

Translational Metabolomics Shared Resource Preclinical Imaging Instrumentation

The Translational Metabolomics Shared Resource (TraMSR) Preclinical Imaging unit provides advanced *in vivo* imaging technologies to support small animal-based research across a range of biomedical fields. It provides investigators access to comprehensive imaging services using the Revvity IVIS SpectrumCT system as well as customized near-infrared (NIR) and short-wave infrared (SWIR) imaging solutions. These platforms enable high-resolution, non-invasive imaging to visualize biological processes, disease progression, and therapeutic response in real time.

IVIS Spectrum CT Imaging System

This integrated imaging system combines Bioluminescence Imaging (BLI), Cerenkov Luminescence Imaging (CLI), Fluorescence Imaging (FLI), and computer tomography (CT), allowing for both functional and anatomical imaging in small animals.



Key Features

- Integrated Micro-CT: High-resolution anatomical imaging alongside optical modalities
- 3D Tomography: CT data provides volumetric reconstructions overlaid with functional optical signals
- Low Dose Imaging: Ideal for longitudinal studies, with capability to image multiple animals simultaneously
- Fast Scan and Reconstruction: Quick acquisition and processing times for efficient workflows
- Automatic Co-registration: Seamlessly combines CT and optical images for comprehensive analysis
- Modality Flexibility: Use optical or CT imaging independently or in combination

Applications

- Tumor growth and metastasis tracking
- Pharmacokinetics and pharmacodynamics studies
- Longitudinal disease progression studies
- Imaging in oncology, infectious disease, neurology, cardiovascular research, and more

Small Animal NIR & SWIR Imaging Setup

Upon user requests, custom imaging supporting preclinical imaging in the near-infrared and short-wave infrared ranges are available to allow deeper tissue penetration and improved resolution for various in vivo studies.