

June 25, 2009

UCSD Center for Functional MRI

Policies for Use of the 7T Scanner

Investigators holding faculty appointments within the San Diego research community may apply for access to the 7T magnetic resonance imaging system for research studies at the UCSD Center for Functional MRI (CFMRI).

- Summary of key steps**
1. Submit a proposal to the Bioimaging Proposal Review Committee describing the project.
 2. Obtain protocol approval from the appropriate UCSD IACUC (animal studies).
 3. Once these two administrative approvals are in place, a project number is assigned and you can schedule time through the online scheduler.
 4. Invoices will be generated based on scheduled time according to the recharge, cancellation, and pilot hour policies described below. VA investigators are currently eligible for these UCSD rates, which do not include the use of our technologist.

These steps are described in more detail below. We have tried to keep these procedures simple and straightforward, and they may need to be changed in the future if problems arise. Suggestions are always welcome. For questions about these policies, and for inquiries about the status of a submitted proposal, please email cfmri@ucsd.edu.

Proposal Review Committees

Proposals will be reviewed for scientific feasibility by the Bioimaging committee. Prior to submission, we encourage you to discuss your proposal with the chair of the committee.

7T On-line Proposal Submission

Proposals for review by the Bioimaging committee should be submitted using the on-line proposal form available at <http://cfmriweb.ucsd.edu/info/7TSubmission.html>

If you already have a 7T webschedule account, you may login and click on the Manage My Proposals button (Main menu). If you are a Principal Investigator and do not have an account, then please send an email message to Eman Ghobrial at eghobrial@ucsd.edu to request an account.

Additional Notes on usage of the online proposal submission system:

- 1) To submit a new proposal click on the New Proposal button.
- 2) There are 3 or 4 web forms that need to be filled according to your selection.
 - a) General Information
 - b) Operator Information (only needs to be filled out if you will not be using the Center technologist)
 - c) Billing Information
 - d) Project Information.

For additional information about each form, click on the Help button on the proposal pages menu bar

- 3) Please fill in all required fields

- 4) Your session will log out after 30 minutes of idle time. Please make sure you click on the *Save for Later* button if you are not planning to finish up all the required forms in one sitting. Your proposal will remain editable until you click on the Final Submit button on the preview page of the Project Information web form.
- 5) To edit a saved proposal click on the Edit Saved Proposal button (on Manage My Proposals Page), select your proposal and click on Edit Saved Proposal.
- 6) Once the Final Submit button is clicked, your proposal will be sent to the Bioimaging Review Committee. At this point, additional editing cannot be performed.
- 7) The PI can use the Check Proposal Status button (on Manage My Proposals Page) to check on the proposal status.
- 8) After review of the proposal, the PI will receive e-mail notification indicating that either (a) the proposal has been approved or (b) there are comments that need to be addressed. The PI can respond to the comments via the *Show Comments* page. If major revisions are required, the PI may be advised to resubmit their proposal.
- 9) Once the committee approves the proposal, an administrative review will be performed to make sure that all required certifications are on file. Once this review is completed, an account will be added to allow the PI to schedule research time, and an e-mail notification will be sent.

IACUC review

In addition to the local review at the CFMRI, all protocols must also have appropriate UCSD IACUC approval. For animal studies, our Bioimaging Proposal Review Committee must approve the project before IACUC will approve it. A copy of the letter of approval from the UCSD IACUC must be emailed to cfmri@ucsd.edu. Please note that, in most cases, investigators with an existing IACUC protocol will only require an amendment to their existing protocol. An example of an amendment is available at the on-line Proposal Management website.

Access to 7T Magnet Room

Access to the 7T magnet room is limited to personnel who have received MRI safety training. More information about policies regarding access to the magnet room is at <http://cfmriweb.ucsd.edu/policies.html>. Information about safety training can be found at <http://cfmriweb.ucsd.edu/info/gettingstarted.html> and <http://cfmriweb.ucsd.edu/safety.html>.

