine Wallace, Virginia Beach, VA
B.A., Duke University, 2008

Brett Leon Wanamaker, Livonia, MI
B.S., University of Michigan (Ann Arbor), 2009

Yuxuan Wang, Austin, TX¹
B.A., University of Texas (Austin), 2009
B.S., University of Texas (Austin), 2009

Joseph J. Wassei, Pleasanton, CA
B.S., University of California (Davis), 2008

Heather Marie Whiting, Catonsville, MD
B.S., Washington College, 2006

Michelle Elizabeth Wilson, Redwood City, CA
B.A., Stanford University, 2007

Molly Margaret Wilson-Murphy, Canton, MA
B.A., Harvard University, 2007

Lila Tracy Worden, Baltimore, MD
B.S., University of Connecticut, 2007

Andrew Rong Song Tzeng Yang, Baltimore, MD
B.A., Johns Hopkins University, 2006

Jesse Xiaolong Yang, Vienna, VA
B.A., Northwestern University, 2009

Jessica Yang, Lake Bluff, IL
B.A., Harvard University, 2008

Wan Jou Yang, Redmond, WA¹
B.S., University of Washington, 2007

Daniel James Zabransky, Manassas, VA¹
B.S., College of William and Mary, 2009

Yasmin Zerhouni, San Francisco, CA
B.A., Columbia University, 2001
M.A., Columbia University, 2004

119

¹ In combined M.D.-Ph.D program

M.D. CANDIDATES IN SPECIAL PROGRAMS

Jane Laurel Andrews, Cincinnati, OH
B.A., Northwestern University, 2005; M.P.H. candidate, Bloomberg School of Public Health

Ifeanyi Ugochukwu Anidi, Hyde Park, MA
B.S., Yale University, 2006; Ph.D. candidate, Bloomberg School of Public Health

Jordan J. Ash, Mesa, AZ
B.S., Brigham Young University, 2006; M.P.H. candidate, Bloomberg School of Public Health

N'Dama Miankanze Bamba, Baltimore, MD
B.S., Morgan State University, 2005
M.H.S., Johns Hopkins Bloomberg School of Public Health, 2006; Student in Residence: Research in Emergency Medicine

Noy Bassik, Fair Lawn, NJ
B.S., Rutgers University, 2003
B.S., Rutgers University, 2004; Ph.D. candidate, Whiting School of Engineering

Elizabeth Eileen Bell, Baltimore, MD¹
B.S., University of Notre Dame, 2005; Ph.D. candidate, Human Genetics

Agedi Nicholson Boto, Baltimore, MD¹
B.S., California Institute of Technology, 2002;
Ph.D. candidate, Pharmacology and Molecular Sciences

Kelly Patricia Burke, Woodbury, MN¹
B.A., Kenyon College, 2006; Ph.D. candidate, Immunology

Michael Anthony Bushey, Utica, NY¹
B.S., University of Pittsburgh, 2004; Ph.D. candidate, Cellular and Molecular Medicine

Emilia Louise Picard Campbell, Haiku, HI
B.A., Wesleyan University (Connecticut), 2005;
Student in Residence: Doris Duke Fellowship

Abigail Leigh Youngberg Carlson, Rochester, MN²
B.A., Wellesley College, 2005; Student in Residence: Research in Epidemiology and Infection Control

James Terrance Carson, Battle Creek, MI
B.S., University of Michigan (Ann Arbor), 2006;
M.P.H. candidate, Bloomberg School of Public Health

Deanna Rae Cettomai, Columbus, OH
B.A., Ohio State University, 2005
B.S., Ohio State University, 2005; Student in Residence: Doris Duke Fellowship

Raymond Cheong, Columbia, MD¹
B.S., University of Maryland (College Park), 2002; Ph.D. candidate, Biomedical Engineering

Raghu Ram Chivukula, Wichita, KS¹
B.A., Johns Hopkins University, 2005; Ph.D. candidate, Human Genetics

Shelly Seungah Choo, Paramus, NJ²
A.B., Harvard University, 2006; Student in Residence: Doris Duke Fellowship

Andrea Lauren Christman, Owings Mills, MD
B.A., Johns Hopkins University, 2006; Ph.D. candidate, Bloomberg School of Public Health

Kavan Terrence Clifford, Atlanta, GA¹
B.S., Morehouse College, 2003; Ph.D. candidate, Neuroscience

Benjamin Ross Cohen, Atlanta, GA²
B.A., Dartmouth College, 2005; Student in Residence: Research in Urologic Oncology

Tricia Ruth Cottrell, St. Louis, MO¹
B.S., Washington University in St. Louis, 2004; Ph.D. Candidate, Cellular and Molecular Medicine

Robert Jamal Drummond, Jacksonville, FL¹
B.S., Morehouse College, 2002; Ph.D. candidate, Cellular and Molecular Medicine

Jared James Eddy, Avon, CT
B.A., Brown University, 2004; Ph.D. candidate, University of Cambridge

Jeffrey Tevebaugh Ehmsen, Goleta, CA¹
B.S., University of California (Irvine), 2001
M.S., University of Oxford, 2003; Ph.D. candidate, Neuroscience

Caitlin Conner Engelhard, Crozet, VA¹
B.A., Swarthmore College, 2003; Ph.D. candidate, Neuroscience

Paul Estes, Tallahassee, FL¹
B.S., Florida State University, 2004; Ph.D. candidate, Cellular and Molecular Medicine

Oluwatosin Oyefolake Fatusin, Houston, TX²
B.S., Baylor University, 2005; M.P.H. candidate, Bloomberg School of Public Health

Maria Esteli Garcia, Oakland, CA
B.A., University of California (Berkeley), 2003;
Student in Residence: Fogarty Research Fellowship

Matthew Avery Gibson, Charlottesville, VA¹
B.S., West Virginia University, 2002; Ph.D. candidate, Biomedical Engineering

Lee Andrew Goeddel, St. Louis, MO
B.S., University of Notre Dame, 2006; M.P.H. candidate, Bloomberg School of Public Health

Ron Gutmark, Cincinnati, OH²
B.A., Stanford University, 2005; Student in Residence: Doris Duke Fellowship

Emily Beth Heikamp, Metairie, LA¹
B.S., Duke University, 2005
M.S.C., Oxford University Medicine School, 2007; Ph.D. candidate, Immunology

Gary Ping-Hao Ho, Boston, MA¹
A.B., Harvard University, 2004; Ph.D. candidate, Cellular and Molecular Medicine

John Bassam Issa, Pueblo, CO¹
B.S., Johns Hopkins University, 2004; Ph.D. candidate, Biomedical Engineering

Vivek Kalia, Birmingham, AL
B.A., University of Alabama, 2006
B.S., University of Alabama, 2006
M.S., University of Alabama, 2006; M.P.H. candidate, Bloomberg School of Public Health

Bridget Patrice Keenan, Mount Airy, MD¹
B.S., Loyola College, 2006; Ph.D. candidate,
Immunology

KiBem Kim, Baltimore, MD¹
B.A., Johns Hopkins University, 2002; Ph.D.
candidate, Cellular and Molecular Medicine

Isaac Abraham Kinde, Beaumont, CA¹
B.S., University of Maryland (Baltimore County),
2005; Ph.D. candidate, Cellular and Molecular
Medicine

Michael Alexander Koldobskiy, Columbia, MO¹
B.S., Yale University, 2003; Ph.D. candidate,
Pharmacology and Molecular Sciences

Michael Davin Kornberg, Kissimmee, FL¹
B.S., Yale University, 2003
M.S., Yale University, 2003; Ph.D. candidate;
Neuroscience

Theodore Sander Kouo, Peoria, IL¹
B.A., Northwestern University, 2004; Ph.D.
candidate, Immunology

Henry Robert Kramer, Smithtown, NY
B.A., Cornell University, 2006; Student in
Residence: Research in Medicine

Andre Rashad Kydd, Elkins Park, PA¹
B.S., Harvard University, 2004; Ph.D. candidate,
Cellular and Molecular Medicine

Elizabeth Nguyen Le, Tarzana, CA²
B.S., University of California (Los Angeles),
2005; Student in Residence: Research in
Medicine

Shin Rong Lee, Sugar Land, TX¹
B.S., Yale University, 2007; Ph.D. candidate,
Biomedical Engineering

Jimmy Cheng Ho Lin, New Haven, CT¹
B.A., Yale University, 2001; Ph.D. candidate,
Cellular and Molecular Medicine

Tiffany Link, Placentia, CA¹
B.S., California State University (Long Beach),
2004; Ph.D. candidate, Cellular and Molecular
Medicine

David Liu, Seattle, WA
B.A., Stanford University, 1999
M.S., Stanford University, 2001; M.P.H.
candidate, Bloomberg School of Public Health

S. Julie-Ann Lloyd, Boston, MA¹
S.B., Massachusetts Institute of Technology,
2003
S.M., Massachusetts Institute of Technology,
2005; Ph.D. candidate, Cellular and Molecular
Medicine

Micah Joel Maxwell, Reisterstown, MD¹
B.A., Harvard University, 2003; Ph.D. candidate,
Cellular and Molecular Medicine

Annamarie McMillan McCartney, Baltimore, MD¹
B.S., Miami University, 2007; Ph.D. candidate,
Cellular and Molecular Medicine

Robert Gene Mealer, Bozeman, MT¹
B.S., Montana State University, 2005; Ph.D.
candidate, Neuroscience

Sara Davenport Miller, New York City, NY
B.A., University of Pennsylvania, 1994; Leave
of Absence

Matthew Morgan Moake, Geneva, NY¹
B.S., Cornell University, 2004; Ph.D. candidate,
Cellular and Molecular Medicine

Eric Naimet Momin, Acworth, GA
B.A., Harvard University, 2006; Student in
Residence: Doris Duke Fellowship

Luis Carlos Monson, Baltimore, MD
B.S., Oregon State University, 2006; M.P.H.
candidate, Bloomberg School of Public Health

Carolina Maria Montano, Silver Spring, MD¹
B.S., Brigham Young University, 2005; Ph.D.
candidate, Human Genetics

Benjamin Alexander Nacev, Fort Thomas, KY¹
B.A., University of Chicago, 2004; Ph.D.
candidate, Biochemistry, Cellular and Molecular
Biology

Anand Kumar Narayan, Pikesville, MD
B.A., Johns Hopkins University, 2004; Ph.D.
candidate, Bloomberg School of Public Health

Archana Jayasurya Nelliott, Henderson, NV¹
B.S., University of Nevada, 2006; Ph.D.
candidate, Cellular and Molecular Medicine

Meaghan Mckiernan O'Malley, Springfield, VA¹
B.S., Boston College, 2006; Ph.D. candidate,
Biochemistry, Cellular and Molecular Biology

Erin Michelle Parry, Rockport, MA¹
B.A., Colby College, 2006; Ph.D. candidate,
Human Genetics

James Christopher Pendleton, Visalia, CA
B.S., Morehouse College, 2005; Student in
Residence: Research at Kennedy Krieger
Institute

Karlo Perica, Montgomery, MD¹
B.S., Yale University, 2007; Ph.D. candidate,
Biomedical Engineering

James Paul Pirruccello, Reno, NV
B.S., Yale University, 2006; Student in
Residence: Sarnoff Fellowship

Dellma Postigo, Berkeley, CA
B.S., University of Michigan (Ann Arbor), 1996;
M.P.H. candidate, University of California

Seyed Alireza Rabi, Rosedale, MD¹
B.A.S., University of Toronto, 2006; Ph.D.
candidate, Immunology

Marianeli Rodriguez, Tulsa, OK¹
B.S., University of Tulsa, 2005; Ph.D. candidate,
Neuroscience

Evan Andrew Russell, Pawtucket, RI
B.S., Brown University, 2006; Ph.D. candidate,
Bloomberg School of Public Health

Karisa Colleen Schreck, Baltimore, MD¹
B.S., New Jersey Institute of Technology, 2003;
Ph.D. candidate, Neuroscience

Amy Nicole Sexauer, Wadmalaw Island, SC¹
B.A., University of Georgia, 2005
B.S., University of Georgia, 2005; Ph.D.
candidate, Cellular and Molecular Medicine

Adrienne Emily Shapiro, Champaign, IL
B.A., Harvard University, 2002
M.S., London School of Hygiene and Tropical
Medicine, 2003; Ph.D. candidate, Bloomberg
School of Public Health

Leilani Marie Sharpe, Olympia, WA¹
B.S., University of Washington, 2004; Ph.D.
program, Biochemistry, Cellular and Molecular
Medicine

Philip In Song, Cambridge, MA
 B.A., Harvard University, 2006; Student in Residence: Research in Epidemiology

Thing Rinda Soong, Tai Kok Tsui, Kowloon, Hong Kong
 B.S., University of California (Berkeley), 2003; Ph.D. candidate, Bloomberg School of Public Health

Traci Jenelle Speed, Rocky Hill, CT¹
 B.A., Colby College, 2003; Ph.D. candidate, Pharmacology and Molecular Sciences

Sonya Chin Tang, Great Neck, NY¹
 B.S., Massachusetts Institute of Technology, 2004; Ph.D. candidate, Biochemistry, Cellular and Molecular Medicine

Martin Samuel Taylor, Baltimore, MD¹
 B.S.E., Princeton University, 2005; Ph.D. candidate, Pharmacology and Molecular Sciences

William Tsao, East Hanover, NJ¹
 B.S., Johns Hopkins University, 2006; Ph.D. candidate, Cellular and Molecular Medicine

Matthew Scott Vandiver, Johnson City, TN¹
 B.S., Furman University, 2006; Ph.D. candidate, Pharmacology and Molecular Sciences

Grace Meng Wang, Hammond, OR¹
 B.S., University of Oregon (Eugene), 2005; Ph.D. candidate, Cellular and Molecular Medicine

Vivian Lee Weiss, Baltimore, MD¹
 B.A., Columbia University, 2004; Ph.D. candidate, Immunology

John Kent Werner Jr., Pittsburgh, PA¹
 B.S., United States Naval Academy, 2001; Ph.D. candidate, Cellular and Molecular Medicine

Meraf Amde Wolle, Jersey City, NJ
 B.S., Yale University, 2006; M.P.H. candidate, Bloomberg School of Public Health

Emily Turner Wood, Anacortes, WA¹
 AH, Skagit Valley College, 1999
 B.S., University of Washington, 2006; Ph.D. candidate, Neuroscience

Ingrid Jingnan Wu, Livingston, NJ²
 B.A., Rutgers University, 2004; Leave of Absence

Risheng Xu, League City, TX¹
 A.B., Harvard University, 2007; Ph.D. candidate, Pharmacology

Byung Chul Yoon, Fullerton, CA
 B.A., Johns Hopkins University, 2005; Ph.D. candidate, Cambridge University

Qingyang Yuan, Rockville, MD
 B.S., University of Maryland (College Park), 2006; Student in Residence: HHMI Fellowship

Lauren Rachel Zeitels, Warren, NJ¹
 B.A., University of Pennsylvania, 2006; Ph.D. candidate, Pharmacology

82

¹ In combined M.D.-Ph.D program

² Counted in the 4th year M.D. class



Summary

M.D. Candidates:

First Year.....	119
Second Year.....	124
Third Year.....	111
Fourth Year.....	132
Students in Special Programs.....	82
Total.....	568

GEOGRAPHICAL DISTRIBUTION OF STUDENTS

Alabama.....	4	New York.....	39
Arizona.....	9	North Carolina.....	12
California.....	58	North Dakota.....	1
Colorado.....	6	Ohio.....	12
Connecticut.....	12	Oklahoma.....	2
District of Columbia.....	3	Oregon.....	3
Florida.....	22	Pennsylvania.....	27
Georgia.....	21	Rhode Island.....	4
Hawaii.....	1	South Carolina.....	6
Illinois.....	19	South Dakota.....	1
Indiana.....	5	Tennessee.....	2
Iowa.....	6	Texas.....	23
Kansas.....	7	Utah.....	2
Kentucky.....	5	Vermont.....	1
Louisiana.....	7	Virginia.....	28
Maryland.....	92	Washington.....	10
Massachusetts.....	24	West Virginia.....	1
Michigan.....	19	Wisconsin.....	5
Minnesota.....	13		
Mississippi.....	2	Foreign	
Missouri.....	11	Canada.....	12
Montana.....	2	Hong Kong.....	1
Nevada.....	4	India.....	1
New Hampshire.....	2	Singapore.....	1
New Jersey.....	17	Taiwan.....	1
New Mexico.....	2		



**CANDIDATES FOR THE DEGREE OF DOCTOR OF MEDICINE
COLLEGES ATTENDED†**

Amherst College.....	2	Massachusetts Institute of Technology.....	14
Anna University *	1	Masters College.....	1
Arizona State University.....	2	McGill University *	1
Austin College.....	1	McMaster University *	2
Baylor University.....	2	Miami University.....	1
Boston College.....	4	Michigan State University.....	1
Boston University.....	2	Middlebury College.....	1
Bowdoin College.....	2	Montana State University.....	1
Brandeis University.....	4	Morehouse College.....	4
Brigham Young University.....	6	Morgan State University.....	1
Brooklyn College of the City University of New York.....	1	Mount Holyoke College.....	1
Brown University.....	7	Naropa University.....	1
Bryn Mawr College.....	2	New Jersey Institute of Technology.....	1
California Institute of Technology.....	1	New Mexico State University.....	1
California State University (Long Beach).....	1	New York University.....	4
Calvin College.....	1	Northwestern State University, Louisiana.....	1
Canisius College.....	1	Northwestern University.....	5
Carnegie Mellon University.....	2	Oberlin College.....	1
Case Western Reserve University.....	4	Ohio State University.....	4
Centre College.....	1	Oregon State University.....	2
Claremont McKenna College.....	1	Oxford University Medicine School - Oxford*.....	1
Clarkson University.....	2	Pennsylvania State University.....	7
Colby College.....	2	Princeton University.....	12
College of William and Mary.....	3	Purdue University.....	2
Colorado College.....	1	Queens College (New York).....	1
Columbia University.....	10	Rice University.....	3
Cornell University.....	16	Rochester Institute of Technology.....	1
Dartmouth College.....	9	Rutgers University.....	5
Duke University.....	14	Saint Olaf College.....	1
Earlham College.....	1	Siena College.....	2
Elon College.....	1	Skagit Valley College.....	1
Emory University.....	4	Southern Methodist University.....	1
Florida State University.....	1	Spelman College.....	1
Franklin and Marshall College.....	1	Stanford University.....	23
Furman University.....	1	Swarthmore College.....	1
George Washington University.....	2	Syracuse University.....	1
Georgetown University.....	5	The University of Newcastle *	1
Georgia Institute of Technology.....	4	Tufts University.....	4
Georgia State University.....	1	Union College (New York).....	1
Grinnell College.....	2	United States Air Force Academy.....	1
Hampton University.....	1	United States Military Academy.....	1
Harvard Business School.....	1	United States Naval Academy.....	2
Harvard University.....	39	University College Dublin *	1
Haverford College.....	2	University of Alabama.....	5
Hendrix College.....	1	University of Arizona.....	4
Houghton College.....	1	University of Arkansas.....	1
Howard University.....	1	University of Bologna *	2
Illinois Institute of Technology.....	1	University of British Columbia *	2
Illinois Wesleyan University.....	1	University of California (Berkeley).....	17
Indiana University (Bloomington).....	2	University of California (Davis).....	4
Johns Hopkins Bloomberg School of Public Health.....	6	University of California (Irvine).....	2
Johns Hopkins University.....	65	University of California (Los Angeles).....	6
Johns Hopkins University School of Medicine.....	3	University of California (Riverside).....	1
Kansas State University.....	1	University of California (San Diego).....	2
Kenyon College.....	2	University of Chicago.....	8
Kings College *	1	University of Colorado (Boulder).....	2
Lawrence University.....	1	University of Colorado.....	1
London School of Hygiene and Tropical Medicine *	1	University of Connecticut.....	3
Louisiana State University (Baton Rouge).....	3	University of Florida.....	6
Loyola College.....	1	University of Georgia.....	8
Macalester College (St. Paul).....	1	University of Illinois (Urbana).....	3
Maharishi University of Management.....	1	University of Iowa.....	1
Marianopolis College *	1	University of Kansas.....	1
		University of London *	1
		University of Maryland (Baltimore County).....	6
		University of Maryland (College Park).....	12

University of Massachusetts (Boston)	1	University of Virginia.....	11
University of Miami	1	University of Washington.....	5
University of Michigan (Ann Arbor)	12	University of Wisconsin (Madison).....	7
University of Michigan	1	Ursinus College	1
University of Minnesota (Twin Cities).....	4	Vanderbilt University.....	5
University of Mississippi	1	Virginia Commonwealth University	1
University of Missouri (Columbia)	1	Wake Forest University.....	2
University of Missouri (Rolla)	1	Washington College.....	2
University of Montana (Missoula).....	1	Washington Jefferson College	1
University of Nevada.....	1	Washington University in St. Louis.....	6
University of North Carolina (Chapel Hill).....	9	Wellesley College	1
University of Notre Dame	7	Wesleyan University (Connecticut)	1
University of Oklahoma (Norman).....	2	West Virginia University.....	1
University of Oregon (Eugene).....	1	Williams College	1
University of Oxford *	3	Xavier University of Louisiana	1
University of Pennsylvania	12	Yale University	40
University of Pittsburgh	3	York University *	1
University of Richmond	1		
University of Rochester	3		
University of South Carolina (Columbia).....	1		
University of South Florida	1		
University of Southern California	1		
University of Sydney *	1		
University of Texas (Austin).....	8		
University of Toronto *	3		
University of Tulsa	2		

* Designates foreign schools.

† Inasmuch as a student's preparation may have been received at more than one institution, this will not check with the total number enrolled. Colleges attended include all students who are M.D. candidates irrespective of current enrollment status.



CANDIDATES FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

BIOCHEMISTRY, CELLULAR AND MOLECULAR BIOLOGY

Department of Biological Chemistry

Matthew Garrett Baile, New Windsor, MD
B.S., Shippensburg University of Pennsylvania,
2008

John William Bullen Jr., Boston, MA
A.B., Dartmouth College, 2001

Chutikarn Butkinaree, Brunswick, ME
A.B., Bowdoin College, 2002

Jose Rogelio Carcamo, Northridge, CA
B.S., California State University (Northridge),
2006

Erica Christine Dresselhaus, Lanesville, IN
B.A., Boston University, 2008

Elizabeth Carol Huang Eyley, Durham, NC
B.S., Duke University, 2005

Rakhi Jattani, Floral Park, NY
B.S., Carnegie Mellon University, 2004

Deepak Kalra, Brookline, MA
M.B.B.S., University of Delhi, 2003
M.P.H., Harvard University School of Public
Health, 2004

Juliane Claudia Kellner, Providence, RI
B.S., Brown University, 2006

Sang Hoon Kim, Seoul, Korea
B.S., Yonsei University, 2006

Ryan Randall McCully, Glasgow, United Kingdom
B.S., University of Massachusetts (Amherst),
2002

Meaghan Mckiernan O'Malley, Springfield, VA
B.S., Boston College, 2006

Susana Rodriguez, Brookline, MA
B.A., California State University (Dominguez
Hills), 2004

Teresa A. Romeo, Gibbstown, NJ
B.S., Johns Hopkins University, 2008

Jeremy Daniel Rotty, Berea, KY
B.A., Berea College, 2005

Kaoru Sakabe, Rockville, MD
B.S., University of North Carolina (Chapel Hill),
1999

Shino Shimoji, Potomac, MD
B.S., University of Rochester, 2001

Yali Zhang, Palo Alto, CA

Department of Biophysics and Biophysical Chemistry

Sharrol Bachas, Elmont, NY
B.S., State University of New York (Albany),
2008

Poonam Jayendra Bheda, Hilliard, OH
B.S., Ohio State University, 2003

Kamau M. Fahie, Worcester, MA
B.A., Clark University, 2001

Oyindamola Oladosu, Baltimore, MD
B.S., University of Maryland (Eastern Shore),
2008

Olivier Bauer Simon, Santa Fe, NM
B.S., University of New Mexico, 2007

Julie Ellen Takacs, Riverhead, NY
B.A., Franklin and Marshall College, 2004

Matthew Ward, Derwood, MD
B.S., Clemson University, 2008

Department of Cell Biology

Jason Michael Berk, Storrs Mansfield, CT
B.S., University of Connecticut, 2005

Stacey Marie Cromer Berman, Columbia, MD
B.S., Lafayette College, 2005

Clara Margaret-Louise Bien, Ann Arbor, MI
B.S., University of Wisconsin (Madison), 2003

Katherine April Bradbury, Vineland, NJ
B.S., Rutgers University, 2008

John Stoddard Burg, Philadelphia, PA
B.S., Pennsylvania State University, 2001

Suchismita Chandran, Burlington, VT
B.S., Bangalore University, 2001
M.S., University of Vermont, 2004

Yim Ling Cheng, New York, NY
B.S., William Smith College, 2007

Christopher Michael Cherry, Provo, UT
B.S., Brigham Young University, 2004

Zachary Philip Gerhart-Hines, Baltimore, MD
B.S., Pennsylvania State University, 2004

Caitlin Hanlon, Huntingdon, PA
B.S., Ursinus College, 2007

Phylis Hetie, Baltimore, MD
B.S., Masters College, 2005

Troy Allen Horn, Owings Mills, MD
B.S., Kings College, 1998
M.A., University of Scranton, 2003

Melanie Issigonis, Charlottesville, VA
B.S., University of Virginia, 2003

Timothy James Kelly, State College, PA
B.S., Pennsylvania State University, 2003

Chih-Yung Sean Lee, Baltimore, MD
B.S., National Taiwan University, 2001

Matthew Joseph Maurer, Rochester, NY
B.S., University of Rochester, 2004

Corrin Ellisia McBride, Baltimore, MD
B.S., Morgan State University, 2003

Christine Nwosu, Durham, NC
B.S., University of Maryland (Eastern Shore),
2004

Pamela L. Ronco, Webster, NY
B.S., Ithaca College, 2008

Travis Richard Ruch, Holland, MI
B.S., Hope College, 2005

Leilani Marie Sharpe, Olympia, WA
B.S., University of Washington, 2004

Xuting Rebecca Sheng, Philadelphia, PA
B.A., University of Pennsylvania, 2003

Dan Simon, Baltimore, MD
B.S., Johns Hopkins University, 2004

Emerson VanLeuven Stewart, Atlanta, GA
B.S., Emory University, 2002

Rachel Raeburn Webster Stine, Baltimore, MD
B.A., Goucher College, 2006
Kristen Franson Swaney, University Park, PA
B.S., Pennsylvania State University, 2004
Ming Tang, Ann Arbor, MI
B.S., University of Science and Technology of
China, 2001

Department of Molecular Biology and Genetics

Luna Alammar, New York, NY
B.A., Barnard College, 2006
Timothy Patrick Brennan, Baltimore, MD
B.S., Towson University, 2002
Lindsey James Brown, Baltimore, MD
B.S., Quinnipiac College, 2000
Juliene Kimberly Go Co, Honolulu, HI
B.S., University of the Philippines, 2004
Jennifer Renee Cohen, Washington, DC
B.S., Howard University, 2003
Carey Elizabeth Connelly, Yardley, PA
B.S., Gettysburg College, 2001
Adrian Creanga, Bucharest, Romania
B.S., University of Bucharest, 2000
M.S., University of Bucharest, 2001
Miranda Malouf Darby, Nottingham, MD
B.A., Carleton College, 2000
Kai Deng, Guangzhou, China
B.S., Sun Yat-sen University, 2005
Seth Wayne Dickey, Monroe, MI
B.S., Michigan State University, 2007
Wei D. Duan-Porter, State College, PA^{1,2}
B.S., Pennsylvania State University, 2000
Jessica Erin Siegel Dymond, Baltimore, MD
B.S., University of Maryland (Baltimore County),
2004
Daniel Edward Eyler, Bethesda, MD
B.S., Georgetown University, 2004
Shan He, Beijing, China
B.S., Tsinghua University, 2005
Brian Richard Herb, Bowie, MD
B.A., Dickinson College, 1999
Nan Hong, Tacoma, WA
B.S., University of Puget Sound, 2004
Zhong Hua, Tongcheng, China
B.S., Wuhan University, 2004
M.S., Tsinghua University, 2007
Qing Huang, Baltimore, MD
B.S., Peking University, 2005
Junho Hur, New York, NY
B.S., Seoul National University, 2004
Benjamin Lawrence Jilek, Mankato, MN
B.S., Minnesota State University (Mankato),
2004
Peng Jin, Beijing, China
B.S., Tsinghua University, 2002
Laura Michelle Koontz, Chapel Hill, NC
B.S., University of North Carolina (Chapel Hill),
2004
Zheng Kuang, Gan Zhou, China
B.S., Tsinghua University, 2008
Yi Liu, Anhui, China
B.S., University of Science and Technology of
China, 2003

Yun Liu, Shanghai, China
B.S., Fudan University, 2003
Wenyan Lu, Vermillion, SD
B.Med., Capital University of Medical Sciences
- Beijing, 1996
Christopher Richard Merritt, Fairfield, OH
B.S., Ohio State University, 2004
Michael Lewis Multhaup, Mill Valley, CA
B.S., Stanford University, 2008
Katherine Frances Murnen, Philadelphia, PA
B.A., Swarthmore College, 2004
Karen Aileen O'Connell, Marina, CA
B.S., Georgetown University, 2004
Shih-Jung Pan, Baltimore, MD
B.S., National Taiwan University, 1996
Sc.M., Johns Hopkins Bloomberg School of
Public Health, 2001
Vinod Ranganathan, Baltimore, MD
B.A., Case Western Reserve University, 2001
Paul Michael Schaugency, Frederick, MD
B.A., St. Mary's College of Maryland, 2006
Kristin Lynette Sens, Provo, UT
B.S., Brigham Young University, 2004
Jeffrey John Shaw, Madison, WI
B.S., University of Wisconsin (Madison), 2002
Christopher John Shoemaker, West Chester, OH
B.A., Miami University, 2007
Cynthia Korin Shrum, Baltimore, MD
B.A., University of California (Berkeley), 2003
Jeanne Marie Sisk, Baltimore, MD
M.H.S., Johns Hopkins Bloomberg School of
Public Health, 2006
Jeanelle M. Spencer, Hyattsville, MD
B.S., Howard University, 2003
Sofia Luz Vidal-Cardenas, Baltimore, MD
B.S., Universidad Peruana Cayetano Heredia -
Lima, 2004
Jennifer Tong Wang, Melville, NY
B.S., Massachusetts Institute of Technology,
2005
Kenneth Whitaker Witwer, Elkridge, MD
B.A., Pennsylvania State University, 1999
Min Wu, Baltimore, MD
B.S., Tsinghua University, 1996
Xin Ye, Beijing, China
B.S., Tsinghua University, 2004
Huimin Yu, Shanghai, China
B.Med., Shanghai Second Medical University,
2001
M. Med., Shanghai Second Medical University,
2004
Nailing Zhang, Shanghai, China
B.S., Fudan University, 2003
Michelle Kim Zinchenko, New York, NY
B.A., Columbia University, 1996
Seth Aaron Zonies, Rockville, MD
B.S., University of Maryland (College Park),
2004

Department of Neuroscience

Muhammad Ali Bangash, Berlin, Germany
M.B.B.S., Aga Khan Medical College, Pakistan,
2002

Ka Yam Chak, San Francisco, CA
 B.S., University of California (Davis), 2001

Michael C. Chang, Long Island City, NY
 B.A., University of California (Berkeley), 2001

Ming-Hui Cheng, New York, NY
 B.S., National Taiwan University, 2004

Joong Youn Cho, Seoul, Korea
 B.S., Korea University (Seoul), 2005

Eric Cox, Washington, DC
 B.S., University of California (San Diego), 2004

Judy Van Kim Nguyen, Tulsa, OK
 B.S., University of Oklahoma (Norman), 2006

Yuko Oku, San Francisco, CA
 B.S., Worcester Polytechnic Institute (Worcester), 2005

Erin Marie Poth, Oklahoma City, OK
 B.S., Tufts University, 2006

Nicole Ada Rapicavoli, Bolinas, CA
 B.S., University of California (Santa Cruz), 2001

Wing Sze Wendy Yue, Hong Kong
 B.S., University of Hong Kong, 2008

Hongkang Zhang, Zhuzhou, China
 B.S., Peking University, 2008

Department of Pharmacology and Molecular Sciences

Nwe-Nwe Aye-Han, Yangon, Myanmar
 A.B., Mount Holyoke College, 2007

Sunetra Shobhan Biswas, Thane, India
 B.S., Bombay College of Pharmacy (Mumbai), 2006
 M.S., Northeastern University, 2008

John Kipchirchir Bitok, Brighton, MA
 B.S., Syracuse University, 2004

Leighanne Amy Brammer, North Easton, MA
 B.S., Stonehill College, 2006

Beverley Marie Dancy, Portland, OR
 B.A., Lewis and Clark College, 2006

Blair Christophe Dancy, Baltimore, MD
 B.A., Johns Hopkins University, 2006

Charlene Janelle Scotland Depry, Silver Spring, MD
 B.A., Vassar College, 2006

Andrew Liese DuFresne, Worcester, MA
 B.S., Worcester Polytechnic Institute (Worcester), 2005

Elizabeth Anne Kolar, Baltimore, MD
 B.S., Salisbury University, 2007

Pamela Riva Lowry, Piscataway, NJ
 B.S., Johns Hopkins University, 2005

Jessica Elizabeth Mott, Lexington, KY
 B.S., University of Kentucky, 2008

Benjamin Alexander Nacev, Fort Thomas, KY¹
 B.A., University of Chicago, 2004

Courtney Marie O'Farrell, Wakefield, MA
 B.S., Bates College, 2007

Jillian Marie Prendergast, Pembroke, MA
 B.S., University of Massachusetts (Amherst), 2007

Matthew Delton Shirley, Gladstone, MO
 B.S., University of Missouri (Columbia), 2008

Sonya Chin Tang, Great Neck, NY¹
 B.S., Massachusetts Institute of Technology, 2004

Xinchen Teng, Shanghai, China
 B.S., Fudan University, 2001

Department of Physiology

Joseph Daniel Baugher, Elkridge, MD
 B.S., Tennessee Temple University, 2000
 M.S., University of Maryland (Baltimore County), 2006

Brandie Makeba Cross, Panorama City, CA
 B.A., California State University (Northridge), 2003

Duane Gabriel Currier, Meredith, NH
 B.S., Messiah College, 2006

First Year BCMB Students

Saif Al Qassim, Baltimore, MD
 B.S., University of Michigan, 2008

Tyson David Bowen, Grand Junction, CO
 B.A., University of Colorado, 2009

Danfeng Cai, Shanghai, China
 B.S., Peking University, 2009

Dean Paul Campbell, Hazleton, PA
 B.S., Bucknell University, 2008

April Clayton, Neeses, SC
 B.S., Erskine College, 2008

Tonya Marie Gilbert, Lockport, NY
 B.S., State University of New York (Geneseo), 2008

Hana Leah Goldschmidt, Berkeley, CA
 B.A., Occidental College, 2007

Robert Joseph Huebner, Frederick, MD
 B.S., University of Maryland (Baltimore County), 2006

Basil Hussain, Bolingbrook, IL
 B.S., University of Illinois (Urbana), 2007

Elizabeth Hwang, Flushing, NY
 B.A., State University of New York (Stony Brook), 2003
 M.A., Hunter College, 2006

Diedre Joyce Johnson, Green Bay, WI
 Yijie Li, Shanghai, China
 B.S., Peking University, 2009

Ya-Wen Lu, Samut Prakarn, Thailand
 B.A., Williams College, 2009

Qing Ma, Beijing, China
 B.S., Peking University, 2009
 B.S.Econ., Peking University, 2009

Kim-Vy Nguyen-Ngoc, Hochiminh, Vietnam
 B.S., Vietnam National University, 2005
 M.S., Radboud University Nijmegen, 2008

Ouma Onguka, Oakland, CA
 Cassandra A. Patenaude, Boston, MA
 B.S., University of Maine, 2007

Yuemeng Wang, Beijing, China
 B.S., Tsinghua University, 2009

Hoku Kahele West-Foyle, Seattle, WA
 B.S., University of Washington, 2005

Xianrong Wong, Singapore
 B.Eng., National University of Singapore, 2008

Yulian Zhou, Beijing, China
 B.S., Tsinghua University, 2009

BIOLOGICAL CHEMISTRY

- David John Blum, Baltimore, MD
B.A., Saint John's University, 1995
B.A., Iowa State University of Science and Technology, 1998
M.A., Johns Hopkins University School of Medicine, 2000
- Yu-Chiuan Chang, Taipei, Taiwan
B.S., National Taiwan University, 1998
M.S., National Taiwan University, 2000
- Aeri Cho, Boston, MA
B.A., Amherst College, 2006
- Xin Gan, Nanjing, China
B.S., Nanjing University, 2003
- Yi Gu, Beijing, China
B.S., Tsinghua University, 2003
- Li He, Beijing, China
B.S., Tsinghua University, 2003
- Mohammad Heydarian, Potomac Falls, VA
B.S., James Madison University, 2005
- Ping Hu, Shanghai, China
B.S., Fudan University, 2003
- Min-Sik Kim, Baltimore, MD
B.S., Korea University (Seoul), 2002
M.S., Korea University (Seoul), 2004
- Han Gil Lee, Seoul, Korea
B.S., Seoul National University, 1997
- Junjie Luo, Beijing, China
B.S., Tsinghua University, 2008
- Anca Brindusa Mihalas, Pasadena, CA
M.D., Victor Babes University of Medicine and Pharmacy, 2001
- Christopher Isles Murray, Baltimore, MD
B.S., University of Guelph, 2001
- Jinfei Ni, Farmington, CT
B.S., Fudan University, 2005
- Kyoungsook Park, Seoul, Korea
B.S., Seoul National University, 1999
M.S., Seoul National University, 2001
- Elizabeth Jane Petro, Hales Corners, WI
B.S., University of Chicago, 2006
- Beiyi Shen, State College, PA
B.S., Fudan University, 2003
- Wei Shen, Beijing, China
B.S., Tsinghua University, 2007
- Woojin Song, Baltimore, MD
B.S., Towson University, 2005
- Xiaoyue Wang, Piscataway, NJ
B.S., Nanjing University, 2003
- Jr-Ming Yang, Taipei, Taiwan
B.S., National Taiwan University, 1999
M.S., National Taiwan University, 2003
- Hongyan Yin, Tianjin, China
B.S., Nankai University, 2000
- Wan Hee Yoon, Suwon, Korea
B.S., Yonsei University, 1997
M.S., Yonsei University, 1999
- Quira Zeidan, Baltimore, MD
B.S., Universidad Central de Venezuela, 1999
- Jun Zhong, Jiangsu, China
B.S., Nanjing University, 2001

BIOMEDICAL ENGINEERING

- Soumyadipta Acharya, Akron, OH
M.B.B.S., University of Calcutta, 2001
- Manisha Aggarwal, Baltimore, MD
B.Tech., Indian Institute of Technology (Kharagpur), 2004
- Vikram Aggarwal, Brampton, Canada
B.A.S., University of Waterloo, 2005
- Troy Witty Anderson, St. Peter, MN
B.A., Gustavus Adolphus College, 2003
- Hermenegild Javier Arevalo, Moore, OK
B.S., Tulane University, 2006
- Vasudev J. Bailey, Irvine, CA
B.S., University of California (Irvine), 2005
- Jason Douglas Bayer, New Orleans, LA
B.S., Syracuse University, 2002
M.S., State University of New York - Upstate Medical University, Clinical Campus at Binghamton, 2005
- Hojjat Bazzazi, Ontario, Canada
B.S., University of Calgary, 2003
- Kara Huffman Beaton, Kingsville, TX
B.S., University of Illinois College of Medicine (Urbana), 2004
- Weijie Beh, Singapore
B.Eng., National University of Singapore, 2007
- Violeta Jivkova Beleva, Baltimore, MD
B.S., Kent State University, 2005
M.S., Kent State University, 2005
- Heather L. Benz, Gaithersburg, MD
B.S., Case Western Reserve University, 2007
- Adriel Bergmann, Baltimore, MD
B.S., Johns Hopkins University, 2005
- Nasir Husain Bhanpuri, Durham, NC
B.S., Duke University, 2006
- Nupura Sudhir Bhise, Fort Collins, CO
B.S., University of Arkansas, 2007
- Eric Thomas Carlson, Ann Arbor, MI
B.S., University of Michigan (Ann Arbor), 2002
- Hannah Kathryn Carter, Louisville, KY
B.S.E.E., University of Louisville, 2003
M.Eng., University of Louisville, 2004
- Deborah Graciela Castillo, Coral Gables, FL
B.S., University of Miami, 2004
- Hasan Ertan Cetingul, Istanbul, Turkey
B.S., Middle East Technical University, 2003
- Connie Yachan Chang, Princeton Junction, NJ
B.S., Johns Hopkins University, 2005
- Hao Chang, Lanzhou, China
B.S., Tsinghua University, 2003
- Kelly Chiryurn Chang, Cambridge, MA
B.S., Massachusetts Institute of Technology, 2008
- Sulin Chen, Singapore
B.S., Johns Hopkins University, 2001
- Yun-Ching Chen, Hsinchu, Taiwan
B.S., National Chiao Tung University, 2001
M.S., National Chiao Tung University, 2003
- Andrew Wei Cheng, Rochester Hills, MI
B.S., University of Michigan, 2009
- Lishui Cheng, Shanghai, China
B.Eng., Shanghai Jiao Tong University, 2003

Raymond Cheong, Columbia, MD¹
B.S., University of Maryland (College Park), 2002

Yoonju Cho, Seoul, Korea
B.S., Bucknell University, 2005

Liang-Hui Chu, Taipei, Taiwan
B.S., National Tsing Hua University, 2005
M.S., National Tsing Hua University, 2007

Lulu Chu, Beijing, China
B.S., University of Virginia, 2009

Patrick James Conlon, Winter Haven, FL
B.S., University of Florida, 2008

Jason L. Constantino, New Orleans, LA
B.S., Tulane University, 2006

Amber Tahniah Ballard Cross, Silver Spring, MD
B.S., University of Maryland (Baltimore County), 2005

Natan Simcha Davidovics, Washington, DC
B.S., Rutgers University, 2005

Ivy Ellen Dick, Piscataway, NJ
B.S., University of North Carolina (Chapel Hill), 1997

Aigerim Djamanakova, Nutley, NJ
B.S., Yale University, 2007

Laura Ann Doyle, Reston, VA
B.S., Johns Hopkins University, 2007

David Donald Ellison, Provo, UT
B.S., Brigham Young University, 2004

Freddy Alexander Espinoza, North Hollywood, CA
B.S., Massachusetts Institute of Technology, 2008

Hadi Fatemi Shariatpanahi, Tehran, Iran
B.Eng., University of Tehran, 2007

Lei Feng, Sichuan, China
B.Eng., Tsinghua University, 2005

Matthew Stephen Fifer, Ashburn, VA
B.S., University of Virginia, 2009

Charles Ira Fisher, San Diego, CA
B.S., University of California (San Diego), 1999

Darik Wendell Gamble, Waterloo, Canada
B.A.S., University of Waterloo, 2008

Ambhighainath Ganesan, Chennai, India
B.Tech., Indian Institute of Technology (Madras), 2007

Mahmoud Ghandi, Tehran, Iran
B.S., Sharif University of Technology, 2003

Matthew Avery Gibson, Charlottesville, VA¹
B.S., West Virginia University, 2002

Kiran Gireesan Vanaja, Bangalore, India
B.Eng., University of Mysore, 1997

Alvina Goh, Singapore
B.S., University of Michigan (Ann Arbor), 2000
M.S., California Institute of Technology, 2001

Vahid Golkhou, Tehran, Iran
B.S., University of Tehran, 2001

Giann Gorospe, Somerset, NJ
B.A., University of Pennsylvania, 2009
B.S., University of Pennsylvania, 2009

Elliot Howard Greenwald, West Orange, NJ
B.S., University of North Carolina (Chapel Hill), 2008

Kshitiz Gupta, Mumbai, India
B.Tech., Indian Institute of Technology (Bombay), 2004

James Christian Gwilliam, Taylorsville, UT
B.S., University of Utah, 2007

Benjamin David Haeffele, Monument, CO
B.S., Georgia Institute of Technology, 2006

Yasmin Lucy Hashambhoy, Kingston Ontario, Canada
B.S.C., Queen's University (Canada), 2003

Sarah Elizabeth Hemminger, Baltimore, MD
B.S., Johns Hopkins University, 2003

Andres Hernandez, Houston, TX
B.S., University of Houston, 2009

Kaoru Hida, Berkeley, CA
B.S., University of California (Berkeley), 2004

Alice Sin Yu Ho, Markham, Ontario, Canada
B.A.S., University of Toronto, 2006

Suneil Narayan Hosmane, Urbana, IL
B.S., University of Illinois (Urbana), 2003

Iraj Hosseini, Edmonton, Canada
B.Sc., Isfahan University of Technology, 2007

Alan Jerry Huang, Austin, TX
B.S., University of Texas (Austin), 2006
B.S.E.E., University of Texas (Austin), 2006

Hailiang Huang, Baltimore, MD
B.S., Nanjing University, 2003

Daphne Lynn Hutton, Lawrenceville, GA
B.S., Georgia Institute of Technology, 2009

John Bassam Issa, Pueblo, CO¹
B.S., Johns Hopkins University, 2004

Robert Allan Jacques, Burnaby, Canada
B.S., Johns Hopkins University, 2005

Gowri Jayaram, Lisle, IL
B.S., Northwestern University, 2007
M.S., Northwestern University, 2008

Luke Aaron Johnson, St. Louis, MO
B.S., Washington University in St. Louis, 2006

Tara Lynn Johnson, Kingsville, MD^{1,2}
B.S., Johns Hopkins University, 2002

Manu Ben Johny, Valley Park, MO
B.S., St. Louis University, 2007

Kevin Kahn, Suwanee, GA
B.S., University of Maryland (College Park), 2009

Xiaoxu Kang, Harbin, China
B.S., Beijing University of Aeronautics and Astronautics - Beijing, 2007

Rahul Karnik, Bensalem, PA
B.S., Davidson College, 2001
M.S., University of Illinois (Urbana), 2003

Robert Timothy Kazmierski, Durham, NC
B.S., Duke University, 2003

Deok-Ho Kim, Seoul, Korea
B.S., Pohang University of Science and Technology, 1998
M.S., Seoul National University, 2000

Dewey June Kim, Portland, OR
B.A., Reed College, 2007

Eugene Kim, Beaverton, OR
B.S., Duke University, 2008

Jacob Elias Koskimaki, Sandy, UT
B.S., University of Utah, 2006

Arnab Kumar Kundu, Kolkata, India
B.Tech., Indian Institute of Technology
(Kharagpur), 2007

Maggie Meei-Fann Kuo, Palo Alto, CA
B.S., University of California (San Diego), 2008

Nathanael Kuo, Sachse, TX
B.S., University of Illinois (Urbana), 2007

Sravanti Kusuma, Tucker, GA
B.S., Massachusetts Institute of Technology,
2008

Dongwon Lee, Gyeonggi-do, Korea
B.S., Korea Advanced Institute of Science and
Technology - Taejon, 2007

Nayoung Angela Lee, Baltimore, MD
B.S., Johns Hopkins University, 2003

Shin Rong Lee, Sugar Land, TX¹
B.S., Yale University, 2007

Hanwei Li, Cambridge, MA
B.S., Massachusetts Institute of Technology,
2004

Nan Li, Baltimore, MD
B.E., Shanghai Jiao Tong University, 2001

Ting Li, Beijing, China
B.Eng., Tsinghua University, 2002

Xiong Li, Beijing, China
B.S., Tsinghua University, 2000

Yue Li, Beijing, China
B.Eng., Tsinghua University, 2002
M.Eng., Tsinghua University, 2005

Issel Anne Lei Lim, Yorktown, VA
B.S., Massachusetts Institute of Technology,
2005

Shawn Hwei-In Lim, Baltimore, MD
B.C.E., University of Minnesota (Twin Cities),
2002

Benjamin Chwan Wen Lin, Paramus, NJ
B.S., Johns Hopkins University, 2007

Kelvin Jeng-Fang Liu, Arcadia, CA
B.S., University of California (San Diego), 2000

Yihua Loo, Baltimore, MD
B.S., Johns Hopkins University, 2003

Jun Ma, Baltimore, MD
B.S., Tsinghua University, 2004

Prashant G. Mali, Mumbai, India
B.Tech., Indian Institute of Technology
(Bombay), 2003
M.Tech., Indian Institute of Technology
(Bombay), 2003

Laura Ann Malone, Cary, NC
B.S., University of North Carolina (Chapel Hill),
2007

Misti Lane Malone, Starkville, MS
B.S., Mississippi State University, 2002

Mollie Klare Marko, Roosevelt, NJ
B.S., Rutgers University, 2008

Kathleen McDowell, Charlotte, NC
B.S., University of Virginia, 2008

Michael Adam Meledeo, College Station, TX
B.S., Texas A&M University, 2000

Brent Matias Millare, Murrieta, CA
B.S., University of California (Riverside), 2008

Mohsen Mollazadeh, Baltimore, MD
B.Sc., Sharif University of Technology, 2004

Justin Brandon Francis Morrisette-McAlmon,
Mobile, AL
B.S., Hampton University, 2009

Kartikeya Murari, Baltimore, MD
B.Tech., Indian Institute of Technology (Madras),
2002

Divya Devaiah Nalayanda, Baltimore, MD
B.Tech., Osmania University, 2001
M.S., University of Oklahoma (Norman), 2005

Geoffrey Ivan Newman, New York, NY
B.Eng., City College of New York, The, 2008

Tri Minh Ngo, Tucker, GA
B.S., Massachusetts Institute of Technology,
2007
M.Eng., Massachusetts Institute of Technology,
2007

Robert William Nickl, Pittsburgh, PA
B.A., University of Pittsburgh, 2006
B.S., University of Pittsburgh, 2006

David Paul Noren, North Olmsted, OH
B.S., University of Rochester, 1998
M.S., University of Rochester, 1999

Kevin Casey Olds, Rochester, NH
B.Eng., Thayer School of Engineering, 2008

Saurabh Paliwal, Baltimore, MD
B.Tech., Indian Institute of Technology (Madras),
2001

JinSeok Park, Daejeon, Korea
B.S., Seoul National University, 2008

Yongjin Park, Busan, Korea
B.S., Seoul National University, 2006
M.S., Carnegie Mellon University, 2008

Farhad Pashakhanloo, Tehran, Iran
Sarah Elisabeth Pekny, New Kensington, PA
B.S., Pennsylvania State University, 2009

Karlo Perica, Montgomery, MD¹
B.S., Yale University, 2007

Jeffrey Wayne Pompe, Belvidere, IL
B.S., University of Illinois (Urbana), 2008

Mazdak Pour Abdollah Tootkaboni, Baltimore, MD
B.S., University of Tehran, 2000
M.S., University of Tehran, 2002

Amir Pourmorteza, Tehran, Iran
B.M.E., University of Tehran, 2008

Christopher Michael Puleo, Troy, NY
B.S., Rensselaer Polytechnic Institute, 2003

Yan Qi, Gainesville, FL
B.Eng., Zhejiang University, 2002

Christina Lee Randall, Philadelphia, PA
B.S., Drexel University, 2004

Tushar D. Rane, Jalgaon, India
B.Tech., Indian Institute of Technology
(Bombay), 2004

Lukas Johannes Rantner, Absam, Austria
B.Sc., University for Health Sciences, Medical
Informatics and Technology, 2005

Abhishek Praful Rege, Baltimore, MD
B.Tech., Indian Institute of Technology (Bombay), 2002

Branden Antoine Reid, Baltimore, MD
B.S., Morgan State University, 2006

Evan Douglas Remington, Hinckley, OH
B.S., Case Western Reserve University, 2006

Thomas Reed Reppert, Mechanicsville, VA
B.S., Virginia Polytechnic Institute and State University, 2007

Alexander Jaewoong Rhee, Farmington Hills, MI
B.A.S., University of Toronto, 2005

Tessa-Jonne Felicia Ropp, Albuquerque, NM
B.A., College of the Holy Cross, 1999
M.S., University of Arizona, 2001

Ashley Rachel Rothenberg, Warren, PA
B.S., Massachusetts Institute of Technology, 2005

Sabyasachi Roy, Baltimore, MD
B.Eng., Bangalore University, 2001
M.S., Montana State University, 2004

Erin K. Salter, Wyoming, OH²
B.S., Case Western Reserve University, 2007

Lingjie Sang, Maanshan, China
B.Eng., Peking University, 2008

Ozan Sayin, Ankara, Turkey
B.S., Bilkent University, 2008

Benjamin Samuel Schuster, St. Louis Park, MN
B.S., University of Minnesota (Twin Cities), 2008

Sagar Ramesh Shah, Clemson, SC
B.S., Clemson University, 2006
M.S., Clemson University, 2007

Ron Boris Shmueli, New York, NY
B.S., Columbia University, 2008

Rishab Ravi Shyam, Mumbai, India
B.S., Purdue University, 2006

Rezina Siddique, Albany, NY
B.S., State University of New York (Albany), 2004

David Simcha, Middlesex, NJ
B.S., Rutgers University, 2007

Jacob Andrew Simson, Muskego, WI
B.S., Massachusetts Institute of Technology, 2008

Christopher Lloyd Smith, Cambridge, MA
B.S., Massachusetts Institute of Technology, 2006

Ryan J. Smith, Niceville, FL
B.S., University of Florida, 2006

Soroosh Solhjoo, Tehran, Iran
B.S., Shahed University, 2002
M.S., Amirkabir University of Technology, 2005

Xindong Song, Harbin, China
B.S., Tsinghua University, 2004

Yunke Song, Tokyo, Japan
B.S., Keio University, 2008

Kevin Gilbert Soucy, Baltimore, MD
B.S., University of New Hampshire, 2003

Patricia Sara Arauz Soucy, Louisville, KY
B.S., St. Louis University, 2003

Iossif Alexandrov Strehin, Baltimore, MD
B.S., Northwestern University, 2005

Yasir Suhail, East Lansing, MI
B.Tech., Indian Institute of Technology (Delhi), 2003

Jung Soo Suk, Baltimore, MD
B.Eng., Korea University (Seoul), 2001

William Tam, Newton, MA
B.S., Johns Hopkins University, 2003

Susan Ann Thompson, College Park, MD
B.S., University of Maryland (College Park), 2006

Daniel Jacob Tward, Toronto, Canada
B.S., University of Toronto, 2008

Stephany Yi Tzeng, Reston, VA
B.S., Yale University, 2009

Shimon Aryeh Unterman, Chicago, IL
B.S., Northwestern University, 2005

Siavash Vaziri, Baltimore, MD
B.S., Johns Hopkins University, 2003

Alejandro Vazquez, Fontana, CA
B.S., Massachusetts Institute of Technology, 2008

Balaji Veeramani, Tempe, AZ
B.Eng., Bharathiar University, 2001
M.S., Arizona State University, 2003

ChiaoChun Joanne Wang, Cambridge, MA
B.S., Massachusetts Institute of Technology, 2002

Ying-Ying Wang, Baltimore, MD
B.S., Johns Hopkins University, 2007

Heidi Michelle Weeks, Charlotte, NC
B.S., Washington University in St. Louis, 2009

An-Chi Wei, Hsinchu, Taiwan
B.S., National Taiwan University, 2004

Seth Howard Weinberg, Tampa, FL
B.S., Duke University, 2006

Aaron Lih Der Wong, Los Angeles, CA
B.S., University of Southern California, 2006

Iwen Wu, San Diego, CA
B.S., University of California (San Diego), 2008

Minnan Xu, Cambridge, MA
B.S., Massachusetts Institute of Technology, 2002
M.S., Massachusetts Institute of Technology, 2002

Ming Yang, State College, PA
B.Eng., Tsinghua University, 1999
M.S., Tsinghua University, 2003

Tingting Yang, Shanghai, China
B.S., Fudan University, 2001

Jing Yu, Hefei, China
B.E., University of Science and Technology of China, 2005

Tao Yu, Guangzhou, China
B.S., Peking University, 2008

Helena Claire Zec, Mendham, NJ
B.S., Worcester Polytechnic Institute (Worcester), 2006

Yajing Zhang, Beijing, China
B.S., Tsinghua University, 2005

Yi Zhang, Chengdu, China
B.Eng., Nanyang Technological University, 2007

Claire Yunzhu Zhao, Peterborough, Canada
B.A.S., University of Waterloo, 2009
Renjun Zhu, Beijing, China
B.S., Tsinghua University, 2009

BIOPHYSICS AND BIOPHYSICAL CHEMISTRY

Sabri Erdemli, Baltimore, MD
B.S., Middle East Technical University, 2003

Program in Molecular Biophysics

Gustavo Alexis Afanador-Gonzalez, Baltimore, MD
B.S., University of Puerto Rico (Mayaguez
Campus), 2007

Jackson Buss, Baltimore, MD
B.S., State University of New York (Buffalo),
2005

Thomas Edgar Cleveland, Baltimore, MD
B.S., Tulane University, 2007

Elizabeth Jane Denning, Baltimore, MD
B.S., Juniata College, 2004

Anthony DiBello, Covington, KY
B.A., Northern Kentucky University, 2006
B.S., Northern Kentucky University, 2006

Krisna Chan Duong-Ly, Baltimore, MD
B.A., Swarthmore College, 2005

Katherine Elizabeth Frato, Baltimore, MD
B.A., College of Wooster, 2004

Joshua Ivan Friedman, Baltimore, MD
B.S., Pennsylvania State University, 2005

John Gallagher, Los Altos, CA
B.S., University of California (San Diego), 2001

Zachary Hensel, Baltimore, MD
B.A., University of Illinois (Urbana), 2005
B.S., University of Illinois (Urbana), 2005

Helen Jun, Ellicott City, MD
B.A., St. Mary's College of Maryland, 2007

Sarah Kolitz, Baltimore, MD
B.S., Massachusetts Institute of Technology,
2003

Carolyn Lauzon, Los Angeles, CA
B.A., Occidental College, 2003

Andrei Levin, Baltimore, MD
B.S., Massachusetts Institute of Technology,
2008
B.S., Massachusetts Institute of Technology,
2008

Megan Elizabeth McDonald, Alamo, CA
B.S., Davidson College, 2005

Naveen Philippe Michaud-Agrawal, Baltimore,
MD²
B.S., Pennsylvania State University, 2001

Sarah F. Mitchell, Rochester, NY
B.A., University of Pennsylvania, 2002

Sabin Mulepati, Baltimore, MD
B.S., Susquehanna University, 2008

Rodrigo Fermin Ortiz-Meoz, Baltimore, MD
B.S., Boston College, 2003

Jared Parker, Baltimore, MD
B.S., University of Alabama, 2004

Nadine Laure Samara, Baltimore, MD
B.S., American University of Beirut, 2002

Joshua Sims, Baltimore, MD
B.S., University of Florida, 2000

Jeffrey Lawrence Werbin, New York, NY
B.S., Harvey Mudd College, 2003

CELLULAR AND MOLECULAR MEDICINE

David Michael Alvarado, Towson, MD
B.S., University of South Florida, 2007

Joseph James Babcock, North Haven, CT
B.S., Duke University, 2007

Emily J. Bailey, Baltimore, MD
B.A., Evergreen State College, 1992
B.S., Evergreen State College, 1992
D.V.M., Colorado State University, 2000

Nicholas Anh Be, Grand Rapids, MI
B.S., Calvin College, 2005

Sarah Evelyn Beck, Howard, MD
B.S., University of Maryland (College Park),
2002
D.V.M., Virginia-Maryland Regional College of
Veterinary Medicine, 2007

Chelsea Marie Black, Reston, VA
B.S., Virginia Polytechnic Institute and State
University, 2006

Alexandra Borodovsky, Portland, OR
B.S., University of Puget Sound, 2008

Robert Walter Buckheit, Myersville, MD
B.S., Lehigh University, 2009

Michael Anthony Bushey, Utica, NY¹
B.S., University of Pittsburgh, 2004

Po Yu Chen, Flushing, NY
B.S., Pennsylvania State University, 2004

Laurene Cheung, San Jose, CA
B.A., University of California (Berkeley), 2006

Rocky Cheung, Causeway Bay, Hong Kong
B.S., University of North Carolina (Chapel Hill),
2006

Bin-Kuan Chou, Kaohsiung City, Taiwan
B.S., National Taiwan University, 2003

Scott Haihua Chu, Rockville, MD
B.S.E., Princeton University, 2005

Justin Robert Cidado, Boston, MA
B.S., Bates College, 2004

Rory Landon Cochran, San Diego, CA
B.S., University of California (San Diego), 2007

Timothy Kemp Cooper, Littlestown, PA²
B.S., University of Denver, 1995
B.S., University of Illinois (Urbana), 1997
D.V.M., University of Illinois (Urbana), 1999

Tricia Ruth Cottrell, St. Louis, MO¹
B.S., Washington University in St. Louis, 2004

Emily Marie Cousins, Newberry, SC
B.S., Clemson University, 2008

Matthew Michael Cousins, Newberry, SC
B.S., Clemson University, 2006
M.S., Clemson University, 2008

Leigh-Ann Cruz, Bethesda, MD
B.S., Mount Saint Mary's College - Los Angeles,
2006

Kimberly Rae Doering, Severna Park, MD
B.S., Clemson University, 2005

Akiko Doi, Kyoto City, Japan
B.S., Bates College, 2007

Jefferson James Doyle, Harpenden, Herts, United Kingdom
 B.A., University of Oxford, 2001
 M.B.B.Ch., University of Cambridge
 M.H.S., Johns Hopkins Bloomberg School of Public Health, 2004

Julia Lynn Drewes, Hockessin, DE
 B.S., Stanford University, 2007

Robert Jamal Drummond, Jacksonville, FL¹
 B.S., Morehouse College, 2002

Heather Ann Dye, Chesterfield, VA
 B.S., College of William and Mary, 2006

Paul Estes, Tallahassee, FL¹
 B.S., Florida State University, 2004

Kelly Ann Foley, Boston, MA
 B.S., Northeastern University, 2008

Sara Hideko Gilmore, Caldwell, ID
 B.S., University of Idaho, 2007

Carlos Gomez, Astoria, NY
 B.S., State University of New York (Stony Brook), 2001

Andrew Charles Goodwin, Williamsburg, VA
 B.S., College of William and Mary, 2005

Kathleen Elizabeth Greenberg, Columbus, OH
 B.S., Ohio State University, 2002

Sarah Merin Greenblatt, Chapel Hill, NC
 B.S., University of North Carolina (Chapel Hill), 2006

Eriko Greene, Bethesda, MD
 B.S., University of Rochester, 2002

Jessica Gucwa, Buffalo, NY
 B.S., State University of New York (Geneseo), 2007

Anniesha Hack, Nutley, NJ
 B.A., Rutgers University, 2005

Tamia Alisha Harris, Atlanta, GA^{1,2}
 B.S., Haverford College, 2003

Diane Heiser, Bayport, NY
 A.B., Princeton University, 2006

Mark James Henderson, Glenwood, NJ
 B.S., North Carolina State University, 2004

William Phillip Hendricks, Phoenix, AZ
 B.A., Grand Canyon University, 2002
 B.S., Arizona State University, 2005

Elisabeth Frances Heuston, Hanover, NH
 A.B., Dartmouth College, 2006

Gary Ping-Hao Ho, Boston, MA¹
 A.B., Harvard University, 2004

Ya-Chi Ho, Taipei, Taiwan
 M.D., National Cheng Kung University, 2002
 M.S., National Taiwan University, 2007

Danica Paulette Horrell, Stafford, VA
 B.S., Virginia Polytechnic Institute and State University, 2006

Maimon Eid Hubbi, West Orange, NJ
 B.S., Rutgers University, 2002

Maria Malinda James, Rochester, NY
 B.A., Johns Hopkins University, 2007

Tamara Jane Angeles Johnson, Chula Vista, CA
 B.S., California State University (Northridge), 2007

Michelle Lynn Jones, West Lafayette, IN
 B.S., Purdue University, 2005

Namyong Jung, Anyangsi, Korea
 B.S., Pohang University of Science and Technology, 2007

Geetha Kannan, Rockville, MD
 B.A., Kenyon College, 2007

Laura Bess Kapa, Cedartown, GA
 B.S., University of Georgia, 2004

Ian Mahrer Kaplan, Allendale, NJ
 B.S., Brown University, 2002

David Hoontae Kim, San Jose, CA
 B.S., University of California (San Diego), 2006

KiBem Kim, Baltimore, MD¹
 B.A., Johns Hopkins University, 2002

Isaac Abraham Kinde, Beaumont, CA¹
 B.S., University of Maryland (Baltimore County), 2005

