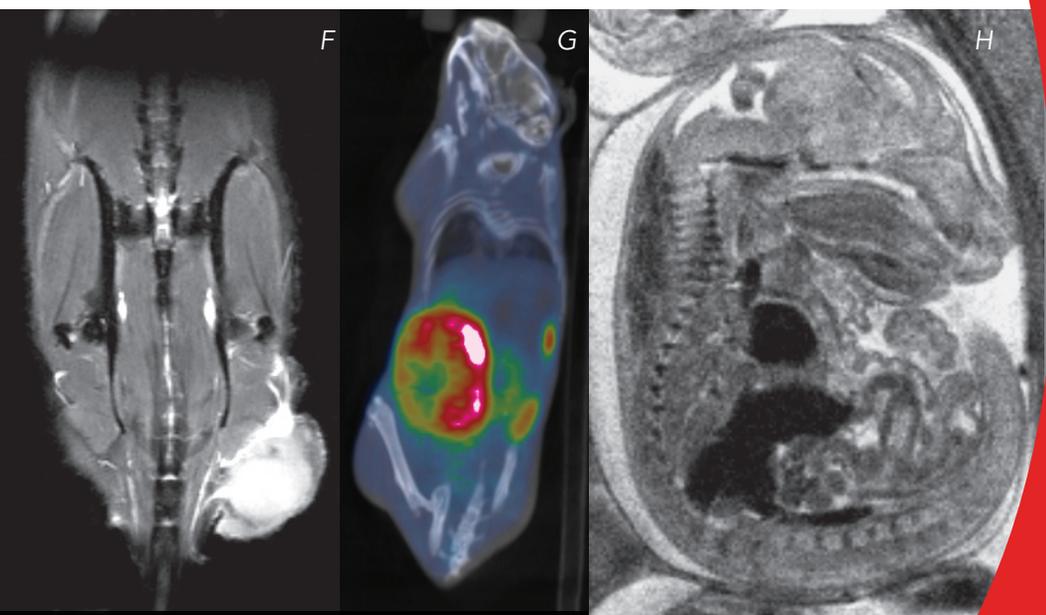


Small Animal Imaging Facility



SMALL ANIMAL IMAGING FACILITY

The Texas Children's Small Animal Imaging Facility (SAIF), located on the 2nd floor of the Feigin Center within the vivarium barrier facility, includes state-of-the-art imaging equipment for in vivo imaging in preclinical animal model systems. The SAIF is approximately 7,530 square feet with 3 animal holding/housing rooms. There is a well-equipped surgical suite with ample volatile anesthetic delivery systems and the requisite physiological monitoring instruments for imaging or surgical procedures. The following imaging modalities are available for use:

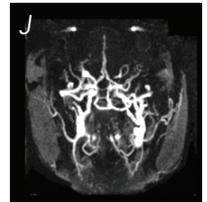
- MRI (Bruker Biospec 9.4 T.20 cm bore)
- PET/SPECT/CT (Siemens Inveon)
- Bioluminescence (Xenogen IVIS)
- Bioluminescence/Flourescence (IVIS Lumina II)
- Ultrasound (VisualSonics VEVO 770)
- Intravital microscopy (Nikon)
- Pathological Imaging (Leica microscope)
- X-ray source irradiator (RS 2000 Radsource)
- Bone densitometer (Luna PIXISmus II)
- Digital autoradiography system
- Multi-sample automated gamma counter
- Cryostat

A computation room is located directly outside the barrier facility and provides investigators with access to imaging data and image analysis software. Six computer workstations, including both Power Mac and Windows-based computers, are available for general image analysis as well as use with specialized software for the various modalities.



Baylor College of Medicine — Center for Comparative Medicine

The AAALAC accredited vivarium facility is located on the 1st and 2nd floor of the Feigin Center at Texas Children's Hospital. The facility includes a B3 barrier animal facility housing mice, rats and hamsters with additional accommodations to house rabbits. The facility is also equipped with one aquatic housing room.