Operator Certification and Training

In order to assist PIs in starting projects on the 7T system, the Center will provide a technician who will assist with the scanning at no extra charge through July 1, 2009. After that date, technician time will be recharged as described below. During this interim period, the Center may elect to provide training to a few personnel at the discretion of the Center's technical staff. However, due to the significant expense involved in training personnel to use the 7T system, the Center will significantly limit the number of operators who are trained to use the system. In general, the Center will provide operator training only to personnel with UCSD affiliation who are associated with approved projects that have a clear and demonstrated need to have their own operator and have more than 100 funded hours. In addition, the Center will limit operator certification to those individuals who have successfully completed the training and have clearly demonstrated the ability to safely operate the scanner without supervision. For those projects that request training but end up using less than 100 funded hours, the Center reserves the right to charge for the magnet time used for the training.

Keeping the restrictions stated above in mind, the PI of an approved project can submit an operator training request form through <http://cfmriweb.ucsd.edu/operator-training/>. See <http://cfmriweb.ucsd.edu/info/gettingstarted.html> for additional information about training. Only certified operators will be allowed to run the scanner, and we reserve the right to withhold or withdraw certification at the discretion of the Director. Certification will expire if the Operator does not scan for 4 months. The designated operator for each scan session is fully responsible for the enforcement of the safety policies. Further details on operator eligibility and responsibilities are provided in additional documents available at the CFMRI website (<http://cfmriweb.ucsd.edu/policies.html>).

Scheduling

Once approvals are on file at the CFMRI and a certified operator has been identified, a project account is created on the Center computer under the PI's name. The PI or certified operators associated with the project may then log in and schedule time in half-hour blocks using the web-scheduling system (<http://cfmriweb.ucsd.edu/webschedule.html>). For projects that require the use of the 7T Center technologist, the PI **must** coordinate with the technologist to schedule time – in general, it is best to allow the Center technologist to schedule the time slot. For projects with their own certified operators, the Center **strongly** recommends that the scheduling be coordinated with the Center technologist in order to most effectively make use of the available time.

The Center **reserves the right** to make minor adjustments to the schedule to make the most effective use of the available time. For example, if there are several 2 hour studies scheduled during the day that are spaced apart by 2 hour unscheduled time blocks, the Center may work with the investigators to reduce the unscheduled time blocks in order to allow for an additional study to occur on that day. The Center technologist will coordinate any adjustments with the investigators.

Recharge rate

For UCSD investigators using UCSD budget index numbers, the rate for access to the scanner (without technologist) is \$250 for each hour on the 7T scanner. Access to the scanner with our technologist will be charged an additional \$50 per hour. These rates are also currently applicable to VA. For outside investigators the rate is \$435/hr for the 7T system with access to a technologist. This will be charged to the index number based on the number of hours scheduled. That is, the scheduling database will become the billing database. **Note** that the recharge rate covers **access** to the scanner, which may include time required for set-up and adjustment of equipment within the magnet environment.

7T Cancellation policies

NOTE: These cancellation policies apply only to projects from UCSD or non-profit research institutions that have a partnership agreement with UCSD. Cancellation fees can be applied to other projects at the discretion of the Center.

1. *Lost hours:* We define lost hours as time-slots that go unused but were previously reserved by a PI for more than 2 hours during the previous N days. Currently, $N = 3$ days, but this number is subject to change as necessary. The 2-hour clause provides the opportunity for a PI to hold a slot briefly to confirm that it can be used, and as long as the PI cancels the slot within 2 hours they incur no responsibility for that slot. If a PI cancels a reserved slot and another PI reserves the slot, the first PI no longer has any responsibility for that slot. Otherwise, the PI is responsible for lost hours attributed to that project. Each month the responsible lost hours will be tallied for each project.

2. *Funded hours:* Each month we will also tally the funded hours accrued by each project.

3. *Definition of Prime-Time and Night-Time/Weekend hours.* Prime-time hours are from 8 am to 11 pm weekdays; night-time hours are from 11 pm to 8 am on weekdays; weekend hours are from 11 pm Friday to 8 am Monday morning. **NOTE:** Scanning during night-time/weekend hours may only be performed by experienced and certified operators. Operators must obtain prior approval from the 7T technologist to scan during night-time and weekend hours.

4. *Rewards and Penalties:* The Center will calculate the number of potential pilot hours at a rate of $X\%$ of funded prime-time hours and $Y\%$ of funded night-time/weekend hours. To facilitate the start of new projects, these rates are currently set at $X = 100\%$ and $Y = 200\%$ through 2008. We expect that these rates will be changed to reflect actual operating costs in early 2009.