Kirsten Anne Kulcsar, Fort Collins, CO
 B.S., Colorado State University, 2008

Andre Rashad Kydd, Elkins Park, PA¹
 B.S., Harvard University, 2004

Christine Marie Ladd-Acosta, Newton, MA
 B.S., University of Massachusetts (Amherst), 1999

Andrew Raymond Larsen, Sudbury, MA
 B.A., Skidmore College, 2009

Rebecca Jane Leary, Brookline, MA
 B.A., Wellesley College, 2002

Janette Lebron, Towson, MD
 B.S., Wagner College, 2004

ChangHee Lee, Seoul, Korea
 B.S., Seoul National University, 2006

Hwajin Lee, Ulsan, Korea
 B.A., Cornell University, 2007

Jihyun Lee, Taejeon, Korea
 B.S., Korea University (Seoul), 2000
 M.S., Korea Advanced Institute of Science and Technology - Taejeon, 2002

Kenya Taiwan Lemon, Falls Church, VA
 B.S., Albany State University, 2003

Xiaojie Li, Baltimore, MD
 B.S., Xinyang Teachers' College, 1996
 M.S., Wuhan University, 1999

Chi-Ying Lin, Taoyuan County, Taiwan
 B.S., National Taiwan University, 2002
 M.S., National Taiwan University, 2004

Jimmy Cheng Ho Lin, New Haven, CT¹
 B.A., Yale University, 2001

Tiffany Link, Placentia, CA¹
 B.S., California State University (Long Beach), 2004

S. Julie-Ann Lloyd, Boston, MA¹
 S.B., Massachusetts Institute of Technology, 2003
 S.M., Massachusetts Institute of Technology, 2005

Brian Luna, Irvine, CA
 B.S., University of California (Irvine), 2008

Ting Martin Ma, Beijing, China
 B.S., Tsinghua University, 2009

deMauri Scott Mackie, Los Angeles, CA
 B.A., University of Pennsylvania, 2006

Micah Joel Maxwell, Reisterstown, MD¹
 B.A., Harvard University, 2003

- Annemarie McMillan McCartney, Baltimore, MD¹
B.S., Miami University, 2007
- Kelli Ammiesha McDowell, Morrisville, NC
B.S., North Carolina State University, 2006
- Kelly Ann Meulendyke, Lexington, KY
B.S., University of Kentucky, 2004
- Melissa Ruth Miller, Rogue River, OR
B.S., Seton Hall University, 2007
- Matthew Morgan Moake, Geneva, NY¹
B.S., Cornell University, 2004
- Whei Feng Moriarty, Somerville, MA
B.S., Massachusetts Institute of Technology, 2004
- Adam Landes Moyer, Souderton, PA
B.A., Pennsylvania State University, 2007
B.S., Pennsylvania State University, 2007
- Youn Na, Seoul, Korea
B.S., Seoul National University, 2003
M.S., Seoul National University, 2005
- Archana Jayasurya Nelliott, Henderson, NV¹
B.S., University of Nevada, 2006
- Nguyen Khoi Nguyen, Baltimore, MD
B.S., University of Maryland (Baltimore County), 2006
- Joyce Oluwayemisi Obidi, Ithaca, NY
B.S., Cornell College, 2005
- Xiaouu Pan, Baltimore, MD
A.B., Washington University in St. Louis, 2004
- Sarah Ann Park, Birmingham, AL
B.S., Duke University, 2002
- Kelly Ann Metcalf Pate, Kingsville, MD
B.A., Boston University, 2003
D.V.M., Purdue University, 2007
- Vesselin Ruslanov Penchev, Minneapolis, MN
B.A., Macalester College (St. Paul), 2007
- Lukas Wyatt Pfannenstiel, Hutchinson, KS
B.S., University of Kansas, 2001
- Tarran Jean Pierfelice, Sterling Heights, MI
B.S., Florida Institute of Technology, 2004
- John Thomas Poirier, Cleveland, OH
B.S., Case Western Reserve University, 2006
- Talmesha Annette Richards, Baltimore, MD
B.S., University of Maryland (Baltimore County), 2004
- Jason Michael Rosenzweig, Baltimore, MD
B.S., Pennsylvania State University, 2000
- Janelle Rowell, Durham, NC
B.S., North Carolina Central University, 2008
- Julia Nicole Russell, Baltimore, MD
B.A., College of Notre Dame, 2009
- Helen Sadik, Glen Mills, PA
B.S., Lebanese American University, 2007
- Maame Efua Sakyiwah Sampah, Lawrenceville, GA
B.A., Grinnell College, 2007
- Mark Thomas Sausen, Newark, DE
B.A., University of Delaware, 2009
- Maia Kathryn Schoonmaker, Carbondale, IL
B.S., University of Illinois (Urbana), 2005
- Sherri-Gae O. Scott, Monmouth, IL
B.A., Monmouth University, 2003
- Meghan J. Seltzer, State College, PA
B.S., Pennsylvania State University, 2005
- Saurav Rao Seshadri, Baltimore, MD
B.A., Johns Hopkins University, 2005
- Amy Nicole Sexauer, Wadmalaw Island, SC¹
B.A., University of Georgia, 2005
B.S., University of Georgia, 2005
- Gillian Curtis Shaw, Baltimore, MD
D.V.M., Michigan State University School of
Veterinarian Medicine, 2007
M.S., Michigan State University School of
Veterinarian Medicine, 2007
- Jee Hoon Song, Beverly Hills, CA
B.S., University of California (Los Angeles),
2007
- Lauren Christina Suarez, Eden Prairie, MN
B.S., University of Maryland (Baltimore County),
2007
- Tomeka Lynette Suber, Greensboro, NC^{1,2}
B.S., University of North Carolina (Chapel Hill),
2002
- Gregory Lee Szeto, Frederick, MD
B.S., Carnegie Mellon University, 2004
- Abigail Lynn Davidson Tadenev, Williamstown, MA
B.A., Williams College, 2003
- Stephanie Kenfack Tankou, Baltimore, MD^{1,2}
B.S., University of Illinois (Urbana), 2001
- Carlos Alberto Tristan, Oxnard, CA
B.S., California State University (Fresno), 2005
M.S., California State University (Fresno), 2007
- Jonathan Andrew Trow, Shawnee, OK
B.S., Oklahoma Baptist University, 2003
- Susan Christine Trow, Nashville, TN
B.S., Vanderbilt University, 2003
- Hsing-Chen Tsai, Taipei City, Taiwan
M.D., National Taiwan University, 1999
M.S., National Taiwan University, 2004
- William Tsao, East Hanover, NJ¹
B.S., Johns Hopkins University, 2006
- Krystal Sara Tsosie, Phoenix, AZ
B.S., Arizona State University, 2008
- Hayley Sierra Wall, Olympia, WA
B.S., Western Washington University, 2009
- David Hong-En Wang, Baltimore, MD
B.A., Asbury College, 1994
M.D., Vanderbilt University School of Medicine,
1999
- Grace Meng Wang, Hammond, OR¹
B.S., University of Oregon (Eugene), 2005
- Erin Elizabeth Watkin, Pasadena, CA
B.A., Minnesota State University (Moorhead),
2000
- Christopher August Weier, Sterling Heights, MI
B.S., Johns Hopkins University, 2006
- John Kent Werner Jr., Pittsburgh, PA¹
B.S., United States Naval Academy, 2001
- Kathryn Suzanne Winglee, Seattle, WA
B.S., University of Washington, 2009
B.S., University of Washington, 2009
- Gai Yan, Baltimore, MD
B.S., George Washington University, 1999
- Philemon Szu-Wei Yang, Baltimore, MD
B.S., Johns Hopkins University, 2003

Jihye Yun, Gainesville, FL
B.S., Sogang University, 1999
M.S., Korea Advanced Institute of Science and
Technology - Taejon, 2001

FUNCTIONAL ANATOMY AND EVOLUTION

Kirsten Marie Brown, Baton Rouge, LA
B.A., Louisiana State University (Baton Rouge),
2005
B.S., Louisiana State University (Baton Rouge),
2005

Madeleine Blair Chollet, Houston, TX
B.A., Rice University, 2006

Evan Michele Garofalo, Washington, DC
B.A., Tulane University, 2000

Heather Marie Garvin, Morriston, FL
B.A., University of Florida, 2005
B.S., University of Florida, 2005
M.S., Mercyhurst College, 2007

Francois David Henry Gould, London, United
Kingdom
B.A., University of Cambridge, 2004
M.Sc., Imperial College of Science, Technology
and Medicine, 2005

Michael Bruce Habib, Ellicott City, MD²
B.A., University of Virginia, 2002
M.S., University of Virginia, 2005

Ryan William Higgins, Hyattsville, MD
B.A., Arizona State University, 2001
M.A., George Washington University, 2008

Megan Anne Holmes, Pompano Beach, FL
B.A., Florida Atlantic University, 2005

Katrina Elizabeth Jones, Liverpool, United
Kingdom
B.A., University of Cambridge, 2008
M.Sc., University of Cambridge, 2008

Ali Nabavizadeh, Olathe, KS
B.S., University of Kansas, 2009

Tonya Ann Penkrot, Pittsburgh, PA²
B.S., University of Pittsburgh, 2000

Frank Joseph Varriale, Lake Luzerne, NY²
B.S., State University of New York (Oswego),
1997

Georgina McKusick Voegele, Chicago, IL²
B.A., University of Chicago, 2003

Michael Patrick Yashinski, Lancaster, PA²
B.A., Franklin and Marshall College, 2004

HISTORY OF MEDICINE

Katherine Elizabeth Arner, Boise, ID
B.A., University of Wisconsin (Madison), 2005

Lisa Beth Boulton, Baltimore, MD²
A.B., Radcliffe College, 1972
M.P.H., University of Minnesota (Twin Cities),
1994

Sandra Eder, Vienna, Austria
M.A., Columbia University, 2002
M.Phil., University of Vienna, 2004

Ami Christine Karlage, Cambridge, MA²
A.B., Harvard University, 2003

Susan Dorothy Lamb, Toronto, Canada
B.F.A., York University (Canada), 1995
M.A., University of Toronto, 2003

Seth Stein LeJacq, Ithaca, NY
A.B., Cornell University, 2008

Abigail Heather Markoe, Lawrenceville, NJ²
B.A., George Washington University, 2003

Andrew Lawrence Nelson, Evanston, IL
B.A., Northwestern University, 2006

Massimo Petrozzi, Rome, Italy
B.A., Università Degli Studi di Roma "La
Sapienza", 2002

Alicia Puglionesi, Havertown, PA
B.A., University of Pennsylvania, 2009

Christopher Holden Pierce Salguero,
Charlottesville, VA²
B.A., University of Virginia, 1996

Olivia Alton Weisser, New York, NY²
B.A., Wesleyan University (Connecticut), 2002

HUMAN GENETICS PROGRAM

Timothy David Babatz, Chicago, IL
B.S., Wheaton College, 2007

Elizabeth Eileen Bell, Baltimore, MD¹
B.S., University of Notre Dame, 2005

Rebecca Deering Brose, Centre Hall, PA
B.S., Pennsylvania State University, 2000

Tyesha Nicole Burks, Princess Anne, MD
B.S., University of Maryland (Eastern Shore),
2006

Juan F. Calderon, Santiago, Chile
B.S., Universidad de Chile, 2003

Raghu Ram Chivukula, Wichita, KS¹
B.A., Johns Hopkins University, 2005

Megan Hussey Cleveland, New Orleans, LA
B.S., Louisiana State University (Baton Rouge),
2007

Adrian Alejandro Cuenca, Baltimore, MD
B.A., Johns Hopkins University, 1999
M.H.S., Johns Hopkins Bloomberg School of
Public Health, 2002

Bethany Joy Drehman, Chelmsford, MA
B.A., Rhodes College, 2006
B.S., Rhodes College, 2006

Matthew William Feldman, Cottam, Canada
B.S., University of Waterloo, 2001

Stefani Chun-Jiang Fontana, Leawood, KS
B.S., University of Kansas, 2007

Veena Pushparaj Gnanakkan, Allston, MA
B.Eng., University of Madras, 2002

David Uscher Gorkin, New Rochelle, NY
B.A., Boston University, 2004

Eitan Halper-Stromberg, Boca Raton, FL
B.S., University of Maryland (College Park),
2006

Lindsay Ann Bremer Henderson, Red Wing, MN
B.S., University of Wisconsin (Eau Claire), 2003

Audrey Marie Hendley, North Augusta, SC
B.S., University of South Carolina (Columbia),
2009

Yolanda Mikka Nicola Hillocks, Rochester, NY
B.S., Brooklyn College of the City University of
New York, 2004

Tara Colleen Howard, Olney, MD
B.A., University of Maryland (College Park),
2008
B.S., University of Maryland (College Park),
2008

Hongxia Hu, Wuhan, China
B.S., Wuhan University, 2008

Cheng Ran Huang, Los Angeles, CA
B.S., University of California (Los Angeles), 2006

Tai-Chung Huang, Changhua County, Taiwan
M.D., National Taiwan University, 2000

Henry Richard Johnston, Baltimore, MD
B.S., Johns Hopkins University, 2005

Eunchai Kang, Salt Lake City, UT
B.S., Korea Advanced Institute of Science and Technology - Taejon, 2004

Kathleen Christine Kent, Potomac, MD
B.S., Texas A&M University, 2002

Matthew Kevin Knabel, Dunmore, PA
B.A., Johns Hopkins University, 2006

Erika Mijin Kwon, Silver Spring, MD
B.S., George Mason University, 2004
M.S., Johns Hopkins University, 2006

Benjamin Robert Leadem, Flagstaff, AZ
B.S., Northern Arizona University, 2007

Ji Eun Lee, Sparks, MD
B.A., Johns Hopkins University, 2002

Stella Suyong Lee, Iowa City, IA
B.S., Ewha Women's University - College of Medicine - South Korea, 2006

Yun-Sil Lee, Bethesda, MD
D.D.S., Seoul National University, 1999
M.S., Seoul National University, 2002

Yangfan Liu, Shanghai, China
B.S., Fudan University, 2003

Yaping Liu, Beijing, China
B.Eng., Capital University of Medical Sciences - Beijing, 1996
M.S., Peking Union Medical College, 1999

Yunqi Lu, Beijing, China
B.S., Sichuan University, 2008

Elizabeth Marie MacDonald, Minneapolis, MN
B.S., University of Minnesota (Twin Cities), 2004

Diana Lauren Mandelker, East Northport, NY^{1,2}
B.S., Yale University, 2003

Samantha Denise Maragh, Laurel, MD
B.S., Loyola College, 2005

David Mark McGaughey, Columbia, MD
B.A., Amherst College, 2004

Sarah Patricia McGuire-Edie, Baltimore, MD
B.A., Wellesley College, 2005

Khadijah Aisha Mitchell, Pittsburgh, PA
B.S., University of Pittsburgh, 2003
M.S., Duquesne University, 2006

Morassa Mohseni, Chicago, IL
B.S., University of California (Irvine), 2002
B.A., University of California (Irvine), 2003

Carolina Maria Montano, Silver Spring, MD¹
B.S., Brigham Young University, 2005

Audrey Maryam Moshfeghian, San Antonio, TX
B.S., University of Texas (San Antonio), 2006

Khanh-Dung Hoang Nguyen, Baltimore, MD
B.S., Towson University, 2007

Tejasvi Shankar Niranjana, Randolph, NJ
B.S., Johns Hopkins University, 2008

Stephen Hance Page, Baltimore, MD
B.Pharm., Towson University, 2005

Kurinji Pandiyan, Chennai, India
B.S., University of Georgia, 2007

Jeenah Park, Fullerton, CA
B.S., University of California (Los Angeles), 2007
M.Ed., University of California (Los Angeles), 2008

Erin Michelle Parry, Rockport, MA¹
B.A., Colby College, 2006

Evanthia E. Pashos, Athens, Greece
B.Pharm., National and Kapodistrian University of Athens, 2004

Jennifer Lyn Poitras, Brighton, MA
B.S., University of Connecticut, 2006

Renita Cherie Polk, Mitchellville, MD
B.S., Cedar Crest College, 2008

Megana Krishna Prasad, Los Angeles, CA
B.S., University of California (Los Angeles), 2005

Anandita Rajpurohit, Ridgewood, NJ
A.B., Cornell University, 2004

Kalyani Nithya Ramachandran, Chennai, India
B.Tech., Anna University, 2006

Shruthi Ravimohan, Minneapolis, MN
B.S., University of Minnesota (Twin Cities), 2004

Xylena Reed, Chattaroy, WA
B.S., University of Washington, 2008

Sarah Marie Richardson, Baltimore, MD
B.S., University of Maryland (College Park), 2004

Nicholas Jason Roberts, Newport, United Kingdom
B.A., Trinity College, 2004

Jon Francis Robinson, Gaithersburg, MD
B.S., Cornell University, 2004

Matoya Andrea Robinson, Oviedo, FL
B.S., University of Florida, 2006
M.S., University of Florida, 2007

Yang Ao Roby, Beijing, China
B.Med., China Medical University, 2001
M.S., China Medical University, 2003

Dong Shen, Shreveport, LA
M.S., Louisiana State University Medical Center School of Graduate Studies, 2002

Gloria Shin, Baltimore, MD
B.A., Johns Hopkins University, 2000

Jessica Lindsay Simmers, Salem, VA
B.S., Roanoke College, 2006

Anna Sliva, Naperville, IL
B.S., Indiana University (Bloomington), 2009

Megan Talbott Smith, Roanoke, VA
B.S., Virginia Commonwealth University, 2007

Nara Lygia De Macena Sobreira, Sao Paulo, Brazil
M.D., Universidade Federal De Pernambuco, 2003

Ryan Paul Stadel, Baltimore, MD
B.S., Texas A&M University College of Medicine - College Station, 2004

Eric Lindsley Stevens, Rochester, NY
B.S., Rochester Institute of Technology, 2008

Zachary Elias Stine, Baltimore, MD
B.A., Goucher College, 2005

Megan Marie Szymanski, Berryville, VA
 A.B., Cornell University, 2004

Perciliz Tan, Killeen, TX
 B.S., University of Notre Dame, 2004

Tychele Naomi Turner, Westphalia, MI
 B.S., Michigan State University, 2008

Wei Wang, Madison, WI
 B.S., Tsinghua University, 2003

Yue Wang, Beijing, China
 B.S., Tsinghua University, 2007

Philip Dane Witmer, Baltimore, MD
 B.S., University of Maryland (Baltimore County),
 1996
 M.S., University of Maryland (Baltimore County),
 1996

Lauren Rachel Zeitels, Warren, NJ¹
 B.A., University of Pennsylvania, 2006

Mariela Angela Zeledon, Doral, FL
 B.S., Carnegie Mellon University, 2008

IMMUNOLOGY

(Under the Aegis of the Department of Molecular Biology and Genetics)

Mathew M. Augustine, Baltimore, MD
 B.A., Johns Hopkins University, 1998
 M.D., Yale University School of Medicine, 2003

Jobert Guerrero Barin, Baltimore, MD
 B.A., Johns Hopkins University, 1999

Desire' Elaine Barrett, Owings Mills, MD
 B.A., University of Maryland (Baltimore County),
 1996

Jonathon Drew Bennett, Kingsville, MD
 B.A., Wheaton College, 2003

Tullia Carmela Bruno, Erie, PA
 B.S., Vanderbilt University, 2004

Kelly Patricia Burke, Woodbury, MN¹
 B.A., Kenyon College, 2006

Christina M. Ceccato, Tucson, AZ
 B.S., University of Arizona, 2008

Waipan Chan, Macau
 B.S., State University of New York (Binghamton),
 2007

Yen-Ling Chiu, Towson, MD
 M.D., National Taiwan University, 2001

Christopher Lee Cooper, San Diego, CA
 B.S., San Diego State University, 2002

Chung Huu Dang, Seattle, WA
 B.A., Eastern Washington University, 2001
 B.S., Eastern Washington University, 2001

Erika Lynn Darrah, Pottstown, PA
 B.S., Ursinus College, 2002

Greg Michael Delgoffe, Portage, MI
 B.S., Western Michigan University, 2004

Nicholas Mason Durham, Lake Oswego, OR
 B.S., Oregon State University, 2005

Dallas Benjamin Flies, Gaithersburg, MD
 B.A., St. Mary's University of Minnesota, 1997
 M.S., Mayo Graduate School, 2003

Abby Lorraine Geis, Denver, CO
 B.S., Colorado State University, 2005

Derese Getnet, Collegeville, PA
 B.S., Ursinus College, 2004

Diana Joyce Goode, Gaithersburg, MD
 B.S., University of New Hampshire, 2004

Corinne Hamblet, Baltimore, MD
 B.S., Juniata College, 2007

Emily Beth Heikamp, Metairie, LA¹
 B.S., Duke University, 2005
 M.S.C., Oxford University Medicine School,
 2007

Bridget Patrice Keenan, Mount Airy, MD¹
 B.S., Loyola College, 2006

Theodore Sander Kouo, Peoria, IL¹
 B.A., Northwestern University, 2004

Rebecca Lee Lamason, Elizabethtown, PA
 B.S., Millersville University, 2002

Jessica Bomi Lee, University Place, WA
 B.S., University of Washington, 2004

Michal Ariella Levine, New York, NY
 B.A., Barnard College, 2006

Stefanie Michele Lew, Chino Hills, CA
 B.S., University of California (Los Angeles),
 2005

Yu Li, Clarksville, MD
 B.A., Amherst College, 2002

Michael Ethan Linde, Los Angeles, CA²
 B.A., Emory University, 1996

Daphne Jane Macapagal, Laurel, MD
 B.S., Rutgers University, 1998

Obadiah Johnathan Manley, Pasadena, CA
 B.S., California Institute of Technology, 1997

Christopher James Nirschl, Herndon, VA
 B.S., University of Virginia, 2009

Rose Parkinson, Folcroft, PA
 B.A., University of Pennsylvania, 2005

Kristen Nicole Pollizzi, Brookline, MA
 B.S., Boston College, 2005

Yuri O. Poluektov, Champaign, IL
 B.S., University of Illinois (Urbana), 2007

Seyed Alireza Rabi, Rosedale, MD¹
 B.A.S., University of Toronto, 2006

Kasra Ramyar, Baltimore, MD²
 B.A., Johns Hopkins University, 1993

Ashley Saint-Fleur, Bethesda, MD
 B.S., Yale University, 2002

Adam Tully Waickman, Ray Brook, NY
 B.S., Cornell University, 2008

Vivian Lee Weiss, Baltimore, MD¹
 B.A., Columbia University, 2004

Huang Yu Yang, Taoyuan City, Taiwan
 M.D., Taipei Medical University, 1998

Zhaohui Ye, Glen Burnie, MD
 B.S., Tsinghua University, 1993
 M.S., University of Maryland (College Park),
 1999

Stasya Nicole Zarlring, Northfield, MN
 B.A., Saint Olaf College, 2004

Tong Tong Zhang, Seattle, WA
 B.S., University of Washington, 2006

NEUROSCIENCE

Christopher Michael Ackerman, Washington, DC
 B.A., University of Chicago, 1993
 M.S., University of Southern California, 2003

Julia Lynn Bachman, St. James, NY
B.A., College of Notre Dame, 2004

Ling Bai, Beijing, China
B.S., Tsinghua University, 2009

Neeraja Manikkavalli Balachander, Andhra Pradesh, India
M.B.B.S., Osmania Medical College - Osmania University - India, 1999

Joseph Lewis Bedont, Jeannette, PA
B.A., University of Rochester, 2009
B.S., University of Rochester, 2009

Matthew C.H. Boersma, Brunswick, ME
A.B., Bowdoin College, 2004

Katherine Cloud Bowman, Charlottesville, VA
B.A., University of Virginia, 2003

Gabriela Lucila Cantarero, Lincoln, NE
B.S., Northwestern University, 2006

Clinton Lamont Cave, Highlands Ranch, CO
B.A., Yale University, 2007

Jonathan Matthew Chang, Cleveland Heights, OH
B.A., Case Western Reserve University, 2007

Zhikai Chi, Beijing, China
M.D., Peking Union Medical College, 2003

Cheng-Hsuan Chiang, Hualien, Taiwan
M.D., National Taiwan University, 2003

Kavan Terrence Clifford, Atlanta, GA¹
B.S., Morehouse College, 2003

Mitchell Darren Datlow, Ventura, CA
B.S., University of California (San Diego), 2007

Lindsay M. De Biase, Alexandria, VA
B.S., Yale University, 2003

Yi Dong, Baltimore, MD
B.S., Nanjing University, 2003

Jeffrey Tevebaugh Ehmsen, Goleta, CA¹
B.S., University of California (Irvine), 2001
M.S., University of Oxford, 2003

Caitlin Conner Engelhard, Crozet, VA¹
B.A., Swarthmore College, 2003

Ting Feng, Shanghai, China
B.S., Shanghai Jiao Tong University, 2007

Christina Theresa Fuentes, Cambridge, MA
B.S., Massachusetts Institute of Technology, 2005

Erin Jennifer Golden, Baltimore, MD
B.A., Franklin and Marshall College, 2006

Courtney Rory Goodwin, Gainesville, FL^{1,2}
B.A., University of Florida, 2002

Junjie Guo, Beijing, China
B.S., Peking University, 2006

Ting Guo, Beijing, China
B.S., Tsinghua University, 2005

Siyi Huang, Hong Kong
B.S., Hong Kong University of Science and Technology, 2007

Yu-Wen Huang, Taipei, Taiwan
M.D., National Taiwan University, 2002

Chia-chun Hung, Taoyuan County, Taiwan
M.D., Chang Gung University College of Medicine, 2005

Kenneth Joseph Hurt, St. Ignatius, MT²
B.A., Whitman College, 1990
M.D., Johns Hopkins University School of Medicine, 2005

Adam Michael Intrator, New York, NY
B.S., Brown University, 2003

Vijay Mohan K Namboodiri, Thrissur, India
B.Tech., Indian Institute of Technology (Bombay), 2008

Alyssa Mallory Katzenelson, Amherst, MA
B.A., Amherst College, 2006

Sung Soo Kim, Baltimore, MD
B.S., Seoul National University, 1998
M.S., Seoul National University, 2000

Yu Shin Kim, Baltimore, MD
B.S., Kangwon National University, 1999
M.S., Kangwon National University, 2001

Michael Davin Kornberg, Kissimmee, FL¹
B.S., Yale University, 2003
M.S., Yale University, 2003

Eleftheria Koropouli, Megara, Greece
M.D., National and Kapodistrian University of Athens, 2007

Neha Lal, Gurgaon, India
B.S., Bangalore University, 2004

Daniel Allen Lee, Berkeley, CA
B.S., University of California (Berkeley), 2004

Kathryn Michelle Lehigh, Springfield, PA
B.S., Georgetown University, 2009

Lishi Li, Guangzhou, China
B.S., Peking University, 2007

Chih-Chun Lin, Taipei, Taiwan
M.D., National Taiwan Normal University, 2004

Chun-Chieh Lin, Tainan City, Taiwan
M.D., Fujen Catholic University, 2007

Chang Liu, Beijing, China
B.S., Peking University, 2008

Kai Liu, Beijing, China
B.S., Peking University, 2005
B.S., Peking University, 2006

Yin Liu, Beijing, China
B.S., Peking University, 2006

Ileana Lorenzini, Baltimore, MD
B.S., University of Puerto Rico (Rio Piedras), 2003
M.S., Johns Hopkins University, 2007

Yuichi Makino, Baltimore, MD
B.A., University of Tokyo, 2002

Lauren Ashley Makuch, State College, PA
B.S., Pennsylvania State University, 2005

Anne Baldwin Martin, Tucson, AZ
B.S., Harvey Mudd College, 1995
M.A., University of California (Santa Barbara), 2003
B.S., University of Arizona, 2005

Tanya Marie Marton, Encino, CA
B.S., Yale University, 2008

Ryota Matsuoka, Sendai, Japan
B.S., Tohoku University, 2004

Robert Gene Mealer, Bozeman, MT¹
B.S., Montana State University, 2005

Nathaniel David Miller, Oxford, OH
B.S., Miami University, 2002

Elizabeth Ann Mills, Brightwaters, NY
B.A., College of the Holy Cross, 2007

- Ana Lucia Miranda-Angulo, Rockville, MD
M.D., Universidad de Antioquia - Facultad de Medicina - Medellin, 1999
M.S., Universidad de Antioquia - Facultad de Medicina - Medellin, 2004
- Matthew Miskimon, Perry Hall, MD^{1,2}
B.S., University of Maryland (Baltimore County), 2002
- Michael Avery Muniak, Baltimore, MD
B.S., Johns Hopkins University, 2005
- Asif Khan Mustafa, Harleysville, PA^{1,2}
B.A., University of Pennsylvania, 2001
M.S., University of Pennsylvania, 2001
- Kush Niranjana Patel, Evanston, IL
B.A., Northwestern University, 2005
- Yu-Cheng Pei, Taipei, Taiwan
M.D., Chang Gung University College of Medicine, 1997
- Dennis Ashokovich Pradhan, Baltimore, MD
B.S., University of Maryland (Baltimore County), 2000
- Emma Beryl Roach, Baltimore, MD
B.S., Tulane University, 2003
- Marianeli Rodriguez, Tulsa, OK¹
B.S., University of Tulsa, 2005
- Matthew Jay Roos, Arlington, VA
B.S., University of Missouri (Rolla), 1995
M.S., Purdue University, 1997
M.S., Duke University, 2002
- Claudia Roxana Ruiz, Lakeland, FL
B.S., Emory University, 2007
- Michael Lee Rutlin, New York, NY
B.S., University of Wisconsin (Whitewater), 1999
- Daria Rylkova, Gainesville, FL
B.S., University of Florida, 2007
- Priyanka Sabharwal, Rochester, MN
M.B.B.S., University of Lucknow - K.G. Medical College - India, 2001
- Kurt Andrew Sailor, Baltimore, MD
B.S., University of Wisconsin (Madison), 1996
- Dennis Kumar Sasikumar, Mumbai, India
M.B.B.S., University of Kerala, 2002
- Karisa Colleen Schreck, Baltimore, MD¹
B.S., New Jersey Institute of Technology, 2003
- Tanu Sharma, Baltimore, MD
B.S., University of Maryland (Baltimore County), 2009
- Delia Silva, Kenilworth, NJ
B.A., Boston University, 2004
- Na Young So, Seoul, Korea
B.S., Seoul National University, 2004
- Coryse Naioka St. Hillaire, Brooklyn Park, MD
B.S., University of Maryland (College Park), 2000
- Gerald Jan-Yu Sun, Los Angeles, CA
B.S., University of Southern California, 2008
- Lu Sun, Beijing, China
B.S., Tsinghua University, 2006
- Sarah Jean Texel, Nottingham, MD
B.S., Montclair State University, 2001
M.S., Johns Hopkins University, 2004
- Alyssa Maria Ayano Toda, Castro Valley, CA
B.A., University of California (Berkeley), 2007
- Nicolas Xavier Tritsch, Montreal, Canada
B.Sc., McGill University, 2001
- Natalie Katherine Trzcinski, Endicott, NY
B.S., Cornell University, 2008
- Joshua Tzvi Cardin Vogelstein, Baltimore, MD
B.S., Washington University in St. Louis, 2002
- Han Chin Wang, Tainan County, Taiwan
M.D., National Taiwan University, 2008
- Shih-Hsiu Wang, Taipei, Taiwan
M.D., National Taiwan University, 2003
- Catherine Jeanne Chalenski Weisz, Baltimore, MD
B.S., Cornell University, 2001
- HaoJui Weng, Taipei, Taiwan
M.D., National Taiwan University, 2006
- Jonathan Roy Williford, Owings Mills, MD
B.S., Purdue University, 2004
- Emily Turner Wood, Anacortes, WA¹
AH, Skagit Valley College, 1999
B.S., University of Washington, 2006
- Xiaojing Wu, Beijing, China
B.S., Tsinghua University, 2007
- Yen-Ching Wu, Baltimore, MD
A.B., Bowdoin College, 2001
- Zhuhao Wu, Beijing, China
B.S., Tsinghua University, 2003
- Jeffrey Min-In Yau, High Bridge, NJ
B.S., University of North Carolina (Chapel Hill), 2003
- Zhou Yu, Anqing, China
B.S., Tsinghua University, 2008
- Nan Zhang, Hefei, China²
B.S., University of Science and Technology of China, 2002
- YingXin Zhang, Hangzhou, China
B.S., Peking University, 2007

PATHOLOGY

Pathobiology

- Koh Meng Aw Yong, Singapore
B.S., National University of Singapore, 2003
- Kristen Bankert, Glen Rock, PA
B.S., Cedar Crest College, 2007
- Kathleen Kelly Brennan, Baltimore, MD
B.S., Towson University, 1999
D.V.M., North Carolina State University College of Veterinary Medicine, 2003
- Sarah Kacie Brennan, Evanston, IL
B.S., Northwestern University, 2004
- Jacqueline Ann Brosnan, Haverhill, MA
A.B., Bowdoin College, 2008
- Po-Min Chiang, Taipei, Taiwan
M.D., National Cheng Kung University, 2001
- Yu-Min Chuang, Taipei, Taiwan
M.D., National Cheng Kung University, 2001
- Sarah Elizabeth Croessmann, Rochester, NY
B.S., University of Virginia, 2009
- Melek Michelle Erdinc, Baltimore, MD
B.S., University of Maryland (College Park), 2006
- Saniya Fayzullina, Millbrae, CA
B.S., Brandeis University, 2001

- Joseph Paul Garay, Cincinnati, OH
B.S., Miami University, 2005
- Barry Gertz, Baltimore, MD
B.S., University of Maryland (College Park), 2000
- Arvin Gouw, San Francisco, CA
B.A., University of California (Berkeley), 2006
- Tory Patricia Johnson, Crofton, MD
B.S., Ohio State University, 2001
- Cheryl Mei-Yi Koh, Madison, WI
B.S., University of Wisconsin (Madison), 2005
- Kihyuck Kwak, Daegu, Korea
B.S., Sungkyunkwan University, 2006
- Melissa Landek-Salgado, Bridgeview, IL
B.A., University of Chicago, 2002
- Sung Yul Lee, Suwon, Korea
B.S., Korea University (Seoul), 2004
M.S., Seoul National University, 2006
- Jessica Marie Louise Lidstrom, Stockholm, Sweden
B.S., American University, 2004
M.S., American University, 2005
- Kah Jing Lim, Singapore
B.S., National University of Singapore, 2006
- Kah Suan Lim, Singapore
B.S., Nanyang Technological University, 2008
- Yiting Lim, Johor Bahru, Malaysia
B.S., National University of Singapore, 2007
- Sophie Zhirong Lin, Singapore
B.S., Nanyang Technological University, 2006
- Anne Marie Macgregor, Baltimore, MD
B.S., University of Maryland (College Park), 2007
- Laxmi Gurunatham Pellakuru, Ellington, CT
B.S., Johns Hopkins University, 2008
- Shaaretha Pelly, Singapore
B.S., Nanyang Technological University, 2006
- Taylor Louise Reynolds, Raleigh, NC
B.A., Colorado College, 1993
D.V.M., Tufts University, 2000
- Allison Catherine Sharrow, Pittsburgh, PA
B.S., University of Pittsburgh, 2004
- Renata Shraybman, Boca Raton, FL²
B.A., Cornell University, 2008
- Brian Wesley Simons, Baltimore, MD
B.S., Texas A&M University, 2000
B.A., Texas A&M University, 2004
D.V.M., Texas A&M University, 2004
- Shamayra Samantha Smail, Miami, FL²
B.S., Florida Institute of Technology, 2003
- Wei Wen Teo, Johor Bahru, Malaysia
B.S., National University of Singapore, 2002
- Valerie Toodle, Lawton, OK
B.S., Cameron University, 2006
- Alyssa Lynne Walker, Olney, MD
B.S., University of Maryland (Baltimore County), 2009
- Kimberly Martha Walter, Towson, MD
B.A., University of Virginia, 1999
- Genevieve Lorraine Weber, Troy, NY
B.S., Rensselaer Polytechnic Institute, 2005
- Jennifer Rose Wehner, Rock Island, IL
B.A., Augustana College, 2004
- Hong Yuen Wong, Singapore
B.S., Nanyang Technological University, 2008
- Chao-Yi Wu, Baltimore, MD
M.D., Chang Gung University College of Medicine, 2004
- Ren-Chin Wu, Taipei, Taiwan
M.D., Chang Gung University College of Medicine, 2000
- Kai Lee Yap, Singapore
B.S., National University of Singapore, 2006
- Ying Ye, Baltimore, MD
B.Med., Henan Medical University, 1995
M.S., Long Island University, 2002
- Jonathan Wei-Che Yu, Pasadena, CA
B.A., Johns Hopkins University, 1996
- Teraneh Zariffar, Baltimore, MD
B.S., University of California (Riverside), 2008

PHARMACOLOGY AND MOLECULAR SCIENCES

- Blake Tolu Aftab, San Francisco, CA
B.S., University of California (Santa Barbara), 2005
- Atinuke Seun Ajiboye, Raleigh, NC
B.S., Duke University, 2008
- Lindsay Brooke Avery, S. Hamilton, MA
B.S., Syracuse University, 2007
- Bradley Powers Barnett, Clifton, VA^{1,2}
B.A., University of Virginia, 2001
- Andrea Lee Benedict, Ypsilanti, MI
B.S., Eastern Michigan University, 2005
- Hyo-Eun Bhang, Seoul, Korea
B.S., Yonsei University, 2003
- Akrita Bhatnagar, Reston, VA
B.S., George Mason University, 2009
- David Bolduc, Marlborough, CT
B.S., University of Connecticut, 2008
- Agedi Nicholson Boto, Baltimore, MD¹
B.S., California Institute of Technology, 2002
- William Nathaniel Brennen, Newark, DE
B.A., University of Delaware, 2002
- Mark Anthony Castanares, Carson, CA
B.S., California State University (Dominguez Hills), 2005
- Paweena Chalugun, Samutprakarn, Thailand
M.D., Chulalongkorn University, 2000
- Meng-Jung Chiang, Taipei, Taiwan
B.S., National Taiwan University, 2004
M.S., University of Pennsylvania, 2005
- Jason Benavidez Dinoso, Brighton, MA
B.S., University of California (Los Angeles), 2002
- Evelyn Eisele, Centennial, CO
B.S., Wake Forest University, 2009
- Moataz M. Gadalla, Ithaca, NY¹
A.B., Cornell University, 2007
B.S., Cornell University, 2007
- Jian He, Beijing, China
M.D., Peking Union Medical College, 2003
- Katie Jean Herbst, Baltimore, MD
B.A., Johns Hopkins University, 2006
- Elisabeth Marie Hersman, Dover, NH
B.A., Wellesley College, 2008

- Jason David Howard, Charlottesville, VA
B.S., University of Virginia, 2003
- Christine Ann Jelinek, Baltimore, MD
B.A., Columbia University, 2005
- Darshil Tushar Jhaveri, Mumbai, India
B.S., University of Illinois (Urbana), 2008
- Nene Nwocha Kalu, Danbury, CT
B.S., University of Texas (Arlington), 2006
M.S., University of Texas (Arlington), 2006
- Hyung-Joon Kim, Seongnam, Korea
B.S., Korea University (Seoul), 2009
- Michael Alexander Koldobski, Columbia, MO¹
B.S., Yale University, 2003
- Meng Li, Beijing, China
M.D., Peking Union Medical College, 2004
- Ying-Chun Lo, Kaoshiung City, Taiwan
M.D., National Yang-Ming University, 2007
- Nicolette Alexandra Louissaint, Pittsburgh, PA
B.S., Carnegie Mellon University, 2006
- Yanhui Lu, Columbus, OH
B.S., Shandong University, 2002
M.S., Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, 2005
- Michael Lee Manning, Blacksburg, VA
B.S., Virginia Polytechnic Institute and State University, 2006
- Daniel Roe Marous, Bexley, OH
B.A., Wittenberg University, 2009
- Maria Isabel Martinez Ferrando, Madrid, Spain
M.Sc., Universidad Politecnica de Madrid, 2003
- Maira Ann McMahon, Plano, TX
B.S., University of Texas (Austin), 2002
- Andrea Mountney, Harleysville, PA
B.S., Ursinus College, 2004
- Johnathan Philip Neiswinger, Hampshire, IL
B.S., Geneva College, 2007
- Omoruyi Osahon Osula, Baltimore, MD
B.S., Morehouse College, 2004
- Romeo Papazyan, Burbank, CA
B.S., University of California (Los Angeles), 2007
- Meghdad Rahdar, Plano, TX
B.S., University of Texas (Dallas), 1999
- Zachery Roger Reichert, Crystal Lake, IL^{1,2}
B.A., Washington University in St. Louis, 2002
- Vedangi S. Sample, Katy, TX
B.S., University of Houston, 2003
- Liang Shan, Shanghai, China
B.S., Nankai University, 2003
- Lin Shen, Baltimore, MD
M.D., Peking Union Medical College, 2005
- John Joseph Skoko, Pittsburgh, PA
B.S., University of Pittsburgh, 2001
- Traci Jenelle Speed, Rocky Hill, CT¹
B.A., Colby College, 2003
- Martin Samuel Taylor, Baltimore, MD¹
B.S.E., Princeton University, 2005
- Denis Vasilievich Titov, Lake Forest Park, WA
B.S., Novosibirsk University, 2005
- Yung-Sheng Melody Tsui, Cambridge, MA
B.S., University of Pennsylvania, 2005
- Ijeoma Kimberly Uzoma, New Haven, CT
B.A., Tufts University, 2006
- Matthew Scott Vandiver, Johnson City, TN¹
B.S., Furman University, 2006
- Frank Patrick Vendetti, Pittsburgh, PA
B.S., University of Pittsburgh, 2004
- David Anthony Walker, Sugarloaf, PA
B.A., University of Pennsylvania, 2008
- Qing Wang, Tianjin, China
B.S., Nankai University, 2003
- Marie Ruth Webster, Washington, DC
B.A., Kalamazoo College, 2003
- Brice Alexander Wilson, College Station, TX
B.S., Texas A&M University, 2004
- Crystal Lashae Woodard, Hampton, VA
B.S., Hampton University, 2005
- Nicolas A. Wyhs, Cambridge, MA
B.S., Massachusetts Institute of Technology, 2005
- Sifei Xing, Beijing, China
B.S., Tsinghua University, 2006
- Jing Xu, Beijing, China
M.D., Peking Union Medical College, 2003
- Risheng Xu, League City, TX¹
A.B., Harvard University, 2007
- Melissa Ann Zarr, Portland, OR
B.A., Reed College, 2008
- Feiran Zhang, Beijing, China
B.S., Tsinghua University, 2006
- Xiaosong Zhang, Beijing, China
M.D., Peking Union Medical College, 2004

PHYSIOLOGY

Cellular and Molecular Physiology

- Kathryn Jean Brothers, Evanston, IL
B.A., Carleton College, 2006
- Sean T. Byrne, Washington, DC
B.S., College of William and Mary, 2004
- Ishita Das, Bangalore, India
B.S., Sri Venkateswara College, 2002
- Mingye Feng, Anhui, China
B.S., University of Science and Technology of China, 2004
- Theron Clinton Gilliland Jr., Silver Spring, MD
B.S., Andrews University, 2002
- Lawrence Wilson Gray, Baltimore, MD
B.S., California State University (Fullerton), 2005
- Nesrin Mehmed Hasan, Baltimore, MD
B.S., Middle East Technical University, 2006
- Akunna M. Iheanacho, Baltimore, MD
B.S., Oakwood College, 2000
M.S., University of Virginia, 2006
- Osi Iyalomhe, Miramar, FL
B.S., Florida Memorial University, 2005
- Di Kang, Berkeley, CA
B.A., University of California (Berkeley), 2005
- Ha Won Lee, Seoul, Korea
B.S., Pohang University of Science and Technology, 2003
- Yunjong Lee, Seoul, Korea
B.S., Seoul National University, 2004

Sachin Mohan, Lucknow, India
M.B.B.S., University of Lucknow - K.G. Medical
College - India, 2001

Netty Gondo Santoso, West Lafayette, IN
B.S., Purdue University, 2005

Marcus Seldin, Huntington Beach, CA
B.S., University of California (Irvine), 2008

Jie Shi, Singapore
B.S., National University of Singapore, 2005
M.S., National University of Singapore, 2008

Deepali Nivas Tukaye, Bangalore Karnataka, India
M.B.B.S., Rajiv Ghandi University of Health
Sciences, 2002

Zhikui Wei, Xining, Qinghai, China
B.S., Peking University, 2005

Annan Yang, Beijing, China
B.S., China Agricultural University, 2004

CANDIDATES FOR THE DEGREE OF MASTERS OF ARTS

HISTORY OF MEDICINE

Ellen K. Silbergeld, Baltimore, MD²
A.B., Vassar College, 1967

MEDICAL AND BIOLOGICAL ILLUSTRATION

Shizuka Naomi Aoki, Ontario, Canada
B.F.A., Queen's University (Canada), 2007

Jodi Elise Chapman, Oviedo, FL
B.A., Florida State University, 2008

Bona Kim, Suwon, Korea
B.S., Seoul National University, 2007

Beatriz Martin Villalba, Galapagar, Spain
M.B.B.S., Universidad Complutense de Madrid,
2006

Neil Patrick McMillan, New York, NY
B.S., Citadel Military College, 2005

Adam Michael Pellerite, Leominster, MA
B.F.A., Boston University, 2009

Tara Marie Rose, North Attleboro, MA
B.F.A., Ringling College of Art & Design, 2007

Stephanie DePalma Sadler, Elkins Park, PA
B.A., Arcadia University, 2008

Joseph Carl Samson, St. Louis, MO
B.F.A., Fontbonne University, 2005

Suzanne Frances Slattery, Philadelphia, PA
B.F.A., School of Visual Arts, 1992

Bricelyn Hope Strauch, Athens, GA
B.F.A., University of Georgia, 2007

Inna-Marie Strazhnik, Cranford, NJ
B.F.A., School of the Art Institute of Chicago,
2002

Elizabeth Nicole Weissbrod, Columbus, OH
B.F.A., Columbus College of Art & Design, 2004

CANDIDATES FOR THE DEGREE OF MASTERS OF SCIENCE

HEALTH SCIENCES INFORMATICS

Naima Lexi Carter-Monroe, Gwynn Oak, MD²
B.S.E., University of Maryland (Baltimore
County), 1997
M.D., Howard University, 2001

Eric Kai Hong Chow, Toronto, Canada
B.A.S., University of Toronto, 2008

Jean-Paul Chretien, Kensington, MD²
B.S., United States Naval Academy, 1996
M.D., Johns Hopkins University School of
Medicine, 2003

Pammie Renee Crawford, Baltimore, MD
B.A., University of Southern California, 1996
M.Phil., University of Cambridge, 2000
M.S., Harvard University School of Public
Health, 2005

Octavis Denise Lampkin, Germantown, MD²
B.A., Tougaloo College, 1997
M.A., George Washington University, 2001

Laurent Laor, New York, NY²
B.A., New York University, 2004

Henry Li, Suwanee, GA
B.S., Georgia Institute of Technology, 2009

Yair G. Rajwan, Burke, VA
B.Sc., University of Bridgeport, 1991
M.Sc., George Washington University, 1995
Dr. Sc., George Washington University, 2000

HEALTH SCIENCES INFORMATICS

Applied Health Sciences Informatics

Elyse Lasser, Hartford, CT
B.A., Smith College, 2006

Mwa-Mur Ntayingi, Kinshasa, Congo

¹ Combined Degree Program M.D.-Ph.D. or other

² On Leave of Absence

**CANDIDATES FOR THE DEGREES OF DOCTOR OF PHILOSOPHY,
MASTERS OF ARTS, AND MASTERS OF SCIENCE
COLLEGES ATTENDED†**

Aga Khan Medical College - Aga Khan University - Karachi - Pakistan *.....	1	Cornell College	1
Albany State University	1	Cornell University	13
American University.....	2	Dartmouth College.....	2
American University of Beirut *	1	Davidson College.....	2
Amherst College	4	Dickinson College.....	1
Amirkabir University of Technology *	1	Drexel University.....	1
Andrews University	1	Duke University.....	10
Anna University *	1	Duquesne University	1
Arcadia University.....	1	Eastern Michigan University.....	1
Arizona State University	4	Eastern Washington University.....	2
Asbury College	1	Elon College.....	1
Augustana College	1	Emory University.....	3
Bangalore University *	3	Erskine College.....	1
Barnard College.....	2	Evergreen State College	2
Bates College.....	3	Ewha Women's University - College of Medicine - Seoul - South Korea *	1
Beijing University of Aeronautics and Astronautics - Beijing *	1	Florida Atlantic University.....	1
Berea College	1	Florida Institute of Technology	2
Bharathiar University *	1	Florida Memorial University.....	2
Bilkent University *	1	Florida State University	2
Bombay College of Pharmacy (Mumbai) *	1	Fontbonne University.....	1
Boston College	4	Franklin and Marshall College.....	3
Boston University.....	5	Fudan University *	10
Bowdoin College.....	5	Fujian Catholic University *	1
Brandeis University.....	3	Furman University.....	1
Brigham Young University	4	Geneva College	1
Brooklyn College of the City University of New York	2	George Mason University.....	2
Brown University.....	3	George Washington University	6
Bucknell University	2	Georgetown University	3
California Institute of Technology.....	3	Georgia Institute of Technology	3
California State University (Dominguez Hills).....	2	Gettysburg College.....	1
California State University (Fresno)	2	Goucher College	2
California State University (Fullerton).....	1	Grand Canyon University	1
California State University (Long Beach).....	1	Grinnell College	1
California State University (Northridge).....	3	Gustavus Adolphus College.....	1
Calvin College.....	1	Hampton University	2
Cameron University	1	Harvard University	6
Capital University of Medical Sciences - Beijing * ..	2	Harvard University School of Public Health.....	2
Carleton College	2	Harvey Mudd College	2
Carnegie Mellon University	5	Haverford College.....	1
Case Western Reserve University	6	Henan Medical University *	1
Cedar Crest College	2	Hong Kong University of Science and Technology *	1
Chang Gung University College of Medicine *	4	Hope College	1
China Agricultural University *	1	Howard University.....	3
China Medical University *	2	Hunter College	1
Chulalongkorn University *	1	Imperial College of Science, Technology and Medicine *	1
Citadel Military College	1	Indian Institute of Technology (Bombay) *	6
City College of New York, The	1	Indian Institute of Technology (Delhi) *	1
Clark University.....	1	Indian Institute of Technology (Kharagpur) *	2
Clarkson University.....	2	Indian Institute of Technology (Madras) *	3
Clemson University.....	7	Indiana University (Bloomington).....	1
Colby College.....	2	Iowa State University of Science and Technology	1
College of Notre Dame	2	Isfahan University of Technology *	1
College of the Holy Cross.....	2	Ithaca College.....	1
College of William and Mary.....	4	James Madison University	1
College of Wooster	1	Johns Hopkins Bloomberg School of Public Health	5
Colorado College	1	Johns Hopkins University.....	47
Colorado State University.....	3	Johns Hopkins University School of Medicine.....	3
Columbia University.....	5	Juniata College	2
Columbus College of Art & Design.....	1		

Kalamazoo College	1	Ohio State University	4
Kangwon National University *	2	Oklahoma Baptist University	1
Keio University *	1	Oregon State University	1
Kent State University	2	Osmania Medical College - Osmania University - Hyderabad - A P - India *	1
Kenyon College	3	Osmania University *	1
Kings College *	1	Oxford University Medicine School - Oxford*	1
Korea Advanced Institute of Science and Technology - Taejon *	4	Peking Union Medical College *	7
Korea University (Seoul) *	7	Peking University *	16
Lafayette College	1	Pennsylvania State University	16
Lebanese American University *	1	Pohang University of Science and Technology * ..	3
Lehigh University	1	Princeton University	3
Lewis and Clark College	1	Purdue University	6
Long Island University	1	Queen's University (Canada) *	2
Louisiana State University (Baton Rouge)	4	Quinnipiac College	1
Louisiana State University Medical Center School of Graduate Studies	1	Radboud University Nijmegen *	1
Loyola College	2	Radcliffe College	1
Maclester College (St. Paul)	1	Rajiv Ghandi University of Health Sciences *	1
Massachusetts Institute of Technology	24	Reed College	2
Masters College	1	Rensselaer Polytechnic Institute	2
Mayo Graduate School	1	Rhodes College	2
McGill University *	1	Rice University	1
Mercyhurst College	1	Ringling College of Art & Design	1
Messiah College	1	Roanoke College	1
Miami University	4	Rochester Institute of Technology	1
Michigan State University	2	Rutgers University	7
Michigan State University School of Veterinarian Medicine - E. Lansing	2	Saint John's University	1
Middle East Technical University *	3	Saint Olaf College	1
Millersville University	1	Salisbury University	1
Minnesota State University (Mankato)	1	San Diego State University	1
Minnesota State University (Moorhead)	1	School of the Art Institute of Chicago	1
Mississippi State University	1	School of Visual Arts	1
Monmouth University	1	Seoul National University *	18
Montana State University	2	Seton Hall University	1
Montclair State University	1	Shahed University *	1
Morehouse College	4	Shandong University *	1
Morgan State University	2	Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences *	1
Mount Holyoke College	1	Shanghai Jiao Tong University *	3
Mount Saint Mary's College - Los Angeles	1	Shanghai Second Medical University *	2
Nanjing University *	5	Sharif University of Technology *	2
Nankai University *	3	Shippensburg University of Pennsylvania	1
Nanyang Technological University *	5	Sichuan University *	1
National and Kapodistrian University of Athens * ..	2	Skagit Valley College	1
National Cheng Kung University *	3	Skidmore College	1
National Chiao Tung University *	2	Smith College	1
National Taiwan Normal University *	1	Sogang University *	1
National Taiwan University *	22	Sri Venkateswara College *	1
National Tsing Hua University *	2	St. Louis University	2
National University of Singapore *	9	St. Mary's College of Maryland	2
National Yang-Ming University *	1	St. Mary's University of Minnesota	1
New Jersey Institute of Technology	1	Stanford University	3
New York University	1	State University of New York - Upstate Medical University, Clinical Campus at Binghamton	1
North Carolina Central University	1	State University of New York (Albany)	2
North Carolina State University	2	State University of New York (Binghamton)	1
North Carolina State University College of Veterinary Medicine	1	State University of New York (Buffalo)	1
Northeastern University	2	State University of New York (Geneseo)	2
Northern Arizona University	1	State University of New York (Oswego)	1
Northern Kentucky University	2	State University of New York (Stony Brook)	2
Northwestern University	9	Stonehill College	1
Novosibirsk University *	1	Sun Yat-sen University *	1
Oakwood College	1	Sungkyunkwan University *	1
Oberlin College	1	Susquehanna University	1
Occidental College	2	Swarthmore College	3
		Syracuse University	3

Taipei Medical University *	1	University of Maryland (College Park)	14
Tennessee Temple University	1	University of Maryland (Eastern Shore)	3
Texas A&M University	6	University of Massachusetts (Amherst)	4
Texas A&M University College of Medicine - College Station	1	University of Miami	1
Thayer School of Engineering	1	University of Michigan (Ann Arbor)	3
Tohoku University *	1	University of Michigan	2
Tougaloo College	1	University of Minnesota (Twin Cities)	5
Towson University	5	University of Missouri (Columbia)	1
Trinity College *	1	University of Missouri (Rolla)	1
Tsinghua University *	36	University of Mysore *	1
Tufts University	3	University of Nevada	1
Tulane University	5	University of New Hampshire	2
United States Naval Academy	2	University of New Mexico	1
Universidad Central de Venezuela *	1	University of North Carolina (Chapel Hill)	9
Universidad Complutense de Madrid *	1	University of Notre Dame	2
Universidad de Antioquia - Facultad de Medicina - Medellin *	2	University of Oklahoma (Norman)	2
Universidad de Chile *	1	University of Oregon (Eugene)	1
Universidad Peruana Cayetano Heredia - Lima *	1	University of Oxford *	2
Universidad Politecnica de Madrid *	1	University of Pennsylvania	14
Universidade Federal De Pernambuco *	1	University of Pittsburgh	8
Universita Degli Studi di Roma "La Sapienza" *	1	University of Puerto Rico (Mayaguez Campus)	1
University for Health Sciences, Medical Informatics and Technology *	1	University of Puerto Rico (Rio Piedras)	1
University of Alabama	1	University of Puget Sound	2
University of Arizona	3	University of Rochester	7
University of Arkansas	1	University of Science and Technology of China *	5
University of Bridgeport	1	University of Scranton	1
University of Bucharest *	2	University of South Carolina (Columbia)	1
University of Calcutta *	1	University of South Florida	1
University of Calgary *	1	University of Southern California	4
University of California (Berkeley)	10	University of Tehran *	5
University of California (Davis)	1	University of Texas (Arlington)	2
University of California (Irvine)	6	University of Texas (Austin)	5
University of California (Los Angeles)	8	University of Texas (Dallas)	1
University of California (Riverside)	2	University of Texas (San Antonio)	1
University of California (San Diego)	9	University of the Philippines *	1
University of California (Santa Barbara)	2	University of Tokyo *	1
University of California (Santa Cruz)	1	University of Toronto *	7
University of Cambridge - School of Cli Medicine - Cambridge*	1	University of Tulsa	1
University of Cambridge *	4	University of Utah	2
University of Chicago	6	University of Vermont	1
University of Colorado	1	University of Vienna *	1
University of Connecticut	3	University of Virginia	15
University of Delaware	2	University of Washington	10
University of Delhi *	1	University of Waterloo *	4
University of Denver	1	University of Wisconsin (Eau Claire)	1
University of Florida	9	University of Wisconsin (Madison)	5
University of Georgia	5	University of Wisconsin (Whitewater)	1
University of Guelph *	1	Ursinus College	4
University of Hong Kong *	1	Vanderbilt University	2
University of Houston	2	Vanderbilt University School of Medicine	1
University of Idaho	1	Vassar College	2
University of Illinois (Urbana)	13	Victor Babes University of Medicine and Pharmacy *	1
University of Illinois College of Medicine (Urbana)	1	Vietnam National University *	1
University of Kansas	3	Virginia Commonwealth University	1
University of Kentucky	2	Virginia Polytechnic Institute and State University	4
University of Kerala *	1	Virginia-Maryland Regional College of Veterinary Medicine	1
University of Louisville	2	Visveswaraiah Technological University *	1
University of Lucknow - K.G. Medical College - Lucknow - U P - India *	2	Wagner College	1
University of Madras *	1	Wake Forest University	1
University of Maine	1	Washington University in St. Louis	6
University of Maryland (Baltimore County)	18	Wellesley College	3
		Wesleyan University (Connecticut)	1
		West Virginia University	1
		Western Michigan University	1

Western Washington University	1	York University (Canada) *	1
Wheaton College	2	Zhejiang University *	1
Whitman College	1		
William Smith College.....	1	*Designates foreign schools.	
Williams College	2		
Wittenberg University	1		
Worcester Polytechnic Institute (Worcester).....	3	† Inasmuch as a student's preparation may have	
Wuhan University *	3	been received at more than one institution, this will	
Xinyang Teachers' College *	1	not check with the total number enrolled. Colleges	
Yale University	13	attended include all students who are Ph.D. or Mas-	
Yale University School of Medicine.....	1	ters candidates irrespective of current enrollment	
Yonsei University *	4	status.	



