

**University of Pennsylvania-Radiology  
Small Animal Imaging Facility Steering Committee  
Standard Operating Procedure**

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**Title: Instructions for completing the “SAIF Research Application” form**

**SOP Number:** 4.05

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**Approval:** \_\_\_\_\_  
Co-Director

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Co-Director

- I. **Purpose:** The purpose is to provide instructions on completing the application form “SAIF Research Application.” Penn researchers must complete this form to officially apply for and use the Small Animal Imaging Facility (SAIF).
- II. **Responsibilities and Scope:** All researchers who are involved in imaging studies at the SAIF are responsible for reading and following this SOP.
- III. **Definitions:**
  - A. Small Animal Imaging Facility (SAIF): This facility provides multi-modality radiological imaging and image analysis for small animals, mainly mice and rats. The assets of the SAIF include state-of-the-art instrumentation and recognized staff. SAIF currently provides four Sub-Cores of imaging modalities: 1) MRI/ MRS Imaging Core: magnetic resonance imaging (MRI) and spectroscopy (MRS), 2) PET, SPECT, CT Nuclear Medicine Imaging Core: positron emission tomography (PET), single photon emission tomography (SPECT), and computed tomography (CT), 3) Optical-Bioluminescence and Fluorescence Molecular Imaging Core, 4) Ultrasound Imaging Core, giving researchers access to a broad spectrum of imaging modalities. A number of ancillary facilities are devoted to Chemistry, Radiochemistry, Image Analysis and Animal Tumor Models.
  - B. “SAIF Research Application” form: This form is for Principal Investigators (PI) who plan on initiating research at the SAIF with and without small animal imaging work. PIs must complete this form, specifying their imaging studies and send it to the relevant Directors of the respective imaging cores at (see “Attachments”), MRI/MRS Founders animal imaging facility, PET/ SPECT nuclear medicine animal imaging facility, Optical-Bioluminescence animal imaging facility, & Ultrasound animal imaging facility.

#### IV. Procedures:

Any PIs who plan on using any imaging modalities (i.e., MRI/MRS, PET/SPECT, Optical, & Ultrasound) of SAIF must familiarize themselves with this SOP. Two forms are available for imaging studies (see "Attachments"). For animal research involving longitudinal imaging studies, the PI may complete one "SAIF Research Application" form for multiple transfers of animals.

##### A. Detailed instructions for the "SAIF Research Application" form.

The resources provided by the SAIF are made available to approved research projects after review of the "SAIF Research Application" form (Form-SAIF-Radiology-#4) by each imaging facility director and the review committee. The approval process is designed to assure safe operation of the facility and compliance with animal handling regulations. To that end, the form's purpose is to extract information that will impact these aspects of daily operations. Keeping these goals in mind while completing the form will facilitate rapid approval of your project. Incomplete or unclear responses will result in a request for resubmission thereby delaying your research. The itemized instructions given below should answer most of your questions with regards to filling out the application. However, if you are uncertain about how to fill out a given item on this form, you should discuss it with each imaging core staff before submitting your application.

1. Section #1): Fill in the application date. Indicate whether or not the application is a renewal. If it is, list the account code of the previous award.
2. Sections #2-6): Fill in the project title and principal investigator (PI) information. The PI is the individual that is ultimately responsible for the proposed work but is not necessarily the one who will actually be performing the work. If the project has external support, the PI listed in section #3 must be the same person that is listed as the PI on the award.
3. Section #7): Check the proper boxes for your imaging modalities.
4. Section #8): Fill in the 26-digit budget code.
5. Section #9): The PI is the main contact for accounting and regulatory issues. The PI must sign the application indicating that he/she will take responsibility for the actions of people associated with this project while they are in the SAIF facilities. Unsigned applications will not be reviewed.  
Do not forget to sign and date the form. The remainder of the cover page is for facility use only.
6. Section #10): Fill in the information regarding the information of the primary users (PU). The PU is the main contact person for addressing routine issues such as scheduling time and conducting research during the

proposed project and only need be specified if different from the PI. If multiple individuals will be running the imaging equipment for this project, include the information requested in section #10 for each person. This data must be provided for all persons that will be handling animals at the SAIF. By providing this information each investigator is confirming that they have completed all required animal handling and lab safety training. See the EHRS web site for details of training: <http://www.ehrs.upenn.edu/training/index.html>. In addition, each investigator acknowledges that the imaging facility is not a “clean” animal facility, and no guarantees can be made for the health of animals entering the lab.

