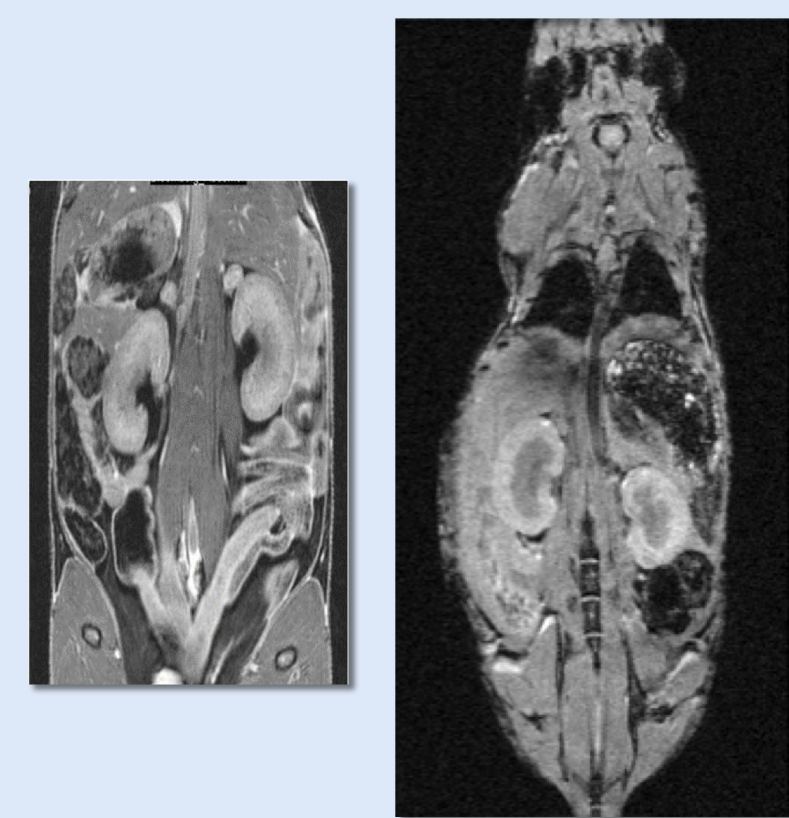


Bruker BioSpec 3T
18 cm bore;
Gradient: 450 mT/m;
slew rate 4,200 T/m/s;
motorized animal
transport system;
multimodal mouse
and rat beds; body
and head RF coils.