POSTGRADUATE APPOINTMENTS CLASS OF 2009

NEVINE DIA ALI

Department of Psychiatry
New York University School of Medicine
N-10-5 Deans Office
550 First Ave
New York, NY 10016

HASSAN MOHAMED ALOSH

Department of Orthopedic Surgery
Hospital of the University of Pennsylvania
Office of Graduate Medical Education
3600 Spruce Street, 1 Maloney
Philadelphia, PA 19104

MICHAEL ALPEROVICH

Department of Plastic Surgery
New York University School of Medicine
N-10-5 Deans Office
550 First Ave
New York, NY 10016

FRANK JOSEPH ATTENELLO III

Department of Neurological Surgery
University Of Southern California
LAC+USC Medical Center
1200 North State St, Room 1102
Los Angeles, CA 90033-1084

SONYA BABAR

Transitional Year Program
Albert Einstein Medical Center
Levy 8 West
5501 Old York Rd
Philadelphia, PA 19141-3098

*Department of Ophthalmology
Wills Eye Institute at Jefferson
840 Walnut St
Philadelphia, PA 19107

CHRISTOPHER CAMPBELL

Laboratory of Medicinal Chemistry
Center for Cancer Research
National Cancer Institute
376 Boyles Street, Building 376
Frederick, MD 21702

ANTHONY ROBERT CARLINO

Department of Psychiatry
Hospital of the University of Pennsylvania
Office of Graduate Medical Education
3600 Spruce Street, 1 Maloney
Philadelphia, PA 19104

ERIC TIMOTHY CARROLL

Department of Pediatrics
University of Pittsburgh Medical Center
Graduate Medical Education
Suite 300 Iroquois Building
3600 Forbes Avenue
Pittsburgh, PA 15213

MARGARET WELSH CAVANAUGH-HUSSEY

Johns Hopkins Bayview Medical Center
Department of Medicine A 1 West
4940 Eastern Ave B-1-North
Baltimore, MD 21224

*Department of Dermatology
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

JENNIFER KYLIEN CHEN

Department of Medicine
Johns Hopkins Bayview Medical Center
4940 Eastern Ave B-1-North
Baltimore, MD 21224

*Department of Dermatology
UC Irvine Medical Center
200 S. Manchester Suite 130
Orange, CA 92868

JENNIFER CHENG

Department of Neurosurgery
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

ANDREW SANGMIN CHI

Department of Medicine
Lankenau Hospital
100 Lancaster Avenue
Medical Education
Wynnewood, PA 19096

*Department of Radiology
Thomas Jefferson University
Gibbon Building Suite 2170
111 South 11st Street
Philadelphia, PA 19107-5096

RYAN EDWIN CHILDERS

Department of Medicine
Johns Hopkins Bayview Medical Center
4940 Eastern Ave B-1-North
Baltimore, MD 21224

EUNPI CHO

Department of Medicine
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

EDWARD CHU

Department of Emergency Medicine
UCLA Medical Center
Room 17-320-CHS
10833 Le Conte Avenue
Los Angeles CA 90095-6932

NATHAN WILLIAM COLEMAN

Department of Orthopedic Surgery
Univ. of Washington Affiliate Hospitals
Health Sciences Building A 300
Box 356340
Seattle, WA 98195-6340

JOSEPH GARFIELD CROMPTON

Department of Surgery
UCLA Medical Center
Room 17-320-CHS
10833 Le Conte Avenue
Los Angeles CA 90095-6932

LOUIS TUONG CHINH DANG
Department of Pediatrics
University of Michigan Hospitals
2500 Green Road
Suite 700, Box 0748
Ann Arbor, MI 48105-0748

MELISSA NICOLE DATTALO
Department of Medicine
Johns Hopkins Bayview Medical Center
4940 Eastern Ave B-1-North
Baltimore, MD 21224

NEAL ARLEDGE DEJONG
Department of Pediatrics
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

MORGAN KRISTEN DOOLEY
Department of Medicine
University of Maryland
Mercy Medical Center
301 St Paul Street Suite 300T
Baltimore, MD 21202-2165

*Department of Anesthesiology
Stanford University
GME Office HC 435
300 Pasteur Drive
Stanford, CA 94305-5207

JEFFERY COLEMAN DUBOIS
Department of Anesthesiology
University of Alabama Medical Center
RWUH M-190
619 19th Street South
Birmingham AL 35249-6805

ELIZABETH W DZENG
Department of Medicine
NYP Hospital
Columbia University Medical Center
Columbia Campus
180 FT Washington Ave HP FL 1
New York, NY 10032-3784

ALLEN OMID EGHARRI
Transitional Program
St. Francis Hospital Evanston
355 Ridge Avenue
Evanston, IL 60202-3399

*Department of Ophthalmology
University of Michigan Hospitals
2500 Green Road
Suite 700, Box 0748
Ann Arbor, MI 48105-0748

ANDREA ESTRADA
Department of Pediatrics
Stanford University Programs
GME Office HC 435
300 Pasteur Drive
Stanford, CA 94305-5207

SHARIFEH FARASAT
Transitional Program
St. Joseph Mercy
GME RHB 2111
5301 E Huron River Drive
Ann Arbor, MI 48106

*Department of Dermatology
University of Michigan Hospitals
2500 Green Road
Suite 700, Box 0748
Ann Arbor, MI 48105-0748

ERROL LAMONT FIELDS
Department of Pediatrics
Children Hospital Boston
300 Longwood Avenue
Boston, MA 02115

JEFFREY PETER FIORENZA
Department of Medicine
Brigham & Women's Hospital
Office of Graduate Medical Education
75 Francis Street Floor PBB RM B3
Boston, MA 02115

GIANNINA LISSA GARCES-AMBROSSI
Department of Neurosurgery
Massachusetts General Hospital
GME Office
7 Whittier Place, Suite 108
Boston, MA 02114

SRAVANYA GAVINI
Department of Medicine
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

MICHAEL DAVID GEORGE
Department of Medicine
Hospital of the University of Pennsylvania
Office of Graduate Medical Education
3600 Spruce Street, 1 Maloney
Philadelphia, PA 19104

TED AVI GERSTENBLITH
Department of Psychiatry
Massachusetts General Hospital – GME Office
7 Whittier Place, Suite 108
Boston, MA 02114

HUSSAM HASHIM GHALIB
Department of Medicine
University of Michigan Hospitals
2500 Green Road
Suite 700, Box 07048
Ann Arbor, MI 48105-0748

KASEY LYNN GILDERSLEEVE
Department of Neurology
Baylor College of Medicine – Houston
Room 022D
One Baylor Plaza
Houston, TX 77030-3498

SERGIO ALEJANDRO GLAIT
Department of Orthopedic Surgery
New York University School of Medicine
N-10-5 Deans Office
550 First Avenue
New York, NY 10016

SETH DANIEL GOLDSTEIN
Department of Surgery
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

PHILLIP JOHN GRAY

Department of Medicine
Massachusetts General Hospital – GME Office
7 Whittier Place, Suite 108
Boston, MA 02114

*Department of Radiation Oncology
Brigham & Women's Hospital
Office of Graduate Medical Education
75 Francis Street Floor PBB RM B3
Boston, MA 02115

SOPHIE CHARLOTTE GRISWOLD

Department of Surgery
UC San Francisco – East Bay
Surgery Department
1411 East 31st Street
Oakland, CA 94602-1018

ROZALINA GRUBINA

Department of Medicine/CI Research
Mayo School of Graduate Medical Education
200 First Street SW
Siebens 5
Rochester, MN 55905

SHANNON KATHLEEN GUST

Department of Emergency Medicine
Maricopa Medical Center
Administration Bldg 2nd Floor
2601 E Roosevelt Street
Phoenix, AZ 85008

TIMOTHY JAMES HARRIS

Department of Medicine
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

*Department of Radiation Oncology
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

GREGORY THOMAS HAVLENA

Department of Medicine
Franklin Square Hospital MD
9000 Franklin Square Drive
Baltimore, MD 21237-3998

*Department of Radiology
Stanford University Programs
GME Office HC 435
300 Pasteur Drive
Stanford, CA 94305-5207

ROGER SAI-KIT HO

Department of Medicine
Johns Hopkins Bayview Medical Center
Department of Medicine A 1 West
4940 Eastern Ave B-1-North
Baltimore, MD 21224

*Department of Dermatology
UPMC Medical Education Program
Suite 300 Iroquois Building
3600 Forbes Avenue
Pittsburg, PA 15213

TAMMY MARIE HOLM

Department of Surgery
Brigham & Women's Hospital
Office of Graduate Medical Education
75 Francis Street Floor PBB RM B3
Boston, MA 02115

DAVID PAUL HOROWITZ

Department of Medicine
Washington Hospital Center
110 Irving ST NW RM POB 121
Washington, DC 20010

*Department of Radiation Oncology
NYP Hospital
Columbia University Medical Center
Columbia Campus
180 Ft Washington Ave HP FL-1
New York, NY 10032-3784

REMEALLE ALMA HOW

Department of Surgery
UPMC Graduate Medical Education
Suite 300 Iroquois Building
3600 Forbes Avenue
Pittsburg, PA 15213

DAVID LEIGHTON HOWARD

Department of Obstetrics-Gynecology
NYP- Hospital-Weill Cornell Medical Center
New York-Cornell Campus
525 East 68th Street Room F-172
New York, NY 10021

STEVEN HSU

Department of Medicine
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

SAMEER KAISER

Department of Surgery
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

JESSE WADE KELLER

Department of Medicine
UC San Francisco
MU 250 East
500 Parnassus Avenue
San Francisco, CA 94143-0474

GARGI DIVYA KHARE

Department of Medicine
Brigham & Women's Hospital
Office of Graduate Medical Education
75 Francis Street Floor PBB RM B 3
Boston, MA 02115

*Department of Ophthalmology
Veterans Affairs Medical Center
243 Charles Street
Boston, MA 02114

ABTIN HAJILOO KHOSRAVI

Department of Surgery
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

ALENA KLIMAVA
 Department of Medicine
 UC Davis Medical Center – Sacramento
 Medical Education Building, Suite 4202
 4610 X Street
 Sacramento, CA 95817
 *Department of Ophthalmology
 University of California Davis Medical Center
 4860 Y Street Suite 2400
 Sacramento, CA 95817

FANG SARAH KO
 Transitional Program
 Harbor Hospital Center
 3001 South Hanover Street
 Baltimore, MD 21225-1290
 *Department of Ophthalmology
 Johns Hopkins-Wilmer, GBMC
 600 N Wolfe Street – Wilmer B20
 Baltimore, MD 21287

MATTHEW CHRISTOPHER KONERMAN
 Department of Medicine
 Johns Hopkins Hospital
 Administration 324
 600 N Wolfe Street
 Baltimore, MD 21287-1824

ALI KOOSHKABADI
 Department of Neurosurgery
 UPMC Medical Education Program
 Suite 300 Iroquois Building
 3600 Forbes Avenue
 Pittsburgh, PA 15213

ELIZABETH KIRSTEN LAVERRIERE
 Department of Pediatrics
 Children’s Hospital of Philadelphia
 34th Street & Civic Center Blvd
 Pediatric Residency – Room 9557
 Philadelphia, PA 19104-4399

ADREA SHIHYUN LEE
 Department of Emergency Medicine
 University of Maryland Medical Center
 22 South Green Street
 Baltimore, MD 21201

JOHNSON CHEN-SHING LEE
 Department of Plastic Surgery
 Albany Medical Center Hospital
 Graduate Medical Education MC-50
 43 New Scotland Avenue
 Albany, NY 12208

HANNA BETH LEMERMAN
 Department of Pediatrics
 Johns Hopkins Hospital
 Administration 324
 600 N Wolfe Street
 Baltimore, MD 21287-1824

JORDAN STEWART LEYTON-MANGE
 Department of Medicine
 Massachusetts General Hospital – GME Office
 7 Whittier Place, Suite 108
 Boston, MA 02114

DAVID MICHAEL LOFTHUS
 Department of Medicine
 Duke University Medical Center
 M148 Davison Building
 BOX 3951
 Durham, NC 27710

ANKIT MAHADEVIA
 25 Crescent St #227
 Waltham, MA 02453

MICHAEL ARMANDO MARCHETTI
 Department of Medicine
 The Mount Sinai Hospital
 1 Gustave Levy Place
 New York, NY 10029-6574
 *Department of Dermatology
 University of Virginia
 McKim Hall, Room 4008
 Jefferson Park Avenue
 Charlottesville, VA 22908

JO MARIN MARTIN
 Department of Medicine
 University of Maryland/Mercy Medical Center
 301 St Paul Place Suite 300T
 Baltimore, MD 21202-2165
 *Department of Dermatology
 Johns Hopkins Hospital
 Administration 324
 600 N Wolfe Street
 Baltimore, MD 21287-1824

COURTNEY GOODWIN MASEAR
 Department of Anesthesiology
 Johns Hopkins Hospital
 Administration 324
 600 N Wolfe Street
 Baltimore, MD 21287-1824

BRYANT VINCENT MCIVER JR
 Department of Surgery
 Emory University SOM
 1648 Pierce Drive, NE Suite 327
 Atlanta, GA 30322

MARISA EILEEN MEYER
 Department of Surgery
 Mayo School of Graduate Medical Education
 200 First Street SW – Siebens 5
 Rochester, MN 55905
 *Department of Urology
 College of Medicine, Mayo Clinic
 Rochester Methodist Hospital
 200 First Street SW
 Rochester, MN 55905

DANIEL LYMAN MILLER
 Department of Surgery
 University of Michigan Hospitals
 2500 Green Road
 Suite 700, Box 0748
 Ann Arbor, MI 48105-0748
 *Department of Urology
 University of Michigan & Health Center
 Veterans Affairs Medical Center
 1500 East Medical Center Drive
 TC 3875 SPC 5330
 Ann Arbor, MI 48109

PAYAM MOHASSEL
 Department of Medicine
 Johns Hopkins Hospital
 Administration 324
 600 N Wolfe Street
 Baltimore, MD 21287-1824

*Department of Neurology
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

RYAN WILLIAM MONROE
Department of Medicine
Providence Portland Medical Center
Department of Medical Education
5050 NE Hoyte Street Suite 540
Portland, OR 97213-2967

VINH-TUNG PHUOC NGUYEN
Department of Medicine
The Mount Sinai Hospital
1 Gustave Levy Place
New York, NY 10029-6574

TIMOTHY MICHAEL NIESSEN
Department of Medicine
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

JESSICA OPOKU-ANANE
Department of Obstetrics-Gynecology
Brigham & Women's Hospital
Office of Graduate Medical Education
75 Francis Street Floor PBB RM B3
Boston, MA 02115

NISHANT DINESH PATEL
Department of Surgery
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

SUSAN MARIE PETERSON
Department of Emergency Medicine
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

RORY JAMES PETTEYS
Department of Neurosurgery
Georgetown University Hospital
3800 Reservoir Road, NW LLC-PHC
Washington, DC 20007-2113

EMILY CAROL PFEIL
Department of Medicine
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

MARIA ALEXANDROVN PLETNEVA
Department of Pathology
University of Michigan Hospitals
2500 Green Road Suite 700, Box 0748
Ann Arbor, MI 48105-0748

RONI BENJAMIN PRUCZ
Department of Plastic Surgery
University of Washington Affil Hosp.
Health Sciences Building A 300
Box 356340
Seattle WA 98195-6340

AMIT RAHMAN
Department of Emergency Medicine
SUNY Upstate Medical University
UH-1814
750 E Adams Street
Syracuse, NY 13210

PUSHPA VANI RAJA
Department of Psychiatry
UCLA Semel Institute for Neuroscience
NPI C8-852
760 Westwood Plaza
Los Angeles, CA 90024-1759

FATEMEH RAJAIL
Department of Medicine
University of Maryland/Mercy Medical Center
301 St Paul Place Suite 300T
Baltimore, MD 21202-2165

*Department of Ophthalmology
Johns Hopkins Hospital
600 N Wolfe Street Wilmer B 20
Baltimore, MD 21287

RABIA RAFI RAZI
Department of Medicine
University of Chicago Medical Center
5841 Maryland Ave B-126 MC1052
Chicago IL 60637-1470

ALISON PAYNE REID
Department of Emergency Medicine
University of Michigan Hospitals
2500 Green Road
Suite 700, Box 0748
Ann Arbor, MI 48105-0748

MARC DAVID RICKS
Department of Pediatrics
Cleveland Clinic Foundation
NA 23
9500 Euclid Avenue
Cleveland, OH 44195-5242

SARAH INMAN ROGERS
Department of Pediatrics
Mayo School of Graduate Medical Education
200 First Street SW Siebens 5
Rochester, MN 55905

RICHARD BRANDON SCHARTZ
417 D Street NW
Miami, OK 74354

AHMAD REZA SEDAGHAT
Department of Otolaryngology
Mass Eye and Ear Infirmary
243 Charles Street
Boston, MA 02114-3095

MICHAEL WALLACE SENTOME
1472 East 57th St
Brooklyn NY 11234

CATHERINE SEO
Department of Emergency Medicine
Brigham & Women's Hospital
Office of Graduate Medical Education
75 Francis ST Floor PBB RM B3
Boston, MA 02115

SANGINI BHADRIK SHAH
Department of Obstetrics & Gynecology
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

SOPHIA FONTANILLA SHAKUR
Department of Neurosurgery
University of Chicago Medical Center
5841 Maryland Avenue B-126 MC 1052
Chicago, IL 60637-1470

ZITA JEH-IH SHIU
Department of Medicine
University of Washington Affil Hosp
Health Science Building A 300
Box 356340
Seattle, WA 98185 6340

KARL ANTON CHRISTOPHER SODERLUND
Transitional Program
National Naval Medical Center
Office of Graduate Med Education
8901 Wisconsin Avenue
Bethesda, MD 20889

*Department of Radiology
National Naval Medical Center
Department of Radiology
6900 Georgia Avenue, NW
Washington, DC 20307

DANIEL BROOKNER STEIN
Department of Medicine
Brigham & Women's Hospital
Office of Graduate Medical Education
75 Francis ST Floor PBB RM B3
Boston, MA 02115

BRADLEY CHARLES STRUNK
Department of Medicine
Johns Hopkins Bayview Medical Center
4940 Eastern Avenue
Baltimore, MD 21224

MICHAEL RAPHAEL TADROSS
Department of Biomedical Engineering
Johns Hopkins University School of Medicine
Ross 713
720 Rutland Avenue
Baltimore, MD 21205

ERIC WAN TAN
Department of Orthopedic Surgery
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

MARIETTA TAN
Department of Otolaryngology
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

SARAH RUTH TEMPLE
Department of Emergency Medicine
University of South Florida
College of Medicine
12901 Bruce B Downs Blvd, MDC 2
Tampa, FL 33612-4799

MONICA ARLENE TINCOPA
Department of Medicine
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

GEOFFREY HUANG TISON
Department of Medicine
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

KENNETH SHEINJE TSENG
Department of Surgery
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

*Department of Urology
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

JONATHAN HENG TZU
Department of Medicine
Franklin Square Hospital Center
9000 Franklin Square Drive
Baltimore, MD 21237-3998

*Department of Ophthalmology
Bascom Palmer Eye Institute
900 NW 17th Street
Miami, FL 33136

JANA LYNN VANDEGRIFT
Department of Pediatrics
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

JIOVANI MIRANDA VISAYA
Department of Otolaryngology
NYP Hospital Columbia & Cornell
622 West 168th Street
New York, NY 10032

AMIT NAVIN VORA
Department of Medicine
Brigham & Women's Hospital
Office of Graduate Medical Education
75 Francis ST Floor PBB RM B3
Boston, MA 02115

PAUL RAVI WALDRON
Department of Medicine
Johns Hopkins Bayview Medical Center
4940 Eastern Avenue
Baltimore, MD 21224

DARCY KATE WEIDEMANN
Department of Pediatrics
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

SASRUTHA RASIKA WICKRAMASINGHE

Department of Medicine
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

LAURA DELONG WOOD

Department of Pathology
Johns Hopkins Hospital
Administration 324
600 N Wolfe Street
Baltimore, MD 21287-1824

LAUREN FANG XU

Department of Pathology
University of Maryland Medical Center
22 South Green Street
Baltimore, MD 21201

JUSTIN SHU YANG

Department of Orthopedic Surgery
Barnes-Jewish Hospital
One Barnes Hospital Plaza
St. Louis, MO 63110

MARK JASON YOUNG

Department of Medicine
Union Memorial Hospital
Medical Education Department
201 East University Parkway
Baltimore, MD 21218

*Department of Anesthesiology
Massachusetts General Hospital – GME Office
7 Whittier Place, Suite 108
Boston, MA 02114

MICHELLE RIBEIRO YOUNG

Department of Medicine
North Shore University Hospital
300 Community Drive
Mansasset, NY 11030

*Department of Radiology
UCLA Medical Center
Room 17-320-CHS
10833 Le Conte Avenue
Los Angeles, CA 90095-6932

KAN KARL ZHANG

Department of Surgery
Union Memorial Hospital
Medical Education Department
201 East University Parkway
Baltimore, MD 21218

*Department of Radiology
Rochester General Hospital
Medical Education Department
1425 Portland Avenue Box 267
Rochester, NY 14621

JESSICA ZHOU

Department of Medicine
St. Joseph Mercy Ann Harbor
GME RHB 2111
5301 E Huron River Drive
Ann Arbor, MI 48106

*Department of Radiology
University of Michigan Hospitals
2500 Green Road
Suite 700 Box 0748
Ann Arbor, MI 48105-0748

RYAN MICHAEL ZIMMERMAN

Department of Orthopedic Surgery
Massachusetts General Hospital – GME Office
7 Whittier Place, Suite 108
Boston, MA 02114

JENNIFER LYNN ZISKIN

7219 Procopio Circle
Columbia, MD 21046

* 2nd Postgraduate Year of Training



Appendix

The original endowment which made possible the opening of the School of Medicine in 1893 was raised largely through the efforts of a group of women who were interested in seeing that adequate facilities should be made available for the instruction of women in medicine. The circumstances attending the acceptance of this fund were as follows:

At a meeting of the Board of Trustees of the University, October 28, 1890, the following letter was presented:

"The committee formed for the purpose of raising a fund to procure the most advanced medical education for women can now place at your disposal the sum of one hundred thousand dollars for the use of your Medical School, if you will, by resolution, agree that women whose previous training has been equivalent to your preliminary medical course, shall be admitted to the school, when it shall open, upon the same terms which may be prescribed for men. There can be no doubt that women ought to be trained to act as nurses for sick women. There is as little doubt that a sufficient number of women ought to be educated and trained in such manner as to be fully able to care for sick women who may wish or ought to be treated by women. We have devoted ourselves to the furtherance of this object. We have reason to hope that a university which proposes to found a medical school intended to teach advanced methods in the treatment of those diseases which affect mankind, will not refuse to women the opportunity of learning such methods. There is now a general interest in our movement. In order that this interest may be sustained, we ask you to consider our offer at the earliest possible period."

NANCY MORRIS DAVIS,
"Chairman of the Baltimore Committee."

The following minute was adopted by the Trustees:

The President and Board of Trustees of the Johns Hopkins University have received from Mrs. Nancy Morris Davis, chairman of one of the committees formed for the purpose of raising a fund to procure the most advanced medical education for women, the gratifying intelligence that \$100,000 has been raised for the use of their intended Medical School, and is at their disposal, if they will, by resolution, agree to the terms upon which the money was contributed by its donors."

"The terms are that this Board, if it accepts the funds thus raised, shall agree, by resolution, that, when its Medical School shall be opened, women whose training has been equivalent to the preliminary medical course prescribed for men, shall be admitted in such school upon the same terms as may be prescribed for men."

"The offer to this University of the particular fund is the free, voluntary act of women residing in this State and in other States, made without the suggestion or solicitation of this Board, and we accept it under and subject to the terms which are made a part of the gift, with the understanding and declaration, however, that such preliminary training in all its parts be obtained in some other institution of learning devoted, in whole or in part, to the education of women, or by private tuition."

"The fund so contributed shall be invested and known as 'The Women's Medical School Fund,' and that fund, and all interest to accrue thereon and all additions made thereto for the same purpose, shall remain invested for the purpose of increase only until, with its aid as a foundation, a general fund has been accumulated amounting to not less than \$500,000, and sufficient for the establishment and maintenance of a Medical School worthy of the reputation of this University, and fully sufficient as a means of complete medical education. Then, and not until then, will a Medical School be opened by this University, and then, and not until then, will the gift now offered be used by this University; and then, and not until then, will the terms attached thereto be operative."

"The utility of a training school for women nurses has been demonstrated by the experience and practice of the Johns Hopkins Hospital, and by the necessities of home life among our people."

"This Board is satisfied that in hospital practice among women, in penal institutions in which women are prisoners, in charitable institutions in which women are cared for, and in private life, when women are to be attended, there are a need and place for learned and capable women physicians; and that it is the business and duty of this Board, when it is supplied with the necessary means for opening its proposed Medical School, to make provision for the training and full qualification of such women for the abundant work which awaits them in these wide fields of usefulness."

"Nothing contained in this minute shall be construed as abridging, in any manner, the right of the Board of Trustees of the Johns Hopkins University to make such rules and regulations as they may deem necessary for the government of the School of Medicine, when it is organized; and in making such rules and regulations the terms of this minute shall always be respected and observed."

Miss Mary Elizabeth Garrett, in order to make up the sum of \$500,000, which the Board of Trustees required should be secured as an endowment before the Medical School of the University was opened, contributed to that fund the sum of \$306,977, upon the following terms, which were agreed to by the Board of Trustees:

1. That women shall enjoy all the advantages of the Medical School of the Johns Hopkins University on the same terms as men to all the prizes, dignities or honors that are awarded by competition, examination, or regarded as rewards of merit.

2. That not more than \$50,000 of the original endowment of \$500,000 shall be expended on a building or buildings; and that in memory of the contributions of the Committees of the Women's Medical School Fund, this building, if there be but one, or the chief building, if there be more than one, shall be known as the Womens' Fund Memorial Building.

3. That the Medical School of the University shall be exclusively a graduate school as hereinafter explained, that is to say: That the Medical School of the Johns Hopkins University shall form an integral part of the Johns Hopkins University, and like other departments of the University, shall be under the management and control of the Trustees of the said University, that it shall provide a four years' course, leading to the degree of Doctor of Medicine; that there shall be admitted to the School those students only who, by examination or by other tests equally satisfactory to the Faculty of the Medical School (no distinction being made in these tests or examinations between men and women), have proved that they have completed the studies included in the Preliminary Medical Course (Group Three, Chemical-Biological Course), as laid down in the University Register (but this condition is not meant to restrict the Trustees from receiving as hearers, but not as candidates for the degree of Doctor of Medicine, those who have received the degree of Doctor of Medicine, or its equivalent, in some school of good repute); and that the degree of Doctor of Medicine of the Johns Hopkins University shall be given to no Doctor of Medicine who has not proved by examination or by other tests equally satisfactory to the Faculty of the Medical School that he has completed the studies included in the Preliminary Courses, besides completing the course of instruction of the Medical School of the Johns Hopkins University.

The foregoing provision shall not be construed as restricting the liberty of the University to make such changes in the requirements for the admission to the Medical School of the Johns Hopkins University or to accept such equivalents for the studies required for admission to the school as shall not lower the standard of admission specified in this clause; provided that the requirements in modern languages other than English shall not be diminished, and provided also that the requirements in non-medical scientific studies shall include at least as much knowledge of natural science as is imparted in the three minor courses in science now laid down in its University Register, the subjects and arrangements of these scientific studies being subject to such modifications as may from time to time seem wise to its Board and to the Faculty of the Medical School, but being at all times the same for all candidates for admission. (For such requirements always see University Register.)

4. That the terms of this gift and the resolution of October 28, 1890, by which the Trustees accepted the gift of the Women's Medical School Fund, shall be printed each year in whatever annual calendars may be issued announcing the courses of the Medical School. (See appended resolutions.)

5. That there shall be created a committee of six women to whom the women studying in the Medical School may apply for advice concerning lodging and other practical matters, and that all questions concerning the personal character of women applying for admission to the School and all non-academic questions of discipline affecting the women studying in the Medical School shall be referred to this committee, and by them be in writing reported for action to the authorities of the University; that the members of this committee shall be members for life; that the committee, when once formed, shall be self-nominating, its nominations of new members to fill such vacancies as may occur being subject always to the approval of the Board of Trustees of the University.

6. That in the event of any violation of any or all of the aforesaid stipulations, the said sum of \$306,977 shall revert to her, or such person or persons, institution or institutions, as she by testament or otherwise may hereafter appoint.

It will be observed that by the tenor of the foregoing terms no university course will be in any way modified by any conditions attached to her gift. These conditions relate exclusively to preparation for the Medical School, and have received, in the shape in which they are now presented, the unanimous approval of the Medical Faculty of the University.

The terms of admission to the Medical School of the University, as formulated and interpreted by the Medical Faculty of the University, February 4, 1893, and here subjoined, are therefore in entire accordance with the terms of her gift.

(Signed) MARY E. GARRETT

REQUIREMENTS FOR ADMISSION TO THE MEDICAL SCHOOL OF THE JOHNS HOPKINS
UNIVERSITY, UNANIMOUSLY APPROVED BY THE MEDICAL FACULTY
FEBRUARY 4, 1893

A course of four years' instruction will be provided leading to the degree of Doctor of Medicine.

To this course there will be admitted as candidates for the degree:

1. Those who have satisfactorily completed the Chemical-Biological course which leads to the A.B. degree in the University.
2. Graduates of approved colleges or scientific schools who can furnish evidence: (a) That they have a good reading knowledge of French and German; (b) That they have such knowledge of physics, chemistry and biology as is imparted by the regular minor courses given in these subjects in this University.
3. Those who give evidence by examination that they possess the general education implied by a degree in arts or in science from an approved college or scientific school, and the knowledge of French, German, physics, chemistry and biology already indicated.

By approved colleges and scientific schools are meant those whose standard for graduation shall be considered by this University as essentially equivalent to its standard for graduation in the undergraduate department.

It is to be understood that at least one year's study in the Chemical and Biological Sciences in their intermediate relation to medicine shall be required from students after their entrance to the Medical School.

* * *

WOMEN'S ADVISORY COMMITTEE OF THE JOHNS HOPKINS SCHOOL OF MEDICINE

Dr. Eileen P. G. Vining, Chairman
Mrs. Benjamin M. Baker, Jr.
Dr. Anne B. McKusick

Dr. Laura M. Mumford
Dr. Frances H. Trimble

Their duties are stated in paragraph 5 of the letter printed above.





Alphabetical List of Names

Abadir, Peter M	165, 358	Ahn, Edward S	287, 308, 359
Abazyán, Bagrat	442	Ahn, Hyo S	278, 341
Abbas, Fouad M	152, 392	Ahn, Young-Hoon	441
Abbott, Patricia A	155, 418	Ahsan, Sama Farheen	440
Abd Elmageed, Zakaria Abdel-Ghaffar Youssef	429	Ahuja, Nita	216, 283, 316, 359
Abdelkarim, Riad Zuhdi	169, 392	Aiba, Takeshi	428
Abdelrehim, Ola Abdelrehim Ahmed	431	Ain, Michael C	286, 288, 341
Abdullah, Fizan	285, 358	Aina, Abimbola J.	151, 359
Abdullah, Lubna Qazi	440	Aitken, Colin Echeverria	424
Abernethy, Darrell R	159, 251, 305, 321	Aja, Susan M	262, 359
Abougergi, Marwan Samir	165, 358	Ajiboye, Atinuke Seun	477
Aboumatar, Hanan J	165, 358	Ajuba-Iwuji, Chinwe Chi Chi	423
Abraham, Alison	145	Akar, Fadi G	165, 359
Abraham, Anil Thomas	120, 405	Akasapu, Karunakar	428
Abraham, Jennifer Alphonso	440	Akca, Alper	444
Abraham, John M	165, 358	Akhavan Malayeri, Ashkan A	443
Abraham, Maria Roselle	165, 358	Akimov, Sergey Sergeevich	442
Abraham, Rtika Ryfka	427, 435	Akintola, Akinwande A	264, 392
Abraham, Theodore P	162, 341	Akitake, Bradley Chun-Yee	424
Abramowitz, Andrew	242, 358	Akki, Ashwin Sivappa	428
Abrams, Donald A	225, 358	Akman, Andrew Stephen	444
Abrams, Lisa S	225, 358	Akman, Samuel Robert	152, 392
Abramson, Lauren	262, 305, 358	Akpek, Esen Karamursel	224, 341
Abuav, Rachel	139, 308, 358	Akulian, Jason Atticus	431
Acevedo, Summer	201, 416	Akwaa, Frank	427
Achanta, Pragathi	432	Al Qassim, Saif	464
Acharya, Soumyadipta	465	Alachkar, Nada	169, 392
Acharya, Veena Kalmanje	431	Alai, Hamid R	451
Achuff, Stephen C	159, 321	Alaish, Samuel M	285, 359
Ackerman, Christopher Michael	474	Alamelumangapuram, Chidamber Bharath	433
Acquavita, Shauna Prendergast	442	Alammar, Luna	463
Adams, Hadie	432	Alani, Rhoda M	139, 194, 214, 314, 341
Adams, Kirstie Anne-Merrea	439	Alapat, Daisy Varunni	439
Adams, Laura Lee	256, 358	Alavi, Reza	430
Adams, Meredith Claire Brandt	424	Alberi, Lavinia	433
Adams, Robert J	192, 312, 317, 341	Albert, Catherine Michelle	440
Adams, Todd C	443	Albert, Marilyn S	197, 203, 260, 314, 321
Adger, Hoover	239, 309, 321	Albesiano, Emilia	218, 409
Adhanom, Teamrat Araia	427	Albrecht, Charles R III	165, 315, 359
Adhikari, Durga Dhot	435	Alcheikh, Elie	429, 430
Adkinson, N Franklin Jr	159, 316, 321	Alder, Jonathan Kimball	436
Adler, Richard Alan	225, 358	Alderman, George C	291, 390
Adomaityte, Jurga	427	Aldrich, Eric Matthew	198, 257, 341
Afanador-Gonzalez, Gustavo Alexis	469	Alegado, Eli B	169, 392
Afewor, Yohannes	276, 409	Alessi, Larry E	262, 359
Aftab, Blake Tolu	477	Alewine, Christine Campo	426
Aganga, Olatanbosun Olukayode	423	Alexander, Joe Jr	127, 359
Agarwal, Amit	434	Alexander, Miriam H	173, 418
Agarwal, Nisheeth	430	Alfert, Harold Joseph	294, 390
Agarwal, Rachana	172, 409	Al-Grain, Haitham A	424
Agbahiwe, Harold C	443	Alhariri, Jihad M	140, 392
Agbor-Enoch, Sean Tabi	427	Al-Hazzaa, Selwa A	224, 341
Aggarwal, Manisha	465	Alhumaid, Alia	430
Aggarwal, Neil Raj	431	Alhumaid, Fawaz Sulaiman	429
Aggarwal, Nisha	426	Ali, Ferhina Sultana	449
Aggarwal, Pooja	447	Ali, Nevine Dia	484
Aggarwal, Vikram	465	Ali, Syed Zulfiqar	231, 275, 341
Aghsaei-Fard, Masoud	437	Alibhai, Suleiman S	226, 392
Agnetti, Giulio	428	Alizadeh Naderi, Amir Said	431
Agnew, William Scott	258, 321	Alizai-Cowan, Saadia	264, 392
Aganovich, Anna V	442	All, Angelo Homayoun	127, 200, 359
Agrawal, Amit	440	Allaf, Mohamed E	127, 294, 359
Agrawal, Gautam	276, 392	Allary, Marina	424
Agrawal, Jay Paul	427	Allbritton, Jill	139, 359
Agrawal, Nishant	216, 291, 358	Allen, Jeremiah Geoffrey	445
Agrawal, Yuri	438	Allen, Jerilyn K	174, 316, 418
Agre, Peter C	123, 309, 310, 418	Allen, Marilee C	239, 314, 321
Agueh, Modupe Veronique	425	Allen, Richard P	200, 409
Aguiar-Oliveira, Manuel H	173, 416	Allen, Robert Harry	153, 418
Aguirre, Francisco	425	Allison, David C	284, 408
Agwu, Allison Lorna	173, 242, 359	Allman, Melissa Jayne	440
Ahad, Rooman	434	Almashat, Sammy Jafar	431
Ahlawat, Rajni	440	Almeida, Andre Luiz Cerqueira	428
Ahluwalia, Kulwant S	245, 408	Almeida, Deepak Vinay Gregory	430
Ahmad, Abdullah Shafique	120, 392	Alonso, Carolyn Dehlen	430
Ahmad, Hassan M	120, 392	Aloor, Ravi Kumar	286, 392
Ahmed, Ishrat	453	Alosh, Hassan Mohamed	484
Ahmed, Rukhsar	428	Alp, Mehmet Serdar	437
Ahmed, Sameer	451	Alperovich, Michael	484
Ahmed, Shabina Roohi	429	Altermus, Anne Reed	48, 359
Ahmed, Syed Mustafa	431	Alter, Blanche Pearl	239, 321

Althaus, Janyne	151, 359
Althoff, Keri	145
Altman, Kristiina Ruutiainen	152, 359
Alvanzo, Anika A H	165, 359
Alvarado, David Michael	469
Alvarez, Alejandra Denisse	425
Alvarez, Hector Andres	439
Alves, Donald W	142, 405
Amado, Luciano Costa	428
Amarasingham, Ruben	169, 392
Amari, Adrianna	262, 359
Amateau, Stuart Kevin	429
Am binder, Richard F	53, 159, 211, 229, 251, 321
Ambrose, Marietta Samantha	428
Amer, Muhammad	169, 392
Ame y, Michael B	306, 311, 313
Amin, Anubhav Gautam	451
Amini, Reza	423
Ammerman, Nicole C	430
Amoako, Martha Obeng	449
Amzel, L Mario	46, 133, 307, 308, 311, 321
Anagnostopoulos, Constantinou	438
Anand, Ankur	423
Anand, Gobind	426
Anchoori, Ravi Kumar	218, 409
Ancona, Robert J	245, 408
Anders, Jennifer F	242, 359
Anders, Robert Albert	53, 216, 231, 359
Andersen, Allan Michael	442
Andersen, Arnold E	408
Andersen, Dana Kimball	282, 307, 321
Anderson, Allan A	262, 359
Anderson, Cheryl	145
Anderson, Gerard F	173, 418
Anderson, Jean R	151, 173, 314, 321
Anderson, John E	165, 359
Anderson, Michael Andrew	424
Anderson, Troy Witty	465
Andrabi, Syed Shaida Ahmad	433
Andrade, Adriana S A	165, 359
Andrade, Felipe A	165, 359
Andrejak, Claire	430
Andres, Reubin	159, 321
Andres-Mateos, Eva	426
Andrew, Clifford G	199, 359
Andrew, Deborah Jean	136, 321
Andrews, Jane Laurel	456
Andrikopoulou, Efsthathia	445
Aneja, Alka	262, 359
Angeli, Sandra	310
Angelini, Daniel John	120, 409
Angelino, Andrew F	260, 341
Angell, Charles S	165, 305, 359
Angelos, Peter G	305
Anggono, Victor	434
Anhalt, Grant J	139, 229, 321
Anidi, Ifeanyi Ygochukwu	456
Anis, Sarah	226, 405
Ankrom, Michael Alan	165, 359
Annesley, Colleen Elizabeth	436
Ansari, Fahila	433
Ansher, Merrill	200, 392
Anthony, William C	169, 392
Antoine, Denis Godwin II	442
Antonarakis, Emmanuel Stylianos	435
Antony, Alvin Kandanatt	256, 392
Antony, Ashley Kandanatt	447
Anwar, Didar S	437
Aoki, Joseph	438
Aoki, Shizuka Naomi	479
Aon, Miguel Antonio	172, 409
Ap Rhys, Colette M J	287, 392
Apelberg, Benjamin	145
Apostolides, John George	445
Appel, Lawrence J	159, 321
Appleby, Brian Stephen	262, 359
Appling, Susan	312
Araki, Yoichi	434
Arany, Zita	435
Arbab-Zadeh, Amin	165, 359
Arbaje, Alicia I	165, 359
Arbez, Nicolas	442
Arcara, Kristin Marie	314, 440
Arcenci, Robert J	211, 239, 321
Archer, Kristin R	288, 359
Arene, Nikiruka U	256, 359
Arepally, Aravind	276, 341
Aretouli, Eleni	442
Arevalo, Hermenegild Javier	465
Argani, Cynthia Holcroft	152, 359
Argani, Pedram	211, 229, 321
Ariaei, Fariba	428
Arifin, Dian Respati	444

Ariyo, Promise Temidayo	423
Arkenbout, Elisabeth Karin	428
Arking, Dan Eytan	149, 165, 359
Armaly, Raya	226, 392
Armand, Mehran	290, 418
Armanios, Mary Y	216, 359
Armstrong, C Michael	305, 317
Armstrong, Deborah K	151, 214, 307, 308, 314, 341
Armstrong, Todd D	218, 409
Arnalde z, Fernanda	436
Arnan, Martinson Kweku	433
Arnaoutakis, George John	445
Arner, Katherine Elizabeth	472
Arnett, Ernest N	165, 359
Arnold, Allyn	146
Arnold, Stacey Marie	172, 409
Arnold, W Perry	277, 392
Aronson, Beth L	152, 392
Aronson, Jeffrey H	305
Aronson, Neal I	286, 357
Arora, Rangolee Shrawan	430
Arrabal, Pedro Pablo	152, 392
Arrington-Sanders, Renata Gayle	242, 359
Artemenko, Yulia	424
Artemov, Dmitri	214, 277, 341
Arthur, Joanna Cecilia	438
Aryee, Martin Joseph Ankrach	435
Arzumanyan, Hasmik	427
Asamoah, Vivian Abena	429
Asare, Thelma S	152, 392
Asdourian, Paul L	289, 392
Ash, Jordan J	456
Ashai, Shaukat A	152, 390
Ashar, Bimal H	162, 309, 341
Ashery-Padan, Ruth	226, 416
Ashikaga, Hiroshi	428
Ashman, Ruth S	242, 359
Asiyanbola, Bolanle A	283, 359
Askin, Frederick B	229, 309, 314, 316, 321
Aslaxson, Rebecca	118, 359
Asnaghi, Laura	439
Asner, Yuval	442
Assefnia, Shahin	432, 438
Astor, Brad C	144, 173, 418
Atalar, Ergin	277, 321
Atay-Rosenthal, Saadet	277, 359
Atha, Walter F	142, 392
Atianjoh, Fidelis Eghoateh	440
Atkinson, Meredith	242, 359
Ator, Nancy A	260, 312, 314, 321
Atta, Mohamed G	162, 341
Attar, Samer	289, 392
Attenello, Frank Joseph III	484
Aucott, John Nathaniel	169
Aucott, Susan Wright	242, 359, 392
August, J Thomas	211, 251, 321
Augustine, Mathew M	445, 474
Augustine, Norman R	305
Auster, Martin	276, 359
Auwaerter, Paul Gisbert	162, 312, 341
Au Yeung, Karla Jean	242, 359
Avaniyapuram Kannan, Murugan	429
Averbach, Nadya	423
Aversano, Thomas R	162, 341
Avery, Lindsay Brooke	477
Avila-Tang, Erika	145
Avramopoulos, Dimitrios	43, 149, 260, 341
Avtanski, Dimitar Bogdanov	440
Avula, Danny Theja Kumar	431
Aw Yong, Koh Meng	476
Axilbund, Jennifer E	218, 409
Aye-Han, Nwe-Nwe	464
Aygun, Nafi	275, 359
Ayhan, Yavuz	442
Aylward, Elizabeth H	261, 341
Ayukawa, Koichi	433
Azad, Nilofer S	216, 359
Azadi, Javad Raymond	453
Azar, Alex	225, 360
Azene, Ezana Muluneh	443
Azene, Nicole Minnette	432
Azhagiri, Arun K	433
Aziz, Shahid	244, 392
Azuogu, Chinyere Chinenye	423
Azzam, Helen Carol	431
Baba, Takayuki	436
Babade, Mosunmola O	423
Babar, Sonya	484
Babatz, Timothy David	472
Babbitt, Roberta L	262, 360
Babcock, Joseph James	469
Babkes, Richard	200, 392
Bach, Dylan Minh	439

Bachas, Sharrol.....	462
Bachman, Julia Lynn.....	475
Badamas, Jemilat Olapeju.....	427
Badan, Shadi Raymond.....	446
Badea, Tudor Constantin.....	432
Bader, Joel.....	43, 127, 418
Badger, Christopher Timmons.....	435
Badgett, James Thomas Curry.....	436
Badr, Kamal F.....	159, 321
Bae, Mihyun.....	433
Baer, Alan Nathaniel.....	162, 341
Baewer, David Vincent.....	438
Baeza, Oscar R.....	48, 360
Baffi, Charles Richard.....	218, 409
Bagger, Jonathan.....	305
Bagnasco, Serena Maria.....	231, 314, 341
Bahrain, Michelle L.....	169, 392
Bai, Baoyan.....	443
Bai, Haibo.....	439
Bai, Ling.....	475
Bai, Renyuan.....	288, 409
Bai, Weiliang.....	292, 416
Baia, Gilson.....	288, 409
Baile, Matthew Garrett.....	462
Bailey, Emily J.....	432, 469
Bailey, Janie E.....	305, 317
Bailey, Justin Richard.....	430
Bailey, Susan Elaine.....	264, 392
Bailey, Vasudev J.....	465
Bailey-Kloch, Marie.....	172, 409
Bailey-Lundberg, Jennifer Marie.....	445
Bailis, Anya Jeannine.....	426
Bair-Merritt, Megan.....	242, 360
Baitech, Arthur.....	288, 390
Bakare, Nyasha J.....	431
Baker, Alva Saysr III.....	264, 392
Baker, Benjamin M Jr (Mrs).....	493
Baker, Keith.....	311
Baker, Lenox D Jr.....	305, 317
Baker, R Robinson.....	282, 313, 339
Baker, Rosanna P.....	194, 409
Baker, Susan P.....	142, 245, 418
Baker, William C.....	313
Baklor, Sanford M.....	319
Bakshi, Rahul P.....	172, 409
Balachander, Neeraja Manikkavalli.....	475
Balagopal, Ashwin.....	169, 392
Balakrishnan, Janaki.....	278, 392
Balasubramanian, Ranganathan.....	444
Balch, Charles M.....	139, 211, 282, 321
Baldwin, H Furlong.....	305
Baldwin, Kismet M.....	440
Baldwin, William M III.....	229, 321
Balhara, Kamna Singh.....	451
Balighian, Eric Darius.....	244, 392
Balkissoon, Rishi.....	437
Ball, Douglas W.....	162, 214, 341
Ball, Gregory F.....	205, 418
Ball, Marion J.....	155, 418
Ball, Mark Wayne.....	447
Ball, Wilmot C Jr.....	162, 319, 357
Balmanoukian, Ani Sarkis.....	435
Baltazar, Romulo F.....	165, 360
Baluja, Viveck.....	440
Bamba, N'Dama Miankanze.....	456
Bandari, Jathin.....	451
Bandaru, Veera Venkata Ratnam.....	200, 409
Bandein-Roche, Karen.....	173, 418
Bangash, Muhammad Ali.....	463
Bank, Sylvia Chen.....	244, 392
Bankert, Kristen.....	476
Bankman, Isaac N.....	127, 360
Bankoti, Rashmi.....	441
Bankova, Lora Georgieva.....	427
Banks, James R.....	245, 408
Banks, Nia Danielle.....	286, 392
Bann, Maralyssa Angelique.....	449
Bansal, Anshuman Kumar.....	447
Bansal, Sandeep.....	428
Bao, Clare Li-June.....	172, 409
Baqai, Junaid.....	439
Bar, Eli E.....	232, 392
Baraban, Jay M.....	203, 260, 309, 310, 321
Baradaran Ebrahimi, Katayoon.....	437
Baradaran, Nima.....	446
Baral, Anupa.....	430
Baramki, Theodore A.....	151, 245, 341
Barber, Shelia A.....	192, 341
Barbi, Joseph James.....	436
Barbour, Walid Khaled.....	226, 416
Barbul, Adrian.....	282, 285, 321
Bardia, Aditya.....	435
Barger-Kamate, Breanna Skye.....	440
Barin, Jobert Guerrero.....	474
Barker, Lee Randol.....	159, 321
Barker, Norman J.....	48, 231, 341
Barker, Peter B.....	211, 278, 308, 316, 321
Barlin, Joyce Nuqui.....	425
Barnes, Clarissa Grace.....	426
Barnes, Grace Link.....	172, 409
Barnes, Kathleen Carole.....	162, 314, 341
Barnes-Sanchez, Kathy.....	316
Barnett, Bradley Powers.....	449, 477
Barnett, Shannon Rae.....	262, 360
Barnett, Shonoi Andrea.....	441
Barodka, Viachaslau Mikalayevich.....	118, 360
Baron, David.....	317
Baron, Jillian Tracey.....	451
Baroness, Jeremiah A.....	305
Barone, Michael Anthony.....	242, 307, 308, 310, 314, 360
Baronoski, Shelly.....	317
Barouch, Lili Ayala.....	165, 360
Barr, Michael S.....	169, 392
Barranco, Frank T.....	288, 390
Barreiro, Christopher J.....	445
Barrett, Desire Elaine.....	474
Barrett, Lisa Shanel.....	442
Barron, Jeremy S.....	165, 360
Barron-Casella, Emily.....	242, 360
Barrow, Roxanne K.....	205, 409
Barrowman, Jemima R.....	424
Barry, Amanda Nell.....	442
Bar-Shir, Amnon.....	444
Barta, Patrick E.....	266, 418
Bartels, Karsten.....	424
Bartelt, Detlef.....	276, 341
Barth, Andreas Sebastian.....	428
Barth, Klemens H.....	276, 341
Bartik, Leonid.....	449
Bartlett, Edward L Jr.....	242, 360
Bartlett, John G.....	159, 312, 313, 321
Bartlett, Susan Joan.....	162, 341
Bartner, Howard C.....	48, 341
Barton, Charles Dennis Jr.....	262, 360
Barton, Matthew Ryan.....	434
Baruch, Robert A.....	319
Basaldella, Luca.....	432
Basdag, Haticce.....	451
Bashir, Shazia.....	425
Bass, Eric B.....	159, 308, 311, 321
Bass, Stacey Ann.....	443
Bassett, Susan S.....	261, 316, 341
Bassik, Noy.....	456
Bassila, Jean-Claude N.....	431, 433
Basso, Alessandro G.....	294, 360
Bastacky, David C.....	292, 392
Bastian, Amy J.....	198, 204, 256, 308, 341
Bates, Ernest A.....	305
Bathon, Joan M.....	159, 311, 313, 314, 321
Batista, Denise A.....	231, 360
Batkis, Marcelo.....	264, 392
Battaglia, Michael J II.....	289, 392
Batts-Turner, Marian L.....	172, 409
Batza, Michael J Jr.....	319
Bauermann, Charles L.....	319
Baughner, Joseph Daniel.....	464
Baumgartner, William A.....	284, 306, 307, 308, 318, 321
Bax, Joseph Anthony.....	442
Bay, Mihee Jeon.....	440
Bayer, Jason Douglas.....	465
Bayless, Theodore M.....	159, 321
Baylin, Stephen B.....	43, 159, 211, 311, 321
Bazin, Pierre-Louis.....	276, 392
Bazzazi, Hojjat.....	465
Bazzetta, Stephen.....	310
Be, Nicholas Anh.....	469
Beach, Mary Catherine.....	162, 308, 316, 341
Bead, Valeriani R.....	428
Beam, Codi Dawn.....	425
Bearman, Sheldon B.....	277, 392
Beasley, C Elizabeth.....	264, 392
Beaton, Kara Huffman.....	465
Beaty, Claude Anthony Jr.....	445
Beaty, Robert M.....	218, 409
Beaty, Terri H.....	144, 219, 418
Beaver, Julia Ann.....	426
Beck, Augustus Alexander.....	430
Beck, Kaylin Jessica.....	453
Beck, Lawrence M.....	319
Beck, Melissa Q H.....	262, 360
Beck, Sarah Evelyn.....	432, 438, 469
Beck, Thomas J.....	276, 316, 342
Becker, Andrew N.....	169, 393
Becker, Daniel.....	200, 393
Becker, Diane M.....	159, 314, 321
Becker, Kimberly Dyan.....	443

Becker, Lewis C.....	159, 279, 321
Becker, Patrice M.....	162, 311, 314, 342
Beckwith-Fickas, Katherine A.....	440
Bedi, Atul.....	214, 290, 342
Bedine, Marshall S.....	165, 360
Bedont, Joseph Lewis.....	475
Bedri, Mazen Ibrahim.....	445
Beer, Michael A.....	43, 127, 149, 194, 360
Beetar, John T.....	262, 360
Begly, John Patrick.....	451
Begum, Shahnaz.....	232, 393
Beh, Weijie.....	465
Behrens, Ashley.....	224, 342
Behrmann, David Aaron.....	443
Beilis, Heidi.....	276, 393
Bekhrad, Azin Elizabeth.....	264, 393
Belbase, Ram Hari.....	428, 433
Belcher, H Vaughan.....	283, 390
Belcher, Harolyn M E.....	240, 311, 314, 342
Beleva, Violeta Jivkova.....	465
Belfonte, Cassius Diego.....	428, 429
Belitsos, Nicholas J.....	165, 232, 360
Belitsos, Peter C.....	165, 360
Belkoff, Stephen M.....	288, 342
Bell, Barbara B.....	242, 360
Bell, Elizabeth Eileen.....	456, 472
Bell, William R.....	159, 339
Bellamy, Justin Leandro.....	453
Bellantoni, Michele F.....	162, 314, 342
Bello, Nicholas Thomas.....	442
Belton, Amy M.....	430
Belzberg, Allan Joel.....	286, 342
Belmea, Melania Maria.....	118, 242, 360
Ben-Chaim, Yair.....	434
Bender, Matthew Travis.....	451
Bender, Michael.....	246, 418
Bendit, Emile A.....	262, 360
Benedict, Andrea Lee.....	477
Benesh, Samuel I.....	169, 393
Bengel, Frank Michael.....	173, 279, 342
Bengson, Christopher John.....	425
Benneh, Nana Dwemoh.....	423
Bennet, Catherine Stebbins.....	451
Bennett, Errol L.....	288, 360
Bennett, Jennifer Leigh.....	453
Bennett, John E.....	172, 408
Bennett, Jonathon Drew.....	474
Bennett, Richard G.....	159, 315, 321
Bennett, Wendy Lynet.....	165, 360
Benson, Jane E.....	245, 277, 360
Benz, Heather L.....	465
Berenholtz, Sean Michael.....	117, 283, 342
Berg, Elliott M.....	285, 360
Berg, Wendie Anderson.....	277, 360
Berger, Jonathan Carlin.....	445
Berger, Robert S.....	139, 360
Berger, Ronald D.....	126, 159, 322
Berger, Zackary Dov.....	165, 360
Bergey, Gregory Kent.....	197, 322
Bergles, Dwight E.....	204, 291, 342
Bergman, Charles Andrew.....	142, 405
Bergmann, Adriel.....	465
Berk, Jason Michael.....	462
Berkeley, Alfred R III.....	305
Berkenblit, Gail Valerie.....	165, 360
Berkow, Lauren Claire.....	118, 291, 360
Berkowitz, Aaron Lee.....	447
Berkowitz, Dan E.....	117, 126, 322
Berkowitz, Ivor D.....	117, 240, 342
Berkowitz, Jared.....	294, 393
Berkowitz, Joan E.....	277, 360
Berkowitz, Scott Adam.....	428, 430
Berkowitz, Tal Eliram.....	447
Berlin, Fred S.....	261, 342
Berliner, Adam Richard.....	169, 393
Berlinicke, Cynthia A.....	226, 409
Berman, David M.....	53, 214, 231, 294, 342
Berman, Stacey Marie.....	462
Bernacki, Edward J.....	162, 316, 317, 342
Bernard, Jonathan Alexander.....	437
Bernardo, Leandro.....	431, 433
Bernsdson, Christopher Edward.....	424
Bernert, Heike.....	435
Bernett, Clyde.....	317
Bernholt, David Lee.....	453
Bernstein, Benjamin D.....	140, 393
Bernstein, David H.....	305
Bernstein, Michael T.....	242, 360
Berry, Allison Diane.....	451
Berry, Cristine Elizabeth.....	431
Berry, Stephen Arthur.....	430
Bervinchak, Deborah G.....	292, 406
Bessman, Edward S.....	142, 360

Best, Simon Roderick Alfred.....	438
Bethel, Carlise Renee.....	439
Bettogowda, Chetan.....	432
Beyar, Rafael.....	159, 322
Beyrer, Chris.....	144
Bezdek, Joseph.....	310
Bezerianos, Anastasios G.....	127, 416
Bezhad, John.....	318
Bezman, Lena.....	200, 409
Bhagat, Nikhil.....	276, 360
Bhagavan, Belur S.....	231, 342
Bhambhani, Ramola.....	423
Bhan, Sheetal.....	438
Bhandare, Sunita Prakash.....	424
Bhang, Hyo-Eun.....	477
Bhanpuri, Nasir Husain.....	465
Bharadwaj, Rajnish.....	434
Bharathi.....	433
Bhargavan, Mythreyi.....	277, 360
Bharwani, Lavina.....	216, 360
Bhasin, Arun K.....	120, 393
Bhat, Niranjana.....	242, 360
Bhat, Shridhar.....	252, 416
Bhatia, Aarti Khushal.....	427, 435
Bhatia, Rinky.....	165, 360
Bhatnagar, Akrita.....	477
Bhatnagar, Pallav.....	426
Bhattacharyya, Sharmistha.....	442
Bhattacharyya, Shamik.....	449
Bhatti, Nasir Islam.....	120, 290, 342
Bheda, Poonam Jayendra.....	462
Bhise, Amit Kumar.....	427
Bhise, Nupura Sudhir.....	465
Bhujwala, Zaver M.....	211, 277, 322
Bhunia, Anil.....	120, 409
Bhutiani, Neal.....	453
Bhutto, Imran A.....	226, 409
Bi, Sheng.....	261, 342
Bianchet, Mario Antonio.....	133, 393
Bias, Wilma B.....	159, 339
Bibat, Genila M.....	245, 409
Bicket, Mark.....	75, 447
Biedrzycki, Barbara Anne.....	218, 317, 409
Bieler, Joan Glick.....	232, 409
Bien, Clara Margaret-Louise.....	462
Bienstock, Jessica L.....	151, 311, 314, 315, 342
Bienvenu, O Joseph.....	261, 342
Bierman, Joseph S.....	261, 342
Bigelow, George E.....	260, 316, 322
Bilbow, Alexis.....	120, 393
Biles, James D.....	294, 393
Billam, Madhavi.....	435
Billingsley, Lynn M.....	165, 360
Billioux, Alexander Carl.....	447
Bime, Christian.....	431
Bingham, Clifton O.....	165, 360
Binstock, Martin.....	319
Birenbaum, Howard J.....	244, 393
Birmingham, Eileen Marie.....	431
Birnbaum, Bernhard.....	169, 393
Birnbaum, Julius.....	169, 393
Birnbaum, Rebecca.....	442
Birsner, Meredith Lee.....	425
Birzescu, Maria M.....	118, 360
Bishai, David M.....	245, 418
Bishai, William Ramses.....	53, 159, 233, 322
Bishoff-Carlson, Kevin E.....	169, 393
Bishop, Justin Avery.....	438
Bisht, Savita.....	439
Bisson, Sharen.....	264, 393
Bisuna, Blanca.....	444
Biswal, Shyam Sundar.....	173, 219, 312, 418
Biswas, Subrata.....	172, 409
Biswas, Sunetra Shobhan.....	464
Bitman, William R.....	225, 360
Bitok, John Kipchirchir.....	464
Bittar, Deborah Gisriel.....	244, 393
Bittner, Ava K.....	225, 361
Bitzer, Sally.....	118, 361
Bivalacqua, Trinity Jude.....	446
Bizzell, Cary Frederick.....	443
Bjornsson, Hans Tomas.....	440
Black, Betty E Smith.....	262, 361
Black, Chelsea Marie.....	469
Black, James Hamilton.....	283, 361
Black, Jason Wesley.....	169, 393
Black, Katharine Elliot.....	431
Black, Lucien Vandy.....	244, 393
Black, Robert E.....	173, 418
Blackman, Gabrielle Levine.....	262, 361
Blackman, Marc R.....	159, 322
Blackman, Scott M.....	242, 361
Blackshaw, Seth.....	43, 204, 226, 361

Blackwood, Stuart Leighton St Aubin	445	Borodovsky, Alexandra	469
Blaha, Kerry Kusz	423	Borowitz, Michael J.	211, 229, 308, 316, 322
Blaha, Michael Joseph	428	Borrello, Ivan	214, 342
Blakeley, Jaishri O'Neill	199, 216, 287, 361	Borrero, Carrie S W	262, 361
Blakemore, Karin J	149, 151, 211, 314, 322	Borzan, Jasenka	120, 393
Blakeslee, Wesley	307	Bosch-Marce, Marta	200, 409
Blanco, Ray Gervacio F	291, 361	Boscia, John A.	245, 408
Blanding, Renee J	118, 361	Bose, Sonali	431
Blank, Leah	449	Bosley, Deidre	317
Blankson, Joel	165, 361	Bosques, Glendaliz	256, 393
Blanock Mower, Melissa M	440	Boss, Emily Frances	291, 361
Blasco-Colmenares, Elena	423	Boss, Renee Denise	242, 361
Blass, David Mark	262, 361	Botlagunta, Mahendran	444
Blaustein, Mary Jane	262, 390	Boto, Agedi Nicholson	456, 477
Blecker, Saul Bryan	430	Bottomley, Paul A	126, 159, 277, 312, 322
Bledsoe, Marty	318	Boult, Charles E.	173, 419
Bleich, Karen Beth	276, 393	Boult, Lisa B.	165, 361, 472
Bliss, Donald F II	48, 361	Boulware, Leigh Ebony	162, 342
Blitz, Ari Meir	278, 361	Bourque, Douglas M.	152, 393
Block, Brian M.	120, 393	Bouvet, Sean	142, 393
Block, Hannah Justine	434	Bova, G Steven	155, 216, 231, 294, 361
Block, Lauren Dara	426	Bowditch, Stephen	292, 406
Blohm, Eike	451	Bowen, Craig William	118, 361
Blomquist, Joan L	152, 393	Bowen, Tyson David	464
Blouin, Ashley Marie	440	Bowkley, Charles William III	444
Blue, Mary Elizabeth	198, 204, 314, 342	Bowman, Katherine Cloud	475
Bluebond-Langner, Rachel Olga	445	Bowman, Kevin Lee	431
Bluemke, David A	159, 276, 322	Bowman, Lynn G	262, 361
Blum, David John	465	Bowman, Natalie McCarter	426
Blum, Lois	264, 393	Boyadjiev, Simeon Antonov	293, 342
Blum, M Barry	226, 393	Boyce, Alison	440
Blum, Robert W M	245, 419	Boyd, Andrew Thomas	447
Blumenthal, Roger S	159, 312, 322	Boyd, Cynthia Melinda	165, 361
Blumenthal, Stuart D	244, 393	Boyd, William	312
Boahene, Derek Kofi	139, 361	Boyer, George M.	162, 342
Boatman, Dana	197, 290, 291, 314, 322	Boylan, Carolyn Beth	242, 361
Bobb, Aaron Justin	449	Boyle, Michael Patrick	162, 342
Bobrow, Michael L	276, 393	Bracey, Jennifer E	169, 393
Bochicchio, Grant V	283, 361	Bradbury, Katherine April	462
Bochner, Bruce S	159, 322	Bradley, Gia Marie	440
Bock, Joanna M	169, 393	Bradt, David A.	142, 393
Boctor Mikhail, Emad M	278, 393	Brady, Joseph V	203, 260, 313, 322
Bodas, Manish	440	Brady, Kathleen D	256, 361
Bodnar, Laura Elizabeth	440	Brady, Kenneth	118, 242, 361
Bodnar, Paul Z	319	Brady, Mary Beth	118, 361
Bodner, Mark	288, 409	Brady, Tammy M	242, 361
Boehler, Richard	169, 393	Brahim, Sami A	165, 361
Boehm, Corrine D	149, 240, 314, 342	Brahmer, Julie R	216, 361
Boeke, Jef D	43, 194, 211, 322	Braine, Hayden Grant	162, 214, 357
Boelig, Matthew Mikhail	447	Brait Rodrigues DeOliveira, Mariana	438
Boelter, Eric	264, 393	Braiterman, Lelita Talamantez	136, 409
Boerke, Kyle William	440	Brammer, Leighanne Amy	464
Boersma, Matthew Cornell Hardwick	475	Brancati, Frederick L	159, 309, 310, 322
Bogdanovic, Jelena	429	Branch, Gregory William	169, 393
Boger, Ravit	242, 361	Brand, Erik Stanton	315, 442
Boggs, Paula E	305	Brando, Lorraine V J	242, 361
Bogomolny, Robert L	319	Brandt, Jason	197, 260, 322
Bogrov, Michael A	262, 361	Brandt, William Dean	439
Bogue, Lauren L	242, 361	Branger, J Dennis	291, 361
Bohan, Eileen	287, 361	Brant, Steven R	162, 342
Bohlman, Mark E	277, 342	Brasic, James Robert	279, 409
Boin, Francesco	165, 361	Brat, Gabriel Alon	445
Boitnott, John K	229, 322	Braun, Andrew Thierman	431
Bolad, Waleed Abbas	430	Braunstein, Kerstin Elisabeth	439
Boland, Michael V	155, 225, 361	Braverman, Peter	165, 361
Bolanos-Meade, Javier	216, 361	Bravo Valenzuela, Paco Eduardo	444
Bolduc, David	477	Bravos, E David	118, 361
Bolger, William E	290, 342	Brawley, Robert K	284, 357
Bolla, Karen I	198, 265, 342	Brayton, Cory Flagg	192, 308, 342
Bolli, Roberto	159, 322	Brayton, James B	240, 342
Bollinger, Robert C Jr	159, 322	Breakey, William R	260, 316, 339
Bolton, Aurelia G	305	Breder, Christopher D	118, 361
Bonaguidi, Michael	433	Breitner, John C S	265, 419
Bonde, Pramod Narayan	445	Brem, Henry	211, 226, 286, 307, 314, 318, 322
Bonds, Morgan Michelle	451	Brem, Rachel F	277, 362
Bone, Curtis William	447	Brener, Michael Ioshua	454
Bone, Lee R	173, 419	Brennan, Kathleen Kelly	432, 476
Bonekamp, David	278, 443	Brennan, Margaret M	165, 362
Bonekamp, Susanne	409	Brennan, Matthew J	118, 362
Boneva, Dessislava V	446	Brennan, Sarah Kacie	476
Bonifant, Challice Lee	440	Brennan, Timothy Patrick	463
Bonnet Wersinger, Delphine	436	Brennen, William Nathaniel	477
Boobilli, Ganga Bhavani	431	Brenner, Joel I	241, 342
Booher, Catherine A	169, 393	Brensinger Trimbath, Jill D	171, 406
Boonyasai, Romsai Tony	165, 361	Bressler, Neil M	224, 310, 312, 322
Bora, Adriana	441	Bressler, Susan B	224, 314, 322
Borak, Jonathan Benjamin	162, 342	Brewer, LaPrincess Cerise	427
Bord, Josh	317	Brewer, Michael Benjamin	445
Bord, Sharon P	142, 393	Breyse, Patrick N	173, 419
Bordelon, Anna	226, 406	Brezina, Paul Robert	426
Bordelon, David Edwin	443	Brice, Angela Kathleen	432, 438
Borders, Jack Calvin Jr	291, 361	Briccetti, Christine	440
Borio, Luciana L	165, 361	Brieger, Gert H	78, 157, 309, 313, 339

Briggs, Jessica Jane	451
Brigham, Emily Pfeil	426
Bright, Patricia L	232, 409
Brimo, Fadi	439
Brin, Ann	313
Brin, Joseph	313
Brinker, Jeffrey A	159, 279, 312, 316, 322
Brinton, Benjamin Ashby	451
Bristol, Lynne Anne	200, 409
Bristow, Robert E	151, 211, 312, 322
Brock, Malcolm V	214, 282, 311, 342
Broderick, Karen A	393
Broderick, Kevin	244, 451
Brodsky, Martin B	256, 362
Brodsky, Robert A	159, 211, 322
Bromery, Randolph W	305
Bronstein, Howard D	169, 393
Brooke, Benjamin Sands	445
Brookheart, Rita Thomas	424
Brooks, Christina Breisch	440
Brooks, Dennis A	242, 362
Brooks, Gabriel C	426
Brooks, James B	288, 390
Brooks, Jay	311
Brooks, Thomas V	319
Brooner, Robert K	152, 260, 322
Brose, Rebecca Deering	472
Brosnan, Jacqueline Ann	476
Brothers, Kathryn Jean	478
Brotman, Daniel Joseph	162, 342
Brower, Roy G	159, 322
Brown, Alaina Joelle	425
Brown, Amanda M	200, 393
Brown, Anna Todaro	423
Brown, Charles Hugh IV	423
Brown, Emile N	445
Brown, Jennifer Lynn	427
Brown, Kirsten Marie	472
Brown, Lindsey James	463
Brown, Lorrel Elizabeth	426
Brown, Maria Karapelou	244, 393
Brown, Melva Joan	169, 393
Brown, Michelle A	305
Brown, Nicole Marie	440
Brown, Patricia	310
Brown, Patrick	216, 242, 362
Brown, Robert H	117, 173, 279, 322
Brown, Rochelle Vanessa	169, 393
Brown, Terry R	245, 419
Brown, Todd T	165, 362
Brown, Tyler Steven	454
Browner, Ilene S	173, 218, 393
Bruck, Maggie	260, 322
Brumback, Robert J	288, 362
Brummet, Mary Elizabeth	172, 409
Brunwell, Eric Paul	425
Brunetti, Marissa Ann	440
Brunker, Patricia AR	440
Bruno, Tullia Carmela	474
Brushart, Thomas M	197, 285, 288, 322
Brusilov, Saul W	239, 322
Bryan, Gloria	307
Bryant, William	316
Buccino, Daniel L	262, 362
Buchholz, David	198, 342
Buck, James R	242, 283, 362
Buckheit, Robert Walter	469
Buckley De Meritens, Alexandre	425
Budd, Margaret Anne	442
Budimirovic, Dejan B	262, 362
Buenaver, Luis F	262, 362
Buescher, Philip C	165, 362
Bueso, Monica Belinda	426
Bui, Thi Vu	426
Buijs, Manon	444
Bukowski, James	317
Bulkley, Gregory B	282, 339
Bullard, Janine Elizabeth	242, 362
Bullen, John William Jr	462
Bulte, Jeff W M	126, 275, 322
Bundy, David Gordon	242, 362
Bunker, Edward B	155, 409
Bunting, George L Jr	305, 317
Bunz, Fred	214, 272, 342
Burch, Francis B Jr	305
Burches, Bobby Ray	427
Burd, Joyce Kopicky	165, 362
Burdick, James F	282, 322
Burek, Carol L	53, 231, 342
Buresh, Megan Elizabeth	454
Buretta, Kate Josephine	451
Burg, John Stoddard	462
Burger, John William	425

