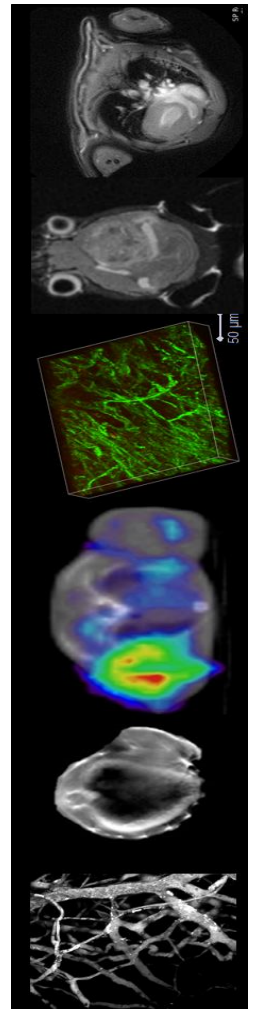


Imaging Scanners

Our Services

We provide state-of-the-art small animal imaging, including MRI, PET/MRI, PET/CT, SPECT, CT, X-ray, Ultrasound, Optical Imaging, and Optoacoustic Imaging to support tailored design, optimization, quality control, analysis and visualization, and image guided therapeutics in a wide range of scientific projects within the diverse research community of Johns Hopkins University and beyond.

We train Users in imaging technologies and image analysis (PV360 and PMOD). Our core offers TVI, catheter placement, anaesthesia animal system, satellite animal housing in MRB and CRB2.



Bruker BioSpec AV 94/21, 9.4T Horizontal MRI Scanner



- High-resolution structural and functional imaging in rodents.
- Qualitative and quantitative imaging (tumor growth and metabolism).
- Higher gradient strengths and superior performance characteristics.
- Active RF decoupling, successful use for surface and volume coils together.

Bruker BioSpec USR 70/30, 7T Simultaneous PET/MRI Scanner



- High-resolution anatomical, functional and metabolic imaging with multi-nuclear capacity.
- Qualitative and quantitative simultaneous PET and MR imaging.
- 2D, 3D, EPI, GRE, 3D angiography, DWI, DTI, CEST and spectroscopy sequences.
- Vascular studies, cerebral blood flow, and cardiac function, pharmacokinetics study.
- Mice and rat dedicated coils, heating, respiratory and cardiac monitoring.
- Fully quantitative, PET radiotracers for pharmacodynamic and pharmacokinetics.

Super Argus, Sedcal 2R, PET/CT Scanner



- High specificity radiotracer uptake combined PET and CT imaging.
- Studying tumor, metabolic or other physiologies using radiotracers.
- Pharmacodynamic, pharmacokinetic and development of new radiopharmaceuticals.
- Imaging bony anatomy including soft tissue with contrast agents.
- One or two bed positions, 2 mice together.

Vector+ Micro, Single Photon Emission Computed Tomography (SPECT) Scanner



- High-resolution quantitative 3D functional imaging of Te-99m, I-123, 125 and In-111.
- 4 collimators: general purpose mice, rats, ultra-high resolution, and ultra-high sensitivity.
- 75 pinholes with 3 large detectors for static and dynamic imaging of mice and rats.
- Pharmacodynamic, pharmacokinetic and development of new radiopharmaceuticals.

Gamma Medica, SPECT/CT Scanner



- Integrated with CT imaging for longer-lived isotopes such as Te-99m, I-123, 125 and In-111.
- 2 detectors, multiple collimators, provide 1mm resolution along with 50-micron CT imaging.
- Imaging bony anatomy is good, soft tissue contrast upon administration of contrast.
- Pharmacodynamic, pharmacokinetic and development of new radiopharmaceuticals.

Xenogen, IVIS Spectrum Optical In-Vivo Imaging System

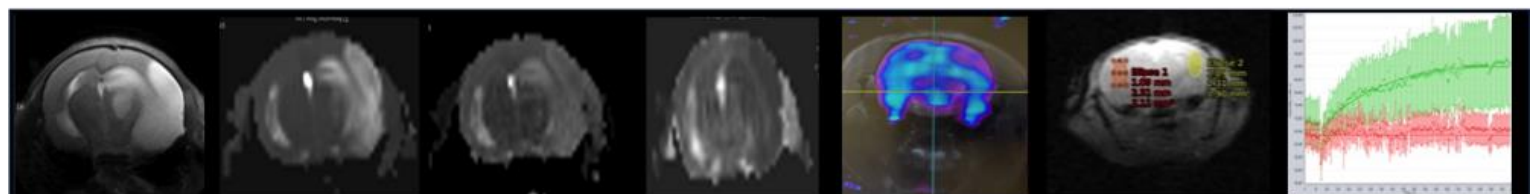


- Fast whole-body bioluminescence imaging with broad range of fluorescence wavelengths.
- Imaging of reporter genes, cell transplantation, tumor growth and therapy monitoring.
- Measuring luciferase activity, testing drugs mechanism, Imaging of GFP and quantum dots.
- Semi-quantitative imaging, multiple animals at a time.