7. Section #11): Fill in this section only if the proposed work already has funding for instrument time. Give the name of the PI on the award (this must be the same person as listed in section #3 and that signed the application in section #9). On the grant number line give the number used by the funding agency to identify the award. The FinMis number is the 26 digit account number that is used internally for billing your account. Applications that fail to include this number will be rejected. Fill in the maximum amount to bill the account during the current year. When the total logged billing exceeds the amount listed in this field, the account will be disabled. No limit will be placed on the account if this field is left blank.
8. Section #12): The Department of Radiology provides small awards, referred to as protocol development or PRODEV awards, to select unfunded researchers and grant them access to the instrumentation. The goal of this program is to provide a means for unfunded researchers to generate sufficient preliminary data to apply for funding at some time in the future. Section #12 should only be completed if you are requesting a PRODEV award. List the type of award and funding agency for grant submissions that will support this work in the future. Indicate the status of your proposal (in preparation or submitted) for each potential funding source. If this is a renewal, list any publications or presentations generated as a result of the previous award. Note: PRODEV money is only available to Penn researchers.
9. Section #13): Fill in this section only if the proposed work already has funding for instrument time for non-Penn investigators.
10. Section #14): Indicate any equipment that you plan to use in this project by checking the appropriate spaces. This information is used by each imaging core staff as an aid to scheduling imaging instrument time such that users of similar equipment are scheduled consecutively.  
Section #14-A) is provided for the MRI/MRS imaging core; check all proper boxes. Give a brief description of your planned research. List any other equipment that will be used in the vicinity of the scanner. For the magnet scanner at the MRI/MRS imaging core, if the device is non-ferromagnetic then indicate so. If it is ferromagnetic, indicate where the device will be

placed and how it will be restrained. Any device or probes other than the RF coils that will be inserted into the magnet should also be listed here.

Section #14-B) is for the PET, SPECT, CT Nuclear Medicine imaging core; check all proper boxes. Give a brief description of your planned research.

Section #14-C) is for the Optical Bioluminescence and Fluorescence Molecular imaging core; check all proper boxes. Give a brief description of your planned research.

Section #14-D) is for the Ultrasound imaging core; check all proper boxes. Give a brief description of your planned research.

**This section minimizes the amount of time spent reconfiguring the systems and enhances the productivity of the facility. The MRI/MRS instrumentation is currently distributed across two labs, one of which is located in the basement of the Founders building and the other is in Room #96 of the John Morgan building. The location of each instrument is indicated in the application form. The PET, SPECT, CT Nuclear Medicine core is located on the 5<sup>th</sup> floor of the Richards building, the Optical Bioluminescence and Fluorescence Molecular imaging core is on the 4<sup>th</sup> floor of the Clinical Research building, and the Ultrasound core is on the 5<sup>th</sup> floor of the Stemmler building.**

11. Section #15): Check the proper box. If checked “yes”, describe the involvement of any hazardous materials at the SAIF. Indicate the hazardous materials used by your project and the procedures for cleaning up spills. If the MSDS sheets for the materials are not already posted in the laboratory, you need to attach them to this application.

12. Section #16): Check the proper boxes. If the study does not use animals, check the appropriate (“No”) box and proceed to section #17. If animals will be employed in the study, provide the IUCUC protocol information. Also attach a complete copy of your IUCUC protocol and approval letter.

Indicate the protocol number, expiration date and housing facility in the spaces provided.

Indicate whether or not the study is a longitudinal imaging study. Indicate the duration of imaging studies at the SAIF. Indicate whether or not the study involves radioactive materials. Only for longitudinal studies may animals be stored in the animal holding areas at 5<sup>th</sup> Richards.

*Note* – Long-term storage of animals for radioactive quarantine is currently permitted in the SAIF (room #505/507 at 5<sup>th</sup> Richards). For long-term storage for non-radioactive animals (room #509 at 5<sup>th</sup> Richards), you must mark “yes” for longitudinal study (refer to “SAIF-SOPs #4.03 and #4.04).

*Note* – If animals are kept in the facility for extended periods, they will be cared for by ULAR personnel, which will require additional payment of per diems directly to ULAR.

13. Section #17): If your study employs human tissue specimens, indicate so by checking the appropriate box and attach a copy of your transport letter from Infection Control Office. Also attach a copy of the IRB approval letter and the imaging section of your IRB protocol.

14. Section #18): Summary of forms required to apply for SAIF research approval. This section lists all forms needed for their application; check all boxes to signify completion of your SAIF research application.

**VI. Safety Considerations:**

When applying for the MRI/ MRS imaging core, if any additional devices you will be using are ferromagnetic, indicate where the device will be placed and how it will be restrained. If you are unsure of the magnetic properties of your device, then find out immediately.

**VII. References:**

None

**VIII. Attachments:**

1. Form-SAIF-Radiology-#3. “Application Form for Holding of Animals in #509 Richards for Longitudinal Imaging Studies”
2. “Form-SAIF-Radiology-#4. “SAIF Research Application””

**IX. Document History:**

<b>Version Number</b>	<b>Effective Date</b>	<b>Author</b>	<b>Reason</b>
1	November 10, 2005	I. Lee	New
2	December 8, 2005	I. Lee	Revised
3	January 19, 2006	I. Lee	Revised