Burger, Paula	306
Burger, Peter C	211, 229, 286, 322
Burgess, Andrew R	288, 322
Burke, Anne E	152, 362
Burke, Donald Scott	173, 419
Burke, Elizabeth M	139, 362
Burke, Kelly Patricia	456, 474
Burke, Michael G	242, 362
Burke, Thomas A	219, 419
Burkey, Matthew David	442
Burkholder, Bryn Melissa	436
Burkle, Frederick M Jr	142, 409
Burks, Tyesha Nichole	472
Burnett, Arthur L II	293, 309, 311, 312, 322
Burnett, Rhonice	312
Burnham, Gilbert M	173, 419
Burns, Kathleen Helen	216, 232, 316, 362
Burns, Timothy Francis	435
Burns, William Reece III	445
Burridge, Paul Wesley	436
Burroughs, Tracee	264, 393
Burt, Jeremy Robert	443
Burton, Gregory F	201, 416
Burton, John R	159, 322
Burton, Laura Boeck	423
Burzynski, Grzegorz Maciej	426
Busbair, Zaki Salman	445
Busch, Courtney Rae	432
Bush, David E	162, 342
Bush, R Mitchell	192, 362
Bushey, Michael Anthony	456, 469
Buss, Jackson	469
Busso, Veronica Ortiz	423
Butkinaree, Chutikarn	462
Butler, Kevin	454
Butz, Arlene Manns	239, 314, 323
Buxbaum, Nataliya A	436
Byank, Ronald P	288, 342
Bydon, Ali	287, 362
Bydon, Mohamad	432
Byerly, Mardi Susanna	434
Byreddy, Anitha	169, 393
Byrne, Patrick Joseph	139, 290, 343
Byrne, Sean T	478
Byun, Youngjoo	276, 410
Cabahug, Philippines Garcia	442
Caballero, Benjamin	245, 419
Caccamese, Suzanne M	169, 393
Cader, Rukshana Nadia	429
Cahill, Edward L	317
Cahill, Hugh Brian	432
Cai, Danfeng	464
Cai, Huaibin	232, 410
Cai, Huaqing	424
Cai, Jennifer Xiaojin	449
Cai, Jing	432
Cai, Yi	435
Cai, Zheqing	165, 362
Caicedo Oquendo, Luis Francisco	440
Calabresi, Peter Arthur	197, 323
Calderon, Juan F	472
Calhoun, Vince D	362
Califano, Joseph III	211, 290, 323
Caligtan, Marc Jason	427
Calisir, Cuneyt	276, 416, 443
Calkins, Hugh G	159, 239, 323
Callender, Marc Addison	440
Calvello, Emilie JB	142, 393
Calvert, Preston C	199, 362
Cameron, Andrew M	283, 362
Cameron, Duke E	239, 284, 311, 323
Cameron, John L	211, 282, 312, 314, 323
Cammin, Jochen	444
Camp, Melissa Suzanne	445
Campbell, Ashley Anderson	449
Campbell, Catherine Young	428
Campbell, Christopher Thomas	484
Campbell, Claudia Michelle	442
Campbell, Dean Paul	464
Campbell, Emilia Louise Picard	456
Campbell, James N	286, 323
Campbell, John Peter	436
Campbell, Kurtis A	282, 343
Campbell, Preston White III	241, 343
Campion, Molly E	256, 406
Campo Ezquibela, Aranzazu	431
Campochoiaro, Peter A	203, 224, 323
Camsari, Ulas Mehmet	443
Cancio, Maria	440
Candelairo, Alejandro Jose	451
Canning, Brendan J	162, 312, 343
Cano, Marisol del Valle	437
Cantarero, Gabriela Lucila	475

Canto Soler, Maria Valeria	225, 362	Cervellione, Raimondo Maximilian Maria.....	446
Canto, Marcia Irene Foo	163, 214, 314, 343	Cervenka, Mackenzie Carpenter	434
Cao, Li-Hui	434	Cetingul, Hasan Ertan	465
Cao, Suyi.....	120, 410	Cettomal, Deanna Rae	456
Cao, Wangsen	120, 394	Cha, Boyoung	172, 410
Cao, Xu	288, 323	Cha, Seung-Hun	123, 410
Cao, Ying Jun	165, 362	Chacko, Matthews	165, 362
Cao, Yuzhen	127, 416	Chacko, Vadappuram P	278, 362
Capitini, Christian Matthew	436	Chadha, Rupali	315
Caplan, Constance R	305	Chae, Je-Min	437
Caplan, Justin Michael	432	Chaerkady, Raghothama	426
Caplan, Steven E	245, 408	Chahal, Harjit K	444
Capone, George T	241, 343	Chahal, Raman	262, 362
Capone, Randolph B	291, 362	Chahla, Mayy Farid	169, 394
Capozzoli, Nicholas A	199, 362	Chaichana, Kaisorn Lee	432
Cappelli, Laura Christine	447	Chairsrisawatsuk, Natthira	437
Carafoli, Ernesto	313	Chaisson, Richard E	159, 323
Carcamo, Jose Rogelio	462	Chak, Ka Yam	464
Carducci, Michael A	211, 293, 308, 323	Chakir, Khaled	428
Carey, John P	291, 343	Chaklos, Sabrina Theresa	169, 394
Carey, Mervyn L	152, 390	Chakraborty, Anutosh	205, 394
Carey, William P	305	Chakravarti, Aravinda	43, 149, 159, 194, 239, 315, 323
Carhuapoma, Juan Ricardo	118, 199, 287, 362	Chakravarti, Shukti	136, 163, 224, 343
Carle, Sarah Jean	425	Chalfin, Heather Jane	454
Carlin, Rebecca Faith	440	Chalian, Majid	444
Carlin, Teresa Mary	142, 242, 362	Chalise, Som Nath	431
Carlino, Anthony Robert	484	Chalugun, Paweena	477
Carlisle, Emily Streyer	425	Chambers, Edward B	318
Carlson, Abigail Leigh Youngberg	447, 456	Champagne, Donald L	226, 416
Carlson, Eric Thomas	465	Champaneri, Shivam Amrut	429
Carmen, Jessica Sharon	433	Chan, Angel T	426
Carmi, Lemore	444	Chan, Audrey Jacqueline	447
Carney, Erin Michelle	438	Chan, Daniel W	211, 229, 275, 293, 323
Carpenter, Ryan	292, 406	Chan, Fred T	169, 394
Carraway, Hetty Eileen	216, 362	Chan, Jason Ying Kuen	438
Carrese, Joseph A	163, 316, 343	Chan, Wai Yan	444
Carrino, John Anthony	276, 343	Chan, Waipan	474
Carroll, C Patrick	262, 362	Chander, Geetanjali	165, 362
Carroll, Eric Timothy	484	Chandra, Nisha	159, 314, 316, 323
Carroll, Karen C	173, 229, 308, 314, 323	Chandra, Rashmi	427
Carruth, Lucy Minnich	192, 362	Chandra, Ravi Anant	449
Carson, Benjamin S	211, 239, 285, 286, 323	Chandra, Shalini	169, 394
Carson, James Terrance	456	Chandran, Aruna	244, 394
Carson, Kathryn	145	Chandran, Srikrishna	442
Carter, Darryl	229, 323	Chandran, Suchismita	462
Carter, H Ballentine	211, 293, 323	Chandrasekhara, Vinay	429
Carter, Hannah Kathryn	465	Chang, Alex Gee Mun	438
Carter-Monroe, Naima Lexi	479	Chang, Alex Yuang-Chi	211, 323
Caruso-Anderson, Mary Elizabeth	440	Chang, Connie Yachan	465
Carvajal, Diana Nicole	440	Chang, Daniel S	449
Carver, Courtney L	292, 406	Chang, David Shi-Ann	427
Cary, Christine Harman	451	Chang, Esther I-Ping	436
Casagrande, Danielle Joy	437	Chang, Fumin	120, 410
Casagrande, Sarah Stark	430	Chang, Hao	432, 465
Casella, Nicola Gerardo	262, 362	Chang, Jonathan Matthew	475
Casciola-Rosen, Livia A	163, 314, 343	Chang, Kelly Chiryurn	465
Casella, James F	211, 239, 314, 323	Chang, Kevin Zou	451
Casero, Robert A Jr	211, 312, 323	Chang, Larry William	169, 394
Casey, Zenobia A	118, 362	Chang, Lawrence D	285, 363
Cashman, Christopher Robert	454	Chang, Michael C	464
Casolaro, Vincenzo	163, 343	Chang, Qing	439
Cass, Richard W	319	Chang, Shin-Bey	442
Cassel, Gary H	226, 394	Chang, Stephanie	169, 394
Castanares, Mark Anthony	477	Chang, Steven Shih-Wei	438
Castelbuono, Anthony Charles	225, 362	Chang, Sungdong	437
Castell, Donald O	159, 323	Chang, Tsung-Cheng	426
Castillo, Deborah Graciela	465	Chang, Xiaofei	438
Cataldo, Michael F	239, 260, 323	Chang, Yu-Chiuan	465
Caterina, Michael J	123, 204, 309, 310, 313, 343	Chanmugam, Arjun S	142, 312, 315, 343
Catherwood, Elizabeth Marie	449	Chanock, Stephen J	217, 245, 363
Catlett, Christina Lynne	142, 362	Chao, Edmund Y S	288, 339
Cattaneo, Stephen Michael II	283, 362	Chapman, Alison Kristen	440
Caturgli, Patrizio P	53, 173, 231, 343	Chapman, Jodi Elise	479
Cavallo, Kelly	318	Charache, Patricia	159, 211, 229, 309, 310, 314, 316, 323, 339
Cavaluzzi, John	277, 362	Charache, Samuel	159, 229
Cavanagh, Sarah Elizabeth	440	Charles, Raquel Francine	169, 394
Cavanaugh-Hussey, Margaret Welsh	427, 484	Charleston, Jeanne	146, 174, 419
Cave, Clinton Lamont	475	Chase, Richard A	260, 323
Cayea, Danelle	165, 308, 310, 362	Chatham, Franklin E	169, 394
Caywood, Emi Hojo	436	Chattergoon, Michael Anand	430
Cebotaru, Liudmilla	226, 394	Chatterjee, Aditi	292, 394
Ceburat, Marek	252, 416	Chatterjee, Subroto B	239, 323
Ceccato, Christina M	474	Chattler, Zachary Lee	289, 394
Ceh, Kristin Marie	292, 406	Chatzidimitriou, Dimitrios	232, 416
Ceide, Mirnova Emmanuelle	442	Chaudhary, Neelkamal	430
Celano, Paul	152, 217, 362	Chaudhry, Amina A	165, 363
Celano, Shivaun A	172, 410	Chaudhry, Muhammad A	444
Celentano, Carroll F	406	Chaudhry, Vinay	197, 323
Celentano, David	144, 153, 173, 419	Chaudhury, Rupsa	449
Celic, Ivana	434	Chaudry, Sajida	169, 394
Celnik, Pablo A	198, 256, 343	Chaulk, Charles Patrick	163, 343
Cengiz-Sevalm, Guldane	429	Chausmer, Arthur B	159, 323
Cerci, Rodrigo Julio	428		

Chaves, Paulo H M	165, 363
Cheadle, Chris	172, 410
Checkley, William N	169, 394
Chen, Aaron Edward	242, 363
Chen, Allen R	214, 241, 343
Chen, Belinda Yim	169, 394
Chen, Catherine Lee	447
Chen, Chi Chung Grace	152, 363
Chen, Chien-Sheng	441
Chen, Chun-Lin	423, 424
Chen, Cindy Hsin-I	423
Chen, Connie June	436
Chen, Daming	435
Chen, David Sining	454
Chen, Edward S	165, 363
Chen, Elizabeth H	194, 313, 314, 363
Chen, Guoli	438
Chen, James Xiao	449
Chen, Jennifer Kylien	427, 484
Chen, Jianmeng	429
Chen, Kuan-Fu	425
Chen, Lea Ann	429
Chen, Lieping	46, 139, 211, 323
Chen, Lisa Yinhua	451
Chen, Nadine Esther	430
Chen, Po Yu	469
Chen, Qian	432
Chen, Shuangling	435
Chen, Shuming	445
Chen, Steven Tze-wei	447
Chen, Sulin	465
Chen, Teresa Katie	431
Chen, Tian-E	429
Chen, Weiran	201, 410
Chen, Wen-Chung	439
Chen, Yan	452
Chen, Ying	276, 410
Chen, Yingbei	440
Chen, Yong Ping	424
Chen, Yun-Ching	465
Chen, Zhihang	444
Cheng, Alan	165, 363
Cheng, Andrew Wei	465
Cheng, Dominic T	433
Cheng, Jennifer Jay	432, 484
Cheng, Jie	258, 410
Cheng, Linzhao	43, 151, 165, 214, 343
Cheng, Lishui	465
Cheng, Ming-Hui	464
Cheng, Mok-Chung Jennifer	427
Cheng, Nancy	75, 449
Cheng, Tina Lee	239, 311, 314, 323
Cheng, Yim Ling	462
Cheng, Yong	442
Chenna, Venugopal	439
Cheong, Ian Shen-Yi	435
Cheong, Raymond	456, 466
Chernow, Bart	159, 323
Chernyak, Natalya	443
Cherry, Christopher Michael	462
Cherry, Jerrie	291, 357
Cherry, Shelia Marie	258, 410
Chertow, Daniel Stephen	430
Cheskin, Lawrence J	174, 419
Chesler, David Andrew	432
Chesnut, Roy W Jr	165, 363
Cheung, Kevin J	435
Cheung, Kristin	118, 363
Cheung, Laurene	469
Cheung, Rocky	469
Chhabra, Avneesh	275, 363
Chi, Andrew Sangmin	484
Chi, Zhikai	433, 475
Chia, Chee Wei	165, 363
Chiamolera, Maria Izabel	440
Chiang, Cheng-Hsuan	475
Chiang, Meng-Jung	477
Chiang, Po-Min	476
Chicester, Kristin L	172, 410
Chien, Anna	139, 363
Chien, David	444
Chien, Wade W	438
Chik, Yolanda	433
Childers, Ryan Edwin	427, 484
Childs, Barton	43, 149, 239, 339
Chilukuri, Karuna	428
Chin, Chien-Hung	431
Chinnici, Jill E	292, 406
Chinsky, Jeffrey M	242, 363
Chiou, Chuang-Jiun	218, 410
Chisolm, Margaret	262, 363
Chiu, Shu-Ling	434
Chiu, Yen-Ling	474

Chivukula, Raghu Ram	456, 472
Cho, Aeri	465
Cho, Eunpi	426, 484
Cho, Joong Youn	464
Cho, Kenneth H	276, 394
Cho, Seok-Hyun	438
Cho, Steve Yoon-Ho	275, 363
Cho, Yong Gu	438
Cho, Yoonju	466
Choi, Alyssa Yoorim	452
Choi, Eui Young	428
Choi, Henry	316
Choi, Jeonghoon	434
Choi, Ji-Young	431
Choi, Jonghoon	444
Choi, Ki Young	432
Choi, Michael James	163, 343
Choi, Oksoon Hong	165, 363
Choi, Sang Il	428
Choi, Seong Hoon	428
Choi, Su Mi	435
Choi, Youn Seok	424
Choi, Young Bong	435
Choi, Yunsook	434
Chollet, Madeline Blair	472
Chong, Laura Kimberly	429
Chong, Samuel S	153, 242, 363
Chonka, Zachary D	443
Choo, Shelly Seungah	447, 456
Chopra, Akhil	217, 363
Choti, Michael A	211, 275, 282, 323
Chou, Betty	152, 308, 363
Chou, Bin-Kuan	469
Chou, Yang-Ling	429
Choubey, Vinay	434
Choudhri, Asim F	444
Chow, Eric Kai Hong	479
Chow, Grant Victor	169, 394
Chow, Robert Tao-Ping	165, 363
Chow, Wing Han Vivian	439
Chowdhury, Nabila	435
Chowdhury, Ritam	312
Chretien, Jean-Paul	479
Chrispin, Jonathan	426
Chrissluis, Rachel Rose	442
Christensen, James R	241, 256, 343
Christensen, Jesica	430
Christensen, Joani Marie	452
Christian, James M	292, 363
Christian, Kimberly Michele	433
Christiano Neto, Jose G	445
Christianson, Mindy Sue	425
Christie, Sabrina Ariane-Alberta	452
Christman, Andrea Lauren	456
Christmas, Colleen	165, 315, 363
Christo, Dana Kelly	430
Christo, Paul J	118, 363
Christoff, Alexander	226, 394
Christopher-Neto, Lisa	165, 199, 363
Christudass, Christhunesa Soundararajan	433
Christy, Glory D	310
Christy, Michael R	285, 363
Chronister, Justin David	427
Chu, Edward Christopher	484
Chu, Kathryn M	283, 363
Chu, Kyo U	283, 363
Chu, Liang-Hui	466
Chu, Linda Chi-Hang	443
Chu, Lulu	466
Chu, Scott Haihua	469
Chuang, Alice Ya Chun	425
Chuang, Yu-Min	476
Chuck, Roy S	224, 308, 343
Chufan, Eduardo Emilio	424
Chun, Yong Soon	435
Chung, Jon Hua	443
Chung, Se Yeon	424
Chung, Tae Hwan	442
Chung, Thomas Lawrence	446
Chung, Yuehsten Juliette	157, 416
Chung-Nakandakari, Cecilia Pilar	427
Chunn, Tracey Lynn	169, 394
Chyou, Anthony Chung-Kai	447
Cidado, Justin Robert	469
Cihakova, Daniela	232, 363
Cimino-Mathews, Ashley Marie	438
Cinelli, Christina McGraw	443
Cingolani, Horacio	159
Cingolani, Oscar	165, 323, 363
Cintron, Michelle	442
Civallero, Gabriel	245, 410
Civin, Curt I	211, 239, 323
Clark, A James	305

Clark, Crystal Tenille	442
Clark, David Kyle	438
Clark, Douglas Paul	53, 211, 229, 310, 323
Clark, Gaylord L Jr.	288, 390
Clark, Gregory O	165, 363
Clark, James Henri	438
Clark, Jeanne M.	163, 314, 343
Clark, Michael Robert	261, 292, 310, 312, 343
Clark, Patrick Wade	423
Clark, Samuel H.	317, 318
Clark, Tracey	245, 408
Clarke, John O'Brien III	165, 363
Clarke, Michelle J.	287, 394
Clarke, William	232, 316, 363
Clarke-Pounder, Jessica Pease	440
Clarvit, Charles I.	305
Clattenburg, Eben	454
Clattenburg, Lia Ellen	423
Clawson, Lora L.	199, 363
Claypool, Steven Michael	258, 363
Clayton, April	464
Clem, Roger Lee	434
Clemens, Thomas Landes	288, 323
Clemente, Stefania	443
Clements, Janice E.	44, 53, 192, 194, 197, 229, 306, 308, 309, 310, 311, 312, 313, 314, 323
Clerisme-Beaty, Emmanuelle Marie	169, 394
Cleveland, Megan Hussey	472
Cleveland, Thomas Edgar	469
Clever, Sarah L.	165, 307, 308, 310, 363
Clifford, Kavan Terrence	456, 475
Clifford, Rebekah Hewett	425
Clipp, Sandra	145
Clough, Lauren Marie	454
Cmar, John	169, 394
Co, Juliene Kimberly Go.	463
Cocco, Arthur E.	165, 363
Cochran, Rory Landon	469
Codd, Timothy P.	289, 394
Codispoti, Kari-Elise Tryggestad	439
Codori, Ann-Marie	262, 363
Codori, Nancy	169, 394
Coffey, Donald S.	211, 229, 251, 293, 324
Cofrancesco, Joseph Jr.	163, 308, 343
Cohee, Lauren Merritt	440
Cohen, Alan B.	171, 406
Cohen, Alan H.	242, 363
Cohen, Benjamin Ross	447, 456
Cohen, Bernard A.	139, 239, 312, 324
Cohen, David B.	288, 363
Cohen, Gary Irvin	217, 363
Cohen, Gordon James	447
Cohen, Harris L.	275, 324
Cohen, Jennifer Renee	463
Cohen, Kenneth J.	214, 241, 316, 343
Cohen, Ronald J.	287, 363
Cohen, Sarah Lauren	425
Cohen, Steven P.	117, 343
Cohn, Ronald D.	44, 149, 199, 242, 308, 315, 363
Colantuoni, Elizabeth	118, 363
Colbert, Jorie	308
Colburn, Jessica Leigh	430
Colby, Geoffrey Philip	432
Colchamiro-Smart, Julia Dawn	452
Cole, Carolyn Ann Stirling	440
Cole, Karan A.	165, 363
Cole, Kate Hannah	452
Cole, Philip Arthur	211, 251, 307, 308, 310, 311, 313, 314, 324
Cole, Robert Norman	123, 394
Coleman, C Norman	211, 272, 324
Coleman, Nathan William	484
Coleman, Stan L.	225, 363
Coles, N Anthony	305
Colis, Laureen Castillo	443
Colla, Emanuela	439
Collaco, Joseph Michael	242, 363
Collector, Michael I.	218, 410
Collins, Atwood, III	319
Collins, Brendan J.	284, 394
Collins, Mary Louise Z.	225, 364
Collins, Samuel Lester	431
Collop, Nancy Abbey	159, 197, 314, 324
Colombani, Paul M.	211, 239, 284, 315, 318, 324
Colston, John A C Jr.	294, 405
Coltri, Alan	155, 364
Comfort, Nathaniel Charles	157, 308, 343
Comi, Anne Marie	198, 241, 343
Compton, Carolyn Corlies	229, 324
Conant, Katherine	198, 343
Cone, Edward Jackson	260, 324
Conley, C Lockard	159, 339
Conlon, Patrick James	466
Connaughton, James P.	241, 261, 357
Connelly, Carey Elizabeth	463
Connolly, Roisin M.	435
Connor, Charles E Jr.	204, 343
Connors, Geoffrey Robert	431
Connors, Robert L.	169, 394
Conroy, John D Jr.	217, 364
Constantino, Jason L.	466
Conte, John Victor Jr.	284, 324
Converse, Paul J.	172, 410
Cook, Barbara G.	169, 394
Cook, Marisha Liana	429
Cooke, David W.	241, 308, 314, 315, 343
Coon, Alexander Lewis	432
Cooper, Christopher Lee	474
Cooper, David S.	159, 324
Cooper, Eric Michael	432
Cooper, Heidi Marie	443
Cooper, James N.	426
Cooper, Lisa	159, 312, 314, 324
Cooper, Perry	317
Cooper, Stacy Lorine	440
Cooper, Timothy Kemp	469
Cope, Leslie	217, 364
Copeland, Bruce Eugene	275, 364
Copeland, Ronald Jarrod	424
Coppens, Isabelle	53
Cordeiro, Michael Christopher	425
Corden, Jeffrey L.	194, 324
Cordes, Robert A.	118, 364
Cordner, Zachary Allen	452
Coresh, Josef	144, 174, 310, 419
Corl, Frank M.	277, 410
Cormack, Brendan P.	194, 309, 310, 343
Cornblath, David R.	197, 286, 316, 324
Cornblatt, Grace Ann	435
Cornelison Terri L.	152, 364
Cornely, Donald A.	245, 422
Cornish, Toby Charles	439
Corretti, Mary Concetta	163, 314, 343
Corrigan, Frank Edward III	447
Corry, Nida Hennessey	442
Corse, Andrea M.	198, 287, 309, 343
Corson, Thomas A.	165, 242, 364
Corson, Virginia L.	149, 151, 241, 343
Cortassa, Sonia Del Carmen	172, 410
Corwin, James E.	142, 406
Cosgarea, Andrew John	288, 324
Cosgrove, David Peter	217, 364
Cosgrove, Sara	163, 343
Costa, Linda	316
Costa, Paul T Jr.	260, 324
Costello, Caitlin Rose	442
Costello, John Patrick	447
Cotter, Robert J.	133, 251, 324
Cottrell, Tricia Ruth	456, 469
Coughlin, Janelle W.	262, 364
Coughlin, Jennifer Marie	442
Coulombe, Pierre A.	123, 140, 419
Courtney, Susan	205, 419
Cousins, Emily Marie	469
Cousins, Matthew Michael	469
Cover, Kimberly Anne	423
Covi, Lino	261, 344
Cowan, David A.	140, 394
Cowie, David	262, 364
Cox, Andrea L.	163, 214, 309, 310, 344
Cox, Christiane Sylvia	199, 364
Cox, Christopher	144
Cox, Eric	464
Cox, Raymond L Jr.	152, 364
Cox, Solange Erlyn	452
Cox, Todd Scott	262, 309, 364
Crabb, Andrew H.	276, 410
Craig, Nancy L.	194, 311, 313, 314, 324
Craig, Susan W.	123, 229, 314, 324
Crain, Barbara A.	198, 214, 231, 344
Cranfield, Michael R.	192, 408
Cranston, Pamela	306
Crassous, Pierre-Antoine Francois	423
Crawford, Damian D.	169, 394
Crawford, Keith Warren	173, 416
Crawford, Pammie Renee	479
Crawford, Thomas O.	198, 241, 344
Crawley, William A.	78, 285, 344
Creanga, Adrian	463
Crecelius, Kathryn J.	306
Creech, Jim	316, 318
Crentsil, Victor	165, 364
Creticos, Peter S.	163, 344
Crewe, Stephanie Nicole	440
Crews, Deirda Candice	169, 394
Criley, J Michael	315

Crim, Matthew Tyler.....	449
Crino, Jude P.....	152, 318, 364
Cristofalo, Elizabeth A.....	242, 364
Crocetti, Michael.....	242, 364
Crockett, Jennifer L.....	262, 364
Crossmann, Sarah Elizabeth.....	476
Croisille, Pierre.....	278, 416
Crompton, Joseph Garfield.....	484
Cromwell, David M.....	165, 308, 364
Crone, Nathan E.....	198, 344
Crook, Joy Elizabeth.....	142, 394
Cross, Amber/Tahnia Ballard.....	466
Cross, Brandie Makeba.....	464
Cross, Wirt Whitfield Jr.....	445
Crosson, Jane Eleanor.....	242, 364
Crow, Michael T.....	163, 344
Crowne, Sarah Kathleen Shea.....	440
Crum, Poppy A C.....	127, 410
Crum, Rosa.....	144, 265, 419
Cruz, Leigh-Ann.....	469
Cruz-Correa, Marcia.....	165, 364
Cuda, Jonathan David.....	232, 406
Cuddy, Robin Mary.....	142, 364
Cudmore, Robert H.....	434
Cuenca, Adrian Alejandro.....	472
Cuffari, Carmen.....	241, 344
Cuhran, Jennifer Lynn.....	447
Cui, Hengmi.....	165, 364
Cui, Ying.....	218, 410
Culp, Lisa.....	256, 394
Cummings, Charles W.....	211, 290, 324
Cummings, Derek.....	145
Cunningham, Lea C.....	436
Cunningham, Steven Clark.....	284, 406
Currie, Richard A.....	282, 357
Currie, Ulysses.....	319
Currier, Duane Gabriel.....	464
Curtis, Keith Edward.....	447
Custer, Jason Wayne.....	424
Cutler, Mary L.....	442
Cutler, Naomi Paula.....	169, 394
Cutler, Nathan E.....	454
Cutting, Garry R.....	44, 149, 159, 239, 315, 324
Cutting, Laurie E.....	198, 344
Cvach, Maria.....	316
Cwik, Mary.....	265, 419
Czarny, Matthew John.....	447
D'Alessio, Franco R.....	169, 394
D'Alleyrand, Jean-Claude Gregoire.....	437
D'Anna, Salvatore A.....	225, 364
D'Antonio, Jason Matthew.....	435
D'Antonio, Katherine Elizabeth Bright.....	446
D'Lugoff, Burton C.....	163, 357
D'Souza, Caroline.....	429
D'Souza, Gypsymbor.....	145
Dabb, Richard W.....	285, 344
Dabrazhynetskaya, Alena.....	435
Dackiw, Alan P B.....	217, 283, 364
Dad, Taimur.....	449
Dagher, Nabil N.....	284, 394
Dagnelle, Gislin.....	225, 344
Dahab, Yasser Mohamed.....	423
Daher, Ralph Michel.....	431
Dahl, Stephen.....	312, 317
Dahlman, Holly Ryerson.....	169, 394
Dai, Chenkai.....	438
Dai, Junbiao.....	432
Dai, Lixin.....	432
Dai, Zhigang.....	289, 416
Dailey, Megan Jeanne.....	442
Dal Pan, Gerald J.....	199, 364
Dalal, Darshan.....	165, 364
Dalal, Rutul Jagdish.....	431
Dalcin, Arlene.....	172, 410
Dalili, Dean Hamid.....	169, 394
Dalury, David F.....	288, 364
Daly, Mel P.....	163, 344
Damarla, Mahendra.....	169, 394
Dambita, Nkossi C.....	155, 410
Damewood, Marian D.....	151, 344
Damico, Rachel Lynn.....	165, 364
Damisse, Pamela Rondi.....	427
Damtew, Daniel.....	449
Dana, Ali.....	425
Dancy, Beverley Marie.....	464
Dancy, Blair Christopher.....	464
Dandy, Walter E Jr.....	118, 314, 390
Dang, Chi Van.....	44, 54, 136, 159, 194, 211, 229, 306, 308, 311, 313, 324
Dang, Chung Huu.....	474
Dang, Louis Tuong Chinh.....	485
Dang, Yongjun.....	441
Dang, Vu Hung.....	427

Daniel, Hubert Darius J.....	439
Daniel, Jewel Amethyst.....	439
Daniel, Sugganth.....	439
Daniels, Ronald J.....	305, 306, 307, 317, 321
Danilova, Liudmila Vladimirovna.....	435
Daniore, Vittorio.....	153, 408
Dankis, Victor J.....	305
Dankner, Stuart R.....	225, 364
Dannals, Robert F.....	279, 316, 324
Dannenberg, Arthur M Jr.....	233, 419
Danoff, Sonye Karen.....	165, 364
Dans, Peter E.....	76, 163, 344
Daoud, Yassine J.....	226, 406
Darbari, Anil.....	242, 364
Darbari, Deepika Saxena.....	436
Darby, Miranda Malouf.....	463
Darer, Jonathan D.....	165, 364
Darrah, Erika Lynn.....	474
Das, Ishita.....	478
Das, Pravati.....	431
Das, Samarjit.....	438
Dasenbrock, Hormuzdiyar Henry.....	447
Dasgupta, Santanu.....	438
Datlow, Mitchell Daren.....	475
Datoo, Ghazala Amirali.....	447
Datta, Ajit Bikram.....	424
Datta, Kausik.....	430
Datta, Lisa Wu.....	172, 410
Datta, Tejwant S.....	284, 406
Dattalo, Melissa Nicole.....	427, 485
Daugherty, Elizabeth Lee.....	169, 394
Daumit, Gail L.....	163, 265, 316, 344
Davatzikos, Christos.....	278, 344
Dave, Hema Kishore.....	436
David, Karen Kate Ocampo.....	432
David, Sarah R.....	305
David, Stefan.....	429
Davidovics, Natan Simcha.....	466
Davidson, Nancy E.....	211, 324
Davidson, Susan.....	440
Davis, Catherine Marie.....	442
Davis, Erica Ellen.....	426
Davis, Randy F.....	287, 288, 344
Davis, Reginald James.....	287, 364
Davis, Richard O.....	317, 318
Davis, Robert W.....	226, 406
Davison, Ashwini Sagar.....	426
Davis-Sproul, Janice M.....	218, 410
Davoli, Cecilia T.....	344
Dawson, Ted.....	197, 203, 324
Dawson, Valina L.....	197, 203, 258, 314, 324
Day, Patricia.....	317
De Cuevas, Margaret.....	136, 410
De Jesus, Ramon.....	285, 364
de Jong, Mechteld Christine.....	445
de Lateur, Barbara J.....	314, 339
De Medeiros, Kathryn B.....	264, 394
De Melo, Jimmy.....	434
De Oliveira, Rafael Almeida.....	435
de Souza, Lana Maria.....	443
de Wit, Stephanie Solter.....	440
Dean, Clare.....	449
DeAngelis, Catherine.....	239, 324
Deans, Michael R.....	291, 364
DeBartolo, Peter James.....	449
DeBiase, Lindsay M.....	475
DeBoy, Cynthia Ann.....	433
DeCapite, Megan Hyle.....	440
Deering, Anthony W.....	305
DeFilippis, Andrew Paul.....	428
DeFontes, Kenneth William III.....	449
DeFreitas, Marissa Janel.....	440
DeFulio, Anthony Louis.....	264, 394
Degano, Alicia Laura.....	434
Dehoff, Marlin H.....	205, 410
Deitch, Mark Adam.....	288, 364
DeJesus-Acosta, Ana M.....	435
deJong, Neal Arledge.....	440, 485
DeJonge, Karl Eric.....	165, 364
Del Pozo, Schonze Frances.....	427
Delange, Tyler.....	142, 406
Delateur, Barbara.....	256
DeLeon, Iser Guillermo.....	261, 344
DeLeon, Valerie Burke.....	147, 364
DeLeon-Gaston, Erlinda.....	275, 390
Delev, Nikolay Guinev.....	428
Delgoffe, Greg Michael.....	474
Della Penna, Niccolò D.....	265, 406
Della Santina, Charles C.....	126, 291, 311, 344
Dellon, A Lee.....	285, 286, 324
Deloatch, Candyce Joy.....	443
DeLuca, Amena Marie.....	425
DeMarzo, Angelo M.....	54, 211, 229, 293, 324

Demazumder, Deepankar	428	Dhosh, Sharon	170, 395
Dembo, Donald H	165, 364	Do, David	452
Demirjian, Aram	284, 406	Do, Diana Van	225, 309, 365
Demissie, Seifu M	440	Do, Michael Tri Hoang	434
Demore, Melissa	264, 394	Doan, Betty Quynh-Huong	426
Denckla, Martha Bridge	197, 239, 265, 314, 324	Doberman, Danielle	166, 365
Deng, Kai	463	Dobrosielski, Devon A	170, 395
Deng, Yi	447	Dobs, Adrian S	159, 212, 314, 325
Denmeade, Samuel R	214, 251, 293, 344	Dochinger, Beth	314
Denney, Joshua Adam	450	Doddaiyanapalya Somashekar, Geetha	428
Denning, Elizabeth Jane	469	Doddapaneni, Sasikanth	442
Dennis, Abigail Elizabeth	425	Dodd-O, Jeffrey M	117, 283, 344
Dennison, Cheryl R	155, 419	Dodge, Rachel Anne Barnes	242, 365
DePasquale, Sue	78	Dodson, Jennifer L	294, 365
DePaulo, J Raymond Jr	260, 307, 310, 318, 324	Doering, Kimberly Rae	469
Depianto, Daryle Joseph	424	Doetzlhofer, Angelika	204, 365
Depontieu, Florence	446	Doheny, Kimberly Floy	242, 365
Deppmann, Christopher David	434	Doherty, Meg Caroline	165, 365
Depry, Charlene Janelle Scotland	464	Doherty, Paul James	447
Deremeik, James T	226, 410	Doi, Akiko	469
Derogatis, Leonard R	261, 312, 344	Dokey, Adrian Tae-Won	450
Desai, Milind Y	278, 364	Donaldson, Abigail A	440
Desai, Niraj M	283, 364	Dondlinger, Graham	427, 435
Desai, Pankaj R	169, 394	Donehower, Ross C	159, 212, 315, 325
Desai, Pingal Anilbhai	437	Dong, Aling	226, 410
Desai, Prashant	214, 344	Dong, Jun	165, 365
Desai, Samit Prakash	142, 394	Dong, Xiaobo	450
Desai, Sanjay Virendra	165, 364	Dong, Xinzhong	204, 365
Desai, Sharad M	118, 364	Dong, Yi	475
Desai, Shrey Anilchandra	431	Donham, Robert T	117, 344
Desale, Meghan	454	Donnelly, Jeffrey	319
DeScipio, Cheryl	152, 232, 364	Donohue, Pamela K	242, 365
Desiderio, Stephen V	46, 54, 194, 307, 309, 310, 313, 316, 324	Donohue, Sean Richard	444
DeSilva, Ravindra Ajith	444	Donowitz, Mark	159, 258, 313, 325
Desmond, John E	198, 205, 344	Doohar, Julia E	436
Desvarieux, Tricia	423	Dooley, Kelly Elise	429
Detrick, Barbara	231, 344	Dooley, Morgan Kristen	485
Deune, E Gene	285, 288, 344	Dorafshar, Amir H	445
Devito, Crystal	262, 364	Doraiswamy, Anupama	427
Devreotes, Peter N	123, 136, 307, 324	Doran, Timothy F	242, 365
Dewan, Ashvin Kumar	437	Doratotaj, Danna	431
DeWeese, Theodore L	212, 272, 293, 307, 318, 325	Dore, Sylvain	117, 251, 344
DeZern, Amy Elizabeth	169, 394	Dorfman, Todd Andrew	430
Dezube, Rebecca Hope	426	Dorman, Susan Elizabeth	163, 311, 344
Dhalla, Sameer	429	Dorman, Todd	117, 173, 282, 306, 312, 325
Dhanasopon, Andrew P	445	Doroslovacki, Pavle	447
Dhara, Surajit	444	Dorsey, James H	152, 390
Dholakia, Avani Satish	454	Dorsi, Michael Joseph	432
Di Cello, Francescopaolo	172, 410	Doshi, Vishal Kirtikant	426
Diamond, Mark P	171, 406	DosReis, Susan	262, 365
Diaz, Luis A Jr	127, 364	Doty, Christina	311
Diaz-Montes, Teresa Del P	152, 365	Douglas, Andrew S	127, 419
DiBello, Anthony	469	Douville, Renee Nicole	433
DiBernardo, Cathy W	225, 344	Dover, George J	173, 212, 239, 307, 308, 311, 312, 313, 314, 317, 318, 325
Dicello, John F	272, 339, 410	Downing, Stephanie Rae	445
Dick, Ivy Ellen	466	Doyle, Brian James	427
Dickersin, Kay	144	Doyle, Jefferson James	426, 470
Dickerson, Faith B	262, 365	Doyle, Laura Ann	466
Dickey, Seth Wayne	463	Doyle, Maire E	172, 410
Dickfeld, Timm-Michael L	166, 365	Drachman, Daniel B	197, 203, 325
Didolkar, Mukund S	282, 344	Drager, Luciano Ferreira	431
Didolkar, Shailaja M	153, 394	Drake, Charles G	46, 214, 294, 344
Diehn, Karl W	291, 365	Drake, Kelly Lynn	443
Diener-West, Marie	226, 419	Draper, Frances Murphy	316
Dieter, Joseph M Jr	49, 408	Draper, Robert F Jr	289, 395
Diette, Gregory B	163, 344	Dray, Xavier	166, 365
Dietz, Edith Root McMillan	450	Drehman, Bethany Joy	472
Dietz, Harry C	44, 149, 163, 194, 239, 287, 309, 310, 315, 325	Dresher, James T Jr	317
Dimaano, Veronica Lea Jumarang	428	Dresselhaus, Erica Christine	462
DiMarsico, Ledys	170, 394	Dressman, Devin Charles	435
DiMeco, Francesco	287, 365	Drew, Ina R	305
Ding, Haiyan	127, 416	Drewes, Julia Lynn	470
Ding, Jie	435	Dreyfus, Albert E	262, 390
Ding, Zhen	429	Driscoll, Ira	444
Dinkes, Roni E	292, 406	Drobnick, Anthony J	264, 395
Dinkova-Kostova, Albena Todorova	166, 252, 365	Drummond, Michael Bradley	431
Dinoso, Jason Benavidez	477	Drummond, Robert Jamal	456, 470
Dintzis, Howard M	133, 339	Druskin, Malcolm S	166, 365
Dintzis, Renee Z	133, 136, 309, 310, 344	Du, Yong	278, 410
Dionne, Craig A	219, 416	Duan, Rui	432
DiPietro, Janet A	153, 316, 419	Duan, Wenzhen	262, 365
DiPietro, Joseph Peter	276, 394	Duan, Yukun	436
Dirks, Susan J	170, 394	Duan-Porter, Wei D	447, 463
Disney, James Arthur	442	Dubin, Jonathan Dubois	170, 291, 395
Distler, Catherine Lindsey	447	Dubin, Marc G	365
DiVall, Sara A	242, 365	DuBois, Gwen L	170, 395
Dixon, Etosha	170, 395	DuBois, Jeffery Coleman	485
Dixon, Shamiaka Virella	440	Ducie, Jennifer Ann	425
Djamanakova, Aigerim	466	Ducker, Thomas B	286, 339
Djedjios, Constantine Stephen	440	Duckworth, Josh Lee	433
Djuranovic, Sergej	432	DuCoin, Caroline Gilpin	440
		Dudas, Robert A	242, 308, 365

Dudley, Jonathan Carl	454
Dudley-Brown, Sharon	166, 365
Duffield, Amy Susan	439
Duffy, Barbara A	245, 408
Duffy, Erin E	431
DuFresne, Andrew Liese	464
Dufresne, Craig R	285, 344
Duggal, Priya	145
Duggan, Anne L K	239, 314, 325
Duh, Elia	225, 311, 344
Duke, Angela N	442
Duke, Cindy Moria	425
Duke, James R	225, 390
Dukes, Jonathan Walter	426
Dumfeh, Claudia P	427
Dumler, J Stephen	229, 325
Dunbar, Kerry Brandt	166, 365
Duncan, Donald Dean	225, 344
Duncan, Kimberly Lynn	283, 365
Duncan, Mark Douglas	215, 282, 311, 344
Dunham, Stephen S	54, 306
Dunlap, Karen	226, 395
Dunleavy, Jason Dana	443
Dunn, Edward K Jr	305
Dunn, James P	225, 315, 345
Dunn, Justin Matthew	426
Dunn, Kelly Elaine	442
Dunn, Rachel Heather	425
Duong-Ly, Krisna Chan	469
Dupas, Benedicte Marie	436
Dupkin, Manuel II	305
DuPont, Caroline McDonald	264, 395
Durakovic, Nadira	435
Durand, Christine Marie	430
Durand, Daniel James	443
Durbhakula, Sridhar M	395
Durbin, Anna Palmer	174, 289, 312, 419
Durham, Nicholas Mason	474
Durmowicz, Anthony G	245, 408
Durruthy, Stephanie	264, 395
Durso, Samuel C	163, 312, 345
Duval-Harvey, Jacquelyn	264, 395
Duvvuri, Padmaraj D	431
Dy, Fei Jamie	447
Dy, Sydney E Morss	174, 219, 419
Dyal, Jonathan	454
Dye, Heather Ann	470
Dymond, Jessica Erin Siegel	463
Dzeng, Elizabeth W	485
Dzirasa, Lelitia Kathlene Thompson	440
Eacker, Stephen Matthew	433
Eakin, Michelle Nuttall	172, 410
Earley, Christopher J	197, 325
Easley, R Blaine	118, 245, 365
Easwaran, Hariharan P	435
Eaton, Jennifer Lipkowitz	431
Eaton, Mark Edward	425
Eaton, Mary Cheffings	264, 395
Eaton, William W	265, 419
Ebenezer, Gigi Jasmine	201, 410
Eberhart, Charles G	54, 215, 225, 231, 345
Eberlein, Michael Hermann	431
Ebert, Frank R	288, 365
Ebert, Mark Douglas	443
Ebner, Laura Lynn	442
Ebright, Deena R	170, 395
Ecker, Kelly Lee	440
Eckhauser, Frederic E	282, 312, 325
Eckman, Ari Shye	429
Eckman, Israel S	139, 365
Eckstein, Christopher Paul	433
Economus, George	317
Edden, Richard AE	278, 365
Eddy, Jared James	456
Edelstein, William A	275, 325
Eder, Sandra	472
Edidin, Michael Aaron	46, 174, 233, 313, 419
Edil, Barish H	217, 283, 365
Edlow, Donald W	232, 365
Edmond, Nicole Renee	442
Edwards, Adam Brett	434
Edwards, David Nash	428
Edwards, Justin Philip	436
Edwards, Malia Michelle	436
Edwards, Robert R	262, 365
Edwardson, Jill	425
Edwin, David H	261, 345
Efron, David Thomas	118, 282, 283, 365
Efron, Gershon	325
Egan, Josephine Mary	163, 345
Egbert, Lawrence D	118, 365
Egth, Howard Elliott	205, 419
Eghrari, Allen Omid	485

Eglseder, W Andrew Jr	285, 288, 365
Ehmson, Jeffrey Tevebaugh	456, 475
Ehret, Georg Benedikt	245, 410
Ehrlich, Elana S	435
Ehrlich, Eva	172, 410
Ehrlich, Walter	261, 357
Ehsani, Hamid	142, 406
Eicher, Michael	306
Eid, Shaker M	170, 395
Eiffel, John Bernard Jr	446
Einhorn, Jessica P	306
Einhorn, Roland C	170, 395
Eisele, Evelyn	477
Eisen, Harvey	305
Eisenberg, David Lee	170, 395
Eisenberger, Mario A	212, 293, 325
Eisner, David Jon	277, 365
Ekeocha, Chidiebere Uzoma	425
El Boueiz, Adel Rafah	426
El Chami, Hala	431
Elahi, Dariush	173, 282, 325
Elberfeld, Harrold T	152, 365
Eldadah, Zayd A	166, 365
El-Diwany, Ramy	454
Eldred, Lois J	166, 365
Elfrey, Mary Katherine	427
El-Gasim, Mahmood	452
Elgoyhen, Ana	290, 325
Elhaik, Eran	426
Elhassan, Amir Omar	423
Eliades, Steven Jeffrey	438
Elias, Abdallah Frederic	440
Elias, John J	288, 365
Elinoff, Jason Matthew	431
Elisseeff, Jennifer H	290, 419
Elkes, Joel	260, 339
El-Khouli, Riham	444
Ellen, Jonathan Mark	239, 325
Ellerkmann, Richard Marcus	152, 365
Ellington, Laura Elizabeth	452
Elliott, Elizabeth Marie	423
Elliott, Richard A	119, 365
Ellis, Carla Lashannon	438
Ellison, David Donald	466
Ellison, Trevor Ashton	445
Ellner, Jerrold	159, 325
Elman, Michael J	225, 365
El-Maouche, Diala	429
Elon, Rebecca D	163, 345
Elpert, Lana Rae	447
El-Sharkawy, Abdel-Monem Mohamed A	276, 395
Eluri, Swathi	450
Elwood, Hillary Rose	438
Elzey, Erica Nicole	447
Emadi, Ashkan	435
Emens, Leisha Ann	54, 215, 314
Emery, Katherine Winifred	445
Emiliano, Ana B	429
Emrick, Lisa Tennyson	440
Endres, Christopher J	278, 365
Eng, Calvin	120, 395
Eng, Hooi Sian	431
Eng, John	155, 277, 345
Engel, Bernard T	260, 325
Engel, Donald Edward	443
Engel, Rainer M E	293, 345
Engelhard, Caitlin Conner	456, 475
Engels, Eric Andrew	163, 345
Engineer, Lilly	119, 366
Engler, Christoph	437
Englum, Brian Robert	447
Englund, Paul T	123, 325
Engorn, Branden Michael	440
Engstrom, Karen A	153, 395
Ennen, Christopher Scott	426
Ensminger, Margaret E	265, 419
Ensor, Robert E	277, 391
Ephraim, Patti	146
Epps, Charles H Jr	288, 357
Epstein, Jonathan I	212, 229, 293, 314, 325
Erbelding, Emily J	163, 241, 314, 345
Erdek, Michael A	119, 217, 366
Erdemli, Sabri	469
Erdinc, Melek Michelle	476
Erdman, Laura Maciel	153, 395
Erdman, Stuart	317, 318
Erickson, James	307, 310
Erkula, Gurkan	288, 366
Ernst, Monique	262, 366
Eron, Julia N	292, 410
Erozan, Yener S	229, 325
Ertan, Gulhan	444
Ervin, Ann-Margaret	145

Eshleman, James R	54, 215, 231, 345	Feinleib, Manning	144
Eshleman, Susan H Shakin	54, 229, 314, 325	Feirtag, Daniel	170, 395
Eskesen, Kristian	428	Feld, Melissa	307
Espenshade, Peter J	136, 309, 345	Feldman, Dorianne Rachelle	256, 395
Espinoza, Freddy Alexander	466	Feldman, Isadore A	142, 406
Esquivel, Jesus	152, 366	Feldman, Leonard S	166, 242, 312, 366
Essandoh, Louis Kofi	166, 366	Feldman, Matthew William	472
Esteso, Paul	456, 470	Feldman, Michael J	446
Estner, Heidi Luise	428	Feldman, Naomi Ruth	170, 395
Estrada, Andrea	485	Feldman, Sylvan	286, 395
Estrella, Michelle	166, 366	Feller-Kopman, David J	163, 345
Estruch, Myrna T	170, 405	Felling, Ryan Jordan	434
Esumi, Noriko	225, 366	Felton, Elizabeth Ann	427
Etesami, Maryam	443	Feng, Lei	466
Ettinger, David S	151, 160, 212, 272, 290, 312, 325	Feng, Mingye	478
Ettinger, Mark Raymond	423	Feng, Ting	475
Etzel, Tony	318	Feng, Tom Shi	452
Euster, Caren	142, 406	Feng, Xiaojun	429
Evans-Nguyen, Kenyon M	252, 416	Ferguson, Robert P	163, 345
Evatt, Daniel Patrick	442	Ferlito, Marcella	172, 410
Everett, Allen Dale	241, 345	Fernandopulle, Gregory	245, 262, 366
Everett, Anita Smith	262, 366	Feroli, E Robert Jr	171, 406
Everly, George S Jr	261, 345	Ferrante, Virginia Mac Veagh	49, 395
Evitts, Paul M	291, 366	Ferreira, Marcos De Sousa	423
Ewald, Andrew J	136, 217, 366	Ferrie, Ann M	205, 416
Ewen, Joshua Benjamin	200, 395	Ferrucci, Luigi	160, 325
Ewertz, Marjorie Elizabeth	172, 410	Fert-Bober, Justyna Patrycja	428
Ewis, Hossam El-Din Mohamed Ahmed	432	Fertig, Elana Judith	435
Eyler, Daniel Edward	463	Fessler, Henry E	163, 308, 345
Eyler, Elizabeth Carol Huang	462	Fessler, Marjorie Ann	244, 395
Eze-Nliam, Chete Margaret	442	Fetting, John H III	163, 215, 262, 313, 345
Ezeugwu, Camellus O	166, 366	Fey, Gregory Charles	264, 395
Facio, Fernando Nestor Jr	446	Fichtenberg, Caroline	145
Fackler, James Courtney	117, 345	Fichtinger, Gabor	279, 419
Fackler, Mary Jo	218, 410	Fields, Cynthia Dianne	443
Faden, Ruth R	174, 313, 419	Fields, Errol Lamont	485
Fader, Amanda Nickles	152, 366	Fields, Julie Cathleen	452
Fader, Judith	319	Fifer, Matthew Stephen	466
Fadoju, Doris Olukemi	440	Fijalkowska, Iwona	172, 410
Fadowski, Jeffrey John	242, 366	Files, Daniel Clark	431
Fadul, Dalia A H	276, 395	Findlay, Jeanne Steman	139, 366
Fagan, Peter J	261, 345	Fine, Derek Michael	163, 308, 310, 315, 345
Fahey, Jed W	252, 410	Fine, Ira T	166, 318, 366
Fahey, John J	288, 391	Fingerhood, Michael I	163, 345
Fahie, Kamau M	424, 462	Fink, Doran Leonard	440
Fahrner, Jill Ann	440	Fink, Nancy E	145, 174, 419
Faigle, Romanus Roland	426	Finkel, Toren	163, 345
Fairman, Jennifer E	48, 308, 366	Finkelstein, Daniel	224, 325
Fairweather, DeLisa	233, 419	Finkelstein, Janice	242, 366
Fakhry, Carole	438	Finkelstein, Joseph	155, 166, 366
Falade, Oluwaseun Omotomilola	427	Finkenzeller, Dayna A	153, 395
Fallano, Katherine Anne	452	Finley, Scott	155, 410
Fallin, Margaret Daniele	144, 174, 419	Finley, Stacey Deleria	424
Fan, Chunling	423	Finney, D C Wharton	284, 405
Fan, Eddy	170, 395	Finucane, Thomas E	160, 325
Fan, Jinsui	170, 395	Fiorenza, Jeffrey Peter	485
Fan, Katherine Yu-Ting	454	Fischer, Beverly A	286, 395
Fandy, Tamer E	435	Fischer, Max Karl	439
Fanfair, Robyn Neblett	170, 395	Fischer, William A II	431
Fangtham, Monthida	431, 437	Fish, Jonathan	317
Faraday, Nauder	117, 283, 311, 312, 345	Fishbein, Ronald H	282, 357
Farah, Mohamed H	201, 410	Fishburn, Mary Jo	256, 366
Farasat, Sharifeh	485	Fishel, Rhonda S	282, 345
Faria, Andrea	276, 410	Fisher, Charles Ira	466
Farjoodi, Payam	437	Fisher, Marjorie M	305
Farmer, Evan R	139, 325	Fishman, Elliot K	212, 276, 313, 325
Farooqui, Saleem	276, 395	Fishman, Marc	262, 366
Farrar, Jason	218, 395	Fissell, Mary E	157, 314, 325
Farrell, Jonathan Andrew David	443	Fitting, Melinda D	262, 366
Farrell, Richard A	225, 345	Fitzgerald, April S	170, 308, 395
Farres, Houssam	423	Fitzgerald, Robert S	174, 258, 419
Farzadegan, Homayoon	144	Fivush, Barbara	239, 313, 314, 325
Fatemi Shariatpanahi, Hadi	466	Fixler, Jason	244, 395
Fatemi, Seyed Ali	242, 366	Flagg, Artemus II	423
Fathi, Amir	199, 435	Flaherty, Michael Patrick	430
Fatokun, Amos Akintayo	433	Flaherty, Pamela P	305
Fatt, Michael Andrew	443	Flavahan, Nicholas A	117, 311, 325
Fatusin, Oluwatosin Oyefolake	447, 456	Flaws, Jodi Anne	151, 345
Fauerbach, James A	256, 261, 284, 345	Fleisher, Lee Alan	155, 325
Faustin, Christopher	423	Fleishman, Jerold H	200, 395
Favorov, Alexander Vladimirovich	435	Flerlage, Timothy Theodore	452
Fayad, Laura M	275, 289, 345	Fletcher, Craig Anthony	192, 366
Fayzullina, Saniya	476	Fleury, Aimee C	425
Fazio, Maria T B	305	Flexner, Charles W	160, 251, 315, 326
Fedarko, Neal S	160, 325	Flick, James A, Jr	305
Fee, Elizabeth	157, 325	Flies, Dallas Benjamin	474
Feeser, Scott A	170, 395	Fligsten, Kenneth E	264, 395
Feigin, David S	275, 315, 325	Flores, Jaimie Ivan	285, 366
Fein, Henry George	166, 366	Flores, Jose Miguel	454
Feinberg, Andrew G	262, 265, 366	Floyd, Charles Timothy	289, 395
Feinberg, Andrew P	44, 149, 160, 194, 212, 309, 310, 325	Flynn, Emilee Cahill	454
Feinberg, Richard L	283, 366	Flynn, John A	160, 265, 326
Feiner, Jeffrey Michael	446	Foerster, Bradley Roger	275, 366

Fofana, Mariam Lomaico Olivia	454
Fogarty, Kevin	310
Foley, Finbar Timothy	447
Foley, Kelly Ann	470
Follmar, Keith E	446
Folstein, Marshal F	260, 326
Folstein, Susan E	260, 326
Fomunung, Edmond Nketti	75, 452
Fonda, Jelles N	170, 395
Fong, Tiffany Clair	425
Fontaine, Kevin R	163, 345
Fontaine, Natasha Noelle	426
Fontana, Stefani Chun-Jiang	472
Foo, Thomas Kwok-Fah	277, 416
Forastiere, Arlene A	212, 272, 290, 311, 314, 326
Ford, Carolyn	318
Ford, Daniel E	160, 265, 306, 308, 313, 326
Ford, Eric C	217, 272, 366
Ford, Jean G	144, 174, 219, 419
Foreman, Perry Jay	199, 366
Formica, Raquel	226, 410
Forster, Louis J	305
Fortenberry, Yolanda M	123, 242, 366
Fortuin, Nicholas J	160, 326
Fortune, Eric Scott	205, 312, 419
Fosarelli, Patricia D	242, 366
Foss, Catherine A	276, 395
Foss, Joseph E	319
Foster, Allen	226, 408
Foster, Darren Brian	172, 410
Foster, David	204, 366
Foster, Deirdre Mary	443
Foster, Paul N	170, 395
Fotenos, Anthony Frank	443
Fotuhi, Majid	199, 366
Fowler, Mary Glenn	229, 314
Fowler, Melissa Ann	326, 424
Fox, Harold Edward	151, 307, 311, 312, 318, 326
Fox, Michael R	262, 366
Fox, Michelle	152, 366
Fox, Rebecca Marie	424
Foy, Mary E	307, 308, 309, 310, 313, 314, 315
Fradin, Delphine Danielle	431
Fradin, Joel Mark	277, 406
Fragetta, James E	244, 395
Fraig, Mostafa M	231, 345
Franszczuk, Piotr J	198, 345
Franca-Koh, Jonathan Chen Kiat	424
Francis, Howard Wayne	291, 309, 315, 345
Franco, Marianne M	284, 406
Franco, Sonia	217, 272, 366
Francomano, Clair A	163, 243, 345
Franco-Mora, Augusto A	172, 410
Frank, Dana H	166, 366
Frankel, Yelena Mirensky	425
Frankenfield, Diane L	245, 410
Franklin, Jodie G	123, 410
Franklin, Phillip J	170, 395
Frantz, Joanne	309
Frary, Richard S	305
Fraser, Shannon Caroline	447
Frassica, Deborah Anne	215, 272, 309, 314, 315, 345
Frassica, Frank John	212, 288, 307, 318, 326
Frato, Katherine Elizabeth	469
Frazier, Aisha Hughes	440
Frazier, James Louis, III	432
Frederick, Wayne A	217, 366
Freedenburg, Daniel J	173, 264, 395
Freedman, Joan Audrey	49, 395
Freehill, Michael Thomas	437
Freeland, Howard	319
Freeman, Brandi Kaye	440
Freeman, John M	197, 239, 313, 316, 339
Freeman, Norman R Jr	170, 405
Freeswick, Paul D	283, 366
Freire, Ernesto	133, 419
Freischlag, Julie Ann	282, 307, 308, 311, 314, 318, 326
French, Kathleen Brelsford	287, 395
Frey, Eric Charles	278, 326
Frick, Kevin D	226, 419
Fridman, Gene Yevgeny	438
Fried, Linda P	160, 314, 326
Fried, Nathaniel Michael	294, 366
Friedley, Nancy Jane C	170, 395
Friedman, Alan D	54, 212, 239, 326
Friedman, Baruch	166, 366
Friedman, David Steven	224, 326
Friedman, Joshua Ivan	469
Friedman, Melvin M	289, 366
Friedman, Neil B	284, 395
Friel, Timothy P	226, 411
Frisoni, Lorenza	450
Fritz, Jan	443

Fritz, William F	166, 391
Froehlich, Jeffrey P	166, 367
Frogale, Kristina Michelle	427
Frondoza, Carmelita G	288, 345
Fronticelli, Clara	117, 339
Frosch, Emily J	262, 312, 315, 367
Frost, John J	279, 326
Frueh, Dominique	133, 367
Fu, Baojin	438
Fu, DeXue	218, 411
Fu, Guo	424
Fu, Jinrong	442
Fu, Qin	172, 411
Fu, Yingli	444
Fu, Yumei	438
Fu, Zongming	245, 411
Fuchs, Edward J	172, 411
Fuchs, Ephraim	215, 345
Fuchs, James C	282, 357
Fuchs, Paul Albert	126, 203, 290, 326
Fuchs, Ralph J	119, 367
Fuentes, Christina Theresa	475
Fujimuro, Masahiro	219, 417
Fukaya, Masahiro	205, 417
Fukushima, Kenji	444
Fuller, Drew C	142, 395
Fuller, Jennifer Lorayne	423
Fuller, John Anthony	436
Funderburk, Apryle Y	424
Fung, George Shiu-Kai	276, 411
Furth, Susan Lynn	241, 314, 345
Fyffe, Celene A	442
Gaare, Meghan Elizabeth	440
Gabelli, Sandra B	133, 396
Gable, Alicia Rose	232, 411
Gable, Nicole Jean	244, 396
Gabr, Refaat Elsayed	444
Gabre-Kidan, Alodia Ashenda	447
Gabrielson, Edward W	54, 212, 229, 326
Gabrielson, Kathleen	54, 192, 367
Gadacz, Thomas R	284, 408
Gadalla, Moataz M	477
Gadde, Jyothi	166, 367
Gadekar, Aparna	427
Gagarin, Dmitri Andreyevich	428
Gage, Kenneth Leslie	443
Gagnon, Zachary Richard	424
Gaiano, Nicholas Roger	198, 204, 215, 345
Gaillard, Stephanie Louise	435
Gailloud, Philippe	198, 278, 287, 345
Galai, Noya	144
Galanis, Charles John	445
Galati, Steven Andrew	442
Galea, Joseph Michael	442
Galetto, Giorgio Giovanni	142, 166, 367
Galik, Elizabeth M	265, 408
Gallagher, Donald I	153, 405
Gallagher, John	469
Gallagher, Michela	205, 306, 419
Gallant, Joel E	160, 311, 312, 326
Gallia, Gary Louis	287, 367
Gallo, Christopher Michael	432
Gallo, Elena	426
Gallucci, Gerard	262, 367
Galvagno, Samuel Michael Jr	119, 367, 423
Gama, Lucio	192, 411
Gamaldo, Charlene E	166, 199, 308, 309, 367
Gambert, Steven Ross	160, 326
Gamble, Darik Wendell	466
Gamper, Christopher Jordan	218, 396
Gan, Xin	465
Ganapathy Kannappan, Shanmugasundaram	276, 411
Gandhi, Dheeraj	199, 275, 287, 367
Gandhi, Neetu	431
Gandhi, Nishant Ashok	423
Gandhi, Nishierna Sharad	434
Gandhi, Shiv	452
Gandotra, Neeraj	264, 396
Gandsas, Alejandro	282, 346
Ganek, Hillary	292, 406
Ganesan, Ambighainath	466
Ganesh, Santhi Kalaichelvi	426
Gangadharan, Sunil	432
Gange, Stephen John	144
Gangwal, Kapil	427
Gannon, David	289, 396
Gans, Maryrose Kober	318
Ganunis, Travis Francis	244, 396
Gao, Li	172, 411
Gao, Peisong	166, 367
Gao, Ping	172, 411
Gao, Wei Dong	119, 367
Gao, Xinxin	441