Images

- A) Diffusion Tensor Imaging (DTI) MRI of the Mouse Brain: Fractional Anisotropy Map, Reflecting White Matter Tractography (PI: Robia Pautler)
- B) High resolution (19μ isotropic voxels) micro-CT image of mouse cerebrovasculature, using novel nanoparticle contrast agent. The technique enables vessel quantification down to about 50μ diameter, and morphometry that quantifies vessel shape (PI. A Annapragada).
- C) PET/CT image, using proliferation probe 18F-FLT, showing healthy proliferating rat bone marrow in the upper backbone and arms, and ablated marrow in the lower backbone and legs (PI. MW Gaber).
- D) M-mode Ultrasound image of the left ventricle of a mouse using the vevo 770.
- E) Retrospective Gated MRI of the Mouse Heart — Long Axis View (PI: Robia Pautler)
- F) MRI Image of a Rhabdomyosarcoma Tumor in Mouse — Long Axis View (PI: Jason Yustein)
- G) PET/CT image, using proliferation probe 18F-FLT, showing xenografted Liver tumor in mouse (PI. KD Bissig).
- H) In Vivo, In Utero MRI Image of a Mouse Embryo, E16 days (PI: Anil Shetty)
- I) Whole mouse CT image post contrast injection demonstrating clear vascular network in kidneys, liver and heart.
- J) Example of Rat Brain Angiography Using a Time of Flight MRI Protocol. (PI: Robia Pautler)

Texas Children's Hospital
Small Animal Imaging Facility

Feigin Center
1102 Bates Street
Houston, Texas 77030-2399



M. Waleed Gaber, Ph.D.

Associate Professor

Co-Director | CT/SPECT/PET/Optical/Ultrasound

832-824-3170 | gaber@bcm.edu

M. Waleed Gaber, Ph.D., is an Associate Professor in the Department of Pediatrics at Baylor College of Medicine. Dr. Gaber earned his undergraduate degree in Physics from Ain-Shams University, Cairo. He holds a Ph.D. in nuclear physics from the University College London and a M.S. in biomedical engineering from the University of Tennessee. He is an imaging scientist who has worked on developing X-ray and CT instrumentation, intravital microscopy and image processing techniques. Dr. Gaber studies radiation induced damage in the CNS, vascular changes in tumor progression and drug targeting to brain tumors. Dr. Gaber is the co-Director of the SAIF and oversees the PET/SPECT/CT, ultrasound and optical modalities.



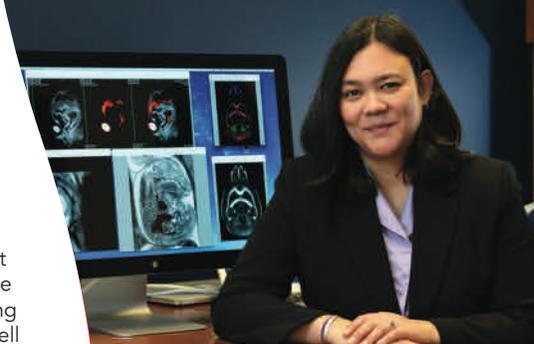
Robia G. Pautler Ph.D.

Associate Professor

Co-Director | MRI

832-824-2242 | rpautler@bcm.edu

Robia G. Pautler, Ph.D. is an Associate Professor and Co-Director of Graduate Education in the Department of Molecular Physiology and Biophysics at Baylor College of Medicine. Dr. Pautler earned a B.S. in Microbiology at Colorado State University and a Ph.D. in Biology/MRI at Carnegie Mellon University in Pittsburgh, PA. She completed her post-doctoral training in Biology/MRI at Caltech in Pasadena, CA. Dr. Pautler's research experience includes developing and applying novel MR imaging strategies, contrast agent development and evaluation as well as interfacing nanotechnology with imaging in multiple types of animal models. Dr. Pautler is the Co-Director of SAIF and oversees all MRI-related research activities.



Steen Pedersen, Ph.D.

Associate Professor

Statistical Analyst

832-824-3399 | pedersen@bcm.edu

Steen E. Pedersen Ph.D. Dr. Pedersen earned a degree in Chemistry from the University of Maryland and a Ph.D. in Biochemistry from the University of Virginia. After post-doctoral training at Washington University, Dr. Pedersen set up his research lab at Baylor College of Medicine to study ion channel function of nicotinic acetylcholine receptors. He has long standing interests in protein structure-function, ion channel function, and computational biology. His past work includes computer modeling of conformational changes in acetylcholine receptor activation and developing kinetic modeling software. At present he is developing computational analysis tools for brain imaging.