Whole body mouse
with Gd
nanoparticle uptake

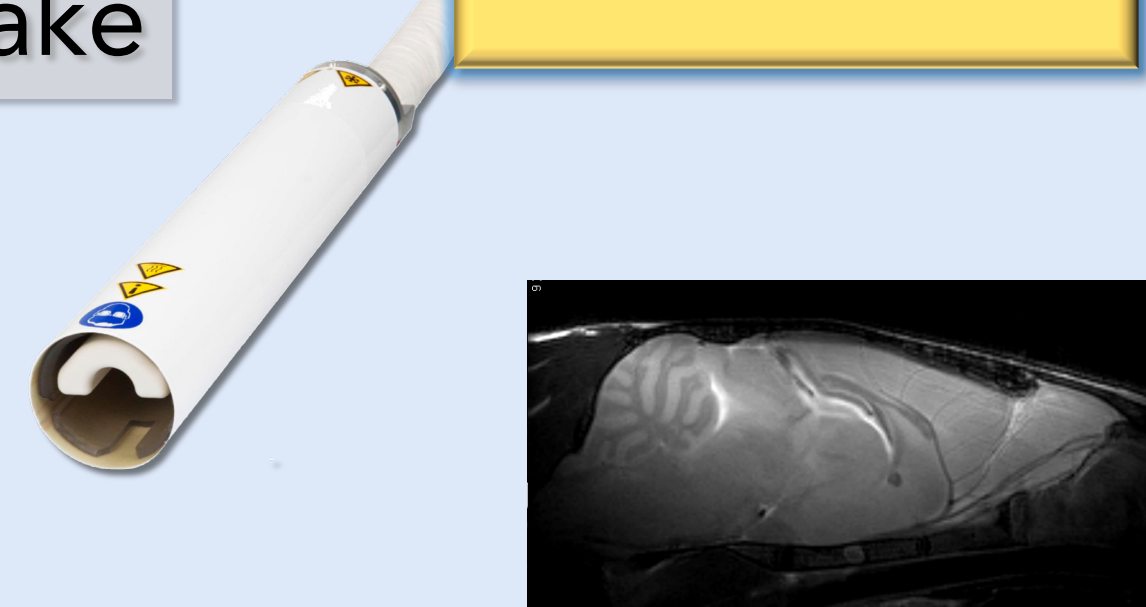


MRI

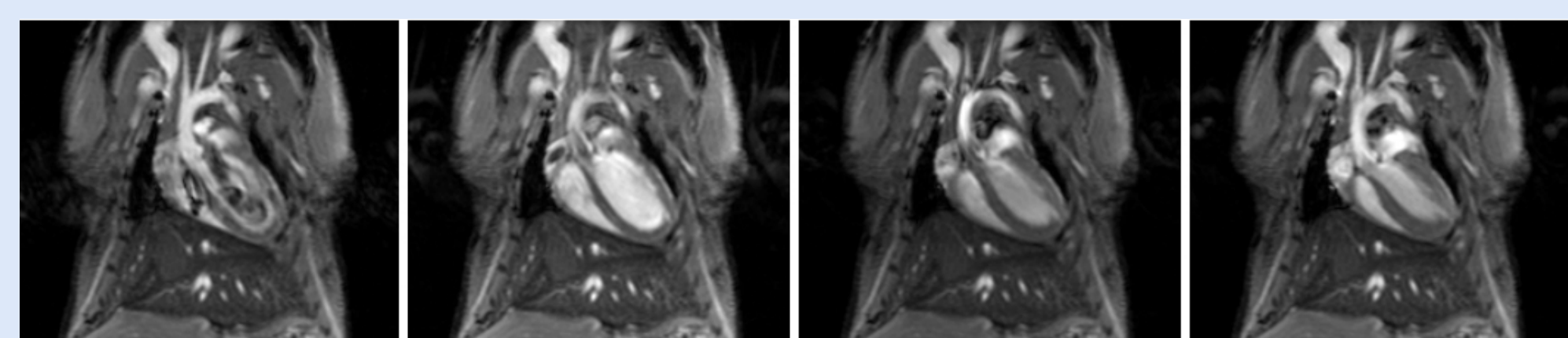
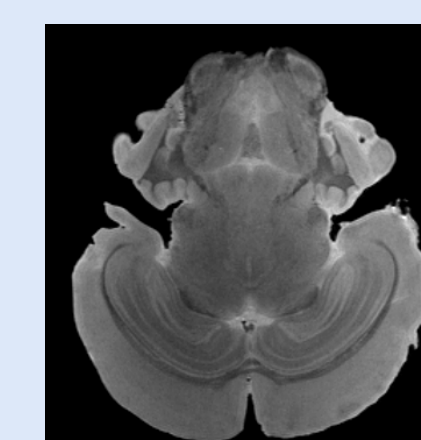
Bruker BioSpec 7T 70/20 USR

Gradient B-GA 12, 660 mT/m, slew rate 4,750 T/m/s;
Two transmit channels, ¹H and X-nuclei, 4 receive
channels: 1 wideband and 3 ¹H-only.

RF coils: 2-channel CryoProbe for mouse
brain, 4-channel mouse cardiac/abdomen
coil, Tx/Rx 72mm circularly polarized
volume coil, 86 mm volume coil,
double-tuned ¹H/³¹P and ¹H/¹³C
surface coils, ¹H receive only
surface coils.