Gao, Yongjun	444	Ghandour, Elias Camille	170, 396
Gao, Yuanzheng	433	Ghanem, Khalil G	166, 308, 367
Gao, Zhaobing	434	Gharwan, Helen	427
Garay, Joseph Paul	477	Ghasemi, Mehdi	433
Garces Ambrossi, Giannina Lissa	485	Ghatol, Abhijeet Govind	431, 433
Garcia, Ivan H	226, 396	Ghazarian, Sharon Rachael	440
Garcia, Jairo E	151, 346	Ghel, Sonia Kaur	444
Garcia, Juan R	48, 367	Ghiaur, Gabriel	435
Garcia, Maria Esteli	456	Ghosh, Amit	429
Garcia, Pedro	119, 367	Ghosh, Bidyut	283, 367
Garcia-Garcia, Jose Carlose	232, 396	Ghosh, Nilanjan	435
Garfinkel, Darryl J	277, 367	Ghosh, Soma	435
Garibaldi, Brian Thomas	431	Ghosh, Sumita	439
Garland, Donald E	153, 396	Giardiello, Francis M	160, 212, 229, 311, 326
Garland, Melissa	277, 411	Gibb, Ashley Conrad	440
Garman, Jaleh Sue	292, 406	Gibber, Marc	445
Garofalo, Evan Michele	472	Gibbons, Michael Christopher	174, 419
Garonzik Wang, Jacqueline Mary	445	Gibbs, Brian	166, 307, 312, 367
Garonzik, Ira M	287, 367	Gibbs, Kevin	426
Garrity, Shelia	311	Gibson, B Robert	283, 367
Gartner, John	262, 367	Gibson, D Wade	212, 251, 309, 310, 326
Gartner, Suzanne	198, 346	Gibson, Glen Randall	283, 367
Garvin, Heather Marie	472	Gibson, Matthew Avery	456, 466
Gary, Devin Sumner	199, 367	Gibson, Steven L	423
Gary, Nader G	226, 396	Giday, Samuel A	166, 367
Gary, Tiffany L	174, 419	Gieske, Judi	309
Garza, Luis	139, 367	Gifford, Jeneen Manlangit	427
Garzon-Muvdi, Juan	437	Gilad, Assaf A	278, 367
Garzon-Muvdi, Tomas	432	Gilbert, David Douglas	425
Gast, Rachel A	424	Gilbert, Patrick	78
Gastman, Brian R	285, 367	Gilbert, Tonya Marie	464
Gaston-Johansson, Fannie	220, 419	Gildersleeve, Kasey Lynn	485
Gatewood, Olga M B	277, 293, 346	Giles, Jon Tyler	166, 367
Gauda, Estelle B	239, 311, 314, 326	Gill, Harmindar K	277, 367
Gauvin, Jean	427	Gill, Randeep	423
Gavini, Sravanya	185, 426	Gillen, Joseph S	278, 411
Gay, Dustin Phillip	442	Gillespie, Mirinda Ann	454
Gaydos, Charlotte A	142, 160, 314, 326	Gillian, Ray	306
Gaykalova, Daria A	438	Gilliland, Theron Clinton Jr	478
Gayler, Bob W	275, 346	Gillison, Maura Lianne	215, 346
Ge, Yan	436	Gilman, Robert H	174, 419
Gearhart, John D	149, 151, 293, 326	Gilmore, Maureen Marie	243, 367
Gearhart, John P	239, 326	Gilmore, Sara Hideko	470
Gearhart, Patricia J	46, 160, 231, 282, 313, 326	Gilson, Marta Marsh	283, 367
Gearhart, Susan Lyn	217, 283, 367	Gilson, Wesley David	278, 417
Gebo, Kelly A	163, 346	Gilstrap, Daniel Lee	426
Geetha, Duvuru	166, 367	Gimenez, Luis F	166, 367
Gehlbach, Peter L	126, 225, 346	Ginsberg, Mark R	173, 262, 367
Gehris, Clarence W Jr	291, 367	Ginsburg, Golda S	261, 346
Geis, Abby Lorraine	474	Ginty, David D	203, 309, 326
Gelber, Allan Charles	163, 346	Giovannetti, Erin Rand	430
Gelfand, Harold Joseph	423	Gipson, Tanjala Trinette	440
Gellad, Fouad E	278, 367	Giraud, Jodel	450
Geller, Gail	149, 160, 239, 308, 314, 326	Giresan Vanaja, Kiran	466
Gelletly, Grace K	245, 408	Girgis, Ebeid Reda	163, 346
Genadry, Rene R	151, 346	Girolami, Peter	262, 367
Gentry, Sommer Elizabeth	284, 411	Girotra, Mohit	427
Genuit, Thomas	283, 367	Gittlin, Joseph N	275, 346
Genut, Abraham Allan	200, 396	Giuntoli, Robert L II	152, 217, 367
Geocadin, Romergryyko G	118, 198, 287, 346	Givens, Matthew David	426, 444
George, Jessica Anne	424	Gjedde, Albert	275, 326
George, Michael David	485	Gjerstorff, Morten Frier	424
George, Richard T	166, 367	Gjolaj, Joseph P	437
George, Sonia	439	Glait, Sergio Alejandro	485
George, Susan	433	Glaros, Dean Steven	225, 368
George, Timothy Jacob	445	Glaser, Kurt	243, 262, 391
Georges, Nicholas P	277, 396	Glasner, Nina	226, 396
Georgiades, Christos S	275, 316, 367	Glass, Sheldon D	262, 368
Gerber, Jonathan M	170, 396	Glass, Thomas	144
Gerhart-Hines, Zachary Philip	462	Glasser, David B	225, 368
Geringer, Alan M	294, 396	Glaun, Braeme S	200, 396
Germain-Lee, Emily	241, 314, 316, 346	Glazer, Chad Alan	438
German, Pearl S	174, 419	Glebova, Natalia Oleg	445
German, Rebecca Z	147, 256, 314, 326	Gleichauf, Paul	317
Germino, Gregory G	44, 160, 194, 326	Glick, Kenneth L	170, 396
Gerold, Kevin B	119, 142, 367	Gloth, F Michael III	163, 346
Gerring, Joan Page	241, 261, 346	Gloth, Sean T	166, 368
Gerritsen, Winald R	212, 326	Glowacki, Gerald A	152, 391
Gerson, Arlene C	241, 346	Glowatzki, Elisabeth B	204, 291, 346
Gerson, Jason	146	Glunde, Kristine	218, 278, 368
Gerson, Linda	316	Glusman, Sheldon M	232, 319, 368
Gerstenblith, Gary	160, 279, 312, 326	Gnanakkan, Veena Pushparaj	472
Gerstenblith, Ted Avi	485	Go, Vivian Fei-ling	144
Gertner, Marc H	284, 396	Gocke, Anne E	201, 411
Gertz, Barry	477	Gocke, Christian Burris	426
Geruschat, Duane R	226, 411	Gocke, Christopher D	215, 231, 346
Gerwin, Robert D	198, 346	Godenne, Ghislaine	245, 261, 357
Geschwind, Jean-Francois H	212, 276, 326	Goding, Stephen Richard Lee	436
Getnet, Derese	474	Godoy, Gustavo Khattar	428
Gettes, Norton I	289, 405	Goeddel, Lee Andrew	456
Getzenberg, Robert H	54, 212, 251, 293, 311, 326	Goel, Aditya Ashokkumar	423
Ghalib, Hussam Hashim Warsama	485	Goes, Fernando S	262, 368
Ghandi, Mahmood	466	Goff, Brandon Jesse	424

Goggins, Bernadette Cullen.....	262, 368
Goggins, Michael.....	54, 160, 212, 229, 326
Goh, Alvina.....	466
Goh, Brian Chun Kim.....	454
Goins, Andrew Joseph.....	423
Gok, Hayriye Beril.....	444
Gokaslan, Ziya L.....	212, 286, 288, 309, 327
Golay, Xavier.....	275, 368
Goldberg, Harry R.....	127, 155, 307, 308, 368
Goldberg, Helene S.....	265, 406
Goldberg, Melissa C.....	262, 368
Goldberg, Monica Vanina.....	436
Goldberg, Morton F.....	224, 327
Goldberg, Nelson H.....	285, 327
Goldberg, Stephen B.....	264, 396
Golden, Archie S.....	241, 346
Golden, David B K.....	163, 346
Golden, Erin Jennifer.....	475
Golden, Sherita Hill.....	163, 346
Golden, William Christopher.....	243, 368
Goldman, Edward J.....	225, 368
Goldman, Jeremy.....	226, 396
Goldman, Lynn R.....	142, 419
Goldman, Michael H.....	170, 396
Goldner, Brian Wayne.....	454
Goldschmidt, Hana Leah.....	464
Goldstein, Andrew Todd.....	153, 396
Goldstein, David S.....	160, 327
Goldstein, Gary W.....	197, 239, 307, 313, 319, 327
Goldstein, Jason.....	244, 396
Goldstein, Jerome C.....	237, 290
Goldstein, Judith E.....	225, 256, 368
Goldstein, Mark Adam.....	425
Goldstein, Mitchell Alan.....	243, 308, 368
Goldstein, Seth Daniel.....	445, 485
Goldstone, Andrew C.....	291, 368
Goldszmidt, Adrian J.....	200, 396
Goldwyn, Elan Michael.....	437
Golkhou, Vahid.....	466
Goll, Harold M.....	119, 368
Golub, Elizabeth.....	145
Golub, Jonathan E.....	166, 368
Gomella, Mary P L.....	243, 368
Gomez, Carlos.....	470
Gomez, Juan Fernando.....	444
Gomez, Nephtali R.....	284, 406
Gong, Gary Xin.....	277, 368
Gonzaga, Anna Marie.....	264, 396
Gonzales, Denise A.....	170, 396
Gonzalez, Melissa Luke.....	440
Gonzalez-Fernandez, Marlis.....	256, 309, 368
Goode, Diana Joyce.....	474
Goode, Victoria.....	308
Goodin, Martha Noelle.....	425
Goodman, David W.....	262, 368
Goodman, Dawn.....	192, 408
Goodman, Steven N.....	212, 239, 327
Goodrich, Amy Lynne.....	219, 411
Goods, Charles.....	316
Goodspeed, Elizabeth.....	308
Goodwin, Amy K.....	262, 312, 368
Goodwin, Andrew Charles.....	470
Goodwin, Courtney Rory.....	447, 475
Gool, Zhen.....	445
Gorbatkin, Chad Samuel.....	454
Gorbounov, Mikhail Mikhailovich.....	452
Gordis, Leon.....	144, 239, 327
Gordon, Amy H.....	166, 368
Gordon, Barry.....	197, 327
Gordon, Helen Minifie.....	170, 396
Gordon, Judith.....	431
Gordon, Toby A.....	282, 346
Gore, Steven D.....	212, 327
Goring, Kim Lesley.....	170, 396
Gorkin, David Uscher.....	472
Gorman, Linda.....	316
Gorospe, Emmanuel Cruz.....	427
Gorospe, Giann.....	466
Goswami, Dheeraj.....	424
Gott, Vincent L.....	284, 339
Gottesman, Rebecca F.....	199, 308, 368
Gottfried, Rhoda J.....	443
Gottlieb, Julie.....	307, 311
Gottlieb, Rachel Jennifer.....	454
Gottlieb, Sheldon H.....	163, 346
Gottsich, John D.....	224, 327
Gottschalk, Allan.....	118, 346
Goudarzi, Behnaz.....	444
Gould, Francois David Henry.....	472
Gould, Neda F.....	442
Gould, Stephen J.....	44, 123, 327
Gounder, Celine Rani.....	430
Gourin, Christine G.....	291, 346

Gouw, Arvin.....	477
Govil, Ashul.....	427
Govindan, Priyanka.....	446
Gower, Adam.....	316
Gower, Emily W.....	225, 346
Gower, William Adam.....	440
Goyal, Jatinder.....	446
Goyal, Madhav.....	170, 396
Gozu, Aysegul.....	166, 368
Grab, Dennis John.....	231, 241, 346
Grace, Nancy.....	262, 368
Grader-Beck, Thomas.....	166, 368
Gradon, Jeremy David.....	163, 346
Grados, Marco A.....	262, 368
Grady, Helene.....	310, 317
Graham, David R M.....	166, 192, 368
Graham, Ernest Marshall.....	151, 346
Graham, Garth Nigel.....	428
Graham, Lauren Elizabeth.....	447
Graham, Thomas J.....	285, 346
Gramatikov, Boris L.....	225, 368
Gramatikova, Aneta Petrova.....	427
Grams, Morgan Erika.....	431
Grant, Kenneth.....	312, 317, 318
Grant, Lisa.....	438
Grant, Michael P.....	225, 368
Gratz, Edward S.....	199, 368
Gravitt, Patti.....	144, 219, 419
Gray, Jeffrey J.....	220, 419
Gray, Lawrence Wilson.....	478
Gray, Phillip John Jr.....	486
Gray, Ryan S.....	424
Grayson, Warren L.....	127, 368
Green, Ariel Ruth.....	427
Green, Brian Michael.....	432
Green, David.....	226, 411
Green, Deanna Mae.....	440
Green, Gene E.....	170, 396
Green, Isabel C.....	152, 308, 368
Green, Jordan J.....	127, 368
Green, Melva Isadora.....	264, 396
Green, Rachel.....	194, 308, 314, 327
Green, Whitney Morgen.....	450
Green, William R.....	224, 229, 339
Greenbaum, Adena Hope.....	426
Greenberg, Kathleen Elizabeth.....	470
Greenberg, Keiko Iwahara.....	426
Greenberg, Robert S.....	118, 311, 346
Greenberg, Sanford D.....	305
Greenberg, Tasha Zemrus.....	232, 408
Greenblatt, Sarah Merin.....	470
Greene, Carlton C.....	170, 396
Greene, Eriko.....	470
Greene, Peter Schuyler.....	155, 284, 307, 316, 346
Greenough, William B III.....	160, 327
Greenspan, Joel Daniel.....	288, 411
Greenwald, Elliot Howard.....	466
Greenwald, Lark Julie.....	452
Gregg, Lydia June.....	278, 411
Gregory, Anthony Charles II.....	450
Greider, Carol Widney.....	44, 194, 212, 307, 308, 309, 310, 314, 327
Greyson-Fleg, Rosemarie T.....	277, 396
Griese, Stephanie Elaine.....	440
Griffin, Constance A.....	163, 212, 229, 314, 327
Griffin, Diane.....	46
Griffin, Erik Edmund.....	432
Griffin, James Freeland.....	450
Griffin, John W.....	197, 203, 229, 311, 313, 314, 327
Griffin, M Diane E.....	174, 201, 313, 314, 419
Griffith, Lawrence S.....	160, 279, 327
Griffiths, Elizabeth Alice.....	436
Griffiths, Robert I.....	166, 368
Griffiths, Roland R.....	203, 260, 327
Grigorieva, Anastasia.....	423
Grigoryev, Dmitry N.....	170, 396
Grill, Stephen Elliot.....	199, 368
Grimm, Cordelia T.....	166, 368
Grinnalds, Jack.....	307, 317
Gripper, Sommer Nikishia.....	425
Grishkan, Inna V.....	452
Griswold, Benjamin H IV.....	305
Griswold, Sophie Charlotte.....	486
Grochow, Louise B.....	163, 215, 346
Grogan, Kelly.....	119, 368
Grohar, Patrick Joseph.....	436
Groopman, John D.....	219, 420
Gross, Deborah.....	266, 420
Gross, Richard J.....	163, 346
Grosset, Jacques H.....	160, 327
Grossi, Richard A.....	306, 310
Grossman, Rachel.....	432
Grossman, Stuart A.....	160, 212, 286, 327

Grosso, Joseph Frank	436	Hager, David N.	166, 369
Grover, Lori L	225, 368	Hagopian, Louis P	261, 346
Groves, Mari Louise Asaoka	432	Hahn, Davis	319
Grubina, Rozalina	486	Hahn, Sarah J	452
Grumbine, Francis C	152, 368	Haider, Georges Mounir	446
Grundy, Maureen Elise	425	Haider, Adil H	119, 283, 369
Grunwald, Michael Richard	435	Haile, Charles A.	170, 396
Grutter, Paul William	289, 506	Haines, Charles Franklin	426
Gu, Lihong	429	Hairston, Sandra Watson	170, 396
Gu, Yi	465	Haith, Adrian Mark	424
Guallar, Eliseo	145, 174, 420	Halbower, Ann Carol	243, 369
Guan, Bin	439	Halbsgut, Lisa Renee	450
Guan, Yihe	454	Haldeman, Dalal J	312, 317, 318
Guan, Yun	119, 368	Hales, Russell Kenneth	443
Guarda, Angela Sarah	261, 313, 346	Haley, Mary Jo	445
Guarnieri, Michael	288, 416	Hall, John Clayton	429
Guay, Laura A	231, 241, 346	Halle, Ellen	264, 396
Guba, Alexander M	285, 368	Haller, Emily M S	152, 391
Gucwa, Jessica	470	Haller, J Alex Jr	142, 285, 339
Gudzune, Kimberly A	430	Haller, Karen B	318
Gue, W Kenneth	319	Halloran, Elizabeth A	170, 396
Guerrero, Anthony Lawrence Jr	243, 368	Hallowell, Robert William	426
Guerrero, Pamela Ann	243, 369	Halperin, Henry R	126, 160, 275, 311, 327
Guerrero-Cazares, Hugo	432	Halpern, Jane L	172, 411
Guerrero-Preston, Rafael Enrique	292, 396	Halper-Stromberg, Eitan	472
Guevara, Maria	444	Halpert, Daniel Eli	442
Guggino, Sandra E	163, 258, 346	Halsey, Neal A	245, 420
Guggino, William B	44, 239, 258, 307, 310, 327	Halushka, Marc K	54, 232, 369
Guity, Niquiche M	443	Halwani, Muhammad Abdurrahman	430
Gujar, Sachin	275, 369	Hamad, Abdel-Rahim A	54, 166, 232, 369
Gulaldi, Nedim Cuneyt Murat	444	Hamazaki, Ichiro	433
Gulotta, Charles S	262, 369	Hamblet, Corinne	474
Gummerson, Kenneth S	170, 396	Hamblin, Mark Jason	431
Gunay-Aygun, Meral	243, 369	Hamdy, Rana Farouk	440
Gunderson, Camille Catherine	425	Hamed, Miruais S	427
Gundry, Rebekah Lynn	428	Hameed, Haroon Imran	442
Gunduz, Ozge	433	Hameed, Mariam Maira	442
Guo, Hong	436	Hamill, Dorothy	319
Guo, Junjie	475	Hamilton, James P	166, 369
Guo, Nini	432	Hamilton, Robert G	160, 229, 327
Guo, Ting	475	Hammer, Lenard H	226, 396
Guo, Yuzhen	439	Hammers, Hans Joerg	217, 369
Guo, Zhihong	442	Hammoud, Dima	275, 369
Gupta, Amita	166, 369	Hamod, Kamal A	152, 369
Gupta, Angela Devi	446	Hamosh, Ada	149, 239, 311, 314
Gupta, Arnab	442	Hamper, Ulrike M	229, 276, 293, 314, 327
Gupta, Ashish	428	Hamrick, Justin Thames	423
Gupta, Gaurav	431	Hamzeh, Fayez Mahmoud	166, 369
Gupta, Kshitiz	466	Hamzehzadeh, Sayeh	423
Gupta, Malika	424	Han, Anne	425
Gupta, Rajeev	427	Han, Gyu Cheol	292, 417
Gupta, Richa	316, 454	Han, Kyungeun Carol	310
Gupta, Richard	75	Han, Liang	434
Gupta, Rigu	439	Han, Liangfeng	435
Gupta, Sandeep N	277, 417	Han, Misop	215, 293, 309, 347
Gupta, Simone	426	Han, SeungHye	431
Gupta, Sonal	439	Hanash, Carla Rita	440
Gupta, Vikash	454	Handa, James Tahara	224, 327
Gupta, Yash P	306	Handa, Victoria L	151, 347
Gurakar, Ahmet	163, 346	Handel, Sharon Frances	262, 369
Gurbel, Paul A	163, 346	Handelsman, Jacob C	282, 357
Gurel, Bora	439	Handra-Luca, Adriana Alina	439
Gurewitsch, Edith Diamant	126, 151, 316, 346	Handy, Catherine Elizabeth	450
Gurses, Ayse P	119, 369	Hanes, Justin	127, 220, 288, 420
Gusain, Anchal	428	Hanex, Taylor	305
Guss, Zachary David	452	Hanff, Thomas Carroll	452
Gust, Shannon Kathleen	486	Hanigan, Christin Lee	435
Gustin, John Paul	435	Hankins, William David	173, 417
Gutierrez, Sergio J	201, 411	Hankinson, Jessica Curley	440
Gutierrez-Alamillo, Laura I	172, 411	Hanley, Daniel F	117, 197, 286, 311, 327
Gutmark, Ron	447, 456	Hanlon, Caitlin	462
Guttman, Michael A	127, 369	Hann, Christine L	217, 309, 369
Guydosh, Nicholas Raymond	432	Hanna, Marie N	119, 369
Guyer, Bernard	245, 420	Hansel, Nadia N	166, 369
Guyton, David L	224, 327	Hansen, F Chris III	170, 396
Gwilliam, James Christian	446, 466	Hansen, Frederik C	285, 357
Gwon, Howard	318	Hanson, Annette L	262, 369
Gwynn, Hilary Eileen	200, 396	Hanson, Marta	157, 369
Ha, Nguyen Khoi	436	Hanson, Sarah Jean	425
Ha, Patrick K	291, 369	Hanyok, Laura A	166, 369
Habashi, Jennifer Pardo	243, 369	Hao, Yubin	438
Habib, Michael Bruce	472	Haque, Kalem U	170, 396
Habibi, Mehran	283, 369	Haque, Uzma Jalal	166, 369
Hack, Anniesha	470	Harada, Shuko	439
Hackerman, Florence	264, 396	Hardesty, Daniel C	170, 396
Hackler, Laszlo	436	Hardiman, Mariale	306
Haddad, Ashraf Jamal	445	Harding, Alexander Scott	454
Haddad, Steven	315	Harding, Janet	312
Hadley, Tammy D	170, 309, 396	Hardwick, J Marie	201, 219, 252, 420
Haefele, Benjamin David	466	Hardy, Christopher Gareth	431
Haffner, Michael C	435	Hardy, Paul H Jr	194, 357
Hagan, Henry G	319	Hare, Joshua Michael	126, 160, 327
Hagan, Robert Stewart	426	Har-el, Yah-el K	444

Harlan, Joseph B Jr	225, 369
Harmel, Merel H	117, 327
Harmon, John W	282, 327
Harper, Matthew Paul	423
Harrell, Anthony J	170, 396
Harrington, Allan C	139, 369
Harrington, Anthony Weldon	434
Harrington, Colleen Mary	428
Harris, Andrew P	118, 151, 347
Harris, Che M	170, 396
Harris, Dennis Raymond	443
Harris, Elizabeth Edith	427
Harris, James C Jr	239, 260, 327
Harris, James Earl Jr	445
Harris, Kendra Marie	443
Harris, Tamia Alisha	447, 470
Harris, Timothy James	426, 486
Harrison, Daniel M	433
Harrison, Joyce Nolan	262, 369
Harrison, Katharine Santos	166, 369
Harrison, Steven Marshall	424
Harshbarger, Raymond J III	286, 396
Hart, Gerald Warren	123, 307, 311, 313, 327
Hartman, Adam Lindsay	199, 243, 369
Hartsell, Theresa Lynn	119, 312, 315, 369
Hartung, Erum Aftab	440
Harun, Aisha	450
Harvey, Robert D H	305
Hasan, Nesrin Mehmed	478
Hasan, Rani Khalil	428
Haseltine, Florence P	153, 408
Hashambhoy, Yasmin Lucy	466
Hashida, Noriyasu	436
Haskins, Harriet L	291, 391
Hassanzadeh, Hamid	437
Hassen, Waleed A	294, 369
Hassoun, Paul M	160, 327
Hatori, Yuta	442
Hattar, Samer S	205, 420
Haughey, Norman James	198, 347
Hauptman, Howard W	170, 396
Hausheer, Frederick H	215, 347
Haut, Elliott Richard	119, 283, 369
Havers, Fiona Patricia	426
Havill, John Paul	431
Havlena, Gregory Thomas	486
Hawkins, Barbara S	224, 314, 339
Hawks, Michael A	437
Hawley, Daniel Bryan	444
Hayashi, Akiko	442
Hayashi, Jennifer L	166, 369
Hayashi, Takashi	205, 411
Hayes, Charlene Moore	306
Hayes, Margaret Mary	426
Hays, Allison Gamboa	166, 369
Haythornthwaite, Jennifer A	260, 311, 313, 314, 327
Hayward, Gary S	54, 212, 229, 251, 317, 328
Hayward, S Diane	198, 212, 229, 251, 309, 311, 314, 328
Haywood, Jr. Carlton	369
Hazlett, Richard	262, 369
He, Bin	276, 411
He, Jian	477
He, Jin	445
He, Li	465
He, Lihua	423
He, Ling	244, 396
He, QingLi	441
He, Ran	440
He, Shan	463
He, Xiaobing	439
He, Xin	278, 397
He, Yiping	219, 411
Headings, Dennis L	245, 408
Healey, Megan Albert	435
Healy, Zachary Ryan	447
Heaphy, Christopher Michael	439
Hearn, Michelle L	244, 397
Heath, David	277, 397
Heaton, Spencer Scott	424
Hebb, Deborah L	153, 397
Hecker, Alvin W	244, 397
Hedayati, Mohammad Ali	443
Hedblom, Janice E	265, 406
Hedderick, Erika L F	434
Hees, Paul S	172, 408
Heffernan, Sean Philip	442
Heflin, Thomas Harrison	454
Heikamp, Emily Beth	456, 474
Heil, Barbara Lawson	426
Heinlen, KristaJ	292, 406
Heinz, William Frederick	258, 417
Heiser, Diane	470
Heiser, Lisa	307, 312, 314

Heishman, Stephen J	261, 347
Heitmiller, Eugenie S	118, 241, 311, 347
Heitmiller, Richard F	215, 282, 347
Helgeson, Ashley Procopio	426
Heller, David Joseph	426
Heller, Jennifer A	283, 369
Heller, Todd D	170, 397
Hellmann, David B	160, 306, 328
Hellmann, Linda Smith	264, 397
Helman, Lee J	212, 239, 328
Helquist, Mark Thomas	276, 397
Hemmati, Houman David	436
Hemming, John Patrick	427
Hemming, Sarah Elizabeth	466
Henderson, Charles Franklin	429
Henderson, Janice L	152, 369
Henderson, Jessica Felicia	454
Henderson, Lindsay Ann Bremer	472
Henderson, Mark James	470
Henderson, William M	292
Hendler, Lee Meyerhoff	305
Hendley, Audrey Marie	472
Hendricks, Latonya Michelle	425
Hendricks, Melissa Collison	440
Hendricks, William Phillip	369, 470
Hendrix, Craig Walter	160, 251, 328
Hendrix, Thomas R	160, 339
Hendry, Stewart H C	203, 328
Henein, Magdi H G	289, 369
Henesch, Jonathan A	427
Hennelly, Meghann Maureen	442
Hennessey, Joseph G	265, 411
Hennessey, Patrick Thomas	438
Henningfield, Jack E	260, 328
Henrikson, Charles Alan	166, 369
Henry, Porche Kirkland	442
Henry, Sanya	276, 397
Henry, Winoah Anya	429
Hensel, Zachary	469
Heo, Jangwon	437
Heptinstall, Robert H	229, 339
Herati, Ramin Sedaghat	427
Herb, Brian Richard	463
Herbst, Katie Jean	477
Hererra-Galeano, J Enrique	172, 411
Herlong H Franklin	78, 163, 309, 310, 347
Herman, James Gordon	54, 212, 328
Herman, Joseph M	217, 272, 283, 308, 369
Herman, Leanna J	264, 397
Hernandez, Andres	466
Hernandez, Adam Breaux	431
Hernandez, Estebes Akira	426
Hernandez-Colon, Rafael	305
Herold, Christian J	277, 347
Herring, William Joseph	199, 369
Hershfield, Bruce	262, 369
Hersman, Elisabeth Marie	477
Herzka, Daniel A	127, 370
Herzke, Anne-Gilbert Carrie	170, 397
Herzog, William R Jr	166, 370
Hesdorffer, Charles Steven	163, 215, 347
Hess, Allan D	46, 212, 229, 328
Hester, Lynda D	205, 411
Hetie, Phyllis	462
Heugel, Judson Ryan	440
Heuston, Elisabeth Frances	470
Heverling, Harry E Jr	425
Hewitt, Matthew Michael	429
Heydarian, Mohammad	465
Heyman, Kenneth	48, 370
Hiatt, Bonnie L	170, 397
Hicks, Ashleigh Mica	427
Hicks, Hermione	307, 309, 310
Hida, Kaoru	466
Hidalgo, Manuel	215, 347
Hiel, Hakim	292, 411
Hienz, Robert D	261, 347
Higgins, James Patrick	285, 370
Higgins, Michaela Jane	435
Higgins, Ryan William	472
Highet, Bridget Helen	425
Highsmith, John	317
Higuchi, Takahiro	444
Higuchi, Tomoe	436
Hildreth, Arthur McLean	264, 397
Hildreth, James Earl King	46, 251, 328
Hill, Gary S	229, 328
Hill, Hugh F III	142, 370
Hill, J Laurance	285, 347
Hill, Jane	318
Hill, Martha N	174, 306, 307, 420
Hill, Peter M	142, 309, 316, 370
Hill-Briggs, Felicia	163, 256, 347

Hillel, Alexander Tell	438	Hopfer, Kari D	444
Hillion, Joelle Anne	430	Hopkins, Cescili D	153, 397
Hillis, Argye Elizabeth	197, 256, 314, 315, 328	Hopkins, Mark Stephen	256, 397
Hillman, Bernadette Anise	440	Hoque, Mohammad Obaidul	217, 291, 294, 370
Hillocks, Yolanda Mikka Nicola	472	Horn, Pamela Jean	442
Hilton, John	279, 411	Horn, Troy Allen	462
Himelfarb, Richard J	319	Horne, Aaron Jr	428
Hinds, Ginette	139, 370	Hornig, Fay Anne	423
Hines, Howard C	139, 370	Horowitz, David Paul	486
Hines-Peralta, Andrew Uriah	444	Horowitz, Edward	172, 411
Hinson, Holly Elaine	433	Horrell, Danica Paulette	470
Hinton, Endrika L	152, 370	Horska, Alena	278, 370
Hinton, Richard Y	289, 370	Horti, Andrew G	279, 347
Hiroi, Toyoko	428	Horton, Karen Margaret	276, 314, 328
Hirose, Kenzo	283, 370	Horton, Maureen Renee	163, 347
Hirsch, Glenn A	166, 370	Hortopan, Steven C	294, 406
Hirsch, Karen G	433	Horvath, Keith A	284, 347
Hirsch, Stephen A	264, 397	Hosein, Nadeen	429
Hirschbein, Marc J	225, 370	Hosek, William T	142, 370
Hirschhorn, Ricky Regina	262, 370	Hosmane, Suneil Narayan	466
Hirunyachote, Phenpan	437	Hossain, Mir Ahamed	198, 347
Hisada, Masayuki	446	Hossain, Mohammad Zulfiquer	435
Hitzrot, James M II	289, 405	Hosseini, Iraj	466
Hiyama, Hideki	442	Hou, Peng	429
Hladik, Karen Marie	142, 406	Houk, Carolyn Clarkson	170, 397
Ho, Alice Sin Yu	466	Houk, Ryan Patrick	450
Ho, Cheng-Ying	438	Houle, Elizabeth	436
Ho, Gary Ping-Hao	456, 470	Hourigan, Christopher Simon	435
Ho, Nicola C	243, 370	Hourigan, Suchitra K	440
Ho, Roger Sai-kit	427, 486	Housseau, Franck	219, 411
Ho, Tony Wei-Hsiu	199, 370	Houston, Avril Melissa	244, 397
Ho, Ya-Chi	470	Houston, Brian Allan	426
Ho, Yen-Yi	426	Houts, Frederick William	442
Hobbs, Robert Francois	444	Hovanec, Linda	265, 408
Hodas, Lauren R	264, 397	Hovermale, Lisa Simone	264, 397
Hodgson, David C	305	How, Remealle Alma	486
Hoehn-Saric, Evanne V Loh	262, 305, 370	Howard, Barbara J	243, 370
Hoehn-Saric, Rudolf	260, 339	Howard, Brian M	427
Hoesch, Charles F	406	Howard, David Leighton	486
Hoesch, Robert E	171, 199, 370	Howard, Jason David	478
Hofert, Sheila Mohajer	244, 397	Howard, Renee P	244, 397
Hoffman, Beatrice	142, 370	Howard, Tara Colleen	472
Hoffman, Elmer	283, 391	Howard, William T	263, 370
Hoffman, Monica Ann	431	Howe, Erica E	170, 397
Hoffman, Paul N	226, 411	Howell, Carolyn Jayne	443
Hoffmann, Christopher James	170, 397	Howell, Eric E	163, 347
Hofkamp, Susan E	256, 397	Howells, Vanessa	264, 397
Hofkin, Gerald A	166, 370	Howes, Randolph Michael	285, 370
Hofmann, Lawrence V	275, 370	Howie, Lynn Jackson	426
Hogue, Charles W Jr	118, 347	Howlett, Jessica Ann	440
Hoh, Jan H	258, 309, 347	Hoyer, Erik Hans	442
Hohmann, Christine F	262, 370	Hristova, Kalina	127, 420
Hoke, Ahmet	198, 204, 347	Hruban, Ralph H	78, 212, 229, 312, 313, 328
Hoke, George Martin	170, 397	Hsiao, Leo	120, 397
Holanda, Danniele Gomes	440	Hsiao, Robert Y	170, 397
Holbert, Marc A	441	Hsiao, Steven S	126, 203, 309, 328
Holbrook, Janet	145	Hsieh, Antony	454
Holcomb, Henry H	262, 279, 370	Hsieh, Wen-son	217, 370
Holcomb, Thomas M	243, 391	Hsieh, Yu-Hsiang	142, 370
Holcroft, John James	424	Hsu, Edbert Brian	142, 347
Holdhoff, Matthias	435	Hsu, Ian	454
Holewinski, Ronald Joseph	428	Hsu, Jeffrey H	263, 370
Holland, Peter C	205, 420	Hsu, Nigel Naichieh	452
Holliday, Michael J	287, 291, 347	Hsu, Stephanie C	243, 370
Holm, Tammy Marie	486	Hsu, Steven	426, 486
Holman, Katherine Cullinan	265, 411	Hsu, Tah-Hsiung	163, 347
Holmes, Kathryn W	243, 370	Hsu, Wesley	432
Holmes, Megan Anne	472	Hsueh, Wei-Ting	439
Holmes, Susan E	262, 370	Hu, Chaoxin	439
Holst, John Matthew	425	Hu, Diana C	245, 408
Holt, Peter A	166, 370	Hu, Hongxia	473
Holtgrave, David Robert	174, 219, 420	Hu, Jiahua	205, 411
Holtgrewe, H Logan	293, 328	Hu, Jianfei	436
Holton, Luther Hamilton III	446	Hu, Lina	201, 411
Holtzclaw, Stephen G	142, 397	Hu, Ning	142, 406
Holtzman, Neil A	149, 239, 339	Hu, Ping	465
Holve, Stephen A	245, 408	Hu, Rong	172, 411, 446
Hom, Jamie Alyson	442	Hu, Shaohui	441
Hong, Amanda May	452	Hua, Jun	444
Hong, Caron	423	Hua, Zhong	463
Hong, Charles Chong-Hwa	262, 370	Huang, Alan Jerry	466
Hong, Edmund Doi-Hung	450	Huang, Bo	432
Hong, Kelvin K	275, 370	Huang, Cheng Ran	473
Hong, Nan	463	Huang, Chien-Ming	446
Hong, Seung-Mo	439	Huang, Chuan-Hsiang	425
Hong, Sun Hwa	436	Huang, Eugene	438
Honig, Marc A	226, 397	Huang, Hailiang	466
Hoofnagle, Bettea	316, 317	Huang, Han-Yao	219, 420
Hooker, Craig M	219, 411	Huang, Hao	276, 411
Hoon, Alexander H	241, 347	Huang, Hu	436
Hoopes, John E	285, 339	Huang, Judy	287, 347
Hoover-Fong, Julie Elizabeth	149, 243, 370	Huang, Lanqing	219, 411
Hope, Tana L	264, 397	Huang, Peng	215, 347

Huang, Qing.....	463
Huang, Rong.....	441
Huang, Rwo-Wen.....	454
Huang, Shau-Ku.....	160, 328
Huang, Siyi.....	475
Huang, Susan Mei-Ching.....	424
Huang, Tai-Chung.....	473
Huang, Tao.....	424
Huang, Wei.....	445
Huang, Xiaosong.....	430
Huang, Yanfei.....	431
Huang, Yiping.....	140, 411
Huang, Yong.....	442
Huang, Yu-Wen.....	475
Huang, Zhenhua.....	439, 446
Hubbard, Ann L Cox.....	136, 173, 258, 314, 328
Hubbard, Walter C.....	163, 251, 347
Hubbi, Maimon Eid.....	470
Huberman, Amy Laura.....	442
Huddle, Matthew George.....	454
Huddleston, Stephen James.....	445
Hudson, Kathy Lynn.....	44, 149, 241, 347, 411
Hudson, Sherry Ann.....	172
Huebner, Robert Joseph.....	464
Hueman, Matthew Timothy.....	283, 370
Hueppchen, Nancy Ann.....	152, 308, 309, 310, 370
Huete, John Michael.....	264, 397
Huff, Carol Ann.....	166, 217, 370
Huff, Jeremy M.....	423
Huganir, Richard L.....	123, 203, 307, 311, 313, 328
Huggins, George R.....	151, 339
Hughes Driscoll, Colleen Ann.....	440
Hughes, Andrew Hunter.....	447
Hughes, Ethan Garrett.....	434
Hughes, Mark Thomas.....	166, 370
Hughes, Walter T Jr.....	245, 408
Hui-Chou, Helen Gloria.....	446
Huisman, Thierry A G M.....	275, 328
Huizinga, Mary Margaret.....	166, 370
Hull, Michael E.....	142, 406
Humbert, Ianessa A.....	256, 370
Humbyrd, Casey J.....	437
Hummers, Laura K.....	166, 370
Humphrey, Mark Edward.....	431
Humphrey, Richard L.....	163, 231, 347
Humphrey-Carothers, Frances.....	317
Hundt, John.....	318
Hung, Chia-chun.....	475
Hung, Chien-Fu.....	152, 217, 232, 370
Hung, Joseph C.....	423
Hungerford, David S.....	288, 328
Hungerford, Marc Wilson.....	289, 371
Hunt, Elizabeth Anne.....	119, 243, 308, 371
Hunt, Nicole Janee.....	427
Hunt, Thomas E Jr.....	289, 391
Hunt, Wayne P.....	263, 371
Hunter, Christian John.....	428
Huo, Li.....	424
Hur, Eun Mi.....	437
Hur, Junho.....	463
Hurley, Frank.....	305
Hurley, Paula J.....	294, 397
Hursh, Steven R.....	260, 328
Hurt, Kenneth Joseph.....	475
Hurtado, Andres.....	200, 397
Husain, Hatim.....	435
Husberg, Catherine.....	428
Huso, David L.....	192, 215, 347
Huss, Karen.....	175, 420
Hussain, Babar.....	444
Hussain, Basil.....	464
Hussain, Mehboob Ali.....	123, 163, 241, 347
Hussain, Natasha.....	434
Hutcheon, David F.....	166, 371
Hutchins, Grover M.....	49, 229, 328
Hutchinson, Eric Kenneth.....	432
Hutton, Daphne Lynn.....	466
Hutton, David.....	312
Hutton, Heidi E.....	263, 371
Hutton, Nancy.....	241, 347
Huynh, Thanh V.....	194, 411
Hwang, Chao-Wei.....	428
Hwang, Constance W.....	170, 397
Hwang, Elizabeth.....	464
Hwang, Hee Jung.....	435
Hwang, Paul M.....	166, 371
Hwang, Willy.....	276, 397
Hwang, You Sang.....	252, 411
Hyndman, Matthew Eric.....	294, 397
Hynes, Noreen A.....	163, 347
Hynes, Thomas R.....	136, 417
Hynson, Paulette.....	312
Iacobuzio-Donahue, Christine A.....	54, 215, 231, 282, 311, 347

Iacono, Diego.....	439
Ibeanu, Okechukwu Anthony.....	425
Ibironke, Josephine O.....	226, 397
Ibrahim, Khalda.....	452
Ibrahim, Michel A.....	144
Ibrahim, Mohamed A.....	437
Ibrahimi, David Mohammad.....	432
Ibrchim, Sherrine Adele.....	425
Iddriss, Adam.....	450
Iding, Jeffrey S.....	232, 316, 408
Idowu, Oluwatoyin Rosemary.....	444
Iglehart, Iredell W.....	166, 371
Iglesias, Pablo A.....	127, 420
Iheanacho, Akunna M.....	478
Iijima, Miho.....	136, 371
Ike, Hiroshi.....	425
Iliff, Nicholas T.....	224, 285, 328
Iliff, W Jackson.....	225, 347
Illei, Peter Bela.....	232, 371
Im, Dwight D.....	152, 371
Im, Gi Jung.....	438
Im, Michael J C.....	285, 357
Imoukhuede, Princess Izevbua.....	424
Inge, Anne Pradella.....	443
Inglesby, Thomas V.....	166, 371
Innis, Peter C.....	289, 371
Inoue, Takanari.....	136, 371
Intrator, Adam Michael.....	475
Iqbal, Ayesha.....	445
Iqbal, Finza.....	443
Irizarry, Rafael A.....	174, 420
Irlam, John Harland.....	425
Irsch, Kristina.....	437
Isaac, Gillian Raemi.....	119, 371
Isaacs, John T.....	212, 293, 328
Isaacs, William B.....	212, 293, 328
Isbister, Sandra Schwartz.....	153, 397
Ish, Christopher.....	170, 397
Ishaq, Omar Farooq.....	450
Isharwal, Sumit.....	446
Ishii, Lisa Ernest.....	291, 308, 309, 371
Ishii, Masaru.....	291, 371
Ishizaka, Kimishige.....	160, 339
Ishizaka, Teruko.....	160, 339
Ishizuka, Koko.....	265, 411, 442
Ishmael, Susan Senchak.....	411
Ishman, Stacey Lynn.....	172, 243, 291, 371
Iskander, Andrew John.....	424
Ismat, Afshan.....	425
Isoda, Takuro.....	444
Issa, John Bassam.....	456, 466
Issigonis, Melanie.....	462
Ivkov, Robert.....	272, 371
Iwase, Takeshi.....	436
Iyalomhe, Osi.....	478
Iyengar, Kavita.....	429
Izawa, Jun.....	424
Izbudak, Izlem.....	275, 371
Jaar, Bernard Georges.....	166, 371
Jaaro-Peled, Hanna.....	442
Jabbour, Toufic Gerges.....	424
Jaberi, Mahmood.....	119, 371
Jabs, Ethylin W.....	160, 239, 285, 314, 328
Jacene, Heather A.....	275, 371
Jackson, Adrianna Janell.....	425
Jackson, Allesa Paige.....	264, 397
Jackson, Annette Marie.....	166, 371
Jackson, Cheryl Anne.....	170, 397
Jackson, Christopher Mitchell.....	452
Jackson, David L.....	160, 309, 328
Jackson, Eric V Jr.....	119, 371
Jackson, Jay Brooks.....	54, 229, 307, 313, 314, 318, 328
Jacobowitz, Adam D.....	226, 406
Jacobs, Aimee Catherine.....	426
Jacobs, Lisa K.....	283, 371
Jacobs, Michael A.....	289, 371
Jacobs, Michael Anthony.....	215, 278, 289, 347
Jacobsen, Stephen Kelly.....	454
Jacobson, Lisa Anne.....	145, 443
Jacobstein, Julie Mendelson.....	153, 397
Jacques, Robert Allan.....	466
Jaeger, Laura Beth.....	433
Jaffee, Elizabeth M.....	46, 212, 229, 311, 314, 328
Jagana, Rajani.....	431
Jagu, Subhashii.....	439
Jain, Aditya.....	444
Jain, Amit.....	452
Jain, Harsh.....	445
Jain, Rahul.....	428
Jain, Sanjay.....	243, 275, 371
Jain, Sanjay Raj.....	217, 371
Jakovovits, Julian.....	166, 371
Jallo, George Issa.....	215, 241, 287, 315, 348

James, A Everette Jr	277, 408
James, Cleve Orian	427
James, Maria Malinda	470
James, Michael J	119, 371
James, Monique Elesha	423
Jamison, Kay Redfield	260, 328
Jamonnak, Nuttara	432
Jamora, Mariflor S	264, 397
Jampel, Henry D	224, 328
Jamshidi, Roxanne M	152, 371
Jan de Beur, Suzanne M	163, 348
Jang, Chuen-Chuen	123, 411
Jang, Mi-Hyeon	433
Jang, Yoon Young	217, 371
Jangouk, Parastoo	433
Jani, Alpa Laheri	170, 397
Jani, Niraj D	166, 371
Janney, Stuart S III	305
Janofsky, Jeffrey S	261, 348
Jansson, Lauren M	241, 348
Janvier, Adrien L	431
Jaques, Darrell A	282, 285, 357
Jaramillo-Hanes, Ernest Taijin	447
Jarow, Jonathan Peter	229, 293, 312, 328
Jarso, Samson	444
Jasien, Joan	440
Jasinski, Donald R	160, 328
Jassal, Mandeep Singh	440
Jaszczak, Nicholas	284, 406, 446
Jattani, Rakhi	462
Javadi, Mehrbod	444
Javitt, Jonathan C	224, 328
Jaweed, Laura Boyle	256, 397
Jayaram, Geetha	261, 348
Jayaram, Gowri	466
Jeffreys, John Sheppard	263, 371
Jeffries, Fern Marie	170, 397
Jelinek, Christine Ann	478
Jelovac, Danijela	435
Jen, Jin	215, 348
Jen, Shyian S	433
Jenckes, Mollie W	172, 411
Jenkins, Jennifer Lee	142, 371
Jennett, Heather K	264, 397
Jennings, Jacky M	243, 371
Jennings, Jo	318
Jensen, Allan D	225, 348
Jensen, Robert E	136, 328
Jeong, Chae Won	429
Jeong, Jun Seop	252, 411
Jeong, Sangyun	434
Jeong, Yun Ha	439
Jernigan, Amelia Marie	425
Jerome, Gerald J	170, 397
Jha, Naveen Kumar	429
Jhaveri, Darshil Tushar	478
Jhaveri, Punit Narayan	440
Ji, Hong	431
Ji, Na Young	264, 397
Jia, Xiaofeng	127, 257, 412
Jiang, Hangyi	278, 412
Jiang, Li	276, 417
Jiang, Lu	444
Jiang, Mali	442
Jiang, Qian	426
Jiang, Qingguang	434
Jiang, Tianyun	435
Jiang, Zheng	434
Jiao, Yuchen	424
Jie, Chunfa	172, 412
Jilek, Benjamin Lawrence	463
Jimeno-Ayllon, Cristina	429
Jin, Jing	442
Jin, Kideok	435
Jin, Lihua	435
Jin, Peng	463
Jin, Shi	429
Jin, Yunju	434
Jin, Zhe	172, 412
Jinawath, Natini	426
Jinka, Madhavi	433
Jinnah, Riyaz H	289, 371
Jockovic, Kathryn	438
Jodorkovsky, Daniela	429
Joel, Suresh Emmanuel	444
Joffe, Alain	241, 348
Joffe, Hylton Victor	166, 371
Johansen, John A	289, 406
John, Amballur David	119, 371
JohnBull, Eric Allen	454
Johns, Richard J	126, 160, 340
Johns, Roger Anthony	117, 160, 328
Johnson, Alan Richard	450

Johnson, Antoine Gerard	438
Johnson, Carl A	288, 348
Johnson, Cheilonda	431
Johnson, Clark Timothy	425
Johnson, Diedre Joyce	464
Johnson, Emily Louise	447
Johnson, Jeffrey V	174, 420
Johnson, John T H	288, 357
Johnson, Justin Michael	447
Johnson, Khaliyah Aesha	440
Johnson, Kristen Elaine	448
Johnson, Kristine Erica	170, 397
Johnson, Luke Aaron	466
Johnson, Matthew W	263, 371
Johnson, Pamela Tecce	275, 371
Johnson, Reverend Lawrence M	319
Johnson, Richard T	197, 203, 311, 328, 426
Johnson, Rolley E	260, 328
Johnson, Sara B	243, 371
Johnson, Sheree M	243, 371
Johnson, Stacie Nicole	423
Johnson, Tamara Jane Angeles	470
Johnson, Tara Lynn	450, 460
Johnson, Timothy S	289, 371
Johnson, Tory Patricia	477
Johnson, Wallace Robert Jr	166, 371
Johnson-Hill, Lisette	146
Johnston, Deirdre M	263, 371
Johnston, Henry Richard	473
Johnston, James Cooper	437
Johnston, Jennifer Jaime	440
Johnston, Michael V	197, 239, 256, 329
Johnston, Peter V	166, 371
Johnston, Sona	312
Johnstone, Sarah Elizabeth	452
Johny, Manu Ben	466
Jonas, Clarissa	431
Jones, Bronwyn	276, 314, 329
Jones, Calvin E	282, 357
Jones, Carolyn V	49, 398
Jones, Catherine H	243, 372
Jones, Derrick Antwon	444
Jones, Hendree Evelyn	151, 261, 314, 348
Jones, Howard W Jr	151, 340
Jones, Katrina Elizabeth	472
Jones, Lynne C	288, 348
Jones, Melina Viola	201, 412
Jones, Michelle Lynn	470
Jones, Nicholas P	306
Jones, Richard J	54, 160, 212, 316, 329
Jones, Richard Owen	201, 412
Jones, Sian	435
Jones, Steven R	166, 372
Jones, Trishena Rene	425
Jones-Cole, Ann E	120, 398
Jones-Sims, Terra	307
Jordan, Lori Chaffin	199, 243, 372
Jose, Arun	452
Joseph, Biju	430
Joseph, Christine G	435
Joshi, Avadhut Divakar	432
Joshi, Dhruv	429
Joshi, Margi	317
Joshi, Milan K	264, 398
Joshi, Rohan Rajiv	454
Joshi, Tapankumar N	442
Joshi-Mukherjee, Rosy Rani	424
Jouny, Christophe C	199, 372
Juanteguy, Juan M	283, 372
Jubulis, Jennifer K	440
Judge, Daniel Philip	163, 311, 348
Juergens, Rosalyn Anne	166, 217, 372
Juluri, Krishna R	434
Jun, Albert S	225, 310, 348
Jun, Helen	469
Jun, Jonathan C	431
Jung, Julianna	142, 308, 310, 372
Jung, Namyoung	470
Juni, Aaron N	256, 372
Junkins-Hopkins, Jacqueline Marie	139, 231, 348
Juon, Hee-Soon	219, 420
Juopperi, Tarja Alison	433
Juraschek, Stephen Paul	450
Justino, Edmundo Samuel	429
K Namboodiri, Vijay Mohan	475
Kaas, Bonnie Marie	454
Kabra, Satish	433
Kachhap, Sushant	218, 398
Kaczka, David W	119, 127, 372
Kadam, Shilpa D	201, 412
Kaeding, Allison June	450
Kafonek, David R	166, 372
Kahn, Kevin	466

Kahng, Sungwoo	263, 372
Kai, Mihoko	217, 272, 372
Kaiser, Sameer	445, 486
Kaiser, Theodore H.	243, 263, 372
Kajstura, Tymoteusz Jan	452
Kajubi, Christine	170, 398
Kakourou, Nicholaos	428
Kalia, Vivek	456
Kallay, Laura M.	258, 412
Kaloo, Anthony N.	160, 329
Kaloudis, Paul J.	142, 398
Kalra, Deepak	462
Kalu, Nene Nwocha	478
Kaludercic, Nina	428
Kalyani, Rita Rastogi	429
Kalymon, Kristen M.	440
Kam, Anthony	277, 372
Kamat, Chandrashekhar Dwarkanath	435
Kamath, C Ramadas	291, 391
Kambic, Robert Thomas	155, 417
Kamdar, Biren Bharat	431
Kamel, Ihab R.	275, 348
Kamimura, Yoichiro	136, 412
Kaminski, Barbara J.	263, 372
Kaminsky, Michael J.	261, 348
Kamiya, Atsushi	263, 372
Kamiyama, Hirohiko	439
Kamiyama, Mihoko	439
Kamran, Fariha	440
Kan, Jean S.	239, 340
Kan, Kristin Hoi-Yan	448
Kanagalingam, Sivajothi	428
Kanagalingam, Sivashakthi	432
Kanagasabapathy, D Anand Rajan	439
Kanala, Vishnu Varohan Reddy	440
Kanaparthi, Kusuma	427
Kanarek, Norma	219, 420
Kanchanaraksa, Sukon	145, 312
Kanda, Brinder	427, 428
Kang, Di	478
Kang, Eunchai	473
Kang, Ho Chul	433
Kang, Jun	443
Kang, Sewon	139, 307, 308, 311, 315, 318, 329
Kang, Shin Hyeok	434
Kang, Sung Koo	438
Kang, Tae Heung	439
Kang, Xiaoxu	466
Kannan, Geetha	470
Kannangai, Rajesh	439
Kannarkat, Mily	430
Kano, Shinichi	442
Kant, Ravi	427
Kanter, Mitchel A.	286, 398
Kanter, William R.	286, 398
Kantsiper, Melinda E.	166, 372
Kantz, Lisa Michelle	440
Kao, Luke I.	199, 372
Kao, Sheng-Chin	423
Kao, Wen Hong Linda	145, 174, 420
Kapa, Laura Bess	470
Kapadia, Nirav Shailesh	440
Kaplan, Ian Mahrer	470
Kaplan, Ira E.	170, 398
Kaplan, Peter W.	197, 311, 329
Kaplin, Adam Ian	199, 263, 372
Kapogiannis, Bill G.	243, 372
Kapoor, Ashish	426
Kapoor, Shruti Gupta	423
Kapoor, Sumit	427
Karafin, Matthew Scott	438
Karakousis, Petros C.	54, 166, 372
Karanam, Balasubramanyam	439
Karanjia, Navaz	433
Karen, Kasey Anne	435
Karesh, James W.	225, 348
Kargbo, Hamid Majid	427
Kargon, Robert H.	157, 420
Kargul, George John	170, 398
Karhadkar, Sunil Suhas	446
Karim, Baktiar O.	192, 372
Karkowski, Frederick J.	170, 398
Karlage, Ami Christine	472
Karmarkar, Parag Perry	278, 412
Karnik, Rahul	466
Karnsakul, Wikrom W.	243, 372
Karp, Judith E.	160, 212, 312, 329
Karp, Julie Katz	438
Karron, Ruth A.	245, 420
Karukiruchi, Kannan	441
Karuppagounder, Senthilkumar Shanmugam	433
Kasamon, Yvette L.	166, 217, 372
Kashima, Haskins K.	290, 291, 340

Kashima, Matthew Lewis	372
Kashiouris, Markos	427
Kashiwabuchi, Renata Tiemi	436
Kasner, Harvey H.	153, 398
Kasper, Edward Kevin	160, 309, 329
Kass, David A.	54, 126, 160, 329
Kass, Robert Neil	170, 398
Kastelic, Elizabeth	263, 372
Kastl, Charlotte M.	433
Kates, Wendy G.	263, 372
Kathuria, Sudhir	278, 372
Kato, Gregory James	241, 348
Kato, Yoshinori	275, 372
Katsanis, Nicholas	44, 149, 194, 225, 309, 348
Katta, Laura S R.	152, 372
Katuri, Varalakshmi	219, 412
Katz, Eugene	152, 372
Katz, Joanne	226, 420
Katz, Pearl	264, 398
Katz, Richard M.	241, 318, 348
Katz, Ryan David	120, 406
Katzenelson, Alyssa Mallory	475
Kaufmann, Walter Erwin	197, 229, 239, 260, 275, 329
Kaul, Amit	445
Kavran, Jennifer Marie	424
Kaw, Anita	437
Kawamoto, Satomi	275, 348
Kawichai, Surinda	145
Kazi, Mirajul Hoque	429
Kazi, Sayed Alimuddin	437
Kazin, Rebecca A.	139, 372
Kazmierski, Robert Timothy	466
Keane, Thomas Earl	444
Kearney, Carlita M.	312
Kearney, Marguerite	120, 420
Keating, Peter	157, 417
Kebaish, Khaled M.	289, 372
Kedhar, Sanjay	226, 398
Kedziorek, Dorota Anna	444
Keefer, Jeffrey Renn	243, 372
Keenan, Bridget Patrice	457, 474
Keene, Calvin	316
Kees, Walter T.	170, 405
Keet, Corinne Allison	440
Keeton, Courtney Pierce	264, 398
Keisler, Aysha Saad	424
Kejzman, Daniel	435
Kelamis, Joseph Alexander	446
Kelemen, Benjamin William	454
Kelemen, Michael H.	163, 348
Kelen, Gabor D.	142, 307, 311, 318, 329
Kellam, Sheppard G.	265, 422
Kelleher, Clare	426
Keller, Jean M.	152, 372
Keller, Jesse Wade	486
Keller, Julie Michelle	437
Keller, Michael Daniel	440
Keller, Sara Condron	426
Kelley, Richard Ian	239, 329
Kelley, Sarah Aminoff	434
Kellner, Juliane Claudia	462
Kelly, Gregory B.	170, 398
Kelly, James H.	198, 291, 348
Kelly, Jeffrey J.	425
Kelly, Patrick Michael	443
Kelly, Thomas J Jr	194, 329
Kelly, Timothy James	462
Kemp, Clinton Dunkel	445
Kenchaiah, Satish	428
Kendig, Newton E.	166, 372
Kennedy, Eugene P.	313
Kennedy, Martha M.	120, 398
Kensler, Thomas W.	219, 252, 420
Kent, Kathleen Christine	473
Kent, Oliver Andrew	426
Kent, Paula	317
Kepley, Hayden O.	263, 372
Kerman, Bilal Ersen	425
Kern, Adam Jacob Mathias	445
Kern, David E.	54, 160, 329
Kern, Scott E.	44, 212, 229, 329
Kerr, Candace L.	152, 372
Kerr, Douglas Anthony	198, 348
Keruly, Jeanne Couturier	166, 372
Kesavan, Anup Kumar	430
Kesavan, Kalpashri	440
Kesen, Muge R.	226, 406
Kesserwan, Chimen A.	436
Keswani, Sanjay C.	199, 372
Ketchum, Christian James	136, 258, 417
Ketlogetswe, Kerunne Segametsi	428
Ketner, Elizabeth Ann	452
Khachaturian, Zaven S.	260, 329

Khaitan, Anisha	450	Kim-Lee, Angela	264, 398
Khalid, Mohammed	172, 408	Kimbrough-Sugick, Jessie	430
Khalifeh, Marwan R	285, 372	Kimmel, Mary Claire	442
Khalil, Sara Adel	450	Kimpfner, Silvia	436
Khan, Alisa	440	Kimura, Hiroaki	232, 412
Khan, Amina Munawer	440	Kinde, Isaac Abraham	457, 470
Khan, Javaid M	427	King, Bonnie S	232, 412
Khan, Michelle Joanne	425	King, Julie Frances	448
Khan, Sabiha	429	King, Karen E	215, 231, 348
Khan, Saeed R	217, 275, 372	King, Landon Stuart	123, 163, 348
Khan, Tamika Salima	429	King, Mark	142, 373
Khan, Yasin	437	King, Tracy Meicha	243, 373
Khan, Zubair	292, 412	King, Van L	261, 309, 348
Khandker, Samiur Rahman	425	Kingery, Lisle R	264, 398
Khanna, Akhil Jay	127, 289, 372	Kingsland, Sharon Elizabeth	157, 420
Khantwal, Chandra Mohan	442	Kinsman, Helen Irene	450
Khanuja, Harpal	289, 372	Kinzler, Kenneth W	44, 212, 313, 329
Khare, Gargi Divya	486	Kipe, Brian Jeremy	425
Khare, Sanjay	219, 412	Kirk, Allison Layla Marie	440
Kharlip, Julia	170, 398	Kirk, Gregory D	145, 174, 420
Khashab, Mouen A	429, 430	Kirk, Jonathan Alder	428
Khatri, Rina G	426	Kirkness, Jason Paul	172, 412
Khazan, Ron	277, 372	Kirkwood, Alfredo	204, 348
Khoruzhenko, Stanislav Vladimirovich	439	Kirsch, Thomas Dean	142, 348
Khosravi, Abtin Hajiloo	445, 486	Kirshenbaum, Arnold S	243, 373
Khoury, Nagi F	215, 277, 348	Kisuule, Flora N	166, 373
Khouzami, Victor A	152, 373	Kiyatkin, Dmitry E	170, 398
Khurana, Ramesh K	199, 373	Kizub, Darya Aleksandrov	454
Khurana, Shalinee	440	Klag, Michael J	144, 160, 306, 307, 329
Khwaja, Afsheen Amin	437	Klapper, Mitchell	139, 373
Kiani, Adnan N	170, 398	Klar, Nitasha Grewal	444
Kickler, Thomas S	160, 212, 229, 316, 329	Klassen, Ann Carroll	219, 420
Kidorf, Michael S	261, 348	Klatsky, Stanley A	285, 348
Kidwell, Earl R Jr	225, 373	Klaus, Sybil Ann	244, 398
Kiefe, Catherine E	49, 408	Klee, Gerald D	265, 409
Kieffer, Richard F Jr	282, 357	Klein, Alison Patricia	217, 232, 373
Kieu, Phong Nguyen	442	Klein, Harvey G	160, 230, 329
Kilic, Arman	445	Klein, Jonathan Tzvi	167, 373
Kilker, Bret	425	Klein, Lawrence E	167, 373
Kim, Ae Ryon	439	Kleinberg, Lawrence R	215, 287, 348
Kim, Barbara A	264, 398	Kleykamp, Bethea AnnaLouise	442
Kim, Ben J	226, 406	Klimava, Alena	487
Kim, Bo Soo	431	Kline, Antonie Debra	244, 398
Kim, Bona	479	Klinkenberg, Lee G	430
Kim, Christina Soojin	452	Klippel, John Howard	160, 329
Kim, Daniel Young	444	Knabel, Matthew Kevin	473
Kim, David Hoontae	470	Knapp, Edward Lukianos Isak	433
Kim, Deok-Ho	466	Knierim, James J	204, 348
Kim, Dewey June	466	Kniffin, Hazen G Jr	264, 398
Kim, Eugene	466	Knight, Amy M	167, 373
Kim, Eun-Kyoung	205, 417	Knoepp, Leise Rose	153, 398
Kim, Faye Oh	440	Knott, Francis X	317
Kim, George R	155, 245, 412	Knox, David L	225, 348
Kim, Grace Yoonhee	450	Knutsen, Elisa Jeanne	437
Kim, Heechul	444	Ko, Fang Sarah	487
Kim, Hocheol	120, 417	Ko, Fred Chau-Yang	430
Kim, Hyun S	276, 373	Ko, Gang-Jee	431
Kim, Hyunho	431	Ko, Han Seok	201, 412
Kim, Hyung-Joon	478	Ko, Phebe Sill	448
Kim, Irene April	450	Kobayashi, Kimiyoshi James	448
Kim, Jae Kwang	439	Kobayashi, Tamaki	146
Kim, Jean	166, 291, 373	Kobrin, Barry J	317
Kim, Jeong H	305	Kobrin, Carol Victor	219, 412
Kim, Ji Hoon	424, 432	Koch, David H	305
Kim, Jong Ho	444	Koch, Wayne M	212, 290, 311, 329
Kim, Ju Young	433	Kochhar, Amit	438
Kim, Julia Minjung	431	Koehler, Raymond C	117, 329
Kim, Juno	205, 417	Koenig, George Joseph Jr	284, 406, 446
Kim, KiBem	457, 470	Koenig, Thomas W	263, 307, 308, 309, 310, 311, 373
Kim, Kwang Sik	54, 239, 311, 329	Koffarnus, Mikhail Nikolaas	442
Kim, Kwangsoo	424	Koffenberger, Harry	317, 318
Kim, Matthew I	155, 166, 373	Koga, Minoru	442
Kim, Min Sung	424	Koh, Cheryl Mei-Yi	477
Kim, Min-Sik	465	Koh, Joyce Michelle	427
Kim, Myoung Sook	292, 398	Kohli, Fahol M	430
Kim, Paul Moonwhan	434	Kohr, Mark Jeffrey	438
Kim, Sang Hoon	462	Koitaabashi, Norimichi	428
Kim, Sang Joon	432	Kolandaivelu, Aravindan	429
Kim, Seoung Hoon	446	Kolappa, Kavitha Padmanabhan	448
Kim, Seyun	434	Kolar, Elizabeth Anne	464
Kim, Sharon Bokyoung	426	Kolb, Todd Matthew	170, 398
Kim, Sung E	153, 398	Koldobskiy, Michael Alexander	457, 478
Kim, Sung Soo	475	Kolge, Sanjivani Avinash	429
Kim, Sun-Hong	442	Koliatsos, Vassilis E	54, 198, 231, 261, 348
Kim, Thomas J	170, 398	Kolitz, Sarah	469
Kim, Wonha	440	Kolker, Richard J	225, 373
Kim, Woon Ryoung	433	Kollarik, Marian	167, 373
Kim, Yong Sik	173, 417	Kolodkin, Alex Leo	194, 203, 309, 310, 311, 313, 329
Kim, Yoon Keun	429	Kolosova, Irina A	120, 412
Kim, Youn Seup	429	Kolp, Lisa A	152, 373
Kim, Young Choo	277, 373	Kolukula, Swapna	429, 433
Kim, Young Jun	217, 291, 373	Komatsu, Toru	425
Kim, Yu Shin	423, 475	Kominsky, Scott Lee	217, 289, 373