Multispectral Optoacoustic Tomography: iThera MSOT inVision 512-Echo Scanner



- Detect, monitor pathologies and injected dyes, quantify hemoglobin, lipids, reporter genes.
- Integrated with ultrasound, animal handling and monitoring system.
- Advanced acquisition and processing software.
- Visualize and quantify organ structures at cm resolution, whole body imaging.
- Real time in vivo and ex vivo imaging with quantitative image analysis.



Olympus FV1000, Multiphoton Microscope



- Wide variety of regular and water immersion objectives for in vivo and ex vivo imaging.
- 20X MicroProbe, allows high-resolution fluorescence imaging with insertion into animal's body.
- Tunable pulsed laser with a range of 690 nm to 1040 nm and 3 standard PMT light detectors.
- Capacity to detect most dyes and, fluorescent proteins, DAPI, Rhodamine, Calcein, Fluo-3, Fluo-4.
- Second harmonic signal generating and auto-fluorescing molecules such as collagen I and NADH.
- Imaging neural networks in the brain, photoreceptors in the retina, cancer cell and collagen fibers.

VisualSonics, Ultrasound Scanner



- Imaging of structures, monitoring growth and development.
- High-frequency transducers (55 MHz).
- Cardiovascular applications, vascular characterization of tumors.
- Measuring tumor size and site-specific gene and therapeutic delivery.

Faxitron, X-ray MX-20 Specimen Radiography System



- High contrast, high magnification, imaging of bony structures, ideal for whole mice, bone, or knee.
- Micro-focus x-ray source to achieve high-resolution and magnification
- Tube Voltage (10 kV-35 kV) and current 300 micro-amps.
- The images can be adjusted and modified using the included software.

LICOR, The Pearl imager System

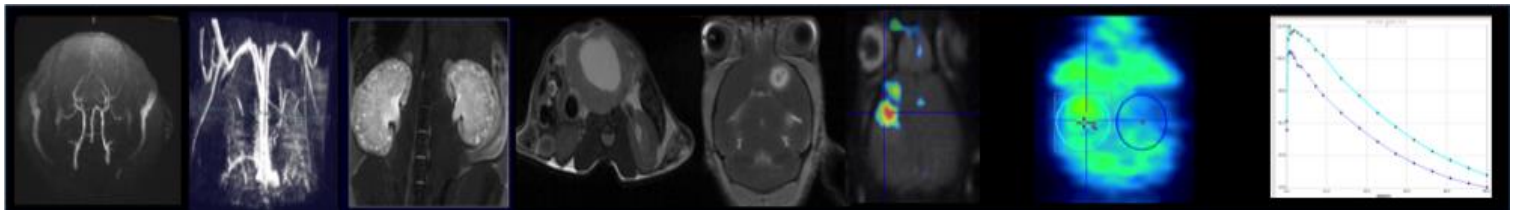
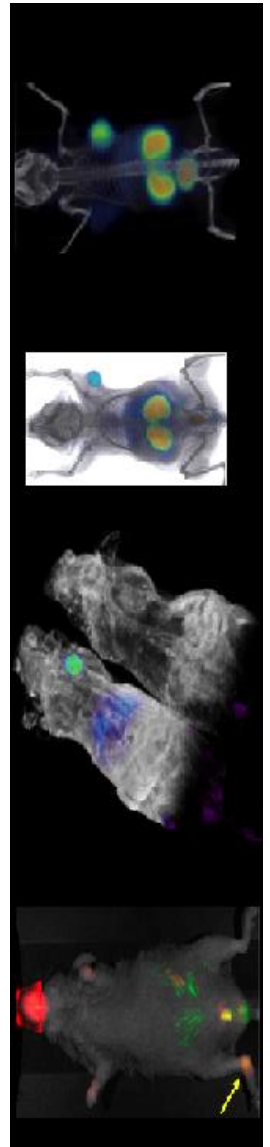


- Fluorescence imaging with excitation (685-785nm) and emission (700-800) with white-light overlay.
- Resolution upto 85, 170 and 255 μ m.
- Compatible with multiple dyes: IRDyes, DX, RS, CW, Alexa Fluor 680, 750, Cy.
- Single mice scanning with display options for grayscale or color.
- Image analysis and quantitation can be performed on the associated workstation.

MSD, Nordion Gammacell 40 Exactor



- Irradiation of whole body or cells.
- Dual Caesium137 source, superior performance, accurate results.
- Collimator and attenuator for gauged reduction of dose rate or controlled precision exposure.
- Control system allows for time increments of 1 second with an automatic calculation of dose rate.
- Entire system is insured with a battery back-up in case of power failure.



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We have a team of dedicated experts, who can guide and help you in the planning and design of tailored protocols to collect and process multiparametric multimodal imaging data