7T Cryoprobe images
50µ resolution



Multi-phase retrospectively gated mouse cardiac cine

Other equipment:

Mouse and rat beds with integrated warming base and anesthesia; Harvard Apparatus MRI-compatible injection pump; SA Instruments physiological animal monitoring system for respiration, ECG, and temperature; cardiac and respiratory triggering; gas anesthesia with O₂ and isoflurane.

Software for both MRI scanners:

Paravision® version 6.0.1 – Includes: Parallel imaging package (7T), Spectroscopy package, Diffusion tensor imaging license, IntraGate retrospective cardiac gating, Susceptibility-weighted imaging, Arterial Spin Labeling; UTE; fMRI and angiography extension packages.

The core facilities are
available to all public
research institutions and
industrial partners.

For more information:
SAILinfo@Partners.org

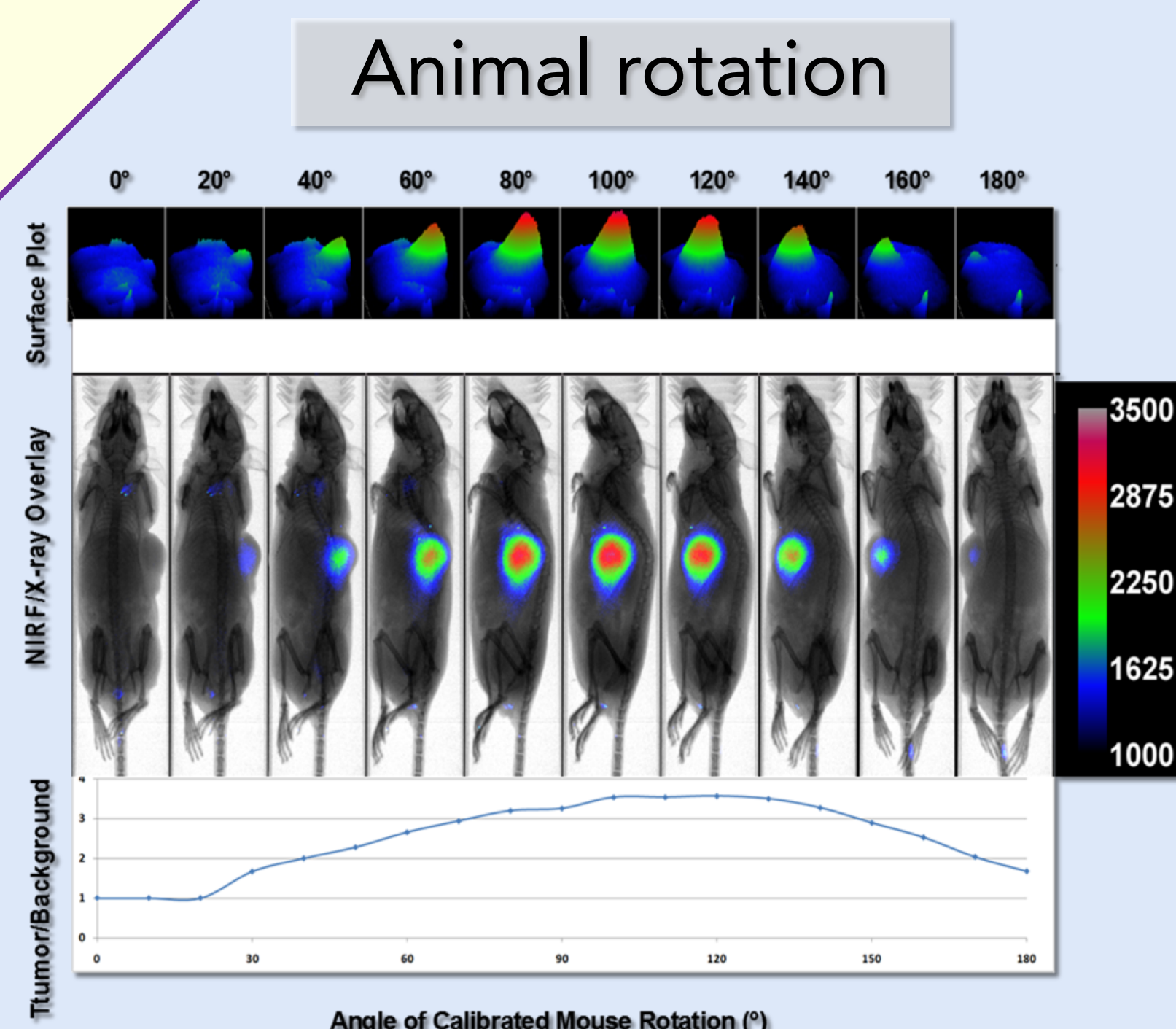
Services Offered

- Assistance with study design
- Animal handling
- Scanning, and optimization of scanning protocols
- Training for independent scanner operation (MRI, optical)
- Advice on image analysis
- Fee-for-service Image analysis.

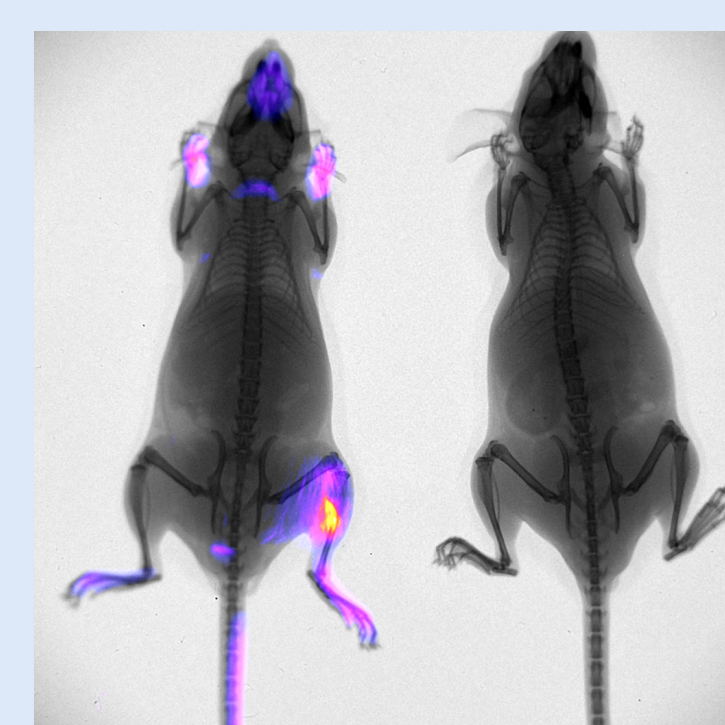
Facilities

- 60 Fenwood Rd. (HBTM)
- 221 Longwood Ave.