Komlos, Jessica Leigh	440
Kondapalli, Kalyan Chakravarthy	442
Kondo, Naoshi	437
Konerman, Matthew Christopher	426, 487
Konerman, Monica Arlene	426
Koneru, Sriratna	427
Kong, Grace	423
Kong, Jee-Hyun	438
Kong, Lingling	433
Konishi, Hiroyuki	219, 412
Konstantopoulos, Konstantinos	127, 220, 420
Kontis, Theda C	291, 373
Koo, John J	226, 406
Koontz, Laura Michelle	463
Kooshkabadi, Ali	487
Korangath, Preethi Chandran	435
Korde, Neha	435
Korley, Frederick K	142, 373
Kornberg, Michael Davin	457, 475
Kornfeld, Benjamin Dylan	448
Koropouli, Eleftheria	475
Kortte, Kathleen Bechtold	256, 373
Korzeniewska-Janiszewska, Anna	433
Kos, Ferdynand J	219, 412
Koshland, Douglas Elliott	194, 329
Koskimaki, Jacob Elias	467
Kossoff, Eric H W	199, 243, 373
Kost-Byerly, Sabine	119, 373
Kostova, Maya Blagoeva	435
Kosztowski, Thomas Adam	448
Koteish, Ayman A	167, 373
Kotev, Spas V	427
Kothare, Mayuresh V	126, 329
Kottapalli, Sitaramma	244, 398
Kottgen, Michael	123, 412
Kottoor, Vinayak	426, 440
Kouniavsky, Guennadi	445
Kouo, Theodore Sander	457, 474
Kovalchick, Christopher	305
Kovbasnjuk, Olga N	167, 373
Kovell, Lara Cathleen	450
Kow, Evelyn Hwang	441
Kowalski, Janet Lynn	448
Kowalski, Jeanne	215, 348
Kozauer, Nicholas A	263, 373
Kozen, Buddy G Jr	142, 398
Kozikowski, Alan P	252, 417
Kraft, Chris	264, 398
Kraitchman, Dara L	278, 312, 314, 348
Kral, Brian Gustav	167, 373
Kramer, Gail Glotfelty	142, 406
Kramer, Henry Robert	457
Kramer, Megan Elizabeth	443
Kratz, Lisa Elinor	245, 412
Kraus, Edward S	163, 348
Krauss, Gregory L	198, 348
Kraut, Michael A	215, 278, 287, 348
Kravet, Steven J	167, 373
Kretzer, Ryan Michael	432
Krick, Jacklynn R	245, 407
Krill, Lauren Dorothy Smith	425
Krishnamachary, Balaji	278, 412
Krishnan, Chitra	201, 412
Krishnan, Lakshmi	454
Krishnaswamy, Rupa Radhika	426
Kritzler, Robert Kimball	243, 373
Krohe, Timothy L	170, 398
Krohmer, Steven J	444
Krongard, A B	317
Kronthal, Alfred	225, 373
Krug, Esther	167, 373
Krupica, Thomas Patrick Jr	441
Krush, Anne J	167, 391
Kuang, Zheng	463
Kub, Joan Ellen	175, 420
Kubin, Martin	427
Kudchadkar, Sapna Ravi	424
Kudela, Pawel	199, 373
Kue, Paula J	170, 398
Kue, Ricky C	142, 373
Kuhajda, Francis P	54, 123, 212, 230, 329
Kuhn, Elisabetta	439
Kulcsar, Kirsten Anne	470
Kulkarni, Kopal Shama	450
Kulkarni, Prakash	215, 293, 349
Kumar, Anil	279, 412
Kumar, Anvita	433
Kumar, Kanupriya A	119, 373
Kumar, Karan	452
Kumar, Pallavi P	170, 398
Kumar, Rashmi Prem	430
Kumwenda, Newton	146
Kundu, Arnab Kumar	467

Kunjithapatham, Rani	444
Kuo, George Peter	444
Kuo, Irene C	225, 349
Kuo, Maggie Meei-Fann	467
Kuo, Nathanael	467
Kuo, Scot C	126, 136, 349
Kupfer, Abraham	54, 136, 329
Kupfer, Hannah	136, 412
Kurman, Robert J	151, 213, 230, 329
Kurtz, Patricia F	263, 373
Kuruville, Rejiji	205, 420
Kurz, Donald A	305
Kusuma, Sravanti	467
Kusuoka, Hideo	160, 329
Kut, Carmen	452
Kuwabara, Hiroto	279, 373
Kuwayama, David Paul	445
Kwak, Byung Kook	444
Kwak, Kihyuck	477
Kwansa, Herman E A	120, 412
Kwiterovich, Peter O Jr	160, 239, 309, 329
Kwon, Alyssa Sunah	443
Kwon, Erika Mijin	473
Kwon, John H	167, 373
Kwong, Kevin K	170, 398
Kwong, Yuen-Ting	454
Ky, Paul Kuy Seang	424
Kydd, Andre Rashad	457, 470
Labellarte, Michael J	263, 373
LaBorwit, Scott E	225, 373
Lackamp, Aaron	119, 373
Lacour, Delese	153, 398
Lacy, Marian Grace	452
Ladas, John Gregory	225, 373
Ladd-Acosta, Christine Marie	431, 470
Ladenheim, Ellen	261, 312, 349
Ladenson, Paul W	161, 213, 230, 275, 312, 329
Ladha, Karim Shiraz	448
Laeq, Kulsoom	438
Laeger, Timothy Christopher	425
Laeyendecker, Oliver B	398
Laffan, Elizabeth A	317
Laheru, Daniel A	215, 349
Lai, Hong	225, 276, 373
Lai, Neha	475
Lai, Shenghan	173, 230, 275, 329
Laiho, Marikki K	54, 213, 272, 314, 329
Lakatta, Edward G	161, 329
Lake, Alan M	241, 349
Lake, Mikhailia Wanakee	426
Lake, Spencer Truman	452
Lakey, Meredith A	232, 407
Lal, Bachchul	201, 412
Lam, Clarence K	431
Lamason, Rebecca Lee	474
Lamb, Susan Dorothy	472
Lamberg, Stanford I	139, 349
Lam-Himlin, Dora M	439
Lamichhane, Gyanu	167, 374
Lampkin, Octaviss Denise	479
Lampl, Kathy L	170, 398
Lance, Eboni Ife	441
Land, Edward M	256, 398
Landa, Rebecca	261, 349
Landau, Barbara	205, 420
Landek-Salgado, Melissa Anne	477
Landsman, Jeffrey S	170, 398
Lane, Andrew Peter	291, 349
Lane, M Daniel	123, 313, 340
Lang, Erich K	277, 329
Langbaum, Michael E	245, 408
Langbaum, Terry	318
Lange, Julie Robin	139, 215, 282, 316, 349
Lange, Richard A	161, 330
Langham, Maurice E	225, 357
Lansdale, Thomas F III	167, 374
Lantz, Michael Edward	152, 374
Lanzkron, Sophie M	167, 217, 374
Lanzo, Joanne P	244, 398
Laor, Laurent	479
LaPorte, Dawn M	288, 315, 349
Lapshin, Oleg V	172, 412
Lardaro, Thomas Adam	450
Lardo, Albert C	126, 164, 349
Lareau, Lisa Danielle	452
Larocca, Cecilia Alejandra	450
Larochelle, Marc Robert	427
Larsen, Andrew Raymond	470
Larsen, Moira P	232, 408
Larson, Erika R	170, 398
Larson, Justine Julia	263, 374
Larsson, Olof Christer	430
Lashofer, Angela Diane	445

Lasser, Elyse	479	Lee, Linda A	167, 312, 314, 374
Lataille, Angela Teresa	292, 407	Lee, Maria Teresa	232, 374
Lateef, Aisha	429	Lee, Melissa Ann	263, 374
Laterra, John J. 54, 197, 203, 213, 330		Lee, Michael K	231, 349
Latham, Gregory Joseph	119, 374	Lee, Myoung Hwa	433
Latif, Asad	119, 374	Lee, Nayoung Angela	467
Latimer, Tina Marie	142, 398	Lee, Paul R	434
Lattimer, Lakshmi Devi	426	Lee, Richard Sang Un	442
Lau, Bryan	167, 374	Lee, Rushuan Jay	437
Lau, Henry Tien	285, 349	Lee, Ryan Wai Yan	441
Lau, Wen Min	437	Lee, Seakwoo	429
Laube, Beth L. 173, 239, 279, 314, 330		Lee, Se-Jin	44, 194, 309, 310, 330
Laubisch, Jamie	441	Lee, Seung Han	201, 417
Lauder, Naudia Natalee	170, 398	Lee, Shin Rong	457, 467
Lauer, Amanda Marie	438	Lee, Stella Suyong	473
Laughlin, Maren R. 278, 374		Lee, Stephanie A	441
Laurence, Rashida J. 445		Lee, Sun Young	436
Lauring, Josh David	217, 374	Lee, Sung Yul	477
Lauzon, Carolyn	469	Lee, Taek-Soo	444
Laveist, Thomas A. 219, 312, 420		Lee, Thomas Kin-Man	437
Lavenstein, Arnold F. 243, 391		Lee, Youngjin	433
Lavenstein, Bennett	199, 374	Lee, Youngsoeck	424
Laverriere, Elizabeth Kirsten	487	Lee, Yunjong	478
Law, Jessica Kiely	245, 412	Lee, Yun-Il	433
Law, Paul Aubrey	243, 374	Lee, Yun-Sil	473
Lawler, Ann Marie	258, 308, 412	Leedom-Ackerman, Joanne	305
Lawrence, George D	171, 407	Lees, Gary P	48, 307, 309, 349
Lawrence, James III	291, 391	Lee-Summers, Jennifer Kim	424
Lawrence, Robert Swan	174, 420	Leet, Arabella I	288, 349
Lawson, Cathleen Escallon	152, 374	Lef, Bruce Allen	164, 308, 310, 349
Lawson, Edward Earle	240, 330	Lef, Michelle Kim	263, 374
Lawson, Shari Martin	152, 309, 374	Leffell, Mary Sue	161, 314, 330
Lazarev, Mark G	167, 374	Lefton-Greif, Maureen A	241, 291, 349
Lazarus, Gerald S. 139, 161, 330		Legato, Marianne J. 161, 330	
Le, Dung Thi	217, 374	Legum, Harriet C	319
Le, Elizabeth Nguyen	448, 457	Lehar, Mohamed	292, 412
Le, Tao Tuan	171, 407	Lehigh, Kathryn Michelle	475
Leach, Steven D	136, 167, 213, 282, 330	Lehmann, Christoph Ulrich	139, 155, 241, 312, 349
Leadem, Benjamin Robert	473	Lehmann, Harold P	155, 241, 309, 312, 349
Leaf, Philip	265, 420	Lehmann, Susan W	263, 308, 310, 374
Leahy, Daniel J	46, 133, 213, 308, 330	Lehne, Gregory K	263, 374
Leahy, William	199, 374	Lei, Weiqi	289, 417
Leal Rojas, Pamela Alejandra	438	Leigh, Richard	434
Leal, Jeffrey Pettit	276, 412	Leipzig, James Mark	289, 398
Leand, Paul M. 283, 391		Leistikow, Nicole	452
Leary, Rebecca Jane	470	Leitch, Sharon Virginia LaMont	442
LeBlanc, Lacey Marie	441	LeJacq, Seth Stein	472
LeBlanc, Robert Eric	438	Leman, Eddy S	294, 398
Lebowitz, Bruce S. 289, 398		Lemas, M Victor	219, 412
LeBron, Cynthia	438	Lemerman, Hanna Beth	441, 487
Lebron, Janette	470	Lemma, Mesfin A	289, 374
Lebson, Lori Ann	433	Lemmon, Monica	441
Lechtzin, Noah	199, 374	Lemon, Kenya Taiwan	470
Lecomte, Juliette	309	Lendermon, Elizabeth Ann	431
Leder, Henry Alexander	225, 374	Leng, Jia-Hua	445
Lederman, Howard M	173, 240, 316, 330	Leng, Sean Xiao	167, 374
Lee, Adrea Shihyun	487	Lengauer, Christoph	215, 349
Lee, Benjamin H	119, 374, 441	Le-Nguyen, Xuan Thanh	452
Lee, Bryan S	436	Lenhard, Raymond E Jr	161, 213, 340
Lee, Byoung Dae	433	Lenhart, Abigail Ames	426
Lee, Byung-Boong	282, 330	Lennox, Elaine Giannakos	441
Lee, Calvin K	436	Lenoir, Chavonne Danielle	245, 417
Lee, Carlton K K. 243, 374		Lenz, Frederick A	205, 286, 330
Lee, Catherine Hee Yong	425	Leonard, Nicole	311
Lee, ChangHee	470	Leone, Enzo J	289, 398
Lee, Chih-Yung Sean	462	Leoutsakos, Jeannie-Marie Sheppard	264, 398, 442
Lee, Chun-Yi	423	Le Pavec, Jerome	431
Lee, Cindy	444	Leporati, Paola	439
Lee, Daniel Allen	475	Lepore, Angelo Carmen	433
Lee, Daniel W III	436	Leppert, Mary L O'Connor	243, 374
Lee, David Alvin	425	Lerner, Brian C	226, 398
Lee, Dong Ik	428	Lerner, Renee A	226, 399
Lee, Dongwon	467	Lerner, Traci S	318
Lee, Eric	424	Lesley, Maggie R	448
Lee, Frank Hanchong	423	Leslie, Stuart W	157, 420
Lee, Ha Won	478	Lesser, Ronald P	197, 286, 330
Lee, Han Gil	465	Lessey, Robert A	264, 399
Lee, HeeWon	450	Lessler, Justin	146
Lee, Ho Yan	444	Lestz, Rachel Meredith	441
Lee, Hochang Benjamin	263, 374	Le Thi, Quy Hoa	430
Lee, Hwajin	470	Leu, David James	289, 407
Lee, Jai Sung	119, 374	Leve, Charles M	120, 399
Lee, Janet Yum	454	Leventhal, Andrew Robert	428
Lee, Jeong Hee	436	Leventhal, Lisa K	172, 412
Lee, Jessica Bomi	474	Lever, John R	279, 420
Lee, Ji Eun	473	Levey, Eric Benjamin	243, 374
Lee, Jihyun	470	Levi, Alexander H	305
Lee, Johnson Chen-Shing	487	Levin, Andrei	469
Lee, Jong Hee	430	Levin, Mindi	308
Lee, Judy Mon-Hwa	152, 374	Levin, Scott Ryan	142, 374
Lee, Kathleen Anne	452	Levine, David M	161, 309, 310, 330
Lee, Kathleen C	450	Levine, Deena Rachel	436
Lee, Li-Cheng	145	Levine, Marshall A	218, 399

Levine, Michael A	240, 330
Levine, Michal Ariella	474
Levine, Rachel B	167, 374
Levine, Stuart M	167, 374
Levinson, Kimberly Lynn	425
Levis, Mark James	164, 215, 349
Levitsky, Hyam	46, 54, 161, 213, 293, 313, 330
Levitsky, Victor	54, 215, 349
Levitz, Dale R	48, 374
Levy, Frederick	142, 349
Levy, Howard Philip	167, 374
Levy, Matthew Jason	142, 399
Levy, Michael	433
Levy, Nikita A	153, 399
Levy, Robert I	170, 398
Levy, Susan M	170, 398
Lew, Stefanie Michele	474
LeWanda, Amy Feldman	243, 374
Lewin, John III	119, 286, 308, 374
Lewin, Jonathan S	126, 213, 275, 307, 313, 318, 330
Lewis, Anne Meredith	445
Lewis, Gloria Huang	438
Lewis, Kenneth B	164, 357
Lewis, Tamorah R	441
Ley, Thomas H	264, 306, 399
Leyngold, Ilya Michael	436
Leyton-Mange, Jordan Stewart	487
Leyya, Francisco Jose	429
Li, Ang	439
Li, Cong	276, 417
Li, Dai Jun	232, 399
Li, Gang	170, 399
Li, Guanhan	201, 412, 433
Li, Hanwei	467
Li, Henry	479
Li, Huamin	170, 399
Li, Huili	435
Li, Huiqing	442
Li, Jessica	450
Li, Jiang Tao	445
Li, Jianguo David	172, 412
Li, Jie	441
Li, Jinong	439
Li, Jun	289, 417
Li, Kwok-Leung	305
Li, Li	219, 412
Li, Lishi	475
Li, Liye	429
Li, Meng	478
Li, Min	203, 258, 330
Li, Ming-Chang	288, 417
Li, Nan	467
Li, Qing Kay	232, 374
Li, Renfeng	435
Li, Rung-Chi	423
Li, Ryan Jeffrey	438
Li, Ting	467
Li, Tong	232, 374
Li, Weizhe	412, 431
Li, Wenxue	201
Li, Xiang	431
Li, Xianghong	194, 412
Li, Xiaojie	470
Li, Xiaoling	120, 399
Li, Xiaoping	127, 417
Li, Xingde	126, 349
Li, Xiong	467
Li, Xuhang	167, 374
Li, Yan	439
Li, Ying	433
Li, YouQiang	446
Li, Yu	474
Li, Yue	467
Li, Yun	201, 412
Li, Zhao Bo	201, 412
Li, Zhaoxia	429
Li, Zhaoyang	437
Li, Zhi	205, 412
Li, Zhiping	167, 374
Liang, David Benjamin	429
Liang, Horace K	142, 374
Liang, Liang	435
Liang, Lihua	442
Liang, Nu-Chu	442
Liang, Shuwen	429
Liang, Tsanyang Jake	161, 330
Liang, Xiaohui	435
Liang, Yideng	201, 412
Liao, Gangling	219, 412
Liao, Sophie Daisy	436
Liao, Wesley	423
Liao, Zhaohao	192, 412
Liapi, Eleni Apostolos	444

Liau, Jason Andrew	432
Libber, Samuel M	243, 374
Liberman, Bernard	263, 374
Lichtenstein, Lawrence M	161, 313, 340
Lidor, Anne O	283, 375
Lidstrom, Jessica Marie Louise	477
Liebowitz, Jason Evan Jr	454
Liegeois-Kwon, Nanett J	139, 217, 285, 292, 375
Lietman, Paul S	161, 240, 251, 330
Lifchez, Scott David	285, 375
Lightman, Noah I	277, 375
Ligans, Davinna	439
Lim, Hyung Min	170, 399
Lim, Issel Anne Lei	467
Lim, Kah Jing	477
Lim, Kah Suan	477
Lim, Kheng Leong	276, 399
Lim, Michael	217, 287, 375
Lim, Shawn Hwei-In	467
Lim, Yiting	477
Lima, Joao A C	161, 275, 330
Limawararut, Vanessa	225, 375
Limb, Charles J	291, 349
Limb, Susan Lee	167, 375
Limketkai, Berkeley Nguyen	426
Limpert, Jean Lindstrom	441
Limpitikul, Worawan	454
Lin, Anthony Yen-Yiu	445
Lin, Benjamin Chwan Wen	467
Lin, Brian Min-hann	452
Lin, Chih-Chun	475
Lin, Chi-Ying	470
Lin, Chun-Chieh	475
Lin, Da-Ting	205, 413
Lin, Doris D M	276, 375
Lin, Edward Felix	448
Lin, Elaina Ewei	423
Lin, Frank, Robert	438
Lin, Jenny Hanching	441
Lin, Jimmy Cheng Ho	457, 470
Lin, Li	46, 167, 375
Lin, Li-Mei	432
Lin, Ming De	276, 417
Lin, Ming-Tseh	439
Lin, Peter Charlie	423
Lin, Rong	429
Lin, Sandra Y	291, 349
Lin, Sophie Zhirong	477
Lin, Yu-Yi	194, 417, 432
Lin, Zhihong	429
Linaweaver, F Pierce	305
Lind, Michael Andrew	441
Lindauer, Steven E	263, 375
Linde, Michael Ethan	474
Lindeman, Brenessa M	445
Lindeman, Karen S	118, 314, 349
Linden, David J	203, 330
Linder, Nikeea Copeland	243, 375
Lindsay, Mark Evan	441
Lindstrom-Johnson, Sarah Renee	441
Ling, Chen	432
Ling, Daniel En-Hao	450
Ling, Geoffrey Shiu Fei	118, 198, 349
Ling, Shari Miura	167, 375
Ling, Shizhang	439
Lingappa, Mohanambe	444
Link, Thomas William	454
Link, Tiffany	457, 470
Links, Jonathan M	142, 279, 316, 420
Lipitz, Roger C	305
Lipkin, Paul H	241, 349
Lipman, Jamie Gail	448
Lipschitz, Avron Herschel	446
Lipsett, Pamela A	119, 282, 308, 312, 314, 315, 330
Lipsey, John R	261, 315, 349
Lipson, Evan Jacob	435
Lirio, Richard A	424
Lissauer, Jonathan	423
Little, John Timothy	263, 375
Littlefield, John W	240, 258, 340
Litvak, Anna	426
Liu, Chang	475
Liu, Chang-Chia	432
Liu, Cheng-Hang	434
Liu, Chia-Ying	278, 413
Liu, Chunyan	446
Liu, David	457
Liu, Diana C	305
Liu, Dianna	454
Liu, Dingxie	170, 399
Liu, Dongyan	431
Liu, Gang	424
Liu, Guanshu	278, 413

Liu, Hua	252, 413, 435	Lowen, Marc	152, 375
Liu, Jianyong	219, 413	Lowenstein, Charles J	46, 161, 330
Liu, Jun	213, 251, 309, 310, 330	Lowitt, Nancy Ryan	167, 375
Liu, Kai	475	Lowry, Pamela Riva	464
Liu, Kelvin Jeng-Fang	467	Loyo, Myriam Del Mar	438
Liu, Lin	430	Lu, Dan	439
Liu, Lixin	284, 413	Lu, Kit Yu	427
Liu, Lucy Hsinlu	454	Lu, Lili	226, 413
Liu, Man Maggie	434	Lu, Wenju	172, 413
Liu, Manchang	172, 413	Lu, Wenyan	463
Liu, Mark Chang-Hwa	164, 349	Lu, Yang	201, 413
Liu, Minghao	454	Lu, Yanhui	478
Liu, Ping	424	Lu, Ya-Wen	464
Liu, Qin	434	Lu, Yunqi	473
Liu, Shu	445	Lubomski, Lisa H	119, 312, 375
Liu, Stanley Shi-Dan	427	Lucas, Gregory M	164, 349
Liu, Ting	428	Luethke Ronald W	285, 375
Liu, Xiaochun	436	Luft, Andreas R J	199, 375
Liu, Xiaodong	424	Lukyanenko, Valeriy Ivanovich	430
Liu, Xiaoguang	120, 413	Lum, Ying Wei	446
Liu, Xingdang	279, 417	Lumpkin, Samuel M M	292, 391
Liu, Yan	436, 445	Lun, Shichun	430
Liu, Yangfan	473	Luna, Brian	470
Liu, Yangjian	426	Lundquist, Christina	318
Liu, Yaping	473	Lunze, Karsten	441
Liu, Ye V	172, 413	Luo, Donggen	205, 413
Liu, Yin	463, 475	Luo, Jun	217, 294, 375
Liu, Ying	439	Luo, Junjie	465
Liu, Yun	432, 463	Luo, Tianzhi	425
Liu, Zhaohui	442	Luo, Weibo	426
Liu, Zhi	429	Luo, Wenqin	434
Livingston, Gordon S	263, 375	Lupold, Shawn E	217, 294, 375
Livingston, Janet B	319	Lurye, Olga I	170, 399
Llinas, Rafael H	198, 349	Lusane, Henry C Jr	276, 399
Lloyd, S Julie-Ann	457, 470	Lusk, Sarah Elizabeth	448
Lloyd, Thomas E	199, 375	Lutsenko, Svetlana	258, 330
Lo, Pang-Kuo	435	Lutty, Gerard A	224, 330
Lo, Sheng-fu Larry	432	Lutz, Eric Richard	436
Lo, Ying-Chun	478	Luu, Kieu X	120, 399
Loaiza-Bonilla, Arturo	435	Luvsanjav, Delgermaa	430
Lo Brano, Marcia Bennette	431	Luznik, Leo	215, 349
Locascio, Gianna M	443	Lyford-Pike, Sofia	438
Loch, David Charles	426	Lyketsos, Constantine G	260, 330
Lochner, Heather Virginia	289, 375	Lynch, Brandon Joseph	448
Locke, Charles F S	167, 375	Lynch, Donald Ray Jr	426
Locke, James Laron	232, 408	Lynch, Thomas	263, 375
Locke, Jayme E	445	Lynn, Geoffrey Martin	452
Lockhart, Paula J	263, 375	Lyu, Heather Ga Hyung	454
Lockman, Justin Lawrence	424	Ma, Bo	423
Lockshin, Benjamin N	140, 399	Ma, Dengke K	433
Lodge, Martin Anthony	279, 375	Ma, Jun	467
Loeb, David M	217, 243, 375	Ma, Loralie D	276, 375
Loeb, Stacy Leah	446	Ma, Ou	436
Loeffler, Lauren Ferrari	441	Ma, Qing	464
Loeys, Bart L	244, 399	Ma, Ting Martin	470
Loffroy, Romaric	444	Maag, David	434
Loftus, David Michael	487	Macapagal, Daphne Jane	474
Logue, Dora D	264, 399	MacAuley, Claudia	317
Lombardo, Joseph S	155, 375	MacConnell, Sally W	317, 318
London, Andrew	152, 375	MacDonald, Brent Bruce	170, 399
London, Scott D	292, 399	MacDonald, Elizabeth Marie	473
Long, Christopher Matthew	450	MacDonald, Kelvin D	244, 399
Long, Dominique Noe	244, 399	MacDonald, Susan M	161, 314, 330
Long, Donlin Martin	286, 312, 330	Macedo, Aisha Ann	226, 407
Long, Melissa	441	Macedo, Leonardo Lopes	444
Long, Sally Louise	442	MacGlashan, Donald W	161, 330
Long, Simon Yat-Ming	432, 438	Macgregor, Anne Marie	477
Long, Sydney Boi Thai	450	MacGregor, M Isabelle	170, 399
Longenecker, J Craig	167, 375	Machado Segundo, Antonio Jose	276, 413
Longstaff, David Gordon	194, 417	Machairaki, Vasiliki	439
Lonze, Bonnie Elizabeth	445	Machamer, Carolyn E	136, 309, 314, 330
Loo, Jing Liang	437	Machlin, Steven R	263, 375
Loo, Yihua	467	Macias, David Michael Anthony	437
Lopes, Gilberto De Lima Jr	217, 375	Mack, Joel D	442
Lopez, Jose Luis Jr	433	Mackall, Crystal	217, 243, 375
Lopez, Pablo Hector Horacio	441	MacKenzie, Alexander	265, 407
Lopez-Arvizu, Maria Del Carmen	264, 399	MacKenzie, Ellen J	142, 257, 420
Lorch, Theresa R	170, 399	Mackie, deMauri Scott	470
Lorenz, Christine H	275, 349	MacKinnon, Dean	261, 310, 349
Lorenzini, Illeana	475	Macksey, Richard A	75, 157, 420
Lorenzo, Maria	432	MacLean, Katherine Anne	442
Loring, Keith E	315	MacMillan, Deborah	153, 413
Loring, Whitney Anne	441	Macura, Katarzyna J	275, 294, 349
Lorsch, Jon R	133, 308, 310, 311, 330	Madan, Rajat	430
Losonczy, Lia Ilona	450	Madanikia, Sara Aileen	454
Lotan, Tamara Levin	232, 375	Madden, Denis	319
Lottes, Mark Allan	276, 399	Madder, David Alan	170, 399
Loubser, Kara Mari	426	Madkour, Amr Mohamed Monir	425
Loughlin, Gerald M	240, 330	Madoff, David H	167, 375
Louie, Christopher	305	Maegawa, Gustavo H B	243, 375
Louissaint, Nicolette Alexandra	478	Magarakis, Michail	446
Lourens, Raina Marie	423	Magarick, Ronald H	152, 375
Loveless, Meredith Buonanno	152, 243, 375	Magazine, Jeffrey Lance	167, 375

Magid, Donna	147, 277, 290, 349
Magno, Priscilla	167, 375
Magnuson, Thomas H	282, 349
Magruder, Jonathan Trent	452
Maguire, Maureen	312
Magyar-Russell, Gina M	263, 375
Mahadevia, Ankit Atul	487
Mahajan, Rajneesh	264, 399
Mahesh, Mahadevappa	164, 277, 316, 350
Mahmood, Laila Aziz	441
Mahmood, Usama	443
Mahon, Pamela Belmonte	264, 399
Mahone, Ernest Mark	261, 350
Mai, Christine Lan	119, 375, 424
Maisami, Mohammad	243, 263, 375
Maitra, Anirban	54, 215, 231, 350
Maizel, Scott E	284, 399
Majcina, Sarah Graham	441
Majid, Mohammed Abdul	123, 417
Majidi, Farideh	219, 413
Major, Cynthia R	264, 399
Makary, Martin A	282, 350
Makhoul, Waseem	429
Makino, Yuichi	475
Makita, Takako	434
Makuch, Lauren Ashley	475
Malas, Mahmood B	283, 375
Maldonado Adrian, Concepcion	433
Maldonado-Gonzalez, Leonel Francisco	438
Maleki, Zahra	232, 399
Mali, Prashant G	467
Malkin, Alexis G	226, 407
Malm, Ian-James Knute	454
Malmstrom, Per-Uno	294, 417
Malone, Laura Ann	467
Malone, Misti Lane	467
Maloney, Peter C	258, 307, 309, 310, 311, 330
Malvoisin, Crystal Mercia	448
Mamedov, Oktai	431, 437
Mammen, Andrew L	167, 199, 376
Mammen, Jennifer Sophie Roberts	429
Manabe, Yukari Carol	164, 350
Manahan, Michele Ann	285, 376
Manalac, Raoul James	450
Mandai, Kenji	205, 413
Mandal, Kaushik	445
Mandel, Howard C	305
Mandelker, Diana Lauren	450, 473
Mandell, Ira N	170, 399
Mandell, Steven F	155, 308, 376
Mandir, Allen S	199, 376
Manickavasagam Amudhavalli, Shivarajan	441
Mankowski, Joseph Leonard	54, 192, 199, 231, 350
Manley, Gena Taylor	153, 399
Manley, Obadiah Johnathan	474
Mann, John	313
Mann, Risa Berman	230, 340
Manning, Michael Lee	478
Manno, Rebecca Lynn	429
Manson, Paul N	285, 318, 330
Mantinan, Michael Fernandez	423
Mao, Chih-Ping	454
Maragakis, Lisa L	167, 376
Maragakis, Nicholas J	199, 350
Maragh, Samantha Denise	473
Maraj, Rosemarie	170, 399
Marano, Christopher M	263, 376
Marban, Eduardo	161, 330
Marcell, Arik V	243, 376
Marchetti, Michael Armando	487
Marchionni, Luigi	218, 399
Marcin, Mary J	245, 408
Marcus, Emily Ann	450
Marcus, Leigh Jessica	436
Mardini, Mohamed K	243, 376
Mareiniss, Darren Peter	142, 399, 425
Margolick, Joseph B	174, 317, 420
Margolis, Kenneth	170, 399
Margolis, Russell L	197, 260, 330
Margolis, Simeon	123, 161, 340
Margulies, Barry J	252, 417
Mari, Zoltan	200, 376
Marik, Radharani	445
Marine, Joseph E	164, 350
Marinopoulos, Spyridon	167, 309, 310, 376
Mark, Anthony Leary	446
Mark, Lynette J	118, 291, 309, 314, 350
Mark, Teresa Rose-Marie	450
Mark, Yvonne	244, 399
Markandaya, Manjunath	433
Marker, David Reeve	448
Markham, Richard B	174, 420
Marko, Mollie Klare	467

Markoe, Abigail Heather	472
Markov, Arseni	173, 417
Markovic, Ana	436
Marks, Harry Milton	157, 312, 350
Marlowe, Andre A	292, 407
Marohn, Michael Robert	282, 350
Maroof, David Aaron	442
Marous, Daniel Roe	478
Maroz, Natalia	437
Marquardt, Gesine	265, 417
Marques, Ernesto Torres De Azevedo	252, 417
Marr, Kieren Anne	161, 213, 314, 331
Marria, Pooja	244, 399
Marrow, Victor	312
Marsh, Bernard R	290, 340
Marsh, Elisabeth Breese	433
Marsh, Julia Anne	426
Marsh, Laura	199, 261, 314, 350
Marsh, Nicole Briggs	441
Marshall, Bruce C	164, 350
Marshall, Scott A Jr	433
Marsh-Armstrong, Nicholas	44, 204, 226, 376
Marsland, Daniel	437
Martari, Marco	429
Martens, Carole	317
Martin, Anne Baldwin	475
Martin, Caitlin Eileen	454
Martin, Christopher Thomas	450
Martin, Deborah J	153, 399
Martin, Don Richard	167, 376
Martin, Ian	433
Martin, Jackie L	117, 309, 331
Martin, Jo Marin	487
Martin, Kimberly Daniella	430
Martin, L David	167, 376
Martin, Lee J	54, 203, 230, 331
Martin, Zachary	286, 399
Martin Villalba, Beatriz	479
Martindale, Ty Asher	423
Martinez Ferrando, Maria Isabel	478
Martinez Monedero, Rodrigo	438
Martinez, Anthony	170, 399
Martinez, Elizabeth A	118, 283, 350
Martinez, Tyler	425
Martino, Teresa	426, 441
Martino-Cardona, Maria Carmen	432
Martins, Ciro Roberto	139, 173, 350
Martinson, Neil Alexander	167, 376
Marton, Tanya Marie	475
Maru, Chintan Hansraj	448
Marur, Shanthi	217, 376
Maruvada, Ravi	441
Maruyama, Rika	425
Marvel, Cherie L	201, 413
Marvel, Richard P	152, 376
Marx, Andrea Slotkoff	167, 376
Marx, Barry S	243, 376
Marx, Jason J	170, 399
Marx, Jonathan K	276, 399
Masuda, Tomohiro	436
Masear, Courtney Goodwin	487
Mashayekh, Ameneh	444
Mason, Raymond A	305
Mason, Richard J	289, 399
Mason, Robert E	164, 358
Mason, Shawn Thomas	442
Massof, Robert W	224, 331
Massoud, Raya	433
Matanoski, Genevieve M	144
Mathai, Stephen C	167, 376
Matherly, Scott Coleman	426
Matheson, Nina W	155, 340
Mathews, Daniel C	442
Mathews, Debra J H	44, 243, 376
Mathews, Priya Mary	454
Mathews, Ranjiv Ignatius	241, 293, 350
Mathews, Simon C	448
Mathews, Tara Lynn	443
Mathews, William B	279, 413
Mathias, Rasika Ann	167, 376
Mathiodakis, Nestoras Nicolas	429
Mathur, Vineesh	119, 376
Mathy, Pamela	263, 376
Matavo, Christine S	427
Matlaga, Brian Richard	294, 309, 376
Matsakis, Rebecca E	243, 376
Matson, Pamela A	244, 399
Matsuda, Hiroki	445
Matsui, Elizabeth	241, 350
Matsui, William H	55, 215, 350
Matsumoto, Alan K	167, 376
Matsumoto, Shunichi	441
Matsuo, Koichiro	256, 376

Matsuoka, Ryota.....	475	McGirt, Laura Young.....	139, 376
Matteine, Amy Mahoney.....	430	McGirt, Matthew Joseph.....	432
Matthaei, Hanno Ernst Goswin.....	439	McGovern, Gail J.....	305
Matthews, Charles Harrison.....	443	McGowan, Jane E.....	241, 350
Matthews, Leslie S.....	289, 376	McGrath-Morrow, Sharon.....	241, 308, 350
Matthys, Marisa Kristeen.....	75, 308, 452	McGuire, Courtney Stritar.....	441
Mattin, Christina.....	305	McGuire, Jennifer.....	433
Matton, Jeffrey A.....	319	McGuire, Marsden.....	263, 376
Matsson, Mark P.....	203, 331	McGuire, Maura J.....	167, 308 312, 316, 376
Matunis, Erika L.....	136, 308, 350	McGuire-Edie, Sarah Patricia.....	473
Matunis, Michael Joseph.....	136, 420	McHarg, Jennifer Lynn.....	441
Matz, Jonathan.....	170, 399	McHugh, Paul R.....	260, 331
Maughan, W Lowell.....	126, 161, 331	McInerney, Joseph D.....	243, 376
Maul, Eugenio A.....	437	McInnis, Melvin Gordon.....	261, 350
Maulucci, Christopher Michael.....	432	McIntosh, Karl.....	264, 400
Maumenee, Irene.....	314	McIntosh, Paul Michael.....	441
Maurer, Matthew Joseph.....	462	McIver, Bryant Vincent Jr.....	487
Mauro, Michael D.....	289, 407	McKenzie, Robin.....	167, 376
Maxhimer, Justin Brian.....	445	McKenzie-White, Jane.....	314
Maxwell, Micah Joel.....	457, 470	McKhann, Guy Mead.....	197, 203, 331
May, Bradford Jay.....	290, 331	McKusick, Anne B.....	167, 376, 493
May, Evelyn Andrea.....	444	McLean, Rhondalyn C.....	167, 377
Maybhatte, Anil Digambar.....	424	McLemore, Gabrielle Lynn.....	243, 377
Mayer, Lawrence S.....	265, 420	McLoughlin, Gregory Stuart.....	289, 407
Mayer, Robert Samuel.....	256, 315, 376	McMahan, Zsuzsanna Hortobagyi.....	429
Mayer, Susan A.....	167, 376	McMahon, Francis J.....	261, 350
Maynard, Janet Willoughby.....	429	McMahon, Michael T.....	276, 377
Mayo, Skye Carl.....	445	McMahon, Moira Ann.....	478
Mayrer, Andrew R.....	167, 376	McMichael, Douglas Hale.....	75, 455
Mazhari, Reza.....	167, 376	McMillan, Julia A.....	240, 307, 310, 314, 315, 316, 331
Mazzocco, Michele M M.....	260, 314, 331	McMillan, Neil Patrick.....	479
Mc Grane, Siobhan.....	444	McMillan, Ross Howard.....	75, 450
McAllister, Florencia Marine.....	429, 435	McNabney, Matthew K.....	167, 377
McAllister, Mary A.....	278, 413	McNair, Tiffany Samara.....	425
McArthur, Justin C.....	161, 197, 230, 307, 308, 331	McNally, Melanie.....	450
McBride, Corrin Ellisia.....	462	McNeal-Jackson, Nneka N.....	426
McCabe, III, Oliver Lee.....	265, 420	McNutt, Todd R.....	217, 272, 377
McCaffrey, Lee D.....	146	McTeer, Susan.....	314
McCaffrey, Peter Christian.....	454	McVeigh, Elliot R.....	126, 277, 307, 308, 331
McCagh, Jeffrey C.....	265, 413	Mealer, Robert Gene.....	457, 475
McCall, Chad Michael.....	438	Meany, Danni Li.....	439
McCall, Nancy.....	157, 312, 316, 413	Mears, Simon C.....	289, 377
McCallin, Tracy Elizabeth.....	441	Mease, Ronnie Charles.....	275, 350
McCallion, Andrew S.....	44, 149, 172, 192, 350	Meeker, Alan K.....	55, 217, 232, 294, 377
McCallum, Jeremy Robin.....	448	Meeker, Sonya Nell.....	172, 413
McCally, Russell.....	225, 350	Meffert, Mollie K.....	123, 204, 308, 377
McCambridge, Teri Metcalf.....	243, 376	Meguid, Robert A.....	445
McCann, Una Deirdre.....	260, 314, 331	Megwalu, Ifeanyichukwu Ifeyinwa.....	446
McCarthy, Chad Edward.....	450	Mehra, Vishal C.....	428
McCarthy, Edward F Jr.....	230, 288, 308, 315, 331	Mehta, Shruti.....	145
McCarthy, Melissa Lee.....	142, 308, 314, 350	Mehta, Sohun.....	441
McCarthy, Robert Emmett III.....	167, 376	Mehta, Vivek Arjun.....	450
McCartney, Annemarie McMillan.....	457, 471	Meinert, Curtis L.....	144
McCaul, Mary E.....	164, 260, 314, 331	Meisenberg, Barry Ross.....	213, 331
McCauley, Jeanne M.....	167, 376	Mejia, Marco A.....	170, 400
McClary, Allan R.....	170, 261, 358	Mejias-Estevez, Rebecca Maria.....	426
McClellan, Deborah A.....	155, 252, 413	Meledeu, Michael Adam.....	467
McClinton, Michael A.....	285, 350	Meleka, Sherif M.....	287, 377
McCloskey, Michael.....	205, 420	Melia, Michael R.....	170, 400, 425
McClure, Erin Ann.....	442	Melnikova, Tatiana.....	232, 413
McColgin, Tara Lynne.....	427	Meltzer, Stephen J.....	161, 213, 331
McCollum, Michael E.....	152, 376	Meluh, Pamela Bernadette.....	194, 413
McConnell, William D.....	170, 399	Melvin, Thuy-Anh Nguyen.....	438
McCormack, Meredith Christine.....	167, 376	Menachery, Elizabeth Pynadath.....	167, 377
McCormack, Sharon.....	170, 400	Mendell, Joshua T.....	44, 55, 149, 194, 241, 350
McCoy, Allison Norah.....	436	Mendez-Tellez, Pedro Alejandro.....	119, 283, 377
McCrorry, Michael Conor.....	424	Meneshian, Avedis.....	283, 377
McCully, Ryan Randall.....	462	Menez, Steven Philip.....	455
McDermott, Susan Sifford.....	200, 376	Menezes, Luis Fernando Carvalho.....	431
McDevitt, Michael A.....	167, 217, 376	Menga, Emmanuel Nganku.....	437
McDonald, John Wood III.....	199, 256, 350	Menichino, Mariah P.....	292, 407
McDonald, Kathleen L.....	400	Menon, Deepa.....	200, 400
McDonald, Megan Elizabeth.....	469	Menucci, Maria Belen.....	429, 437
McDonald, Oliver Gene.....	438	Meoni, Lucy A.....	174, 420
McDonald-Mosley, Raegan.....	153, 400	Merbs, Shannah L.....	215, 225, 350
McDonnell, Edmond J.....	288, 358	Mercado, Carmel.....	455
McDonnell, Peter John III.....	224, 307, 311, 318, 331	Merchant, Akil Abid.....	436
McDougal, Dan H.....	172, 407	Meriden, Zina.....	438
McDowell, Kathleen.....	244, 467	Merino, Vanessa Ferreira.....	435
McDowell, Kelli Ammiesha.....	471	Merlo, Christian A.....	167, 377
McDyer, John F.....	167, 376	Merritt, Christopher Richard.....	463
McEvoy, John William.....	426	Merritt, William T.....	118, 282, 350
McFadden, Joseph William.....	434	Mersey, James H.....	377
McFarland, Edward G.....	288, 331	Merte, Janna.....	434
McFarland, Henry F.....	200, 376	Merves, Matthew Henry.....	441
McFarland, Susan R.....	244, 400	Merz, Annette.....	319
McFarlane, Elizabeth C.....	244, 400	Merz, William G.....	140, 230, 331
McGaughey, David Mark.....	473	Mesfin, Addisu.....	437
McGeehan, Jayne H.....	319	Mesiwala, Alefiyah K.....	431
McGibbon, Bernard M.....	285, 376	Mess, Sarah A.....	286, 400
McGill, James T.....	306	Messing, Simon Amadeus.....	424
McGinley, Brian M.....	243, 376	Metcalf, Brandon Michael.....	450
McGinnis, David Eliot.....	170, 400	Metreddy, Manasa Madhuri.....	433

Metter, E Jeffrey	199, 350
Meuchel, Jennifer Mary	264, 400
Meulendyke, Kelly Ann	471
Mewton, Nathan Oliver	428
Meyer, Barry	317
Meyer, Christian Frederick	436
Meyer, Jon K	261, 350
Meyer, Marisa Eileen	487
Meyer, Peter A	305
Meyer, Richard A	286, 340
Meyerhoff, Andrea Nikki	164, 350
Meyerhoff, Harvey M	305
Meyerhoff, John O	377
Meyerle, Jon Hamilton	139, 377
Meyers, Caren L Freel	218, 252, 377
Meyers, David J	252, 413
Mezban, Sarah	276, 400
Mezey, Esteban	161, 331
Mfume, Kweisi	305
Mi, Ruifa	201, 413
Miao, Cuijian	444
Michael, Roger H	289, 391
Michaelis, Susan	44, 136, 311, 314, 315, 331
Michaud-Agrawal, Naveen Phillippe	469
Michele, Theresa M	377
Michelle, Elizabeth Harlan	452
Michelson, James D	288, 350
Michos, Erin Donnelly	167, 377
Michtalik, Henry Joseph	430
Mickel, Hubert S	142, 377
Mielke, Michelle M	263, 377
Migeon, Barbara R	44, 149, 240, 314, 315, 331
Migeon, Claude J	240, 331
Migliaccio, Americo Aniello	127, 292, 377
Mihalas, Anca Brindusa	465
Mihalas, Stephanie Tamara	441
Miki, Akiko	437
Miki, Katsuaki	437
Mikushi, Shinya	442
Mildvan, Albert S	123, 312, 340
Milio, Lorraine A	152, 377
Miellito, Giuseppe	425, 440
Millare, Brent Matias	467
Miller, Carl Norman	444
Miller, Carole B	215, 350
Miller, Charles D	305
Miller, Christina Rose	423
Miller, Daniel Lyman	487
Miller, David I	172, 407
Miller, Dinah	264, 400
Miller, Edgar Raymond III	164, 350
Miller, Edward D	117, 306, 307, 308, 310, 311, 313, 315, 317, 318, 331
Miller, Gail Wilson	170, 400
Miller, Howard B	319
Miller, Julie Marie	167, 377
Miller, Justin	441
Miller, Leslie R	263, 377
Miller, Louis W	170, 400
Miller, Marlene R	241, 350
Miller, Melissa Ruth	471
Miller, Milton H	305, 318
Miller, Myron	161, 331
Miller, Nathaniel David	475
Miller, Neil R	197, 224, 286, 331
Miller, Redonda Gail	164, 310, 315, 318, 350
Miller, Robert E	127, 155, 231, 312, 316, 351
Miller, Ronald Alan II	426
Miller, Ryan S	244, 400
Miller, Sara Davenport	457
Miller, Sarah Elizabeth	427
Miller, Stanley J	139, 291, 351
Miller, Susan R	152, 377
Miller-Bass, Katherine	152, 377
Milles, Gary A	170, 400
Milligan, Francis D	164, 351
Millin, Michael G	142, 377
Mills, Elizabeth Ann	475
Mills, Eric William	455
Milner, Stephen M	139, 240, 285, 331
Milstone, Aaron Michael	243, 377
Minder, Camille Michael	426
Ming, Guo-Li	199, 204, 351
Minken, Stanley L	282, 351
Minkovitz, Cynthia Schaffer	245, 420
Minkowski, John S	225, 377
Minn, II	435
Minor, Lloyd B	126, 203, 290, 306, 307, 308, 311, 318, 331
Minta, Anna	441
Mintzer, Miriam Z	261, 314, 351
Miranda Angulo, Ana Lucia	476
Mircetic, Marko	452
Mirmiran, Fred F	319

Mirski, Marek A Z	117, 197, 286, 331
Mirsky, Allan F	260, 331
Mishra, Anjali	435
Miskimon, Matthew	448, 476
Misra, Satish	75, 312, 448
Mitchell, Keiffer J	170, 400
Mitchell, Kelly Westbrook	435
Mitchell, Khadijah Aisha	473
Mitchell, Mack	164, 309, 351
Mitchell, Sally E	241, 276, 314, 316, 331
Mitchell, Sarah F	469
Mitchell, Sharon	316
Mithani, Suhail Kamrudin	446
Mitter, Nanhi R	119, 377
Mittman, Scott H	119, 377
Mitzner, Wayne A	120, 127, 174, 421
Mizelle, Kristi Vergena	429
Mizuma, Masamichi	439
Mo, Alisa	452
Moake, Matthew Morgan	457, 471
Mobula, Meta M	427
Mock, Jason Robert	426
Modell, Patricia B	319
Modi, Monica Nitin	448
Mogayzel, Peter Joseph Jr	241, 351
Moghekar, Abhay	200, 377
Mogul, Douglas	441
Mohamed, Mona Adel	278, 413
Mohammad, Helai	435
Mohan, Sachin	479
Mohanty, Sambit Kumar	439
Mohareb, Amir Moheb	452
Mohari, Nivedita	424
Mohassel, Jana Lynn	441
Mohassel, Payam	426, 487
Mohseni, Morassa	473
Mohyeldin, Ahmed Medhat	432
Mohyuddin, Atta	438
Moin, Syed Mohammad	432
Mojtabai, Ramin	265, 421
Molavi, Diana Weedman	232, 408
Molavi, Rameen James	171, 400
Moldobaeva, Aigul K	172, 413
Molina Andreu, Oriol	442
Molina, Camilo Alejandro	452
Molinaro, Susan Melley	171, 308, 400
Moliterno, Alison Rae	167, 377
Mollazadeh, Mohsen	467
Mollenhauer, Mark	263, 377
Moller, David R	164, 351
Molliver, Mark E	197, 203, 340
Momin, Eric Naimet	457
Mon, Kyaw Soe	423
Mondell, Brian E	200, 377
Mondimore, Francis Mark	261, 351
Mones, Richard A	277, 400
Monfried, Allan J	244, 400
Moni, Malini	429
Monias, Anna T	167, 377
Monias, Michael B	152, 377
Monitto, Constance L	119, 377
Monroe, Anne Kress	430
Monroe, David J	243, 377
Monroe, Ryan William	488
Monsen, Craig Bryant Hjemdahl	75, 452
Monson, Luis Carlos	457
Montali, Richard J	192, 377
Montano, Carolina Maria	457, 473
Montell, Craig	123, 203, 331
Montell, Denise J	123, 313, 315, 331
Montgomery, Elizabeth Anne	213, 230, 288, 315, 331
Montgomery, Raneec Chatterjee	430
Montgomery, Robert A	282, 332
Moolchan, Eric T	243, 377
Moon, Cheil	205, 417
Moon, Christina Soyoung	436
Moon, Chulso	292, 377
Moon, Margaret R	243, 316, 377
Moon, Sang-Kwan	423
Mooney, Graham	157, 377, 446
Moore, Eva Michele	441
Moore, G William	232, 377
Moore, John R	288, 351
Moore, Richard D	161, 316, 332
Moore, W Tabb	164, 351
Moore, Westley W O	305
Morad, Athir	119, 377
Morales-Torres, Juan A	142, 400
Moran, George W	171, 400
Moran, Lauren Virginia	442
Moran, Timothy H	260, 311, 312, 332
Moravec, Clayton L Jr	171, 400
Moreira, Luis Fernando	284, 417

Morgan, Athol Winston	171, 400	Murphy, Michael S	289, 378
Morgan, Basil S	225, 378	Murray, Christopher Isles	465
Morgan, Melissa Danielle	427	Murray, Kantahyanee Whitt	441
Mori, Noriko	276, 413	Murray-Stewart, Tracy	219, 413
Mori, Susumu	213, 277, 332	Musicki, Biljana	294, 400
Mori, Yuriko	167, 378	Mussai, Francis Jay	436
Moriarty, Susan K	244, 400	Mustafa, Asif Khan	448, 476
Moriarty, Whei Feng	471	Musunuru, Kiran	428
Moriggia, Alberto	430	Muthappan, Palaniappan Ganesh	171, 400
Morin, Patrice Jean-Luc	232, 378	Muthugovindan, Deivasumathy	434
Morison, Warwick L	139, 332	Muz Zviman, Menekhem	172, 413
Morog, Nicholas W	171, 400	Mwatha, Kenneth	425
Morrill, Ann Cassidy	171, 400	Mydlarz, Wojciech Krzysztof	438
Morris, Amanda Jane	452	Myers, Allen C	164, 351
Morris, Deborah J	171, 400	Myers, Christopher Patrick	444
Morris, Harvey Melton	443	Myers, Donna L	167, 378
Morrish, Tammy	432	Myers, Kelly S	444
Morrison, Ann S	265, 413	Myers, Stuart Hopper	437
Morrison, Brett Michael	200, 378	Myrowitz, Elliott Howard	225, 378
Morrisette-McAlmon, Justin Brandon Francis	467	Na, Ho Jeong	429
Morton, Melinda Jane	425	Na, Youn	471
Moseley, Kendall Ford	429, 430	Nabavizadeh, Ali	472
Moser, Ann B	201, 413	Nabel, Gary Jan	161, 332
Moses, III, Hamilton	332	Nacev, Benjamin Alexander	457, 464
Moses, Howard E	199, 351	Nachlas, Marvin M	282, 358
Moshfeghian, Audrey Maryam	473	Naff, Neal Jamison	287, 378
Moshirfar, Ali	289, 378	Nager, George T	290, 340
Moshiri, Ala	436	Nagy, Christian Daniel	428
Moskowitz, Nathan	287, 378	Nahabedian, Maurice Y	285, 351
Moss, William John	145, 245, 421	Nahvi, Ali	432
Mosser, Jonathan Fink	452	Naidu, Sakkubai	197, 240, 332
Mostofsky, Stewart H	199, 265, 351	Naik, Rakhi Prakash	435
Mostwin, Jacek L	293, 308, 309, 310, 332	Naimi, Elham Hafez	437
Motegi, Fumio	432	Nair, Vijayachandra S	172, 407
Motevalli, Mahnaz	232, 413	Naito, Yoshiaki	439
Mott, Jessica Elizabeth	464	Najand, Hares Ahmad	425
Motta, Melissa	433	Najjar, Samer S	167, 378
Mountcastle, Vernon B	203, 340	Nalayanda, Divya Devaiah	467
Mountney, Andrea	478	Nallamothu, Ravindranath Chowdary	433
Mower, Morton Maimon	164, 351	Nanda, Jagpreet Singh	424
Moy, Taryn F	172, 413	Nanda, Suman Yadav	424
Moyer, Adam Landes	471	Naqibuddin, Mohammad	172, 413
Mroczkowski, Megan Marie	443	Narayan, Anand Kumar	457
Mu, De-Guang	173, 417	Narayanan, Shivakumar	431, 433
Mu, Di	450	Nardone, Katharine	317
Mu, Euphemia W	75, 455	Nardone, Kerri M	426
Muasher, Suheil Jamil	151, 351	Narisety, Satya Devi	441
Mudali, Shiyama V	439	Narla, Venkata Anupama	426
Mudd, James O	167, 378	Narotsky, David L	455
Mueller, Melanie	433	Nascimento, Eduardo M	430
Mukherjee, Amarnath	446	Nascone, Jason W	289, 378
Mukherjee, Arnab	423	Nasir, Omer Salah	445
Mukherjee, Bipasha	455	Nasrallah, Salah M	164, 351
Mukherjee, Chandrani	441	Nassar, Hind	232, 378
Mukherjee, Debraj	432	Natesan, Senthilkumar	433
Mukherjee, Vikramjit	431	Nath, Avindra	55, 197, 203, 332
Mulaikal, Rose M	244, 400	Nathan, Hari	445
Mularoni, Loris	435	Nathans, Jeremy	194, 203, 224, 310, 332
Mulepati, Sabin	469	Natterman, Jeff	317
Mullally, James Edward	425	Natterson, Cara Familian	315
Muller, Heloise Marie	432	Nayfeh, Tariq Ali	289, 378
Mullin, Gerard E	164, 351	Naylor, Jennifer Sparr	427
Mullins, Andrew Daryl	444	Naylor, Matthew Gregory	427
Mullins, Jeffrey Kyle	446	Nazarian, Saman	167, 378
Multhaup, Michael Lewis	463	Nazarian, Susanna Matsen	445
Mumford, Laura M	164, 351, 493	Ndumele, Chiadi Ericson	428
Muminova, Markhabat Omirdinovna	425	Neale, Donna Maria	152, 378
Munavalli, Girish S	139, 378	Necochea, Alejandro Jose	171, 400
Munchel, Ashley Taylor-King	436	Nedeltshev, Gueno G	172, 413
Munding, Gerhard Salomo	446	Needham, Dale M	167, 256, 378
Munfus-McCray, Delicia La Shaun	438	Negi, Sandeep Singh	436
Muniak, Michael Avery	476	Neiswinger, Johnathan Philip	478
Munireddy, Sanjay K	446	Nelkin, Barry D	213, 332
Munns, Clare Hannah	424	Nelligan, Jeff	312
Munoz, Alvaro	144	Nelliot, Archana Jayasurya	457, 471
Munoz, Beatriz	225, 351	Nelson, Andrew Lawrence	472
Munoz, Daniel	171, 400	Nelson, Dwella Kimyada	430
Munoz, Miguel	429	Nelson, Kenrad E	144, 174, 421
Munro, Cynthia Shelton	263, 378	Nelson, Kristen L	119, 243, 378
Munter, Elizabeth Lauren	448	Nelson, Paul Christian	424
Muramatsu, Daisuke	436	Nelson, William G	161, 211, 230, 251, 272, 293, 307, 308, 311, 318, 332
Murari, Kartikeya	467	Nemergut, Michael Earl	424
Muratore, Kathryn E	252, 417	Neofytos, Dionisios	167, 378
Murinson, Beth Brianna	200, 378	Neptune, Enid R	167, 378
Murnen, Katherine Frances	463	Nesbit, Suzanne Amato	219, 312, 413
Muroi, Yukiko	429	Nesbit, Todd	316
Murphy, Anne M	241, 309, 315, 351	Nesbitt, John A III	171, 400
Murphy, Benjamin Clark	452	Nesi Franca, Suzana	441
Murphy, David John	431	Ness, Paul M	161, 219, 230, 332
Murphy, Douglas B	136, 332	Nestadt, Gerald	260, 332
Murphy, Jamie D	119, 378	Nesterenko, Sergiy	437
Murphy, John J	289, 400	Netski, Dale	167, 378
Murphy, Kathleen M	215, 231, 351		

Netto, Georges Jaboure	215, 231, 293, 351
Neu, Alicia M	241, 351
Neubauer, David	263, 289, 312, 378
Neubauer, Philip R	378
Neubohn, Naneen H	305
Neufeld, Karin Jane	263, 309, 378
Neufeld, Nathan Jon	442
Neuman-Sunshine, Dara Lee	427
Nevo, Erez	173, 417
Newman, Geoffrey Ivan	467
Newman, Jay B	319
Newman, John D	245, 408
Newman, Mary M	167, 378
Newman, Naeem Akil	445
Newman, Robert Howard	441
Newman-Toker, David Edward	142, 155, 200, 226, 292, 308, 310, 378
Newman-Toker, Julie R	263, 378
Newsome, Scott Douglas	433
Neychev, Vladimir Kostadinov	445
Ng, Julie Chung Lam	452
Ng, Kwan Leung	433
Ngo, Tri Minh	467
Nguyen, Christine Pham	153, 400
Nguyen, Geoffrey C	167, 378
Nguyen, Hien Tan	283, 378
Nguyen, Judy Van Kim	464
Nguyen, Khanh-Dung Hoang	473
Nguyen, Kimanh Duong	448
Nguyen, Nguyen Khoi	471
Nguyen, Quan Dong	225, 309, 351
Nguyen, Rita Phi-Thuy Tran	448
Nguyen, Thai Tran	119, 378
Nguyen, Theresa T H	243, 378
Nguyen, Thien T	200, 378
Nguyen, Trang Kim	308, 448
Nguyen, Vinh-Tung Phuoc	488
Nguyen-Ngoc, Kim-Vy	464
Nguyen-Trong, Phuong-Khanh Jessica	427
Ni, Jinfei	465
Ni, Qiang	252, 413
Ni, Xiaohua	446
Niang, Mame Khouredia	431
Nicheillearach, Clar	437
Nicholas, John	75, 215, 351
Nichols, David G	117, 240, 306, 308, 309, 310, 311, 312, 315, 316, 332
Nichols, John Hone	452
Nicholson, Wanda	151, 351
Nickl, Robert William	467
Nickols, Hilary Highfield	440
Nidecker, Anna	444
Niebur, Ernst	204, 351
Niedermeyer, Ernst F L	197, 286, 340
Niermann, William A	243, 378
Nies, Melanie Kandt	441
Niessen, Timothy Michael	427, 488
Niewiadomska, Anna Maria	432
Nikolaeva, Daria Igorevna	455
Nikolskaia, Olga V	439
Nikoomanesh, Parviz	164, 351
Nimmagadda, Sridhar	173, 278, 400
Niparko, John K	290, 311, 332
Niranjan, Ashwini	455
Niranjan, Tejasvi Shankar	473
Nirschl, Christopher James	474
Nishi, Yutaro	437
Nissen, Ebba Jenny	435
Nissim, Jack E	167, 378
Niv, Avigdor	289, 400
Nivatpumin, Philip Jaratsak	171, 400
Niwa, Minae	443
Nizamuddin, Junaid	448
Njoku, Dolores B	118, 232, 243, 351
Nkrumah, Louis John	438
Nobari Tabrizi, Maryam	441
Noga, Stephen J	215, 231, 351
Nogee, Julie Margaret	450
Nogee, Lawrence M	240, 311, 332
Noje, Corina	424
Nolan, David P	305
Nomura, Jun	443
Noonan, Allan	319
Noonan, Kimberly Ann	219, 413
Nordmann, Ronald W	305
Noren, David Paul	467
Norman, Phillip S	161, 313, 332
Noronha, Gary J	171, 400
Norris, Anne	432
Norris, Douglas	317
Norris, Edward J	118, 351
Northington, Frances J	241, 351
Northington, William Ellis	142, 400

Norton, Clayton N	244, 405
Nosir, Hany R	256, 378
Nottidge, Michael Eniang	423
Nou, Damaris Deryu	448
Nou, Eric	448
Novaira, Horacio	441
Novey, Riva L	313
Novick, James S	171, 400
Nsah, Emmanuel Nchinda	167, 378
Ntambi, James Alfred	444
Ntayingi, Mwa-Mur	479
Nucifora, Frederick Jr	263, 378
Nudelman, Irwin J	294, 400
Nuermberger, Eric Lee	167, 378
Nugent, Linda Michelle	443
Nugent, Summer L	439
Nunez, Jeanne S	244, 400
Nussbaum, Nathan Coleman	448
Nussenblatt, Veronique Rachele	427
Nutini, Marykatharine	442
NV, Rajesh Kumar	218, 400
Nwe, Zin Min	429
Nwosu, Christine	462
Nyhan, Daniel	117, 283, 308, 332
Nyland, Rodney Louis II	441
Nyman, Gary W	263, 378
Nyquist, Paul	119, 200, 379
Nyunt, Myaing Myaing	174, 421
O'Brien, Richard J	173, 199, 204, 351
O'Brien, Thomas P	244, 400
O'Broin Lennon, Anne Marie	430
O'Connell, Karen Aileen	463
O'Connor, Julia T	263, 379
O'Connor, Ralph S	305
O'Croinin, Proinsias	244, 405
O'Daly, Andres Eduardo	437
O'Donnell, John B	289, 400
O'Donnell, Laura	319
O'Donnell Mendell, Kathryn Ann	432
O'Donovan, J Crossan	244, 400
O'Farrell, Courtney Marie	464
O'Grady Naomi P	167, 379
O'Hagan, Heather Maureen	435
O'Herron, Teresa Mary	448
O'Keefe, James Brendan	448
O'Malley, Meaghan Mckiernan	457, 462
O'Malley, Michael Thomas	232, 407
O'Neal, Julia Noether	441
O'Neil, Jahn Natalie	438
O'Neill, Meghan Elizabeth	448
O'Reilly, Michael P	289, 407
O'Rourke, Brian	161, 332
O'Toole, Thomas	263, 379
Oakley, Christopher Brandon	434
Oaks, Jason	444
Oat-Judge, Julia Elizabeth	448
Oberoi, Kurun Partap Singh	453
Obidi, Joyce Oluwayemisi	471
Ochs, Michael F	155, 215, 351
Odekon, Lale E	119, 379
Odia, Yazmin	433
Odubeo, Ibronke	171, 400
Oelke, Mathias	232, 379
Offerhaus, G Johan	161, 230, 332
Offit, Morris W	305
Offoha, Roosevelt U	455
Ogborn, C Jean	243, 379
Oglesby, Thomas J	263, 379
Oh, Edwin	426
Oh, Esther S	167, 232, 265, 379
Oh, Seokhwan	438
Oh, Sun Young	171, 400
Oh, Young Jun	423
Ohara, Shinji	287, 379
Ohrin, Lisa	316
Oishi, Kenichi	278, 379
Oji, David Eirin	437
Ok, John Young	423
Okabayashi, Takehiro	446
Okelo, Sande O	243, 379
Okolo, Patrick I	167, 379
Okonkwo, Ozioma Chima	433, 443
Okonkwo, Renata M	443
Oku, Yuko	464
Oladosu, Oyindamola	462
Olaru, Alexandru Vasile	172, 413
Olds, Kevin Casey	467
Olino, Kelly Lynn	445
Oliva-Hemker, Maria M	241, 351
Oliver, George Reinhold	435
Oliver, John J	319
Olivera, Elizabeth Kay	244, 400
Olivi, Alessandro	213, 286, 311, 332

