CORE FOR TRANSLATIONAL RESEARCH IN IMAGING @MARYLAND (C-TRIM)
PRECLINICAL IMAGING

CIBR: Center for Innovative Biomedical Resources

CORE INSTRUMENTATION

Bruker BiospecAvance III 7 T and 9.4 T Small Animal MRI Scanners

- High-resolution assessment of structure and function for CNS and body applications
- Multi-nuclear spectroscopy
- Diffusion Tensor ultrastructural Imaging
- Vascular studies, cerebral blood flow, cardiac function
- H-1MRI CryProbeTM 2 Element Array kit providing a remarkable SNR gain

Siemens Inveon Small Animal PET- CT Imaging System

- Dockable PET-CT for combined anatomic and functional imaging
- High specificity radionuclide uptake
- Metabolic imaging
- High resolution system, (50 µm for CT and 1.2 mm for PET) with extended FOV

Xenogen IVIS Spectrum Optical *in vivo* imaging System

- Rapid whole-body optical imaging of mice, rats or rabbits
- Wide range of fluorescence excitation and emission filters
- Wide array of applications such as proteasome activity, tumor growth, drug efficacy, cell transplantation

Quantum GX2 microCT Imaging System

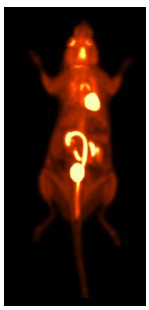
- High resolution (2.3 micrometer voxel size)
- High-speed (scans as fast as 3.9 seconds)
- Field Of Views (FOVs) – 18-86 mm
- Supports zebrafish/mouse/rat/guinea pig/rabbit
- Respiratory and cardiac gating
- Seamlessly co-registration with IVIS® imaging data

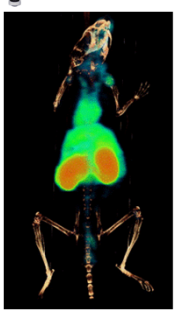
MISSION

To foster a collaborative environment that nurtures innovative advancements in imaging and image guided therapeutics, with a clear pathway for translation to clinical applications.

CORE SERVICES

C-TRIM offers comprehensive imaging research support, including experiment design and technique optimization consultation. We provide expert image processing and analysis assistance, along with training upon request. Additionally, our core hosts an annual research retreat focusing on specific areas of interest. We are committed to advancing diagnostic imaging technologies and image-guided therapeutic interventions to stay at the forefront of the field.





UNIVERSITY of MARYLAND
SCHOOL OF MEDICINE

CENTER FOR INNOVATIVE BIOMEDICAL RESOURCES (CIBR)
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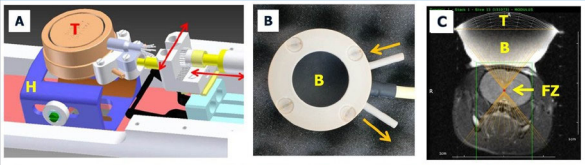
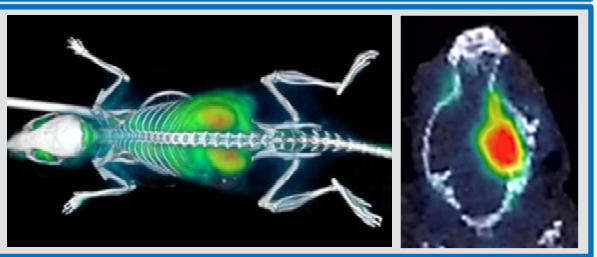
CORE TECHNOLOGY AND EXAMPLE APPLICATIONS

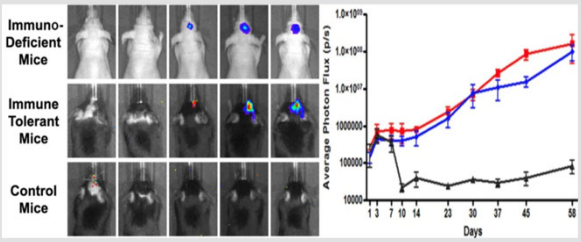
MRI-guided Focused Ultrasound (MRgFUS) System
Integrated with MR for image-guided tumor ablation, blood brain barrier disruption neuromodulation



PET Imaging of metabolic activity, drug biodistribution studies
Non-destructive high resolution, quantitative imaging of whole-body drug biodistribution.



Bioluminescence Imaging
Longitudinal monitoring of tumor growth and response to therapy

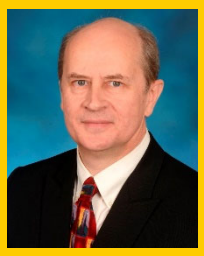


microCT Imaging
High resolution *in vivo* and *ex vivo* imaging of bone, soft tissue and vasculature

Other Applications

High-resolution Diffusion Tensor Imaging for detecting microstructural and cellular changes (MR); Vascular studies (CT/MRI); Cerebral blood flow studies using endogenous contrast (MR); Cardiac functional analysis (MR/PET/CT); Investigation of Blood-Brain Barrier disruption for drug delivery (MR/MRgFUS); Neuromodulation using low energy ultrasound (MRgFUS); Ablative image guided surgery; Focal image guided body and neuro thermal therapy applications (MRgFUS); Bone density measurements (CT); Cardiac metabolism (MR/PET); Musculoskeletal studies (MR/CT); Detection of novel fluorophores (Xenogen); GFP and Luciferase imaging (Xenogen); Monitoring tumor growth (CT/MR/PET/Xenogen)

CONTACT



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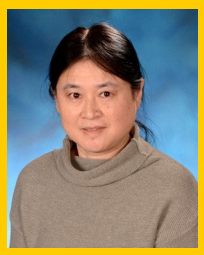

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