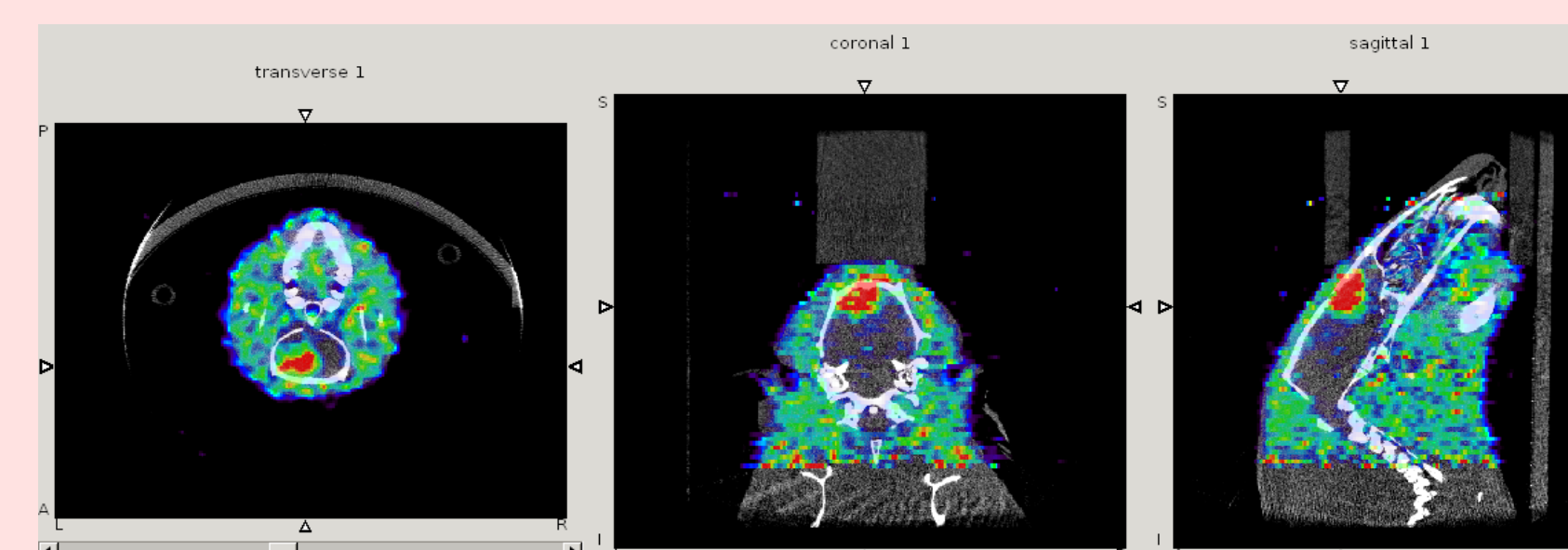
Each system's room is equipped with a biosafety cabinet and prep areas for pre- and post-imaging procedures.



Multimodal imaging



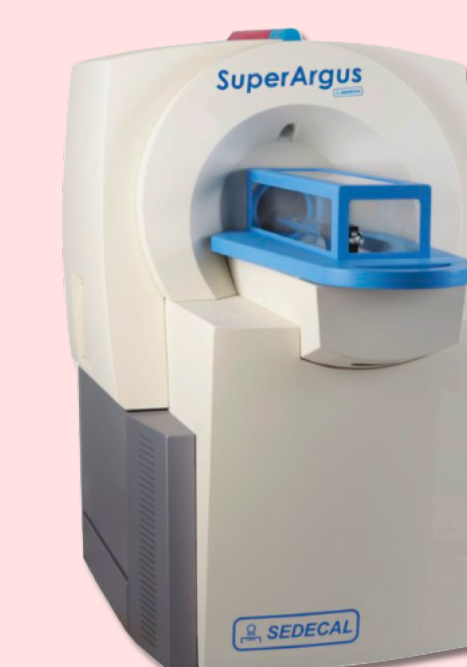
PET-CT images of glioma using ¹⁸F-FLT (Fluorothymidine)



Optical

Multiple imaging modalities:

- Bioluminescence
- Fluorescence
- Reflectance
- X-ray



PET-CT

Sedecal SuperArgus

LYSO/GSO phoswich detector;
8.3% sensitivity, spatial resolution
< 1mm across entire FOV;
transaxial FOV 120 mm, axial
FOV 100/350 mm without/with
translation.

Simultaneous imaging of up to 4 mice;
mouse and rat beds; integrated
anesthesia, heated bed, gating and
monitoring; real-time dynamic
imaging.

- Biohazard BL2 approved
- Cyclotron facility for PET radiotracers
- Shielded animal housing available after imaging

µCT

Bruker SkyScan 1176

11 MP X-ray CCD camera for high performance, high resolution in-vivo micro-CT scans with a maximum FOV of 68mm x 200mm and ultra-low radiation dose.



Software for 2D/ 3D image analysis, bone morphometry and realistic visualization.