Olsen, Sharon Jean	220, 421	Pang, Xiaowu	292, 379
Olsen, Yngvild	167, 379	Panigrahi, Rabi Kumar	423
Olson, Matthew Theodore	438	Panjrath, Gurusher Singh	428
Omosho, Tola	152, 379	Panlilio, Louis	119, 379
Onguka, Ouma	464	Pannu, Tanveer Kaur	423
Onishi, Akishi	434	Panny, Susan R	243, 379
Ononiwu, Chiagozie Oluchi	453	Pant, Alok	425
Onuki, Yoshinori	444	Pant, Melissa Lynn	423
Onuorah, Ifeoma Obiageli	427	Pantle, Hardin A	142, 245, 407
Onwueme, Kenolisa	430	Panuganti, Pradeep Kumar	439
Onyango, Patrick	167, 379	Pao, Maryland	263, 379
Onyedike, Chinedu Ifeyinwa	448	Paolucci, Nazareno	167, 379
Onyike, Chiadi U	263, 379	Papadeas, Sophia Theodore	433
Opdahl, Anders	428	Papadopoulos, Nickolas	215, 352
Opoku-Anane, Jessica	488	Papaiahgari, Srinivas Reddy	435
Orandi, Babak John	445	Papandria, Dominic Joseph	445
Orbai, Ana-Maria	427, 429	Papangelou, Alexander	119, 379
Orban de Xivry, Jean-Jaques	424	Papazyan, Romeo	478
Ordman, Joan	171, 401	Papel, Ira D	291, 352
Orecki, Zoe Anne	427	Papenfuse, Edward C	312
Orens, Jonathan Brett	161, 332	Papp, Derek Francis	437
Orlando, Joseph C	256, 285, 379	Pappas, Dimitrios	171, 401
Orlinsky, Diane Julie	139, 167, 379	Pappou, Emmanouil	445
Orlova, Anna O	155, 421	Parakh, Kapil	428
Oronsky, Arnold L	172, 408	Parang, Keykavous	252, 417
Orosco, Ryan Kenneth	448	Paranjape, Shruti Makarand	243, 379
Orr, Brent Alan	438	Paranji, Suchitra	433
Orr, Peggy R	225, 379	Pardoll, Drew M	46, 161, 213, 230, 313, 332
Orsburn, Benjamin C	443	Pardo-Villamizar, Carlos A	199, 232, 311, 352
Orsi, Michael	276, 401	Parekh, Anand K	167, 379
Ortiz, Eduardo	155, 379	Parekh, Rulan	164, 352
Ortiz-Meoz, Rodrigo Fermin	469	Parekh, Vinay Kishor	443
Osborne, Cynthia S	263, 379	Parfenov, Valeriy V	433
Osburn, William Owen	430	Park, Ben Ho	55, 215, 309, 310, 313, 352
Osgood, Greg M	289, 379	Park, Chang-Shin	173, 417
Osman, Nael Fakhry	173, 278, 351	Park, Choon Myong	292, 379
Osmanski, Michael Scott	424	Park, Eunmi	167, 379
Osthus, Rebecca	173, 417	Park, Habeeba S	446
Ostrander, Darin B	172, 413	Park, Il-Seok	438
Ostrander, Rick	261, 351	Park, Jane	441
Ostrow, Kimberly L	438	Park, Jason Young	232, 407
Ostrow, Lyle W	434	Park, Jeenah	473
Osula, Omoruyi Osahon	478	Park, Jin Kyun	429
Oswald, Lynn M	264, 401	Park, JinSeok	467
Ota, Shinichi	444	Park, Jong Chul	436
Ottaviano, Yvonne	171, 401	Park, Jong Myun	172, 413
Outeda Garcia, Patricia	431	Park, Joo Min	434
Ouwkerk, Ronald	278, 379	Park, Joon Tae	445
Ouyang, Pamela	161, 315, 332	Park, Ju-un Julian	450
Owegi, Margaret Ayo	427	Park, Kyoungsook	465
Owens, Albert H Jr	161, 213, 340	Park, Lee C	261, 358
Owens, Sean Michael	423	Park, Sarah Ann	471
Owens, Tiffany S	423	Park, Seungkyung	425
Oyetunde, Oyetokunbo Olubukola	424	Park, Sungjin	434
Ozturk, Arzu	445	Park, Tea Soon	436
Pace, David A	276, 401	Park, Yongjin	467
Pace, Thomas J	171, 401	Park, Yoon-Mean	173, 417
Pacheco, Elba M	225, 379	Parker, Donna F	244, 401
Packard, Randall M	75, 78, 157, 307, 312, 316, 332	Parker, Glenda Ferguson	171, 401
Paclawskyj, Theodosia	263, 379	Parker, Jared	469
Padaki, Amit Shridar	453	Parker, Scott Lewis	450
Page, Gayle	312	Parker, William S	244, 401
Page, Kathleen R	167, 379	Parkinson, Rose	474
Page, Stephen Hance	473	Parks, Thomas L	172, 413
Pagnani, Christopher Justin	443	Parmer, Nathan M	442
Pai, Sara Isabel	218, 292, 379	Parmigiani, Giovanni	155, 213, 332
Paige, Carleitta La'Sharn	430	Parr, Kathleen Gage	120, 401
Paige, David M	246, 421	Parrish, Clarissa L	244, 379, 401
Pak, Esther Sung Hee	453	Parrish, Nicole M	232
Pakbaz, Zahra	430	Parry, Erin Michelle	457, 473
Pakula, Lawrence C	241, 351	Parry, Zahoar Ahmad	430
Pal, Prodipto	438	Parsa, Cameron F	225, 379
Palagiri, Vandana	436	Parsons, Barbara	316
Paliwal, Saurabh	467	Parsons, Heather Anne	427
Pallayova, Maria	432	Parsons, Michael John	283, 379
Paller, Channing J C	436	Parsons, Teresa L	172, 413
Palmer, Jeffrey B	147, 256, 290, 307, 318, 332	Parthasarathy, Geetha	437
Palmer, Jennifer T	264, 401	Partin, Alan W	213, 230, 293, 307, 318, 332
Palmer, Sara	256, 379	Parver, Leonard M	225, 379
Pan, Baohan	201, 413	Pashakhanloo, Farhad	467
Pan, Duojia	194, 213, 332	Pashos, Evanthia E	473
Pan, Fan	219, 413	Paskert, James P	286, 401
Pan, Li	278, 417	Paskowitz, Daniel Matthew	436
Pan, Shih-Jung	463	Pasley, Brian Nathaniel	433
Pan, Weiyiing	317	Passaretti, Catherine	167, 379
Pan, Xiaou	471	Pastakia, Devang Jagdish	436
Pandey, Akhilesh	44, 123, 149, 215, 231, 351	Pasternack, Gary R	46, 164, 231, 309, 310, 352
Pandey, Manjari	427, 436	Pasternak, L Reuven	118, 352
Pandey, Niranjana	127, 413	Pataparla, Sravanthy	433
Pandit, Ravi Rashmikant	455	Pate, Kelly Ann Metcalf	432, 471
Pandiyana, Kurinji	473	Patel, Amar Bhargav	450
Pang, John	455	Patel, Amit Manu	423
Pang, Lijuan	289, 417	Patel, Birju Suresh	453

Patel, Harsh	427
Patel, Hiten Dilip	455
Patel, Kalpeshkumar Govindbhai	435
Patel, Kashiben G J	171, 401
Patel, Ketan B	423
Patel, Kush Niranjan	476
Patel, Lisa Harshad	450
Patel, Manisha J	139, 379
Patel, Nishant Dinesh	445, 488
Patel, Shivani Mayank	424
Patel, Smitta Vinubhai	443
Patel, Tarak H	444
Patel, Tejas Baldevbhai	428
Patel, Yuval Adrash Dinesh	75, 450
Paterniti, Miya Okada	429
Paterson, Blake	319
Pathak, Ambadas	243, 391
Pathak, Arvind P	218, 278, 380
Pathak, Sujay	450
Patil, Kaustubha Dilip	448
Patil, Susheel P	167, 380
Patra, Ajanta	444
Patt, Howard H	283, 391
Pattani, Kavita	292, 401
Patz, Arnall	224, 340
Paukert, Martin	434
Paul, Alexandra Rose	451
Paul, Bindu Diana	434
Paul, Rabindra Nath	436
Paul, Scott Mitchell	127, 380
Pauli, Lydia L	243, 391
Paulk, Pamela D	312, 317, 318
Paulos, Stephanie Katherine	443
Paumi, Kerry Ann Pickin	252, 417
Paun, Bogdan Constantin	430
Paun, Oana-Valeria	428
Pavlovic-Djuranovic, Slavica	432
Pavlovich, Christian Paul	293, 308, 352
Pawlik, Timothy Michael	216, 283, 352
Payen de la Garanderie, Jean-Francois	277, 332
Payne, Jennifer	263, 380
Payton, Kurlen S E	316
Paz-Guevara, Aldo T	168, 380
Paz-Priel, Ido	218, 380
Peacock, Craig Douglas	218, 380
Peairs, Kimberly S	168, 380
Pearl, Monica Smith	444
Pearlson, Godfrey D	260, 312
Pearse, David B	164, 352
Pearson, Jay D	293, 352
Pearson, Joanna Kristine	448
Pease, Mary Ellen	226, 414
Pedersen, Peter L	123, 308, 313, 332
Peeler, Richard N	168, 380
Pegues, Robert Fielding	153, 401
Pei, Yu Cheng	476
Pei, Zhengtong	201, 414
Peirce, Jessica M	263, 380
Pekar, James J	278, 352
Pellakuru, Laxmi Gurunatham	477
Pellegrino, Laurel Dineen	453
Pellerite, Adam Michael	479
Pelletier, Cathy A	256, 380
Pelly, Shaaretha	477
Peloquin, Joanna Miller	427
Penchev, Vesselin Ruslanov	471
Pendleton, Courtney Anne	451
Pendleton, James Christopher	457
Penet, Marie-France	444
Peng, June Shujun	453
Peng, Shiwen	232, 414
Penkrot, Tonya Ann	472
Penno, Margaret B	164, 352
Perez-Rodriguez, Javier	448
Pergolizzi, Joseph V Jr	168, 380
Perica, Karlo	457, 467
Perino, Maria Grazia	432
Periz, Goran	434
Perkins-Parks, Susan	264, 401
Perl, Trish M	161, 231, 315, 332
Perler, Bruce A	282, 333
Perline, Michael	142, 401
Permutt, Solbert	161, 340
Perniciaro, Jessica Lynn	441
Perritt, Jamila Burgess	153, 401
Perry, Jamie J	244, 401
Perry-Parrish, Carisa Katherine	441
Persaud, Deborah	241, 352
Perti, Tara	171, 401
Perumal, Vivekanandan	439
Pesce, Catherine Elizabeth	445
Peters, Matthew Eugene	451
Peters, Sadie Anthea	430

Petersen, Steve Alan	288, 352
Peterson, Geraldine A	305
Peterson, Jonathan Michael	442
Peterson, Lizzie	311
Peterson, Ronald R	307, 317, 318
Peterson, Susan Marie	425, 488
Petre, Benjamin McVay	437
Petri, Michelle	161, 333
Petrisor, Doru Stefanita	294, 414
Petro, Elizabeth Jane	465
Petronis, John D	277, 352
Petropoulos, Alexandros	432
Petrou, Myria	278, 380
Petrovic, Michelle A	119, 380
Petrozzi, Massimo	472
Petteys, Rory James	488
Petty, Brent G	164, 251, 310, 316, 352
Pevhouse, Byron C	287, 408
Pevsner, Jonathan	44, 55, 155, 204, 352
Peyrot, Mark F	168, 380
Pfannenstiel, Lukas Wyatt	471
Pfeiffer, Brad Erich	434
Pfeil, Emily Carol	488
Pham, Dzung L	276, 380
Pham, Julius Cuong	119, 142, 380
Pham, Kiemanh	142, 401
Pham, Paul A	172, 414
Phamonvaechavan, Pittaya	437
Phatak, Swati	171, 401
Phelan, Darcy	146
Phelps, Michael A	120, 401
Phelps, Timothy H	48, 352
Philbin, James	276, 414
Phillips, Andre Wayne	434
Phillips, Bradley J	283, 352
Phillips, Karran A	171, 401
Phillips, Kristi Lynn Masimore	441
Phillips, Timothy Martin	446
Picard, Daniel L	283, 380
Pichard, Carmen Paz	437
Pickar, David	260, 333
Pickett-Blakely, Octavia	430
Pidcock, Frank S	241, 256, 315, 319, 352
Pierce, Nathaniel F	174, 421
Pierfelice, Tarran Jean	471
Pierorazio, Christina Elena	441
Pierorazio, Phillip Martin	446
Pierre, Catherine	78
Piggott, Damani Arnold	430
Pihur, Vasyi	426
Pili, Roberto	216, 352
Pillai, Harish Bhanudevan	428, 436
Pillai, Jay J	278, 352
Pillion, Joseph P	256, 380
Piluek, Wachirapon Jordan	427
Pindrik, Jonathan Auram	432
Pineda, Fernando Javier	155, 421
Pinedo, Herbert Michael	213, 333
Pineiro, Silvia A	133, 418
Pine-Twaddell, Elyse Dara	441
Pinheiro, Aurelio Carvalho	428
Pinkard, Walter D Jr	305
Pinkstaff, Sally Mae	168, 380
Pinni, Laura	437
Pinnick, Veronica Tiffany	441
Pinto, Anthony	244, 401
Pinto, Brian	172, 407
Pinto, Pedro Ricardo	445
Piontek, Klaus B	172, 219, 414
Pioroda, Claro L	284, 401
Pipelng, Matthew Robert	432
Piper, Louis Anthony	455
Pipino, Jacqueline Lee	453
Pirooznia, Mehdi	443
Pirruccello, James	457
Pitha-Rowe, Paula M	194, 213, 315, 309, 333
Pitt, Henry A	284, 408
Pittenger, Mark F	168, 380
Pitz, Eleanor Lynne	448
Piyasena, Rohan Varuna	276, 380
Plasse, Jerome S	286, 401
Platz, Elizabeth A	145, 219, 294, 421
Pletneva, Maria Alexandrovna	488
Pletnikov, Mikhail V	204, 261, 352
Pletnikova, Olga	232, 414
Plotnick, Gary D	164, 352
Plotnick, Leslie P	240, 311, 312, 315, 333
Plotz, Paul Hunter	161, 333
Plowe, Christopher Vine	168, 380
Plumb, Mary	312
Poe, Stephanie	316
Pogorelov, Vladimir Mikhailovich	443
Poirier, John Thomas	471

Poirier, Michelle A.....	263, 380	Puhan, Milo.....	145, 174, 421
Poitras, Jennifer Lyn.....	473	Puigserver, Pere.....	136, 380
Pokharel, Sajal Sharma.....	444	Pujadas, Elisabet.....	455
Pokrywka, Gregory S.....	168, 380	Puleo, Christopher Michael.....	467
Politis, Antonis.....	264, 401	Pullman, Rudolf.....	430
Polito, Albert J.....	168, 380	Pulver, Ann E.....	244, 260, 333
Polk, Renita Cherie.....	473	Punjabi, Naresh M.....	164, 352
Polk, Sarah.....	243, 380	Purcell, Elizabeth O'Connor.....	425
Pollock, Irvin P.....	224, 340	Purcell, Shanta.....	171, 401
Pollak, Andrew N.....	289, 318, 380	Purcell, W Thomas.....	218, 401
Pollak, Joanne E.....	315, 317	Purtell, Michael J.....	218, 380
Pollizzi, Kristen Nicole.....	474	Puryear, Sarah Brown.....	453
Pollock, Richard Arthur.....	451	Pustavoitau, Aliaksei.....	119, 380
Poloczek, Andre.....	423	Putman, Shannon Bandy.....	142, 407
Polotsky, Vsevolod Y.....	164, 352	Puttgen, Hans Adrian.....	119, 200, 380
Poluektov, Yuri O.....	474	Puttgen, Katherine Brown.....	139, 380
Polydefkis, Michael J.....	199, 352	Pyrgos, George John.....	429
Pomata, Gianna.....	157, 315, 333	Qayyum, Rehan.....	168, 380
Pomerantz, Joel.....	46, 123, 313, 380	Qazi, Umair.....	284, 414
Pompe, Jeffrey Wayne.....	467	Qi, Yan.....	467
Pomper, Martin Gilbert.....	216, 251, 265, 272, 278, 333	Qian, Di.....	278, 414
Pondek, Steven T.....	171, 401	Qian, Feng.....	168, 380
Ponor, Ileana Lucia.....	430	Qian, Jiang.....	218, 225, 380
Pontone, Gregory M.....	263, 380	Qiao, Ye.....	444
Poon, David Yao Fei.....	448	Qiao, Yuan.....	435
Poonyagariyagorn, Hataya Kristy.....	432	Qin, Lu.....	219, 414
Popel, Aleksander S.....	126, 161, 311, 333	Qin, Qin.....	278, 414
Popoola, Adebowale Adedayo.....	264, 401	Qin, Qining.....	424
Porat-Shliom, Yair.....	443	Qiu, Haoming.....	451
Porterfield, James K.....	168, 380	Qiu, Tao.....	289, 401
Posey, John B.....	287, 401	Quaal, Elizabeth Dorothy.....	441
Posner, Jeffrey N.....	171, 401	Quan, Susan Yuani.....	427
Possner, Adam Bradley.....	171, 401	Quan, Vu Minh.....	145
Post, Wendy S.....	164, 315, 352	Quartner, Sandra D.....	152, 380
Postigo, Dellma.....	457	Qubti, Marzouq A.....	429
Potash, James B.....	173, 261, 352	Que, Leon Tan Jr.....	443
Potash, Michael D.....	264, 405	Queale, William S.....	168, 380
Potenzieri, Carl Robert.....	429	Quigley, Harry A.....	224, 333
Poth, Erin Marie.....	464	Quigley, Patricia M.....	244, 380
PothiReddy, Sekhar.....	219, 421	Quinn, Thomas C.....	161, 333
Potter, Emily Grace.....	433	Quinones-Hinojosa, Alfredo.....	205, 216, 287, 352
Potter, James J.....	172, 414	Quraishi, Sadeq Ali.....	423
Potter, Rachel Aranha.....	444	Qureshi, Abid Y.....	433
Pour Abdollah Tootkaboni, Mazdak.....	467	Qutub, Amina Ann.....	424
Pourmorteza, Amir.....	467	Raabe, Eric Hutton.....	436
Powe, Neil R.....	161, 333	Rabb, Hamid.....	161, 282, 333
Powell, Heather A.....	443	Raben, Daniel M.....	123, 213, 258, 309, 310, 311, 333
Powell, Jonathan D.....	216, 251, 352	Rabi, Seyed Alireza.....	457, 474
Powell, Thomas H.....	289, 391	Rabiee, Atoosa.....	430, 445
Powers, David Bryan.....	286, 401	Rabin, Bruce A.....	200, 380
Poynton, Sarah Louise.....	48, 192, 352	Rabin, Rebecca Frances.....	441
Pozefsky, Thomas.....	168, 380	Rabins, Peter V.....	173, 260, 311, 333
Pradhan, Dennis Ashokovich.....	476	Rabizadeh, Shervin.....	244, 381
Pradilla, Gustavo.....	432	Race, David Shannon.....	433
Prakasa, Kalpana Rao.....	168, 380	Raches, Darcy.....	443
Pramanik, Dipankar.....	439	Racusen, Lorraine C.....	230, 315, 333
Pramanik, Sudeep.....	226, 401	Rad, Ariel N.....	283, 381
Prasad, Megana Krishna.....	473	Rada, Erin Mariel.....	446
Prasad, Mohit.....	424	Radcliffe, George G.....	305
Prasad, Nijaguna B.....	283, 380	Rade, Jeffrey J.....	55, 164, 352
Pratt, Marina Louise.....	428	Radonovich, Lewis Joseph.....	168, 381
Pratz, Keith W.....	218, 380	Radov, Jane.....	423
Prebet, Thomas.....	435	Radovick, Sally.....	240, 315, 333
Prendergast, Jillian Marie.....	464	Radowsky, Michael.....	140, 401
Prendergast, Robert A.....	224, 230, 340	Radvany, Martin G.....	276, 381
Prentice, Marshall Frank.....	172, 407	Raghavan, Deepa.....	428
Preston, Charles Marshall.....	431	Raghavan, Srivatsan.....	448
Preston, Kenzie L.....	261, 352	Rago, Carlo.....	435
Prestwich, Suzanne.....	244, 401	Ragsdale, Steven.....	312
Price, Donald L.....	55, 197, 203, 230, 314, 333	Rahdar, Meghdad.....	478
Price, Jennifer Cohen.....	430	Rahman, Amit.....	488
Price, Mitchell R.....	285, 352	Rahman, M Hafizur.....	174, 421
Prigge, Sean T.....	133, 421	Rahman, Monzur.....	441
Primm, Annelle B.....	261, 352	Rahmin, Arman.....	279, 381
Prince, Jerry L.....	127, 279, 421	Rai, Rudrajit M.....	168, 381
Prints, Yelena.....	453	Raja, Pushpa Vani.....	488
Probasco, John Calvin.....	433	Raja, Srinivasa Naga.....	117, 197, 311, 333
Proctor, Leonard R.....	291, 358	Rajagopal, Vaishnavi.....	424
Prokopowicz, Gregory P.....	168, 380	Rajaii, Fatemeh.....	488
Pronovost, Peter J.....	117, 155, 283, 311, 333	Rajani, Sunil.....	171, 401
Propes, Bryan D.....	226, 407	Rajmane, Kiran C.....	276, 401
Prosciak, Mark P.....	445	Rajpurohit, Anandita.....	473
Provost, Elayne Renee.....	445	Rajwan, Yair G.....	426, 479
Provost, Thomas T.....	139, 333	Ramachandran, Kalyani Nithya.....	473
Prowell, Tatiana Michelle.....	218, 401	Ramamurthy, Santosh.....	434
Pruetz, Roni Benjamin.....	488	Raman, Rachna.....	430
Pruette, Cozumel Southern.....	441	Raman, Venu.....	216, 275, 352
Pryzhkova, Marina V.....	436	Ramanathan, Murugappan Jr.....	292, 401
Pu, Jeffrey J.....	436	Ramanathan, Saras.....	225, 381
Pudelko, Jennifer.....	311	Ramella-Roman, Jessica C.....	168, 381
Pugh, Elizabeth W.....	243, 380	Ramesh, Anirudh.....	455
Pugliese, Steven Casey.....	427	Ramirez, Oscar M.....	285, 381
Pugliesi, Alicia.....	472	Ramirez-Correa, Genaro Antonio.....	441

Ramsay, Sarah Roxana.....	451
Ramsey, David James.....	436
Ramsey, Douglas Edward.....	276, 401
Ramsey, Harold E.....	283, 292, 391
Ramulu, Pradeep.....	225, 381
Ramyar, Kasra.....	474
Ranasinghe, Padmini D.....	168, 381
Rand, Cynthia S.....	161, 265, 311, 333
Randall, Christina Lee.....	467
Randall, Harry G.....	225, 381
Rane, Tushar D.....	467
Rangachari, Deepa.....	427
Ranganathan, Vinod.....	463
Ranjan, Ravi.....	429
Rantner, Lukas Johannes.....	467
Rao, Aruna Suresh.....	433
Rao, Parijatha.....	441
Rao, Pramod Prabhakar.....	444
Rao, Rajini.....	258, 309, 313, 315, 333
Rao, Sandesh Srinivas.....	455
Rao, Shaline Daliparthi.....	427
Rao, Srinivas S.....	192, 381
Rao, Vani A.....	261, 352
Rapicavoli, Nicole Ada.....	464
Rapp, Brenda.....	205, 421
Rappeport, Jonas R.....	261, 358
Rasheed, Zeshaan Ahmed.....	436
Rasmussen, Sara Kirsten.....	445
Rastegar, Darius A.....	168, 381
Ratanawongsa, Neda.....	168, 381
Ratchford, Elizabeth.....	168, 312, 381
Ratchford, John Nolan.....	200, 401
Ratovitski, Edward A.....	139, 168, 232, 291, 352
Ratovitski, Tamara.....	414
Rattan, Bharat.....	428
Rattner, Amir.....	194, 414
Ratyck, Roman E.....	283, 381
Rau, Rachel Elizabeth.....	436
Rausch, P Gregory.....	218, 401
Ravekes, William.....	244, 381
Ravert, Hayden T.....	279, 414
Ravi, Rajani K.....	218, 292
Ravich, William J.....	164, 291, 312, 353
Ravimohan, Shruthi.....	473
Ray, Sangeeta.....	278, 414
Ray, Stuart Campbell.....	46, 155, 164, 216, 353
Ray-Mazumder, Nikhilesh.....	455
Raymond, Gerald V.....	199, 353
Raza, Shaan Mohammed.....	432
Razi, Rabia Rafi.....	488
Read, Anthony.....	319
Readal, Nathaniel Thomas.....	448
Reader, Mark J.....	263, 381
Reading, Sarah A J.....	263, 308, 381
Real, Aimee.....	313
Reamer, Lauri E.....	119, 381
Rebok, George W.....	265, 421
Recinos, Pablo Fernando.....	432
Recinos, Violet Mathilde Renard.....	432
Recio, Albert C.....	256, 401
Recker, Rebecca Lynett.....	453
Record, Janet.....	171, 401
Redd, Andrew Davidson.....	430
Reddoch, Shirley E.....	244, 401
Reddy, Gayatri Guduru.....	431
Reddy, Karen L.....	123, 381
Redett, Richard J.....	241, 285, 315, 353
Redfern, Anne B.....	285, 391
Redgrave, Graham W.....	263, 381
Redheuil, Alban Benoit.....	428
Redmond, Kristin Ann.....	443
Reed, Randall R.....	44, 194, 203, 290, 310, 333
Reed, Robert Michael.....	432
Reed, Xylena.....	473
Reel, Stephanie L.....	155, 306, 317, 318, 381
Rees, John.....	315
Reese, Jennifer Barsky.....	443
Reeves, Rebecca Lynn.....	423
Reeves, Roger H.....	44, 149, 258, 315, 333
Regan, Linda.....	142, 308, 381
Rege, Abhishek Praful.....	468
Reh, Douglas David.....	292, 381
Reich, Daniel Salo.....	200, 276, 381, 444
Reichenbach, Lisa C.....	264, 401
Reichert, Zachery Roger.....	448, 478
Reichmister, Jerome P.....	289, 401
Reid, Alison Payne.....	488
Reid, Brandon Antoine.....	468
Reid, Kristoff R.....	437
Reid, Raymond.....	174, 421
Reider, Ruben.....	168, 381
Reifsnnyder, Thomas.....	283, 381
Reinblatt, Maura.....	285, 381

Reinblatt, Shauna Pencer.....	263, 381
Reiner, Barry J.....	244, 402
Reiner, William G.....	261, 293, 353
Reinke, Christian.....	432
Reis, Marcelo Martins.....	435
Reiss, Kim Anna.....	427
Reissig, Chad Jason.....	443
Reitz, Judy A.....	317, 318
Reller, Megan Elizabeth.....	232, 381
Remington, Evan Douglas.....	468
Ren, Qiuting.....	424
Ren, Yunzhao.....	435
Rentsendorj, Otgonchimeg.....	432
Repka, Michael X.....	224, 240, 333
Reppert, Thomas Reed.....	468
Resar, Jon R.....	164, 308, 353
Resar, Linda M S.....	55, 164, 216, 353
Resim, Sefa.....	446
Retezar, Rodica.....	142, 402
Reti, Irving Michael.....	204, 261, 353
Reuland, Charles.....	171, 318, 402
Rey, Sergio.....	426
Reynafarje, Baltazar.....	123, 381
Reynolds, Joseph R.....	305
Reynolds, Stasia Stott.....	171, 402
Reynolds, Steven J.....	168, 381
Reynolds, Taylor Louise.....	439, 477
Rezai, Nasser.....	152, 391
Rezaiyan, Tina Louise.....	441
Rezapour, Mona.....	453
Rhee, Alexander Jaewoong.....	468
Rho, Hee Sool.....	441
Rhoades, Courtney Paige.....	153, 402
Rhyme, Randall Trenton.....	425
Riazuddin, Sheikh Amer.....	426
Ribas, Judit.....	446
Ribeiro, Marcia.....	200, 381
Ricaurte, George A.....	197, 333
Ricchetti, Francesco.....	443
Riccomagno, Martin Miguel.....	434
Rice, John Jeremy.....	127, 381
Richard, Elisabeth G.....	139, 381
Richards, Erica Martin.....	443
Richards, Rafael Mayo.....	119, 381
Richards, Talmesha Annette.....	471
Richardson, Edward H Jr.....	152, 391
Richardson, Jeffrey M.....	171, 402
Richardson, Sarah Marie.....	473
Richman, Gina S.....	263, 381
Richman, James.....	453
Richmon, Jeremy D.....	292, 381
Richter, Ronald C.....	225, 381
Richtsmeyer, Joan T.....	147, 333
Rick, Anne-Marie.....	453
Ricks, Marc David.....	488
Riddle, Mark A.....	240, 260, 311, 333
Riddle, Ryan Christopher.....	437
Rider, Lynn Reeni.....	292, 407
Riedel, Stefan.....	232, 381
Riekert, Kristin A.....	168, 381
Rienhoff, William F III.....	283, 391
Rigamonti, Daniele.....	213, 257, 272, 278, 286, 333
Riggins, Gregory J.....	55, 213, 286, 333
Riley, Anne W.....	265, 421
Riley, Lee H III.....	287, 288, 353
Riley, Reed D.....	168, 381
Rimal, Rajiv N.....	219, 421
Rimrod, Sheryl Lynn.....	244, 381
Rinderknecht, Reagan Lynn.....	441
Ring, Thomas Milleret.....	437
Ringel, Richard E.....	241, 353
Ringelman, Paul R.....	286, 402
Ringkamp, Matthias.....	287, 353
Rini, David A.....	48, 353
Rinke, Michael Lawrence.....	441
Rios, Naomi Rebecca.....	455
Rios-Robles, Jose Y.....	443
Ripple, Mary G.....	232, 402
Risen, Sarah R.....	441
Rismondo-Stankovich, Vivian.....	225, 381
Rittershaus, Ahren C.....	232, 407
Ritzl, Eva Katharina.....	200, 309, 381
Rivera, Amadeo Denina Jr.....	428
Rivera, Corban Gregory.....	424
Rivera, Juan Jose.....	168, 381
Rivers, Richard J.....	118, 353
Rivkin, Paul R.....	263, 382
Roach, Emma Beryl.....	476
Robbins, Beatrice M.....	264, 402
Robbins, Karen Anne.....	441
Roberts, Caroline G P.....	171, 402
Roberts, David G III.....	171, 402
Roberts, Nicholas Jason.....	473

Roberts, Paul E.....	263, 382	Rosenthal, Julie Lorraine.....	427
Roberts, William R.....	319	Rosenthal, Liana Isa.....	433
Roberts, Wilmer Burton.....	446	Rosenthal, Richard R.....	168, 382
Robertson, Norman.....	265, 407	Rosenzweig, Jason Michael.....	471
Robin, Alan L.....	225, 353	Roskes, Saul D.....	241, 353
Robinson, Brian D.....	439	Ross, Ashley Evan.....	446
Robinson, Cecil H.....	251, 340	Ross, Christopher A.....	198, 203, 251, 260, 311, 334
Robinson, David A.....	126, 203, 224, 340	Ross, Hillary Maren.....	438
Robinson, Douglas N.....	136, 251, 308, 353	Ross, Jerome.....	226, 402
Robinson, Howard N.....	140, 402	Ross, Richard S.....	161, 340
Robinson, J Courtland.....	151, 309, 358	Rosser, Mark I.....	119, 382
Robinson, Jon Francis.....	473	Rossiter, Judith P.....	152, 382
Robinson, Karen A.....	155, 172, 414	Rosson, Gedge David.....	285, 382
Robinson, Matoya Andrea.....	473	Roter, Debra L.....	174, 219, 421
Robinson, Raymond E.....	448	Roth, David M.....	263, 382
Robles, Hector A.....	278, 382	Roth, Shirley.....	319
Robotham, Delphine Rose Christine.....	441	Rothenberg, Ashley Rachel.....	468
Roby, Robert K.....	171, 402	Rothko, Kate.....	232, 382
Roby, Yang Ao.....	473	Rothman, Richard E.....	142, 173, 353
Roca, Richard T.....	306	Rothschild, James Adam.....	423
Roca, Robert P.....	261, 353	Rothstein, Jeffrey D.....	198, 203, 310, 334
Rocca, Philip.....	311	Rotty, Jeremy Daniel.....	462
Rocco, Laura E.....	172, 316, 414	Rouf, Rosanne.....	428
Roda, Ricardo Horacio.....	434	Roulhac, Edgar E.....	306
Roden, Richard B S.....	55, 151, 216, 231, 353	Rousset, Olivier.....	279, 414
Roderer, Nancy K.....	155, 164, 307, 312, 315, 316, 317, 333	Roux, Isabelle Catherina.....	438
Rodgers, Anthony T.....	319	Rovira Clusellas, Meritxell.....	445
Rodgers, Theo C.....	317	Rowe, Peter C.....	240, 334
Rodic, Nemanja.....	438	Rowe, Theresa Anne.....	427
Rodini, Elizabeth.....	312	Rowe, Wilma A.....	168, 382
Rodowski, Maria Francesca.....	264, 402	Rowell, Janelle.....	471
Rodriguez, Alejandro.....	241, 358	Rowland-Seymour, Anastasia.....	168, 308, 382
Rodriguez, E Rene.....	231, 353	Roxbury, Christopher Robert.....	453
Rodriguez, Eduardo D.....	285, 353	Roy, Cindy N.....	168, 382
Rodriguez, Jose W.....	201, 418	Roy, Patricia.....	264, 402
Rodriguez, Marianeli.....	457, 476	Roy, Sabyasachi.....	468
Rodriguez, Ricardo L.....	286, 402	Ru, Fei.....	172, 414
Rodriguez, Ronald.....	216, 272, 293, 315, 353	Ruben, Dawn S.....	192, 402
Rodriguez, Susana.....	462	Rubenstein, David M.....	305
Rodriguez-Oquendo, Annabelle.....	164, 353	Rubenstein, James.....	200, 245, 382
Rodriguez-Paz, Jose M.....	119, 382	Rubenstein, Mark E.....	305
Rogers, Brian C.....	305	Rubin, Allan I.....	153, 402
Rogers, Elizabeth London.....	164, 353	Rubin, Eric Daniel.....	245, 402
Rogers, John F.....	168, 382	Rubin, Haya R.....	161, 334
Rogers, Linda.....	265, 407	Rubin, Richard R.....	161, 240, 334
Rogers, Mark Charles.....	117, 334	Rubinstein, Tamar Beth.....	441
Rogers, Sarah Inman.....	488	Ruble, Anne Elizabeth.....	443
Rogerson, Mark David.....	443	Ruble, Kathryn.....	218, 402
Roggia, Murilo Felix.....	437	Ruby, Sandra Kristina.....	434
Roh, Jong-Lyel.....	292, 418	Ruch, Travis Richard.....	462
Rojas, Francisco.....	153, 402	Rudek, Michelle A.....	218, 382
Rolshud, Danil.....	430	Rudikoff, Michael T.....	171, 402
Roman, Philip E F.....	423	Rudin, Charles Michael.....	216, 353
Roman, Shelia H.....	164, 353	Rudnicki, Dobrilla D.....	263, 382
Romanoski, Alan J.....	261, 353	Rudo, Arthur L.....	172, 402
Romeo, Teresa A.....	462	Ruff, Andrea J.....	246, 421
Romer, Lewis Hartley.....	118, 127, 136, 241, 353	Ruff, Christopher B.....	147, 288, 334
Romero, Christopher Joseph.....	245, 402	Ruffle, John F.....	305
Romig, Mark Cole.....	120, 402	Ruggere, Christine A.....	157, 408
Rompalo, Anne M.....	151, 161, 315, 334	Ruis, Kristy Ann.....	426
Ronco, Pamela L.....	462	Ruiz, Claudia Roxana.....	476
Ronnett, Brigitte Maria.....	151, 230, 315, 334	Rum, Steven A.....	307
Ronnett, Gabriele V.....	197, 203, 315, 334	Rumbaugh, Jeffrey A.....	200, 382
Roopnarinesingh, Nira Amrita.....	428	Rumpal, Nidhi.....	433, 444
Roos, Matthew Jay.....	476	Rush, Walter L.....	139, 382
Ropp, Tessa-Jonne Felicia.....	468	Rusher, Robert Randall.....	432
Roues, Carmel.....	408	Rushing, Gregory Duncan.....	445
Rorer, Eva Maria.....	226, 402	Rushton, Cynda Hylton.....	246, 421
Rosas Calderon, Luis A.....	428	Rusonis, Paul A.....	140, 402
Rosca, Elena Victoria.....	424	Russell, Evan Andrew.....	457
Rose, David Malachy.....	437	Russell, Julia Nicole.....	471
Rose, George D.....	133, 421	Russell, Stuart Dean.....	164, 353
Rose, Kenneth D.....	147, 309, 334	Russell, T Edgie.....	319
Rose, Noel R.....	47, 55, 174, 230, 309, 313, 421	Russo, Melissa Lauren.....	425
Rose, Tara Marie.....	479	Rutebemberwa, Alleluiah.....	430
Rose, Tokunboh Tinuola.....	443	Rutlin, Michael Lee.....	476
Roseborough, Glen Stanley.....	284, 382	Ruzevick, Jacob James.....	75, 308, 455
Rosellini, Victoria M.....	319	Ryan-Bane, Colleen E.....	292, 407
Rosen, Antony.....	47, 161, 230, 309, 310, 311, 334	Rybarczyk, Megan Michelle.....	455
Rosen, Karen.....	311	Rybock, John D.....	287, 307, 315, 319, 382
Rosenberg, Henry A Jr.....	319	Ryden, Janice.....	168, 382
Rosenberg, Jason D.....	200, 382	Rylkova, Daria.....	476
Rosenberg, Lawrence Ira.....	286, 402	Ryoo, Sungwoo.....	423
Rosenberg, Leon A.....	246, 266, 421	Ryugo, David K.....	203, 290, 334
Rosenberg, Paul B.....	263, 382	Saatian, Bahman.....	171, 402
Rosenberg, Steven A.....	284, 408	Saavedra, Jose M.....	241, 353
Rosenblatt, Adam.....	261, 353	Sabath, Bruce Fernando.....	427
Rosenblatt, Elizabeth Sara.....	451	Sabelhaus, Melanie.....	317
Rosenfeld, Jo Ann.....	168, 382	Sabharwal, Priyanka.....	476
Rosengard, Ariella M.....	232, 382	Sable, Melissa Ann.....	441
Rosenstein, Beryl J.....	240, 310, 316, 318, 334	Sabunciyan, Sarven.....	244, 382
Rosenthal, Dorothy L.....	151, 230, 315, 334	Sabundayo, Beulah Perdue.....	172, 414
Rosenthal, Ian Mathew.....	453	Sacco, Melissa Jerdonek.....	424

Sachariah, K George	279, 382
Sachdeva, Saru	429
Sachs, Murray B	126, 203, 290, 334
Sack, David A	174, 421
Sack, George H Jr	123, 164, 353
Sack, R Bradley	174, 421
Sacktor, Ned C	198, 334
Sadegh-Nasserri, Scheherazade	47, 55, 133, 231, 353
Sadik, Helen	471
Sadler, Stephanie DePalma	479
Sadowsky, Cristina L	256, 382
Saenger, Yvonne Margaret	435
Safer, Daniel J	242, 261, 353
Sagazio, Alessia	429
Saha, Sudip Kumar	448
Saha, Surajit	448
Sahebi, Camila	436
Saheed, Mustapha	142, 402
Sahin, Bogachan	433
Said, Maria Aneesa	430
Saidha, Shiv	434
Saidi, Sina A	443
Saijilafu	437
Sailor, Kurt Andrew	476
Saini, Sarbjit S	164, 353
Saint-Fleur, Ashley	474
Saitoh, Eiichi	256, 334
Sakabe, Kaoru	462
Sakima, Neal T	119, 382
Salami, Oludamilola Adeniyi	443
Salant, Marshal L	305
Salari, Nima	437
Salaria, Safia Nawazish	438
Salas, Rachel Marie E	168, 200, 382
Salazar Osuna, Jose Humberto	445
Saleeb, Paul Girgis	430
Saleem, Sofiyah	120, 414
Salehinia, Saeed	265, 407
Salek, Sherveen Shayegan	453
Salemi, Parissa	441
Salgado, Cristian Marcelo	437
Salguero, Christopher Holden Pierce	472
Salikof, David A	245, 408
Salisbury, Charles H	318
Salmasi, Vafi	432
Salmeron, Betty Jo	263, 382
Salorio, Cynthia F	256, 382
Salter, Erin K	468
Saltzman, Donald I	289, 382
Salvatori, Roberto	164, 353
Samal, Lipika	430
Samaniego, Rose Marie	245, 402
Samara, Nadine Laure	469
Samet, Kenneth A	319
Samols, Mark Atienza	438
Sampah, Maame Eftua Sakyiwah	471
Sampath, Srirangan	426
Sample, Vedangi S	478
Sampson, John B	119, 382
Samson, Joseph Carl	479
Samstad, Eric	264, 402
Samuel, Alexander Prakash	431
Samuels, Jack F	263, 382
Samuels, Roger William	455
Samus, Quincy Miles	263, 382
Sanchez, Joyce Lynette	427
Sanders, Devin Douglas	119, 382
Sanders, Jay H	161, 334
Sanders, Scherer S	164, 353
Sandford, Gordon R	219, 414
Sandone, Corinne	48, 312, 315, 353
Sanfilippo, Alfred P	230, 334
Sang, Lingjie	468
Sanguineti, Giuseppe	216, 272, 291, 353
Sanico, Alvin M	168, 382
Sanerud, Christine A	263, 382
Santanello, Amanda Wagner	441
Santaularia Tomas, Miguel	428
Santhanam, Lakshmi	120, 402
Santiago-Dieppa, David Rafael	455
Santillan-Gomez, Antonio	152, 382
Santina, Charles Della	311
Santini, Kristin Leigh	441
Santora, Patricia B	263, 382
Santos, Arturo Q	245, 408
Santos, Simone	437
Santosham, Mathuram	246, 421
Santoso, Netty Gondo	479
Sanz, Jacqueline Horwitz	443
Sapirstein, Adam	118, 284, 354
Sarabia-Estrada, Rachel	432
Saratsiotis, John B	245, 405
Sargent, M Catherine	289, 382

Sarkar, Kakali	172, 414
Sarker, Rafiqueel I	172, 414
Sarnoff, Arthur	305
Sarphare, Geeta	264, 402
Sasaki, Masayuki	201, 414
Sasaki, Takeshi	428
Sasikumar, Dennis Kumar	476
Sater, Nicola C	264, 402
Sathiyamoorthy, Srividya	439
Satin, Andrew J	151, 334
Sato, Shinji	429
Sato, Takashi	219, 418
Satpute, Monique Dalvi	441
Sattari, Maryam	168, 382
Saudek, Christopher D	161, 313, 334
Sauder, Michael Wayne	427
Saunders, John R	283, 285, 291, 354
Sausen, Mark Thomas	471
Savadel, Patricia A	172, 407
Savage, Charles	263, 391
Savage, Frank	305
Savage, Frederick	311
Savage, Jessica Rabe	429
Savage, William Jacob	232, 382
Savit, Joseph Mark	200, 382
Savonenko, Alena V	200, 232, 382
Sawa, Akira	204, 261, 354
Sax, Jordan Michael	425
Sayin, Ozan	468
Sbodio, Juan Ignacio	434
Scangos, Katherine Wilson	453
Scarborough, Lois	317
Scarupa, Mark D	171, 402
Scatarige, John C	276, 382
Schaefer, John A	168, 317, 382
Schaefer, Niklaus George	444
Schaeffer, Allen H	168, 383
Schaeffer, Anthony John	446
Schaeffer, Edward M	218, 294, 383
Schafer, Eric Stephen	436
Schaffer, Justin Michael	448
Schar, Micheal	278, 418
Schartz, Richard Brandon	488
Schatz, Stephen	294, 383
Schauble, James F	118, 354
Schaughency, Paul Michael	463
Scheel, Janet Nagel	244, 383
Scheel, Paul J Jr	164, 354
Scheifele, Lisa Z	432
Scheimann, Ann O	242, 354
Schein, Oliver D	224, 334
Schelle, Wayne N	305
Scherbarth, Andrew J	441
Scherer, Paul Christopher	453
Scherer, Roberta	145
Scheulen, James J	142, 318, 414
Schiavi, Adam J	119, 383
Schiess, Nicole	200, 402
Schiffman, Jessica Kerr	451
Schilder, Peter	200, 391
Schindelar, Carl	319
Schirmer, Horst K A	293, 354
Schlaepfer, Thomas E	261, 354
Schlegel, Jane	317
Schlendorf, Kelly Hulet	428
Schlott, D William	164, 354
Schlund, Michael W	263, 383
Schmeisser, Gerhard	288, 340
Schmidt, Chester W Jr	260, 313, 334
Schmidt, Jessica Nicole	448
Schmidt-Kittler, Oleg Andreas	435
Schmieg, John J	438
Schmoke, Patricia L	226, 402
Schnaar, Ronald L	203, 251, 313, 334
Schneck, Jonathan	47, 55, 164, 213, 230, 308, 309, 310, 313, 334
Schneider, Harmut	168, 383
Schneider, Jeremy Adam	451
Schneider, Karen	244, 383
Schneider-Poetsch, Tilman Hans Jorg	441
Schnell, Kerry Margaret	455
Schneyer, Christine R	168, 383
Schnydman, Jerome D	306
Schoen, Migel Antonio	48, 383
Schoenberg, Mark P	213, 293, 334
Schoenborn, Nancy	427
Schoenhoff, Florian Sebastian	428
Schoenrich, Edyth H	174, 312, 319, 421
Scholten, Eric Lewis Dutton	453
Scholz, Richard T	225, 383
Scholz, Stefan	445
Schon, Lew C	127, 289, 383
Schonfeld, Steven A	168, 383

Schoonmaker, Maia Kathryn.....	471	Sen, Nikantha.....	434
Schorr, Melanie.....	449	Sen, Ranjan.....	162, 335
Schraml, Frank V.....	276, 418	Sen, Subhojit Sourendra.....	435
Schramm, Lawrence P.....	126, 203, 308, 309, 310, 334	Sen, Tanusree.....	438
Schreck, Karisa Colleen.....	457, 476	Senadhi, Viplove.....	428
Schreiber, Jeffrey Evan.....	286, 402	Senger, Carolyn Margaret.....	449
Schreter, Robert K.....	263, 383	Senn, Todd Nathaniel.....	427
Schretlen, David J.....	261, 275, 354	Sennott, Waldron M.....	277, 391
Schroeder, Arthur.....	171, 402	Sens, Kristin Lynette.....	463
Schroeder, John Thomas.....	164, 354	Senthil, Kumaran.....	451
Schroeder, Pamela Rose.....	168, 383	Sentome, Michael Wallace.....	488
Schubert, Michael C.....	383	Seo, Catherine.....	488
Schuberth, Kenneth C.....	242, 292, 354	Seo, Kinya.....	428
Schuleri, Karl Heinz.....	428	Seo, Philip.....	168, 383
Schulick, Richard David.....	127, 151, 213, 282, 334	Sepkuty, Jehuda P.....	200, 383
Schulman, Steven P.....	161, 334	Serebruany, Victor L.....	200, 383
Schultz, Denise A.....	432, 438	Serfaty, Jean-Michel.....	276, 383
Schultz, Luciana.....	439	Serrano, Oscar Kenneth.....	315
Schultz, Scott C.....	442	Serwint, Janet R.....	240, 314, 315, 335
Schulz, Clarence G.....	263, 383	Sesaki, Hiromi.....	136, 383
Schulze, Thomas G.....	263, 383	Seshadri, Saurav Rao.....	471
Schuster, Benjamin Samuel.....	468	Seshamani, Meena.....	438
Schuster, Frank F.....	200, 391	Sethi, Aastha.....	430
Schuster, Marvin M.....	161, 265, 340	Sevdali, Maria.....	432
Schutz, Jakob CL.....	276, 402	Severance, Emily G.....	245, 414
Schwartz, Alan R.....	161, 334	Sevransky, Jonathan E.....	168, 383
Schwartz, Allen D.....	242, 354	Sewell, Catherine Angela.....	152, 383
Schwartz, Brian S.....	174, 421	Sexauer, Amy Nicole.....	457, 471
Schwartz, David B.....	151, 354	Sexton, Carlton C.....	278, 402
Schwartz, Gail F.....	225, 383	Sexton, J Bryan.....	118, 354
Schwartz, Jamie McElrath.....	119, 383	Sexton, Janet D.....	119, 383
Schwartz, Joseph M.....	263, 383	Seydoux, Geraldine.....	44, 194, 315, 335
Schwartz, Michael K.....	292, 383	Sezen, Sena Feride.....	294, 414
Schwartz, Steven J.....	119, 284, 383	Sfanos, Karen Sandell.....	439
Schwarz, Kathleen B.....	240, 334	Sgouros, George.....	272, 275, 335
Schweitzer, Michael.....	283, 354	Shackman, Albert B.....	277, 354
Schweizer, Barbara W.....	265, 414	Shade, David M.....	145, 172, 414
Schweizer, Nicholas P.....	265	Shader, Joseph P.....	451
Schwengel, Deborah A.....	119, 315, 383	Shadmehr, Reza.....	126, 204, 309, 335
Sciadini, Marcus Francesco.....	289, 383	Shafer, Pamela B.....	315, 318
Sciaglia, Julia Jarrard.....	431	Shaffer, Brian Carl.....	436
Sciaglia, Timothy Jude.....	432	Shaffner, Donald H Jr.....	118, 242, 354
Scichilone, Nicola.....	173, 418	Shafi, Muzammil.....	444
Sciortino, Christopher Michael.....	445	Shafi, Tariq.....	168, 383
Sciubba, Daniel M.....	218, 287, 289, 383	Shah, Ami Aalok.....	171, 402
Scocca, Jane Ruble.....	172, 414	Shah, Ashish S.....	284, 383
Scorpio, Diana G.....	192, 312, 383	Shah, Deepak A.....	171, 402
Scott, Adrienne Williams.....	225, 383	Shah, Heerain Ashok.....	443
Scott, Alan F.....	44, 149, 164, 216, 317, 354	Shah, Keerti V.....	219, 421
Scott, Nathan A III.....	172, 407	Shah, Maunauk Rajendrakumar.....	430
Scott, Sherri-Gae O.....	471	Shah, Mobin.....	430
Scott, Tammy.....	316	Shah, Neelam Harshad.....	455
Scott, William W Jr.....	277, 290, 354	Shah, Nilay.....	436
Scrimieri, Francesca.....	435	Shah, Nirali N.....	436
Seaberg, Eric.....	145	Shah, Preeti.....	436
Seals, Jerry Ellis.....	171, 402	Shah, Sagar Ramesh.....	468
Seamone, Woodrow.....	289, 391	Shah, Sangini Bhadrik.....	489
Sears, Cynthia Louise.....	55, 161, 213, 315, 334	Shah, Sanjeev Rashmikant.....	431
Sebastian, Raul.....	445	Shah, Sneha Harshad.....	425
Sedaghat, Ahmad Reza.....	488	Shah, Swapnil B.....	437
Sedaghat, Farzad.....	449	Shah, Syed Mahmood.....	226, 414
Seder, Herschel L.....	305	Shah, Tariq.....	276, 414
Seder, Robert A.....	305	Shahan, Judy B.....	142, 414
Sedlak, Thomas W Jr.....	263, 383	Shahani, Neelam.....	443
See, Pokmeng.....	451	Shahpur, Cyrus G.....	425
Segal, Jodi Beth.....	164, 310, 354	Shakur, Sophia Fontanilla.....	489
Segal, Paul E.....	171, 402	Sham, James S K.....	164, 354
Segalman, Keith A.....	289, 383	Shamay, Meir.....	218, 402
Segev, Dorry L.....	283, 354	Shambloft, Michael Joseph.....	200, 383
Sehrawat, Gitanjali.....	437	Shamir, Elish Ruth.....	453
Seide, Margaret.....	443	Shan, Hua.....	231, 354
Seidel, Henry M.....	240, 340	Shan, Liang.....	478
Seidel, Laura Jean.....	264, 402	Shan, Shannon J C.....	449
Seifter, Eric J.....	164, 216, 354	Shan, Xiaoyan.....	433
Seitzman, Germani D.....	225, 383	Shan, Xiu.....	440
Sekar, Rajesh Babu.....	428, 455	Shanahan, Ryan Scott.....	425
Seki, Sosuke.....	442	Shand, Jessica Carolyn.....	436
Selaru, Florin Marian.....	168, 383	Shane, Sylvan M E.....	292, 391
Seldin, Marcus.....	479	Shaner, Adam Christopher.....	451
Sellmeyer, Deborah E.....	164, 354	Shanis, Dana Lynn.....	426
Selnes, Ola A.....	198, 311, 334	Shannon, Kerry Lee.....	453
Selonick, Helen Celeste.....	453	Shao, Chunbo.....	438
Selonick, Stuart E.....	168, 218, 383	Shao, Wei.....	425
Seltzer, Meghan.....	311, 471	Shapiro, Adrienne Emily.....	457
Selvakumar, Balakrishnan.....	434	Shapiro, Bruce K.....	240, 315, 335
Selvaraj, Saranya A.....	455	Shapiro, Edward P.....	162, 335
Selvin, Elizabeth.....	145, 174, 421	Shapiro, Gary R.....	216, 316, 335, 354
Semba, Richard D.....	224, 334	Shapiro, Jay R.....	256
Semenov, Yevgeniy R.....	455	Shapiro, Lauren T.....	256, 308, 402
Semenza, Gregg L.....	44, 123, 149, 162, 213, 240, 272, 312, 335	Shapiro, Michael B.....	289, 402
Semins, Michelle Jo.....	446	Shapiro, Richard Morris.....	120, 402
Sen, Jyoti Misra.....	168, 383	Shapiro, Theresa A.....	162, 251, 314, 315, 335
		Sharfman, William H.....	139, 216, 354

Sharfstein, Sarah Elizabeth	427
Sharfstein, Steven S.	265, 408
Sharkey, Jeffrey	306
Sharkis, Saul J.	213, 335
Sharma, Archana	429
Sharma, Arun	428
Sharma, Jaswinder Kaur	434
Sharma, Kamal Deep	434
Sharma, Kavita	427
Sharma, Neeraj	426
Sharma, Parul	430
Sharma, Punita T.	119, 384
Sharma, Tanu	476
Sharpe, Leilani Marie	457, 462
Sharrief, Anjail Z.	433
Sharrow, Allison Catherine	477
Shashidharan, Subhadra	445
Shaw, Gillian Curtis	432, 438, 471
Shaw, Jeffrey John	463
Shaw, Robert A.	171, 402
Shaw, Susan J.	200, 384
Shay, Joanne E.	119, 384
Shaya, Elias K.	171, 279, 402
Shayuk, Maryna	429
Shea, Sofia Marica	425
Shea, Steven M.	276, 418
Shealer, G Daniel Jr.	317, 318
Sheela, Sheenu	430
Shefchek, Ardele G.	245, 403
Shehata, Monda Lotty	444
Sheikh, Farooq Hameed	428
Sheinberg, Rosanne Bravin	423
Sheldon, Huntington	305
Shelhamer, Mark J.	127, 291, 354
Shelton, Amy Lynne	205, 421
Shen, Anding	173, 418
Shen, Beiyl	465
Shen, Dong	473
Shen, Jikui	226, 414
Shen, Kui	252, 418
Shen, Lin	478
Shen, Terry Hsin-Yi	426
Shen, Wei	465
Shen, Wen	152, 384
Shenderov, Eugene	455
Sheng, Xuting Rebecca	462
Shenje, Lincoln Takura	428
Shepard, Donald J.	305
Shepherd, James Christopher	168, 384
Shepherd, Jonathan Joel	443
Sherber, Noelle Starr	425
Sheridan, R Champlin Jr.	305
Sherlock, Michael E.	244, 384
Shermak, Michele Arlene	285, 354
Sherman, Jerome	171, 405
Sherman, Ronald L.	289, 403
Sherman, Steven H.	225, 384
Sherman, Susan Gail	145
Shermock, Kenneth M.	172, 407
Sherwood, John Timothy	284, 384
Shestyuk, Avgusta Y.	433
Sheth, Sangini Bhadrak Shah	425
Sheth, Sheila	231, 277, 312, 354
Sheu, Mary	139, 384
Shi, Chanjuan	232, 407, 439
Shi, Changqing	201, 418
Shi, Gang	424
Shi, Jie	479
Shi, Sa	173, 418
Shi, Wei	441
Shi, Xiaohai	433, 434
Shieh, Eugenie Chia-Ching	449
Shih, Ie-Ming	55, 151, 213, 230, 335
Shih, Ming-Hung	423
Shilagardi, Khurts	432
Shilkofski, Nicole Ann	119, 244, 384
Shim, Joong Sup	442
Shim, Kye-Shik	245, 418
Shim, Sangwoo	433
Shimizui, Hiroshi	291, 358
Shimoda, Larissa Akimi	164, 354
Shimoji, Shino	462
Shin, Eun Ji	168, 384
Shin, Gloria	473
Shin, Hyun S.	47, 173, 194, 335
Shin, Jooho	433
Shin, Jung Hoon	205, 414
Shin, Mi-Kyung	429
Shipchandler, Taha Z.	292, 403
Shirahata, Machiko	120, 421
Shiraishi, Takumi	446
Shirley, Matthew Delton	464
Shiue, Zita Jeh-Ih	489

Shivnan, Jane C.	220, 421
Shmueli, Ron Boris	468
Shochet, Robert B.	168, 308, 310, 384
Shockney, Lillie	152, 284, 384
Shoemaker, Christopher John	463
Shore, Ronald N.	139, 384
Shore, Wendy S.	257, 414
Short, Marilyn	153, 403
Shortle, David R.	123, 133, 309, 310, 335
Shoukas, Artin A.	117, 126, 258, 335
Showalter, Kelly	256, 403
Showel, Margaret M.	218, 403
Shraybman, Renata	477
Shridharani, Sachin M.	446
Shrum, Cynthia Korin	463
Shubin, Charles I.	244, 384
Shugart, Yin Yao	244, 384
Shukla, Krupa Hemantkumar	433
Shuler, Marshall G Hussain	204, 384
Shulman, Lawrence E.	164, 358
Shumann, Elizabeth Mary	443
Shumate, Emily Dawn	441
Shureih, Samir F.	286, 403
Shyam, Rishab Ravi	468
Sia, Gek Ming	434
Siberry, George Kelly	244, 384
Sibinga, Erica Maria Smit	244, 384
Sicard, Michelle Rita	441
Sick, Anna Christina	453
Sidana, Abhinav	446
Siddique, Rezina	468
Siddiqui, Janet Volk	245, 403
Siddiqui, Zishan K.	171, 403
Sidhaye, Aniket R.	171, 245, 403
Sidhaye, Vankataramana K.	168, 384
Sidransky, David	213, 230, 290, 293, 311, 335
Sieber, Ann N.	289, 384
Sieber, Frederick E.	118, 354
Siegel, Andrew W.	152, 384
Siegel, Everett R.	263, 384
Siegelman, Stanley S.	275, 313, 315, 335
Siewerdsen, Jeffrey H.	127, 354
Sifakis, Frangiscos	145
Sigler, Arnold T.	242, 358
Sigman, Laura Joan	441
Sikder, Shameema	436
Sikka, Gautam	423
Sila, Ulgan I.	244, 384
Silber, Glenn M.	244, 384
Silber, Harry A.	168, 384
Silbergeld, Ellen K.	479
Silberstein, Charles E.	288, 354
Silhy, Raquel Maria	435
Siliciano, Janet M.	168, 309, 384
Siliciano, Robert F.	47, 162, 194, 309, 310, 313, 335
Sills, Edward M.	242, 312, 354
Silva, Delia	476
Silver, Allen E.	226, 403
Silver, Kenneth H C	256, 354
Silverman, Kenneth	260, 335
Silverman, Michael A.	142, 403
Silverman, Michael Gordon	427
Silverman, Ronald Paul	285, 384
Silverman, Wayne	261, 316, 354
Silverstein, Arthur M.	157, 224, 340
Sim, Davis Lok	427
Simball, Eric	171, 403
Simcha, David	468
Simmers, Jessica Lindsay	473
Simmons, Oliver P.	285, 384
Simmons-O'Brien, Eva F.	139, 168, 384
Simon, Dan	462
Simon, Gregory George	442
Simon, Julie	315
Simon, Olivier Bauer	462
Simon, Stephani Lynn	425
Simons, Brian Wesley	432, 438, 477
Simons, Kurt A.	226, 414
Simonsick, Eleanor Marie	164, 354
Simonson, Lisa	168, 384
Simpkins, Christopher Eric	446
Simpson, Crystal F.	168, 384
Simpson, Dyanne	265, 407
Simpson, Khara Michelle	425
Simpson, Sylvia G.	261, 354
Simpson, Thomas W.	174, 422
Sims, Georgette A.	245, 403
Sims, Joshua	469
Simson, Jacob Andrew	468
Sinada, Ghassan	292, 403
Sinai, Alon	200, 384
Singer, Andrew Lawrence	284, 384
Singer, Harvey S.	198, 240, 335