To calculate the number of net pilot hours, the Center will subtract the number of lost hours from the number of potential pilot hours (e.g. net pilot hours = potential pilot hours – lost hours). If the number of net pilot hours is greater than zero, then these pilot hours will be added to the PI's pilot hour account. If the number of net pilot hours is less than zero, then these pilot hours will be subtracted from the PI's pilot hours account. Note that this calculation will be performed separately for prime-time and night-time/weekend hours – i.e. there will be one pilot hour project for prime-time hours and one for night-time/weekend hours. In addition, night-time/weekend pilot hours may only be used during night-time/weekend hours.

To facilitate scheduling of scans, pilot hours will be temporarily awarded two hours after funded hours are scheduled. Users can then go ahead and schedule time using these pilot hours if there is a net balance available. However, if the funded hours are subsequently canceled (see Item 1 above), then the temporarily awarded pilot hours will be deducted from the pilot hour account. It is the responsibility of the PI to cancel scans scheduled with these temporarily awarded pilot hours to avoid incurring a negative balance in the pilot hour account (see Item 4 below). In addition, if funded hours are cancelled less than N days in advance (see Item 1 above), then the number of lost hours associated with the account will also be incremented.

4. *Reconciliation of accounts.* It is possible for the pilot hour account to accrue a negative balance. Periodically we will reconcile all accounts for a PI, removing pilot hours from their other accounts if necessary to offset the deficit in accounts that have gone negative. If a PI accrues a negative pilot hour balance, then the Center reserves the right to invoice for scan time that has been used and scheduled with pilot hours.

Examples: For a project that uses 32 funded prime-time hours of scanner time, the potential pilot hour award is currently 32 prime-time pilot hours. If the project has incurred 10 prime-time lost hours, the project will be awarded 22 prime-time pilot hours. If the project is responsible for 35 prime-time lost hours, then 3 hours will be deducted from the project's prime-time pilot hour account.

Technical problems

Technical problems should be reported immediately through the Problem Report page of the scheduling website. This will let Center personnel know of the problem, and all other investigators will be able to see if there are current problems with the scanner that may require them to change their plans. While we certainly try to minimize such problems, they do occur. The best procedure for avoiding lost time due to technical problems is:

1. **Check the web page before you come in.** Before arriving for a study, the PI and/or the Operator should check the web page to see if any equipment problems have been reported that will preclude their planned study. If so the PI should cancel their scheduled time so that they are not billed for it.
2. **Check the FAQ's on the web site.** If a technical problem is encountered after the study begins, they should first consult the FAQ section of the web site to see if this is a known problem that can be easily fixed.
3. **Report all problems.** If this is a new problem, the PI or Operator should report the problem through the Problem Report page of the webscheduling system. Note that even if you are able to obtain direct help with the problem from someone in the Center, we still ask that you report the problem and how it was fixed. This will benefit everyone and provide us with a better record of how often problems occur.

Adjusting the billing for technical problems

If technical problems arise with the scanner, there will of course be no charge for lost time. It is important to remember that the scheduling database is also the billing database, so this needs to be adjusted. To do this, the PI **must** report the technical problem through the web page. This report must be filed within 72 hours of the incident.

Our policy is that we will not adjust the billing for: 1) technical problems that have not been reported by the PI or Operator; 2) time lost due to problems that are the responsibility of the PI or Operator (e.g., incorrect selection of pulse sequence parameters), 3) minor system glitches that do not prevent completion of the scan session. Please note that the free pilot hours provided to each account (see above) are absorbed by the Center in an effort to help the PI deal with the various problems associated with getting good data, such as occasional system glitches. The hours used will be adjusted only if there is a major failure of the functionality of the 7T MRI system.

Pilot studies

There are no free pilot hours available at the start of a new project. Instead, free pilot hours will be awarded monthly in accordance with the cancellation policy described above.

Material Transfer Policies

All projects are expected to follow IACUC approved policies with regards to the safe transfer of materials related to the experiment. In the event that these policies are not followed and Center personnel need to transport material after the completion of a study, the Center reserves the right to deduct pilot hours (nominally 2 hours per incident) from the associated project.

Yearly report

Each year the IACUC approval for a project will need to be renewed, and current copies of these approvals must be emailed to cfmri@ucsd.edu. At the time of renewal we also ask that each PI submit a brief report on the progress of the study. This should include the number of studies performed, results to date, and any problems encountered.