

BRIC Small Animal Imaging Facility Orientation

I. ENTERING THE BUILDING AND FACILITY

- Building entrance doors and elevators 1st floor above are open to public during business hours, 6am to 6pm. Elevator to the basement and subbasement is card access only.
- Users will need to fill out the badge access form and return to the SAIF for permission to get access to the SAI facility.
- If you need to do studies before you get your ID card activated, you may call SAI facility staff at 919-966-2855, or send an e-mail to bricsai@med.unc.edu to schedule a time to be let into the facility.
- Users can always call from the BRIC front desk on the first floor of Marsico Hall, to the facility (919-966-2855) to get into the SAI facility labs.

II. IMAGING LAB ALLOCATION

Imaging Modality/Labs	Room Number
Optical Imaging	SB223, SB229
DEXA Imaging	SB225
Ultrasound Imaging	SB223
Specimen CT Imaging	B217
In-Vivo CT Imaging	SB229
SPECT/CT Imaging	SB227
PET/CT Imaging	SB228
Procedure Room	SB230; SB231
Staff Room	SB224

III. SAFETY and PROCEDURES:

Radiation safety:

Anyone, who needs to work with radiation materials(RAM) and get access to Room **SB227 and SB228**, must pass radiation training, either instructor-led lecture or online course from EHS website:

<http://ehs.unc.edu/training/schedule.shtml#rad>

<http://ehs.unc.edu/training/neo.shtml>

Users who wish to handle radioactive materials in the SAI facility must be listed in our Lab Safety Plan (PI: Hong Yuan), and follow the appropriate SOP on RAMs. Please contact Hong Yuan for details.

Users who need to use the CT scanners and get access to Room **SB225 and SB229**, must complete the Analytical X-Ray training from EHS website: <http://ehs.unc.edu/training/self.shtml>

Biosafety:

Animal Biosafety Level 1(BSL1) is suitable for work involving well characterized agents that are not known to cause disease in immunocompetent adult humans, and present minimal potential hazard to personnel and the environment.

Animal Biosafety Level 2 (BSL2) is suitable for work involving laboratory animals infected with agents associated with human disease and pose moderate hazards to personnel and the environment. It also addresses hazards from ingestion as well as from percutaneous and mucous membrane exposure. Anyone who needs to work on BSL2 studies in SAI facility must: 1) submit their approved BSL2 form signed by EHS, to Hong Yuan; 2) Follow the "SAI BSL2 SOP" which can be downloaded from the BRIC website.

Animal Biosafety Level 3 is not allowed in this facility.

Gas Supply:

1. The facility provides oxygen and medical air via wall connections to the gas tanks located in the basement floor.
2. These tanks are changed by pre-selected personnel only.
3. If you don't see any gas flow from the wall connection in an imaging room, contact SAIF staff immediately.
4. If there is suspicion of gas leakages, please inform a staff member immediately.
5. Compressed gas tanks must be secured to the wall with a chain at all times.

Isoflurane Vaporizers:

1. The SAIF provides isoflurane vaporizers to its live animal imaging equipment. These vaporizers are calibrated yearly and isoflurane is provided by the SAIF for any charged imaging studies. Users will need to provide isoflurane for any non-imaging related studies.
2. Before using an isoflurane vaporizer proper training either by IACUC, DLAM, or Jon Frank (laboratory coordinator for SAIF) needs to be completed. Please contact Jon (jfrank@med.unc.edu) for more information.
3. EHS and IACUC require proper isoflurane scavenging while using vaporizer systems. We use F-AIR canisters, snorkels, or both. F-AIR canisters can absorb up to 50g of isoflurane so they need to be weighed prior to use to ensure they are still adequately removing isoflurane. Snorkels need to be kept as close to the source of gas waste as possible. There is a waste gas removal line that can be inserted into the MRI coil and should be used at all times.
4. Alert SAIF staff if you feel that vaporizers or scavenging system are malfunctioning.

Other Health and Safety Precautions:

1. Laboratory/Radiation/Magnet safety manuals are located on the bookshelf in the imaging suite (SB221).
2. No person is allowed in the magnet room until completing the BRIC MR Safety training (see MR safety section).
3. Eye wash stations are located in the hall way and rooms SB229 and SB230.

4. An emergency shower station is located in the main hall outside room SB229.
5. Inform SAIF staff of any hazardous spill or contamination so that the proper actions can be taken.
6. In the event of the MR magnet quenching evacuate the imaging suite immediately.
7. A radioactive isotope storage and waste area is located within room SB227 (SPECT/CT room). Additionally, a Geiger counter is available for area survey before and after handling radioactive materials, or radioactive animals.

End of experiment procedures:

1. Turn off Oxygen and Medical Air supply valves and flow meters.
2. All isoflurane vaporizers should be turned off or to 0.
3. Remove all animal cages, bedding, and animal food from the facility. No animals are allowed to stay in the facility after imaging studies.
4. Clean workspaces of debris and wipe with Alcohol or Peroxigard (provided by the facility) and wipe with a paper towel.
5. Return tools and instruments to proper locations.
6. Turn lights out when finished and close all doors. Make sure doors are pulled tightly and not propped open.
7. Food and drink are allowed in the break room only.
8. Log-off the working computer after each study. Do not shut down equipment unless instructed by SAI staff.

IV: ANIMAL HOUSING AND TRANSPORT:

1. Users who need to do animal imaging studies must have an approved working animal protocol, or contact SAI facility to arrange pilot studies under SAI core protocol. Please contact SAI facility staff or Director regarding animal protocols.
2. The BRIC SAIF no longer has a satellite DLAM facility for animal housing and we cannot keep animals longer than 12 hours or overnight. The SAIF has access to an isolation cubicle that can be used for housing of radioactive mice and potentially BSL2 animals with prior permission.
3. The SAIF is considered to be a "dirty" facility so check with your DLAM vivarium about returning animals once they come here. We know of two facilities, Mary Ellen Jones and Thurston-Bowles, that have return rooms for animals and there may be others.
4. Marsico Hall will has a DLAM facility on the basement floor which animals can be housed and transported easily between the imaging facility and housing facility.
5. Users who carry animal cages are recommended to use the dedicated animal elevator located on the left of the service elevator near BRIC human imaging core entrance.
6. Follow standard IACUC procedures for transporting animals safely and with as little stress as possible. Always keep animals and animal carcasses covered at all times during transport.

V. FACILITY CONTACT

Director SAIF: Hong Yuan, Ph.D.

SAIF Staff: Jon Frank, Eric Livingston, Spencer Thompson

Emergency Contacts:

Jon Frank: (jfrank@med.unc.edu) 919-966-2855 (facility), 919-343-9647(Cell)

Hong Yuan: (hong_yuan@med.unc.edu) 919-843-3813 (office), 919-641-8696 (Cell)

Physical Address:

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