Singer, Michele	245, 403	Snowman, Adele M.	205, 414
Singh, Aatur Dilip	438	Snyder, Claire	168, 218, 385
Singh, Devinder	286, 403	Snyder, Diann	318
Singh, H Rosy	277, 384	Snyder, Lee Alison	226, 403
Singh, Navin	152, 286, 287, 384	Snyder, Solomon H.	204, 251, 260, 314, 335
Singh, Om Vir	245, 418	So, Na Young	476
Singh, Rajendra	305	Soares, Kevin Cerqueira	445
Singh, Rameet	152, 384	Sobhani, Ramona F.	171, 403
Singh, Shailendra	428	Sobreira, Nara Lygia De Macena	473
Singh, Sonal	168, 384	Sobrin, Justin Alexander	451
Singh, Vikesh K	171, 403	Sockanathan, Shanthini	204, 309, 310, 313, 355
Singla Long, Svati	444	Soderlund, Karl Anton	489
Sinha, Debasish	226, 384	Sodhi, Akrit	226, 407
Sinha, Gita	168, 384	Soeffing, Janet M.	168, 385
Sinha, Samir Kumar	384, 430	Sojkova, Jitka	276, 414
Sinha, Sunil Kumar	168	Sokoll, Lori J.	216, 231, 293, 355
Sinibaldi, Victoria J.	219, 414	Solaiyappan, Meiyappan	278, 414
Sirota, Michael A.	437	Solakoglu, Can	288, 418
Sisk, Jeanne Marie	463	Solga, Steven F.	168, 385
Sison, Edward Allan R.	436	Solhjo, Sorooosh	468
Sisson, Stephen D.	164, 315, 354	Sollner-Webb, Barbara T.	123, 315, 335
Siu, I-Mei	287, 403	Sollott, Steven J.	168, 385
Sivaram, Sudha	145	Solomon, Barry Scott	244, 385
Skaryak, Lynne Ann	284, 384	Solomon, Clifford T.	287, 385
Skelley, Nathan William	75, 308, 451	Solomon, David	200, 292, 385
Skinner, Margaret Leigh	292, 384	Solomon, Jonathan David	226, 403
Skinner, Mary D.	168, 384	Solomon, Julie Sara	425
Sklar, Nathan R.	277, 407	Solomon, Sharon D.	226, 316, 385
Skoko, John Joseph	478	Soloski, Mark J.	47, 162, 194, 230, 309, 313, 335
Skolasky, Richard Leroy Jr.	289, 316, 384	Solus, Jason Frank	451
Skriptenova, Silvia	232, 407	Somanchi, Meena	172, 414
Skrok, Jan	444	Sommer, Alfred	144, 224, 335
Slattery, Suzanne Frances	479	Song, Danny Y.	218, 272, 294, 385
Slavin, Glenn	277, 418	Song, Hong	279, 414, 444
Slavney, Phillip R.	260, 311, 313, 340	Song, Hongjun	45, 199, 204, 355
Slawson, Chad	123, 414	Song, Jee Hoon	471
Slee, Sean Joseph	424	Song, Juan	433
Slezak, Sheri	286, 384	Song, Phillip In	458
Slifer, Keith J.	242, 261, 354	Song, Woojin	465
Slinghoff, Deborah	316	Song, Xiaolei	444
Sliva, Anna	473	Song, Xindong	468
Sloane, Kelly Lauren	455	Song, Yang	436
Sloane, Peter Jeffrey	168, 384	Song, Yunke	468
Slodzinski, Martin Konrad	119, 384	Song, Zhimin	172, 414
Slomine, Beth S.	263, 385	Sonnenfeldt, Helmut	305
Slosberg, Bernard	171, 403	Sood, Sherry	431
Slovin, Sara Ruth	441	Soong, Christine Chia-Chi	168, 385
Slusher, Barbara	199, 355	Soong, Thing Rinda	458
Smail, Shamayra Samantha	477	Soong, Tuck Wah	127, 415
Smail, Donald	213, 240, 309, 310, 314, 335	Sosnay, Patrick Ryan	171, 403
Smith, Ashley Nicole	455	Sostre, Samuel	279, 355
Smith, B Douglas	216, 316, 355	Soto, Armando	286, 403
Smith, Brad Tibbetts	171, 403	Soto, Paul Levi	264, 403
Smith, Christopher	276, 468	Soto-Reyes, Lleana	434
Smith, Christopher L.	385	Soucy, Kevin Gilbert	468
Smith, Cynthia A.	264, 403	Soucy, Patricia Sara Arauz	468
Smith, Dale	312	Soudry, Ethan	438
Smith, David Falace	438	Soudry, Gabriel	279, 385
Smith, David P.	277, 385	Southard, Teresa L.	432
Smith, Gwenn	260, 315, 335	Soyer, Philippe Alain	277, 385
Smith, Hamilton O.	194, 341	Sozio, Stephen Martin	171, 403
Smith, Herron W.	245, 403	Spacek, Lisa Ann	168, 385
Smith, Ian Michael	438	Spaeder, Michael Campbell	424
Smith, Jeffrey M.	152, 385	Spangler, Donald B.	152, 391
Smith, Katherine Clegg	219, 421	Sparrow, Melissa Marks	245, 408
Smith, Kirby D.	45, 149, 240, 315, 335	Specht, Matt W.	264, 403
Smith, Lex B.	263, 391	Spector, David A.	164, 355
Smith, Maurice Antonio	445	Spector, June Thalia	431
Smith, Megan Talbott	473	Speed, Traci Jenelle	458, 478
Smith, Michael Charles Jr.	451	Speedie, Lynn Jackson	200, 261, 355
Smith, Michael T.	261, 355	Speelmon, Emily Claire	427
Smith, Milena H.	264, 403	Spencer, Forrest	45, 149, 164, 194, 355
Smith, Philip L.	162, 335	Spencer, Jeanelle M.	463
Smith, Reverend	319	Spencer, Lee Samuel	443
Smith, Ryan J.	468	Spengler, Emily Ann	441
Smith, Samuel	151, 355	Sperati, Christopher John	168, 385
Smith, Seth A.	278, 385	Sperle, Katherine Ann	453
Smith, Sewall	316	Spevak, Melissa Riedy	277, 385
Smith, Sheila Weiss	144	Spevak, Philip Joel	173, 242, 355
Smith, Stephen R.	168, 385	Spiegler, Ethan J.	171, 279, 385
Smith, Tyler Kimberly	441	Spinelli, Simona	434
Smith, Wanli	263, 385	Spivak, Adam Mitchell	430
Smith, Wendell A.	305	Spivak, Jerry L.	162, 335
Smith-Hicks, Constance L.	200, 385	Sponseller, Paul D.	288, 293, 335
Smith-Stierer, Tracey L.	119, 385	Spooner, Peter Michael	164, 355
Smolev, James K.	319	Spradling, Allan C.	194, 335
Smoot, Duane Thomas	216, 355	Spragg, David Douglass	168, 385
Smouse, Patricia	245, 407	Squire, Robert A.	192, 335
Smyth, John	319	Sridharan, Anirudh	171, 403
Smyth, Shawn F.	433	Srikumaran, Divya	226, 407
Snider, Thomas W.	277, 391	Srikumaran, Umasuthan	437
Sniderman, Amy Elizabeth	441	Srinivasan, Senthamizhchelvan	444
Snow, Raymond W.	305	Sriveddy, Sharmila	292, 385

Srivastava, Siddharth	449
Srivastava, Somesh	444
St Hillaire, Coryse Naioka	476
Staab, Janet F.	168, 385
Staats, Peter S.	118, 355
Stadel, Ryan Paul	473
Staedtke, Verena	432
Stager, Simona	252, 385
Stagg Ryan Edward	443
Stahley, Mary Regina	442
Stambler, Alvin A.	244, 391
Stampas, Argyrios	442
Standiford, Willard E.	245, 408
Stanley, Brian Allan	428
Stanley, Susan Edith	455
Stanwix, Matthew Gokey	446
Stapleton, Sahael	449
Starfield, Barbara H.	246, 421
Stark, Walter J Jr	224, 312, 335
Starklauf, Barbara	307, 311
Starmer, Heather Maureen	292, 385
Stasi, Kalliopi	226, 407
Stasinopoulos, Ioannis A.	278, 415
Stauffer, Joseph William	119, 385
Stavinoha, Rose	92, 403
Stavri, P Zoe	155, 385
Stayman, Joseph Webster	127, 415
Stearns, Duncan Scott	232, 385
Stearns, Joshua Daniel	119, 385
Stearns, Vered	216, 316, 355
Stec, Andrew Alexander	446
Steele, Cynthia D.	263, 385
Steele, Kimberly Eden	284, 385
Steenbergen, Charles Jr	55, 230, 335
Stefanini, Marianne Odile	424
Steffen, Katherine Marie	441
Stein, Benjamin Eric	437
Stein, Brady Lee	436
Stein, Daniel Brookner	489
Stein, David H.	139, 385
Stein, Kelly Brungardt	171, 403
Steinberg, Benjamin Adam	427
Steinberg, Earl P.	162, 277, 335
Steinberg, Martin Irwin	263, 385
Steinberg, Steven Jeffrey	200, 385
Steiner, Claudia	168, 385
Steiner, Howard	171, 403
Steiner, Joseph P.	199, 355
Steinhoff, Mark C.	246, 421
Steinwachs, Donald M.	155, 174, 265, 421
Stellato, Cristiana	164, 355
Stephens, Ina Burrows	246, 421
Stephens, Joseph H.	261, 358
Stephens, Robert Scott	432
Steppan, Jochen	423
Sternberg, Alice	145
Sterni, Laura Marie	244, 385
Stetten, Gail	149, 151, 358
Stettes, Brenda	315
Stevens, Daniel	455
Stevens, Eric Lindsley	473
Stevens, Kent A.	284, 385
Stevens, Robert David	118, 200, 287, 355
Stewart, Amanda P.	426
Stewart, Arielle Alexandra	451
Stewart, Charles Matthew	438
Stewart, Emerson VanLeuven	462
Stewart, Kerry J.	162, 335
Stewart, Miriam Tamar	451
Stewart, Raj Amin	434
Stewart, Rosalyn W.	168, 385
Stewart De Ramirez, Sarah Anne	425
Stiers, William M.	256, 385
Stiff, Judith L.	118, 358
Stiller, Shale D.	305
Stillman, Frances	219, 421
Stine, Megan Jean	435
Stine, Rachel Raeburn	463
Stine, Zachary Elias	473
Stins, Monique F.	200, 386
Stitt, Jenny	429
Stitzer, Maxine L.	260, 315, 336
Stivers, James T.	214, 251, 308, 336
Stoddard, Tiffany Alana	445
Stoeck, Alexander	439
Stohl Posy, Hindi Elaine	425
Stoianovici, Dan	293, 336
Stokes, Emma	315
Stolbach, Andrew I.	142, 386
Stoll, Lisa Marie	439
Stoller, Kenneth Bruce	263, 309, 386
Stone, Anita	317
Storey, Philip Porter	453

Stout, Deana	319
Strahan, Nancy V.	168, 386
Strahlman, R Scott	245, 403
Strain, Eric C.	260, 336
Straseski, Joely Ann	439
Strauch, Bricelyn Hope	479
Strauch, Eric David	285, 386
Strauss, Leon	226, 403
Strazhnik, Inna-Marie	479
Strebe, Sara Elisabeth	437
Streed, Carl Gustaf Jr.	455
Strehin, Iossif Alexandron	468
Streiff, Michael Blake	164, 232, 355
Strickland, Paul T.	219, 421
Strike, Sophia Anne	451
Strine, Michael	306
Strobel, David	140, 403
Stroh, David Alexander	453
Strouse, John J.	168, 244, 386
Strunk, Bradley Charles	427, 489
Stuart, Bridget Danielle	441
Stuber, Matthias	168, 275, 311, 355
Studer, Seth Logan	453
Stumpf, Martin J.	278, 415
Stuphorn, Veit	205, 312, 421
Sturner, Raymond Arthur	242, 355
Stutzman, Ray E.	293, 358
Su, Baogeng Y.	120, 403
Su, Chi-Tsung	285, 355
Su, Jason Jun	439
Su, Qingning	120, 403
Su, Sol	146
Suarez, Lauren Christina	471
Suarez-Murias, Edward L.	263, 391
Suber, Tomeka Lynette	449, 471
Subhawong, Andrea Proctor	438
Subhawong, Ty Kanyin	444
Subramaniam, Geetha	263, 386
Subramaniam, Srinivasa	434
Subramaniam, Sriram	123, 313, 355
Subramanian, Aruna Kumar	168, 386
Subramanian, G Mani	168, 386
Subramanian, Prem Sagar	225, 355
Suffczynski, Piotr	201, 418
Suffredini, Lori Ann	428
Suganuma, Hiroyuki	252, 418
Sugar, Elizabeth	145
Sugarman, Jeremy	162, 336
Suhail, Yasir	468
Suk, Ian	48, 287, 355
Suk, Jung Soo	468
Sukumar, Saraswati	45, 55, 214, 230, 313, 315, 336
Sule, Sangeeta Dileep	171, 244, 386
Sulzerzycki, Victoria	319
Sulkowski, Mark Sebastian	164, 311, 355
Sullivan, David Joseph Jr.	174, 421
Sullivan, Troy	171, 403
Sultan, Babar	438
Sultan, Ibrahim	445
Suman, Meenakshi	264, 403
Sumida, Shawn Michelle	423
Sumler, Michele Leigh	423
Sumner, Charlotte J.	200, 386
Sun, Daniel Quain	451
Sun, Gerald Jan-Yu	476
Sun, Haiyan	205, 418
Sun, Hui	432
Sun, Lu	476
Sun, Peng	430, 434
Sun, Qian Mei	431
Sun, Wenji	433
Sun, Wenyue	438
Sun, Yan	442
Sun, Zhaoli	284, 386
Sundi, Debasish	445
Sung, Anthony Derek	427
Sung, Jennifer Unjoo	226, 386
Sung, Kyongje	433
Sunnogrot, Naseem Mohammed Mousa	428, 429
Sunshine, Joel Chaim	453
Sunshine, Sarah Brem	453
Sur, Surojit	219, 415
Surcel, Alexandra	425
Suresh, Karthik S.	427
Surmak, Andrew J.	284, 386
Suryaprasad, Anil	171, 403
Susel, Richard M.	226, 403
Susil, Gwyneth Anne	441, 443
Suskauer, Stacey J.	256, 386
Sussman, Katie Goonan	441
Sussman, Marc S.	284, 386
Sutton, Brad Steven	428
Sutton, Timothy James	449

Suwanvanichkij, Voravit	146	Tarnutzer, Alexander Andrea	433
Suyama, Takahito	446	Tasneen, Rokeya	430
Svikis, Dace S.	261, 355	Tattiyakul, Woranart	437
Swamy, Ramya Narasimha	449	Taube, Janis Marie	140, 232, 386
Swaney, Kristen Franson	463	Tauriello, Carin Marie	423
Swartz, Karen L	262, 355	Taverna, Sean Dixon	252, 386
Swartz, Lee J	172, 415	Taylor, David N	174, 422
Swatkoski, Stephen James	442	Taylor, Dean R	169, 386
Swelstad, Brad Blachly	426	Taylor, Dinesh	430
Swenson, Jason Alan	444	Taylor, Eddie L Jr	276, 404
Sweren, Ronald J	139, 386	Taylor, Gregory Harry	169, 386
Swing, Donald Craver Jr	232, 407	Taylor, Gregory Lind II	430
Swinnen, Lode J	214, 336	Taylor, Jacob Louis	451
Sychangco, Paul D	436	Taylor, John K III	292, 404
Sydnor, Emily RM	430	Taylor, Joshua Tray	449
Syed, Labib	276, 403	Taylor, Lori S	276, 404
Syed, Labiq Hossain	403, 444	Taylor, Martin Samuel	458, 478
Syed, Sanin	429	Taylor, Raymond Jr	171, 404
Syin, Dora	423	Taylor, Russell H	279, 284, 422
Sylvester, Jimmie T	120, 162, 336	Tchopev, Nik	171, 245, 404
Symons, Heather J	218, 386	Teaford, Mark F	147, 308, 310, 336
Sysa, Polina	432	Teague, Paula	312
Szabo, Boglarka	265, 403	Tedford, Ryan James	428
Szabo, Katalina	279, 415	Teitelbaum, Mark L	262, 358
Szabo, Zsolt	279, 336	Teixido-Tura, Gisela	428
Szanton, Sarah L	316	Tekes, Aylin	276, 386
Szczukowski, Myron J Jr	289, 403	Tellefsen, Christiane	263, 386
Szeto, Gregory Lee	471	Temple, Sarah Ruth	489
Sztko, Moyses	144, 174, 421	Tendler, Jacob	265, 404
Szymanski, Linda Marie	426	Teng, Xinchen	464
Szymanski, Megan Marie	474	Tennekoon, Gihan I	205, 418
Tabatabai, Babak	423	Teo, Wei Wen	477
Tabatadze, Nino	433	Teraguchi, Danny	307, 308, 309, 310, 312
Tabatznik, Bernard	168, 391	Teran, Mario Diego	445
Tabb, Winston	306, 317	Tereshchenko, Larisa Gennadievna	172, 415, 429
Tabbara, Khalid Fuad	224, 336	Teret, Stephen P	143, 246, 422
Tabibian, James Hagop	427	Terezakis, Stephanie Alicia	273, 404
Tadenev, Abigail Lynn Davidson	471	Terry, Peter B	118, 162, 309, 313, 316, 336
Tadross, Michael Raphael	424, 489	Terry, Tamara DeShawn	153, 404
Tad-Y, Darlene B	171, 403	Tesfalul, Martha Alazar	455
Taguchi, Katsuyuki	278, 386	Testa, Adena W	305
Taha, Taha	144	Testa, S Marc	265, 404
Tahari, Abdel Kader	444	Tew, William P	123, 415
Tai, Hong	439	Texel, Sarah Jean	476
Tai, Ken Lin	431	Teytelboym, Oleg M	276, 404
Takacs, Julie Ellen	462	Thakkar, Rajiv N	171, 404
Takemoto, Clifford Mitsuo	244, 386	Thakkar, Savyasachi Chandrashek	449
Takimoto, Eiki	168, 386	Thakor, Nitish V	126, 198, 336
Talaat, Kawsar R	174, 421	Thakore, Roshni Ishwarsinh	425
Talalay, Pamela	201, 416	Thakral, Vishal	442
Talalay, Paul	251, 313, 336	Thamer, Mahmud	169, 392
Talamini, Mark A	282, 336	Thammasuvimol, Grace	443
Talbot, Charles Conover Jr	172, 415	Thanouser, Sally P	319
Talwar, Manish	428	Thanner, Meridith Hill	142, 415
Tam, Vernissia Wei-Si	455	Thavarajah, Sumeska	171, 404
Tam, William	468	Thawait, Shrey Kumar	444
Tamargo, Rafael J	286, 290, 336	Thayil, Seema Madhumal	430
Tamashiro, Kellie Louise Keiko	263, 386	Theda, Christiane	244, 386
Tamhane, Mayur Chandrakant	441	Thein, Mya Sanda	430
Tamma, Pranita D	441	Thiaville, Michelle Marie	439
Tamura, Yasushi	425	Thiemann, David R	155, 165, 355
Tan, Boon Yew	429	Thierman, Jonathan Sidney	425
Tan, Eric Wan	437	Thio, Chloe Lynne	165, 355
Tan, Erwin	168, 386, 489	Thiyagarajan, Saravanan	443
Tan, Ik Lin	434	Thomas, Asha	169, 386
Tan, Jade Marie	245, 403	Thomas, Brian Michael	427
Tan, Marietta	438, 489	Thomas, Claudia Lynn	289, 386
Tan, Paul	252, 415	Thomas, David Lee	162, 336
Tan, Perciliz	474	Thomas, Gareth Michael	205, 415
Tanaka, Miho Jean	437	Thomas, George H	45, 149, 173, 230, 240, 336
Tandon, Shiv Darius	244, 386	Thomas, Hilary Robbins	427
Tandri, Harikrishna	169, 386	Thomas, Karen Kruse	426
Tanenbaum, Morris	305	Thomas, Katherine Page	433
Tang, Jing	278, 415	Thomas, Kathryn	265, 404
Tang, Ming	463	Thomas, Owen Clayton	443
Tang, Nelson	142, 386	Thomas, Patricia A	165, 307, 308, 310, 355
Tang, Shan	449	Thomas, Peter Ronald	437
Tang, Sonya Chin	458, 464	Thomas, Randell Croft Jr	427
Tang, Zhaohvi	430	Thomas, Richard	318
Tang, Zongxiang	434	Thompson, Darcy A	244, 386
Tanio, Craig P	169, 386	Thompson, David A	120, 386
Tanio, Jennifer Williams	169, 386	Thompson, John Michael	455
Tankard, Carol F	265, 403	Thompson, John Tilynn	226, 386
Tankersley, Clarke	312	Thompson, Kenneth J	319
Tankou, Stephanie Kenfack	449, 471	Thompson, Stephen J	306, 310, 317
Tanzi, Elizabeth Lyn	140, 403	Thompson, Steve	312
Tao, Feng	120, 386	Thompson, Susan Ann	468
Tao, Jiang	424	Thompson, William Reid III	244, 386
Tao, Xuguang	169, 386	Thomsen, Robert William	120, 284, 386
Tao, Yuan-Xiang	118, 355	Thomson, Nicholas	146
Tapper, Alan J	152, 391	Thorne, Jennifer Elizabeth	225, 355
Tarasova, Yelena Sergeevna	428	Thornton, Imani	423
Tarmin, Lila	171, 403	Thornton, Katherine Anne	218, 386

Thornton, Kim	317
Thornton, Rachel Johnson	244, 386
Thupari, Jagan N	232, 386
Thurston, John Lorenzo Jr	453
Thygeson, Cindy Y	443
Tiah, Ling	142, 415
Tian, Jing	433
Tian, Yuan	439
Ticehurst, John R	232, 316, 386
Tiegel, Stuart A	263, 387
Tielsch, James M	226, 422
Tien, Allen Yiyen	155, 355
Tierney, Elaine	262, 355
Tighe, Sarah Kathryn	443
Tilburt, Jon	171, 404
Tilson, Matthew Paul	438
Timoll, Eli A	153, 405
Timp, Winston George	431
Tinch, Jennifer Lynn	431
Tinoco, Aldo	431
Tincopa, Monica Arlene	489
Ting, Beverly Lui	449
Tinoco, Gabriel	436
Tippett, Donna Clark	256, 292, 387
Tis, John E	308, 387
Tison, Geoffrey Huang	427, 489
Titov, Denis Vasilevich	478
Tobian, Aaron Andrew Ross	440
Tocchetti, Carlo Gabriele	428
Tochen, Laura	441
Toda, Alyssa Maria Ayano	476
Todd, Barbara	315
Todes, Daniel P	157, 309, 336
Togioka, Brandon Michael	423
Tollini, Peter	317
Tomaselli, Gordon F	162, 307, 336
Tompkins, Christine Marie	429
Tompkins, David Andrew	265, 407
Tonascia, Susan	145
Tong, Wenjing	232, 415
Tong, Zongqian	425
Toodie, Valerie	477
Toomey, William, III	319
Topalian, Suzanne Louise	214, 282, 315, 336
Torgerson, Caitlin Susannah	424
Toribio, Mabel Patricia	449
Torjusen, Erika	441
Torok, Collin Michael	444
Torok, Haruka Matsubara	171, 404
Torres, Dawn McDowell	432
Torres-Oviedo, Gelsy	434
Tortolani, P Justin	289, 387
Tosoian, Jeffrey John	451
Toutou, Valerie	437
Toung, Thomas J K	117, 336
Touradji, Pegah	256, 387
Towne, Sarah Marie	443
Townsend, Craig A	313
Townsend, Timothy R	242, 355
Towsley, Darcy Louise	423
Toye, Patryce A	171, 404
Trabilsy, David	309
Traill, Thomas A	162, 336
Tran, Christine Ngoc Bich	451
Tran, Elizabeth	205, 418
Tran, Mark Minh	425
Tran, Phuoc T	272, 387
Tran, Tina Pham	120, 404
Tran, Tracy Samantha	434
Tran, Tuan Manh	427
Tran, Tung T	434
Travnicek, Katherine Dawn	442
Treisman, Glenn J	162, 260, 309, 310, 312, 316, 336
Trent, Jeffrey M	214, 336
Trent, Maria	244, 387
Tribble, Alison Christine	441
Trice, Michael Edward	289, 309, 387
Trimbale, Cornelia Liu	151, 216, 231, 315, 355
Trimbale, Edward Lloyd	151, 216, 355
Trimbale, Frances H	493
Trinh, Huy Chi	438
Trink, Barry	292, 387
Triplett, Patrick Todd	142, 264, 387
Tripoli, Louis C	169, 387
Tristan, Carlos Alberto	471
Tritsch, Nicolas Xavier	476
Trock, Bruce Jeffrey	216, 294, 356
Troncoso, Juan C	55, 199, 230, 336
Trost, Jeffrey C	169, 387
Trovato, Melissa Katrina	256, 387
Trow, Jonathan Andrew	471
Trow, Susan Christine	471
Trucco, Matteo M	436

Truelove, Kathleen	316
Truica, Cristina I	169, 387
Truong, Alexander Dung	432
Trush, Michael A	219, 422
Tryggstad, Erik	273, 404
Trzcinski, Natalie Katherine	476
Tsai, Alice Ho	245, 404
Tsai, Emily Joy	428
Tsai, Hsing-Chen	471
Tsai, I-Chun	431
Tsai, Jackson T	245, 404
Tsai, Salina Doris	276, 404
Tsai, Shan Pou	162, 336
Tsai, Susan	284, 404
Tsang, Jonelon Gabriel	423
Tsangaris, Theodore N	216, 356
Tsao, Allison Leigh	451
Tsao, William	458, 471
Tsapkini, Kyrana	201, 415
Tschudy, Megan Marie	314, 441
Tse, Chung-Ming	165, 356
Tseng, Kenneth Sheinje	489
Tseng, Li-Hui	218, 387, 445
Tsiatis, Athanasios Christos	439
Tso, Mark O M	224, 230, 336
Tsoisie, Krystal Sara	471
Tsui, Benjamin M W	126, 278, 336
Tsui, Yung-Sheng Melody	478
Tsukamoto, Takashi	200, 387
Tu, Benjamin Y	427
Tuchman, David N	244, 387
Tucker, Elizabeth Winans	441
Tufano, Ralph P	291, 356
Tufaro, Anthony P	216, 285, 308, 356
Tuggle, Melvin B II	172, 407
Tuggle, Tonya Denise	265, 404
Tukaye, Deepali Nivas	479
Tuli, Richard	443
Tung, Leslie	126, 336
Tung, Thomas J K	288
Tunis, Sean R	169, 387
Tunkel, David E	118, 242, 291, 356
Turban, Sharon I	169, 387
Turen, Clifford	289, 387
Turin, Elizabeth	265, 404
Turkbeey, Evrim Bengi	444
Turkcuoglu, Peykan	437
Turner, Erlanger A	441
Turner, Janet E	256, 387
Turner, Justin H	438
Turner, Tychele Naomi	474
Turovskaya, Yana	449
Turowski, Jason Bernard	427
Tu-Sekine, Becky JoAnne	424
Tuskey, Anne Graves	430
Tuten, L Michelle	264, 387
Tward, Daniel Jacob	468
Twyman, Christina Altovise	315, 319, 427
Tyekucheva, Svitlana	435
Tyler, Betty	287, 387
Tzeng, Stephany Yi	468
Tzevelekos, Panagiotis	428, 436
Tzou, Shey-Cherng	439
Tzu, Jonathan Heng	489
Ubaida Mohien, Ceereena	432
Udall, Don Norris	444
Uddin, Sayeedha	153, 404, 446
Udvarhelyi, George B	286, 341
Ueda, Stefanie Masako	425
Uemura, Motohide	440
Ueno, Tasuku	425
Ugarte, Richard M	169, 387
Uhart, Magdalena	169, 387
Uhl, Edward G	305
Uhl, George R	198, 204, 336
Uhrigshardt, Helge	428
Ulahannan, Susanna V	428, 435
Ulatowski, John A	117, 198, 286, 307, 311, 319, 336
Ulbricht, Jennifer A	443
Umbricht, Annie	173, 264, 387
Umbricht, Christopher B	55, 218, 232, 284, 387
Unalp-Arida, Aynur	145
Undem, Bradley J	162, 311, 336
Unger, H Thomas	265, 405
Unno, Kenji	443
Unterman, Amy Ruth	453
Unterman, Shimon Aryeh	468
Upadhyia, Krishna Kumari	441
Uram, Jennifer Nichole	436
Urbaitis, John C	264, 387
Urban, Sinisa	194, 387
Urrutia, Victor C	200, 387
Utine, Canan A	437

Uzoma, Ijeoma Kimberly	478	Vogel, James E	285, 356
Uzuner, Ovsev	445	Vogel-Claussen, Jens	277, 387
Vaal, Mark J	201, 415	Vogelsang, Georgia B	214, 312, 337
Vaca, Elbert Emanuel	455	Vogelstein, Bert	45, 194, 214, 230, 313, 315, 337
Vaeth, Becky	317	Vogelstein, Joshua Tzvi Cardin	476
Vaidya, Dhananjay M	169, 387	Vogt, Thomas Norman Paul	455
Vaidya, Punit Vijay	443	Volatile, Thomas B	289, 404
Vaidya, Varsha	264, 387	Volk, Lenora Joanne	434
Vakil, Jeffrey Jahan	289, 407	von Coelln, Rainer	433
Valaik, Daniel J	289, 387	Vonakis, Becky Marie	169, 387
Valdiviezo Schlomp, Carolina Isabel	428	Vonderheid, Eric Carl	139, 214, 337
Valente, Christopher John	441	VonDerheydt, Rudiger	204, 312, 337
Valenti, Antoinette Marie	443	VonKessler, Kirby L C	289, 392
Valentine, Martin D	162, 336	Voong, Khinh Ranh	449
Vali, Mustafa Shakir	276, 387	Voorhees, Carolyn Clymer	169, 387
Valiyil, Ritu	429	Vora, Amit Navin	489
Valle, David L	45, 149, 173, 194, 224, 240, 307, 309, 315, 336	Voronina, Ekaterina	432
Vallera, Cristianna	120, 387	Voss, Diane	315
Valsamakis, Alexandra	231, 356	Vranesic, Melin	444
Van Arendonk, Kyle Jon	445	Vricella, Luca A	244, 284, 356
Van de Castle, Barbara L	155, 422	Vu, Alexander	142, 387
Van der Wall, Elsken	216, 356	Vu, Trang Minh	451
Van diest, Paulus Joannes	214, 336	Vu, Trung Quang	424
Van Erp, Christel	426	Vuica-Ross, Milena	232, 387
Van Eyk, Jennifer Eileen	123, 126, 162, 315, 336	Vyas, Alka A	289, 415
Van Landingham, Suzanne Westbrook	453	Waalkes, T Phillip	214, 341
Van Vledder, Mark Gerrit	445	Wabulya, Angela	433
Van Zijl, Peter C M	133, 214, 277, 337	Wachtel, Lee Elizabeth	264, 387
Vana, Matthew Robert	423	Wacker, Frank K	275, 337
Vandegrift, Jana Lynn	489	Wade, Herschel V	133, 388
VandenBussche, Christopher James	438	Wadsworth, Stanley B	276, 316, 317, 404
Vander Kolk, Craig A	240, 285, 337	Waghray, Meghna	439
Vandiver, Matthew Scott	458, 478	Wagle, Rohan Ravindra	427
Vandrey, Ryan	264, 387	Wagner, Elizabeth	162, 315, 337
Vang, Russell	152, 231, 356	Wagner, Kathryn R	199, 204, 356
Vannorsdall, Tracy D	265, 404	Wahl, Richard L	214, 279, 337
Varadhan, Ravi	169, 387	Wahlin, Karl Jonas	436
Vargas, Jose Danilo	428	Waickman, Adam Tully	474
Vargo, Edith Margaret	171, 404	Wakabayashi, Junko	425
Varma, Abhaya	432	Walcher, J Ronald	244, 388
Varon, Stuart R	264, 387	Walczak, Janet Ruth	219, 415
Varriale, Frank Joseph	472	Walczak, Piotr	276, 388
Vasa, Roma A	264, 387	Waldersen, Brian Wilson	455
Vasilescu, Alexandra	441	Waldman, Barry Jay	289, 404
Vasquez, David Marcel	438	Waldron, Elaine Ann	443
Vasudevan, Erin Virginia Lamont	434	Waldron, Paul Ravi	427, 489
Vaswani, Pavan Anil	455	Walker, Allen R	242, 356
Vaurio, Rebecca Gaye	265, 404	Walker, Alyssa Lynne	477
Vaziri, Siavash	468	Walker, David Anthony	478
Vazquez, Alejandro	468	Walker, Joanna Lynn	432
Veeramani, Balaji	468	Walker, Marquis Terrell	424
Velasquez, Christina Ann	455	Walker, Michael D	288, 409
Velculescu, Victor E	45, 216, 356	Walker, Sarah Elizabeth	424
Velez, Martha Luz	245, 404	Walker-Harris, Vanessa Jeannette	429
Veltri, Robert W	216, 294, 356	Walkup, John T	262, 356
Vendetti, Frank Patrick	478	Wall, Hayley Sierra	471
Venkatachalam, Kartik	123, 415	Wallace, Robert L	319
Venkataramani, Maya SubbalakshM	449	Wallace, Sarah Katherine	455
Venkat, Arun Prakash	425, 440	Wallach, Edward E	151, 309, 337
Venkatesan, Arun	200, 387	Wallman, Aaron Wendell	453
Verastegui-Jimenez, Juan G	440	Walman, A Terry	120, 388
Vergara, Candelaria	172, 415	Walsh, Michael Francis	441
Vergara, Maria Natalia	436	Walsh, Patrick C	337
Verheul, Hendrik MW	214, 337	Walsh, Thomas J	230, 337
Verma, Sourabh	428	Walshe, Louise Juliet	146, 172, 415
Vernon, Hilary Joyce	441	Walston, Jeremy D	162, 337
Vesuna, Farhad	278, 404	Walter, Kimberly Martha	477
Vickers, Selwyn M	305	Wan, Chao	289, 404
Vidal-Cardenas, Sofia Luz	463	Wan, Jun	437
Vidushi, Aditya	428	Wan, Mei	288, 356
Viel, Stephen Charles	425	Wanamaker, Brett Leon	455
Viksman, Michael Y	169, 387	Wand, Gary S	162, 260, 337
Villamayor, April Joy Runa	423	Wang, Bing	423
Villani, Virginia Susan	264, 387	Wang, ChiaoChun Joanne	468
Villarroel, Maria Cristina	435	Wang, David Hong-En	436, 471
Villarroel, Vadim Andre	453	Wang, Dongqing	429
Villegas, Cassandra Vanessa	449	Wang, George C	171, 404
Vincent, Audrey Louise Josette	439	Wang, Grace Meng	458, 471
Vincent, Jeremy	438	Wang, Han Chin	476
Vining, Eileen P G	78, 198, 240, 312, 315, 337, 493	Wang, Hang	404
Vinores, Stanley A	225, 356	Wang, Hao	218, 388
Visaya, Jiovani Miranda	489	Wang, Haofan	444
Viscidi, Raphael P	55, 214, 240, 310, 337	Wang, Hao-Ran	434
VishnuPriya, Kittane S	171, 404	Wang, Jean S	169, 388
Visvanathan, Kala	145, 219, 422	Wang, Jennifer Tong	463
Vitale, Susan	225, 356	Wang, Jian	120, 388
Vitiello, Benedetto	260, 337	Wang, Jian	169, 388
Vlahos, Nikos	152, 387	Wang, Jianmin	437
Vlahov, David	174, 422	Wang, Jianyang	424
Vlassova, Natalia	451	Wang, Jiawei	443
Voegelé, Georgina Mckusick	472	Wang, Jing	424, 442
Vogel, Donna L	258, 315, 415	Wang, Jingya	449
		Wang, Jiou	205, 422

Wang, Jun	436
Wang, Kenneth C	276, 404
Wang, Ko-Pen	165, 277, 356
Wang, Lee Le	451
Wang, Lei	426
Wang, Leyao	435
Wang, Ming-Hsi	294, 430, 436
Wang, Ming-Hsien	388
Wang, Nae-Yuh	169, 388
Wang, Qiang	434
Wang, Qihong	445
Wang, Qing	478
Wang, Ruidi	453
Wang, Shengbing	428
Wang, Shih-Hsiu	476
Wang, Silun	444
Wang, Stacy	427
Wang, Tao	45, 149, 244, 388
Wang, Tian-Li	152, 218, 388
Wang, Tongguang	201, 415
Wang, Wei	474
Wang, Xiaobo	424
Wang, Xiaoqin	126, 204, 290, 337
Wang, Xiaoyue	424, 465
Wang, Xin	444
Wang, XueQing	201, 415
Wang, Yi	443
Wang, Ying	426
Wang, Yingfei	433
Wang, Ying-Ying	468
Wang, Yiyun	445
Wang, Yongchun	284, 415
Wang, Yu	425
Wang, Yue	474
Wang, Yuemeng	464
Wang, Yuxuan	455
Wang, Zhen	434
Wang, Zhihong	442
Wansom, Tanyaporn	427
Waranch, H Richard	264, 388
Ward, Bryan Kevin	438
Ward, Julianna	264, 388
Ward, Matthew	462
Ward, Michael	310
Ward, Robert F	262, 356
Ward, William F Jr	305
Wardrope, Ronald	316
Warnock, Gary Ray	139, 232, 356
Warren, Andrew C	262, 356
Warren, Daniel Scott	284, 388
Warren, Lana	256, 404
Wartman, Steven A	162, 337
Washburn, Catherin L	171, 404
Wasowska, Barbara A	55, 232, 388
Wassei, Joseph J	455
Wasserman, Bruce Alan	278, 356
Wassif, Heba Sabri Fouad	428
Watkin, Erin Elizabeth	471
Watkins, Crystal Chanel	443
Watkins, David Neil	218, 388
Watkins, Levi Jr	284, 307, 310, 337
Watkins, Paul A	123, 198, 337
Watkins, Stanley P Jr	218, 388
Watnick, Terry	165, 356
Watson, Christopher Michael	424
Watson, Herbert W Jr	172, 407
Watson, Julie	192, 388
Watts, Vabren L	428
Wayne, Alan S	242, 314, 356
Weaver, Debbie L	264, 388
Weaver, Virginia Marie	174, 219, 422
Webb, Jennifer Lindy	441
Webber, William R S	201, 415
Weber, Genevieve Lorraine	477
Weber, Kristin L	214, 288, 311, 315, 337
Webster, Kim	292, 388
Webster, Marie Ruth	478
Weed, Michael Riley	192, 264, 388
Weeks, Heidi Michelle	468
Weerts, Elise M	262, 315, 356
Wegener, Stephen T	256, 356
Wehner, Jennifer Rose	477
Wei, An-Chi	468
Wei, Hong	426
Wei, Juan	444
Wei, Shuanzeng	446
Wei, Yanhong	436
Wei, Zhikui	479
Weidemann, Darcy Kate	441, 489
Weier, Christopher August	471
Weinberg, Robert S	225, 356
Weinberg, Seth Howard	468
Weiner, Jeremy P	319

Weiner, Jonathan P	155, 174, 422
Weingart, Jon David	216, 287, 356
Weinstein, Edward Alan	430
Weintraub, Sharon Lyn	284, 388
Weisfeldt, Myron L	159, 307, 310, 311, 313, 314, 319, 337
Weishampel, David B	147, 337
Weisman, Carla J	153, 404
Weisman, David S	171, 404
Weiss, Carlos O	169, 388
Weiss, Clifford R	276, 388
Weiss, Eric Spencer	445
Weiss, Ethan J	315
Weiss, Howard D	199, 356
Weiss, James L	162, 307, 309, 310, 311, 312, 337
Weiss, Margaret A	140, 388
Weiss, Matthew John	445
Weiss, Robert A	139, 356
Weiss, Robert G	162, 279, 337
Weiss, Vivian Lee	458, 474
Weiss, William M	155, 422
Weissbrod, Elizabeth Nicole	479
Weisser, Olivia Alton	472
Weisz, Catherine, Jeanne Chalenski	476
Weitz, Claire Marie	153, 404
Welch, Robert B	225, 358
Welinsky, Melvin	171, 404
Welling, Sharon	309, 310
Wells, Alyson	286, 292, 388
Wells, Robert A	316
Welsbie, Derek Stuart	436
Welzant, Walter R	171, 404
Wen, Bo	171, 404
Wen, Zhexing	433
Wen, Zhibo	276, 418
Weng, Christina Yeeka	437
Weng, HaoJui	476
Weng, Weili	120, 388
Wenick, Adam Scott	437
Wenzel, Jennifer A	220, 422
Werbin, Jeffrey Lawrence	469
Werner, John Kent Jr	458, 471
Wersinger, Eric Laurent	438
Wertheimer, Debra S	169, 388
Werthman, Ronald	317, 318
Wesson, Russell Noel	445
West, David W	245, 415
West, Keith Parker Jr	226, 422
West, Michael J	171, 404
West, Natalie Elliott	432
West, Sheila	224, 309, 315, 337
Westergaard, Mary	142, 404
Westergaard, Ryan	430
West-Foyle, Hoku Kahele	464
Westra, William H	139, 214, 230, 290, 337
Wexler, Jeffrey Lawrence	226, 404
Weygandt, Paul Logan	453
Wharam, Moody D Jr	214, 240, 272, 275, 286, 313, 337
Whartenby, Katharine Ashley	218, 388
Wheelan, Sarah	218, 388
Wheeler, Paul S	277, 312, 356
Wheeler, Sarahn Malena	425
Wheeless, Clifford R Jr	151, 358
Whelton, Andrew	162, 337
Whitaker, Brent R	48, 388, 423
White, Alicia D	292, 407
White, Barbara	162, 337
White, Christine H	307, 308, 312
White, Steven Miles	440
White-Seals, Beverly	312
Whitehead, Kanika Michele	431
Whitehouse-Gibble, Joan	232, 409
Whiting, Heather Marie	455
Whiting, Kathleen	319
Whitmore, S Elizabeth	139, 356
Whitney, Augusta Catherine	437
Whitten, Joseph Anthony	425
Wick, Elizabeth C	284, 388
Wickramaratine, Kanthi	171, 404
Wickramasinghe, Sasrutha Rasika	427, 490
Wicks, Robert Thomas	451
Wickwire, Emerson M	443
Widemann, Brigitte C	218, 244, 388
Wiener, Charles M	162, 258, 309, 311, 312, 315, 337
Wiener, Reuven	424
Wiggin, Mallene	292, 408
Wigley, Fredrick M	162, 337
Wilckens, John H	288, 356
Wilcox, Holly C	264, 388
Wilcox, Kristin Marie	265, 415, 443
Wilczek, Kenneth	307
Wild, Aaron Tyler	453
Wild, Bridget Marie	451
Wildner, Lora B	169, 388

Wilgis, E F Shaw.....	285, 288, 358	Wong, Bang Thoi.....	49, 389
Wilhelmsen, Hans R.....	286, 388	Wong, Chak Lui.....	426
Wilkenfeld, Alice L.....	142, 408	Wong, Conrad Jung Liang.....	264, 389
Wilkerson, Jennifer.....	319	Wong, Dean F.....	204, 265, 279, 338
Wilkinson, Charles Pat.....	224, 337	Wong, Guang William.....	258, 308, 389
Wilkinson, Samuel Thomas.....	453	Wong, Hong Yuen.....	477
Wilky, Breelyn Ann.....	436	Wong, John Wai-Chiu.....	214, 272, 338
Wille, Maya Elena.....	451	Wong, Patricia.....	169, 389
Wilging, Paul R.....	171, 404	Wong, Philip Chung-Ying.....	55, 204, 230, 338
Willi, Ulrich V.....	275, 356	Wong, Siew-Jyu.....	245, 405
Williams, Allen B.....	219, 415	Wong, Xianrong.....	464
Williams, Darnell.....	310	Wood, Elizabeth.....	152, 389
Williams, Donna.....	172, 415	Wood, Emily Turner.....	458, 476
Williams, Eric H.....	286, 388	Wood, Laura DeLong.....	438, 490
Williams, George Melville.....	282, 337	Wood, Robert A.....	240, 338
Williams, Jason Burke.....	443	Woodard, Crystal Lashae.....	478
Williams, Kayode Ayodele.....	120, 388	Woodfield, Alonzo.....	451
Williams, Kris Burton.....	446	Woodrow, James Piper.....	434
Williams, Lisa Marie.....	436	Woods, Amina S.....	251, 356
Williams, M Lee.....	291, 358	Woodward, Owen Maxwell.....	442
Williams, Mark F.....	292, 388	Woodworth, Graeme Frederick.....	432
Williams, Marlene Stephanie.....	169, 308, 388	Woolf, Thomas B.....	127, 133, 258, 338
Williams, Richard Bland III.....	169, 388	Worden, Lila Tracy.....	455
Williams, Simon Alexander.....	435	Woreta, Fasika Ambachew.....	437
Williams, Stephen Bryan.....	169, 388	Woreta, Tinsay Ambachew.....	427
Williams, Trevor Robert.....	449	Worley, Paul F.....	198, 204, 316, 338
Williams, Zoe Rebecca.....	437	Worthington, Mark Thomas.....	165, 356
Williamson, Penelope R.....	165, 356	Wrangle, John.....	436
Williamson, Samantha Leigh.....	449	Wreesman, Stephen Scott.....	449
Williford, Jonathan Roy.....	476	Wright, Caroline Culbertson.....	423
Willis, Donna L.....	171, 404	Wright, Christopher Lee.....	423
Willour, Virginia Lea.....	264, 388	Wright, Dakara Rucker.....	140, 405
Wills, Sharifa Shunta.....	433	Wright, Edward James.....	294, 356
Wilsker, Deborah Fran.....	443	Wright, Jerry M.....	258, 415
Wilson, Brice Alexander.....	478	Wright, Kevin Michael.....	434
Wilson, Cheri.....	312	Wright, Letitia Jenna.....	430
Wilson, E Hunter Jr.....	171, 405	Wright, Megan C.....	434
Wilson, Eleanor Mckenna Pitt.....	430	Wright, Renee.....	171, 405
Wilson, Jerriann M.....	242, 358	Wright, Scott M.....	162, 338
Wilson, Katherine Lee.....	136, 315, 337	Wright, William.....	312
Wilson, Lucy Edlin.....	169, 388	Wu, Albert W.....	174, 284, 422
Wilson, Mary Ann.....	199, 204, 356	Wu, Binbin.....	443
Wilson, Michelle Elizabeth.....	455	Wu, Chao-Yi.....	477
Wilson, Modena E.....	240, 337	Wu, Christopher L.....	117, 338
Wilson, Shondelle Marie.....	435	Wu, Feng.....	173, 415
Wilson, Theodore H Jr.....	283, 358	Wu, Florence Jeniffer.....	449
Wilson, Thomas Scott.....	171, 405	Wu, Gaosong.....	438
Wilson-Murphy, Molly Margaret.....	455	Wu, Hao.....	432
Wimmer, William C.....	264, 388	Wu, He.....	423
Winder, Abigail Duncan.....	425	Wu, Ingrid Jingnan.....	449, 458
Winders, Benjamin Robert.....	427	Wu, Iwen.....	468
Wingate, Jamie Rene.....	423	Wu, Jean.....	171, 405
Winglee, Kathryn Suzanne.....	471	Wu, Jian.....	435
Winkelstein, Jerry A.....	162, 230, 240, 341	Wu, Jing.....	434
Winnard, Paul Jr.....	415	Wu, Katherine C.....	169, 389
Winslow, Raimond L.....	126, 155, 162, 338	Wu, Mark N.....	169, 200, 389
Winter, Elizabeth Caroline.....	443	Wu, Meng.....	434
Winter, James L.....	305	Wu, Min.....	463
Winters, Bradford D.....	120, 200, 284, 287, 389	Wu, Ping.....	446
Wirth, James B.....	264, 389	Wu, Ren-Chin.....	477
Wirtz, Denis.....	220, 422	Wu, Shaoguang.....	171, 405
Wise, Robert A.....	162, 279, 312, 338	Wu, Sheng.....	441
Wise, Thomas N.....	260, 338	Wu, Tinghui.....	226, 389
Wisniewski, Amy B.....	244, 389	Wu, Tzyy-Choo.....	47, 55, 151, 214, 230, 338
Wissow, Lawrence S.....	246, 265, 422	Wu, Wai-Hong.....	439
Witham, Timothy F.....	287, 389	Wu, Xiangwei.....	289, 415
Witmer, Philip Dane.....	474	Wu, Xiaojing.....	476
Witt, John P.....	265, 405	Wu, Xinyan.....	123, 405
Witter, Frank R.....	151, 338	Wu, Yanhua.....	430
Wittstadt, Raymond A.....	289, 405	Wu, Yanjue.....	434
Wittstein, Ilan Shor.....	169, 389	Wu, Yen-Ching.....	476
Witwer, Kenneth Whitaker.....	463	Wu, Yicong.....	424
Wityk, Robert J.....	165, 199, 356	Wu, Yu.....	435
Wodka, Ericka Lisle.....	265, 405	Wu, Zhuhao.....	476
Wolberger, Cynthia.....	133, 315, 338	Wu-Chen, Wen Ying Helena.....	437
Wolf, David Scott.....	434	Wulff, Laura Lynn.....	443
Wolf, Edward J.....	171, 405	Wung, Peter Kuo-Yen.....	171, 405
Wolf, Joshua Harris.....	445	Wuyek, Lisa A.....	265, 405
Wolfe, Andrew.....	244, 258, 389	Wyatt, Jenel Steele.....	171, 405
Wolfe, Irving D.....	140, 405	Wyhs, Nicolas A.....	478
Wolfe, Leah.....	169, 389	Wyhs, Sarah Elaine.....	423
Wolff, Antonio Carlos.....	216, 312, 356	Wylie, Luke Allister.....	453
Wolff, Jennifer L.....	174, 422	Wyse Gerald.....	276, 405
Wolff, Stewart M.....	225, 358	Xia, Chang.....	434, 436
Wolfgang, Christopher L.....	218, 284, 308, 389	Xia, Jinsong.....	444
Wolfgang, Michael J.....	123, 389	Xia, Lu.....	173, 418
Wolfman, Jessica H.....	442	Xia, Shuli.....	200, 405
Wolinsky, Jean-Paul.....	218, 287, 389	Xiang, Minghui.....	173, 415
Wolle, Meraf Amde.....	458	Xiao, Bo.....	205, 415
Wolock, Bruce S.....	289, 405	Xiao, Huiqing.....	173, 415
Womer, Karl L.....	169, 389	Xiao, Jian-Chun.....	441
Wondisford, Frederic E.....	173, 240, 258, 338	Xiao, Jie.....	133, 389
Wong, Aaron Lih Der.....	468	Xiao, Meifang.....	442

Xiao, Zuoxiang	439
Xie, Kefang	432
Xie, Yi	194, 415, 446
Xie, Zhi	437
Xing, Dongmei	445
Xing, Michael Mingzhao	165, 216, 357
Xing, Sifei	478
Xiong, Wei	434
Xiong, Yulan	434
Xu, Desheng	205, 415
Xu, Hangxiu	434
Xu, Jia	205, 415
Xu, Jinchong	434
Xu, Jing	478
Xu, Jingyan	278, 415
Xu, Ji-Tian	423
Xu, Kai Tai	427
Xu, Lauren Fang	490
Xu, Leyan	440
Xu, Ming Ming	449
Xu, Minnan	468
Xu, Risheng	458, 478
Xu, Wenlian	194, 415
Xu, Yi	192, 415
Xu, Zhenhua	437
Xue, Qian-Li	169, 389
Xue, Tian	434
Yachida, Shinichi	439
Yadav, Hemang	432
Yadav, Nandini Umesh	429
Yadav, Sunny	428
Yager, David	245, 409
Yager, James D Jr	220, 422
Yalcin, Hulya	428
Yamaji-Kegan, Kazuyo	120, 415
Yamazaki, Michiyo	441
Yan, Alan Yong	437
Yan, Dawn	423
Yan, Gai	471
Yan, Kun	444
Yan, Raymond Tze-Heng	428
Yan, Wei	434
Yan, Ye	434
Yanek, Lisa Renee	171, 405
Yang, Andrew	277, 389
Yang, Andrew Rong Song Tzeng	455
Yang, Annan	479
Yang, Chris Park	424
Yang, Eunice	453
Yang, Huang Yu	474
Yang, In Hong	424
Yang, Jesse Xiaolong	455
Yang, Jessica	455
Yang, Jian	435
Yang, Joy T	136, 311, 357
Yang, Jr-Ming	465
Yang, Jun	245, 405
Yang, Justin	490
Yang, Ming	468
Yang, Philemon Szu-Wei	471
Yang, Phyllis Shan-Chun	453
Yang, Samuel	142, 389
Yang, Shirley SL	305
Yang, Stephen C	214, 282, 309, 310, 316, 338
Yang, Tingting	468
Yang, Wan Jou	455
Yang, Wei	133, 338
Yang, Xiao Ping	173, 415
Yang, Xiaoju	173, 416
Yang, Xiaoru	173, 415
Yang, Ya	423
Yang, Yi	426
Yang, Yongjie	434
Yang, Zeng-Jin	120, 405
Yang, Zhiming	443
Yang, Zhiyong	437
Yantis, Steven	205, 422
Yantz, Christine L	442
Yao, Sheng	219, 416
Yao, Xu	173, 418
Yap, Laurel G	245, 405, 477
Yardley, John H	230, 338
Yarmus, Lonny Brett	172, 408
Yarrington, Robert Mace	432
Yasar, Sevil	169, 389
Yashinski, Michael Patrick	472
Yasnoff, William A	155, 338
Yaster, Myron	117, 240, 338
Yates, Jennifer Ann	427
Yates, Melissa Marie	426
Yau, Jeffrey Min-In	434, 476
Yau, King-Wai	204, 224, 338
Yavari Rad, Mohammad H	256, 405

Yazdany, Mahdi	434
Yazdi, Youseph	127, 389
Yazigi, Ricardo A	152, 389
Ye, Huihui	440
Ye, Mei	430
Ye, Xiaobu	219, 416
Ye, Xin	463
Ye, Ying	477
Ye, Yu	442
Ye, Zhaohui	430, 474
Yeagle, Jennifer Dobson	292, 408
Yegnasubramanian, Srinivasan	218, 389
Yeh, Hsin-Chieh	169, 389
Yeh, Julie	245, 409
Yehia, Rana Ramzi	427
Yemelyanova, Anna	232, 389
Yen, Hung-Rong	436
Yen, Paul Michael	165, 252, 357
Yen, Ray-Whay Chiu	219, 416
Yi, Eunyoung	438
Yi, James Jihoon	443
Yi, JooMi	435
Yi, Kyung Hee	436
Yin, Bo	446
Yin, Feng	432
Yin, Hongyan	465
Ying, Howard S C	226, 389
Ying, Mingyao	434
Ying, Sarah H	200, 226, 309, 389
Yohannan, Jithin	453
Yolken, Robert H	240, 265, 338
Yoneyama, Kihei	428
Yong, Elaine	169, 389
Yoo Campbell, Jean	427
Yoon, Andrew C	425
Yoon, Byung Chul	458
Yoon, Wan Hee	465
Yoshida, Takeshi	437
Yoshida, Tsunehiko	437
Yoshimura, Kiyoshi	218, 284, 389
Younan, Nancy	265, 405
Young, Barbara	264, 392
Young, Deborah Sue Rohm	165, 357
Young, Eric D	126, 204, 290, 309, 311, 338
Young, Jeffery Hunter	169, 389
Young, Mark Allen	256, 389
Young, Mark Jason	490
Young, Michelle Ribeiro	490
Younus, Mohammed	265, 405
Yousefi, Morvarid	442
Yousem, David Mark	278, 311, 338
Yousuf, Omaid Khwaja	427
Yshii Tamashiro, Cecilia Hiromi	428, 436
Yu, Bing	289, 418
Yu, Haibo	434
Yu, Hao	441
Yu, Hong	219, 416
Yu, Huimei	434
Yu, Huimin	463
Yu, Jason Jen-Che	428
Yu, Jean Ming	449
Yu, Jianshi	439, 442
Yu, Jianzhong	432
Yu, Jing	468
Yu, Jingshi	442
Yu, Jinho	429
Yu, Jinxiang	431
Yu, Jonathan Wei-Che	477
Yu, Lan	443
Yu, Qilu	173, 416
Yu, Tao	468
Yu, Wei	219, 416
Yu, Yanxing	219, 416
Yu, Zhou	476
Yuan, Baojun	429
Yuan, Changqing	434
Yuan, Daniel S	194, 416
Yuan, Jie	201, 416
Yuan, Ming	443
Yuan, Nance L	453
Yuan, Qingyang	458
Yue, David T	126, 204, 309, 310, 313, 338
Yue, Wing Sze Wendy	464
Yuh, David Daiho	284, 357
Yun, Jihye	472
Yung, Rex Chin-Wei	169, 218, 389
Yusuff, Shamila	445
Zabel, T Andrew	264, 389
Zabin, Laurie S	153, 422
Zaboli, David	449
Zabransky, Daniel James	455
Zaca, Domenico	444
Zachara, Natasha E	123, 389

Zacharias, Nikolaos.....	445	Zhang, Yimao.....	278, 416
Zachary, Andrea A.....	162, 338, 358	Zhang, Ying.....	174, 422
Zachary, Jimmy B.....	165	Zhang, YingXin.....	476
Zachik, Albert.....	265, 405	Zhang, Yong.....	434
Zachos, Nicholas Constantine.....	169, 389	Zhang, Yonggang.....	219, 273, 416
Zack, Donald J.....	45, 194, 204, 224, 338	Zhang, Yongqiang.....	442
Zackowski, Kathleen M.....	200, 256, 315, 389	Zhang, Yuying.....	424
Zacur, Howard A.....	151, 312, 338	Zhang, Zhen.....	231, 357
Zadek, Robert E.....	289, 392	Zhang, Zhongyan.....	425
Zadnik, Patricia Leigh.....	453	Zhang-Howard, Rong.....	169, 390
Zaghloul, Norann Amir.....	445	Zhao, Claire Yunzhu.....	469
Zahalka, Charles Wainwright.....	424	Zhao, Kevin Haitao.....	449
Zaheer, Atif.....	277, 389	Zhao, Ming.....	219, 416
Zaher, Hani.....	432	Zhao, Xiuli.....	423
Zahner, Mathew Ralph.....	424	Zhao, Xuechu.....	426
Zahnow, Cynthia Ann.....	218, 389	Zhao, Yulian.....	151, 357
Zaidi, Asifa.....	173, 416	Zhen, Gehua.....	423
Zaidi, Hasan Aqdas.....	449	Zheng, Desheng.....	424
Zaiman, Ari L.....	169, 389	Zheng, Fei.....	423
Zakaria, Asif Mohammad.....	431	Zheng, Gang.....	438
Zakaria, Khurram Shahzad.....	428, 444	Zheng, Lei.....	218, 390
Zakaria, Sammy.....	171, 405	Zheng, Linghua.....	436
Zakriya, Khwaja Javid.....	120, 390	Zheng, Rui.....	438
Zambidis, Elias Thomas.....	218, 244, 390	Zheng, Tao.....	169, 390
Zambrano, Regina Margarita.....	426, 441	Zheng, Yonggang.....	432
Zamoiski, Calman J Jr.....	305	Zhigalin, Andrew.....	429
Zamora, Carlos Armando.....	444	Zhong, Chun.....	434
Zamora, Eduardo Daniel.....	440	Zhong, Jun.....	465
Zampella, John George IV.....	75, 453	Zhong, Xiaoli.....	438
Zan, Elcin.....	444	Zhong, Xiufeng.....	437
Zandi, Peter P.....	265, 422	Zhong, Yi.....	439
Zanni, Jennifer M.....	257, 409	Zhou, Feng-Quan.....	205, 289, 390
Zarififar, Teraneh.....	477	Zhou, Jessica.....	490
Zarling, Stasya Nicole.....	474	Zhou, Jinyuan.....	278, 390
Zarr, Melissa Ann.....	478	Zhou, Lufang.....	428
Zayit-Soudry, Shiri.....	437	Zhou, QiongQiong.....	425
Zec, Helena Claire.....	468	Zhou, Qun.....	219, 418
Zee, David S.....	198, 204, 224, 290, 338	Zhou, Shibin.....	216, 357
Zeffiro, Timothy Alfred.....	451	Zhou, Yanfei.....	292, 418
Zeger, Scott.....	306, 309, 310, 317	Zhou, Yi.....	424
Zeidan, Quira.....	465	Zhou, Yong-Di.....	287, 390
Zeidner, Joshua Franklin.....	427	Zhou, Yufeng.....	429
Zeiger, Martha Allen.....	214, 282, 311, 315, 338	Zhou, Yulian.....	464
Zeiler, Steven Robert.....	434	Zhou, Yun.....	276, 390
Zeimer, Ran.....	224, 338	Zhou, Zheng.....	436
Zeitels, Lauren Rachel.....	458, 474	Zhu, Gefeng.....	219, 416
Zeitlin, Pamela L.....	240, 258, 311, 315, 338	Zhu, Guangshuo.....	428
Zelaya, Carla.....	145	Zhu, He.....	444
Zeledon, Mariela Angela.....	474	Zhu, Heng.....	218, 252, 390
Zeiken, Jonathan A.....	446	Zhu, Jiakai.....	446
Zellars, Richard C.....	218, 272, 309, 316, 390	Zhu, Jian.....	442
Zeller, Karen.....	173, 416	Zhu, Jianhong.....	423
Zellos, Aglaia.....	244, 390	Zhu, Jing.....	434
Zeng, Jie.....	233, 418	Zhu, Jing.....	434
Zeng, Jing.....	443	Zhu, Longkun.....	441
Zeng, Mingbing.....	437	Zhu, Nan.....	451
Zeng, Qi.....	439	Zhu, Qingsong.....	435, 436
Zeng, Yu.....	446	Zhu, Renjun.....	469
Zenilman, Jonathan M.....	151, 162, 338	Zhu, Shanshan.....	443
Zerhouni, Elias A.....	126, 275, 338	Zhu, Wenlian.....	278, 416
Zerhouni, Yasmin.....	456	Zhu, Xinjun.....	430
Zeynalov, Emil Niyazi Oglu.....	120, 416	Zhu, Yao-Yao.....	169, 390
Zhan, Huichun.....	436	Zhu, Yuwen.....	436
Zhang, Dongming.....	155, 416	Zhu, Zhou.....	165, 357
Zhang, Dou.....	428	Ziai, Mohsen.....	245, 409
Zhang, Feiran.....	478	Ziai, Wendy C.....	120, 200, 287, 390
Zhang, Hongkang.....	464	Ziegelstein, Roy C.....	162, 338
Zhang, Huafeng.....	219, 416	Zieman, Susan Jane.....	169, 390
Zhang, Hui.....	232, 390	Ziessman, Harvey A.....	275, 316, 339
Zhang, Jennifer Qi.....	453	Zieve, Philip D.....	162, 316, 341
Zhang, Jian.....	423	Zigler, J Samuel Jr.....	226, 390
Zhang, Jianguyong.....	278, 390	Zikria, Bashir Ahmed.....	289, 390
Zhang, Jie.....	205, 418	Zikusoka, Michelle Nabalumba.....	171, 405
Zhang, Jin.....	204, 216, 252, 357	Ziminski, Carol M.....	78, 165, 315, 357
Zhang, Kan.....	490	Zimmer, Karen Paul.....	244, 390
Zhang, Kechen.....	127, 205, 390	Zimmer-Galler, Ingrid E.....	225, 357
Zhang, Lanjing.....	439	Zimmerman, Andrew W.....	199, 242, 262, 357
Zhang, Li.....	436	Zimmerman, Jack M.....	283, 358
Zhang, Manling.....	428	Zimmerman, Neal B.....	289, 405
Zhang, Nailiang.....	463	Zimmerman, Ryan Michael.....	490
Zhang, Nan.....	476	Zimnitsky, Brian Michael.....	264, 390
Zhang, Pingbo.....	428	Zimowski, Karen Leigha.....	441
Zhang, Ping-Wu.....	201, 416	Zinchenko, Michelle Kim.....	463
Zhang, Shiliang.....	432	Zink, M Christine.....	55, 192, 230, 307, 311, 315, 339
Zhang, Tianyu.....	430	Zinkham, William H.....	214, 240, 341
Zhang, Tong Tong.....	474	Zinn, Rebekah Lorah.....	435
Zhang, Wei.....	434, 435	Zinner, Michael J.....	284, 409
Zhang, Wenchi.....	434	Zinreich, Eva S.....	273, 390
Zhang, Xianjie.....	445	Zinreich, S James.....	278, 290, 339
Zhang, Xiaosong.....	478	Zirkin, Barry R.....	153, 422
Zhang, Xiuying.....	446	Ziskin, Jennifer Lynn.....	490
Zhang, Yajing.....	439, 468	Zizic, Thomas M.....	165, 357
Zhang, Yi.....	468	Zold, Camila Lidia.....	434

Zollars, Eric Stafford.....	427	Zubair, Sania.....	425
Zollinger, Raymond H.....	171, 405	Zuberi, Jamshed A.....	284, 405
Zong, Jianchao.....	219, 416	Zucker, Peter K.....	152, 390
Zonies, Seth Aaron.....	463	Zuckerman, Rhonda L.....	120, 153, 390
Zordan, Rebecca Elizabeth.....	432	Zuidema, George.....	284, 409
Zorowitz, Richard David.....	256, 357	Zukin, Stephen R.....	260, 279, 339
Zou, Beiyan.....	435	Zumbar, Zachary Matthew.....	423
Zou, Gang-Ming.....	438	Zuroweste, Edward Lee.....	169, 390
Zou, Jizhong.....	425	Zweier, Jay L.....	162, 275, 339
Zu, Lingyun.....	428		



Notes

Notes