SSRL USER FACILITY ACCESS POLICY

Contents

1. Summary

The Stanford Synchrotron Radiation Lightsource (SSRL) at SLAC National Accelerator Laboratory is a U.S. Department of Energy (DOE) Office of Science national user facility that provides synchrotron radiation to researchers in many fields of science and technology, including biology, catalysis, chemistry, energy, engineering, forensics, geoscience, materials science, medicine, molecular environmental science, and physics. With a pioneering start in 1974, the facility was upgraded to a state-of-the-art third generation lightsource in 2004, providing major improvements in emittance, ring current and new or upgraded beam lines. SSRL's research programs include both the x-ray and ultraviolet regions of the spectrum. SSRL is primarily supported by the DOE Offices of Basic Energy Sciences (BES) and Biological and Environmental Research (BER), with additional support for the SSRL Structural Molecular Biology Program from the National Institutes of Health (NIH).

SLAC is operated by Stanford University, a nonprofit U.S. institution of higher education that conducts fundamental research in basic and applied science and engineering, which is widely and openly published and made available to the scientific and academic community. Stanford does not undertake classified work or research requiring national security controls. Stanford University's Openness in Research policy and federal laws prohibit discrimination based on nationality, country of origin, ethnicity, gender, race, or religion.

This User Facility Access Policy provides a concise overview of the framework for scientists from academia, industry and other types of research organizations to access SSRL to utilize existing scientific equipment or to work together with SSRL in pursuit of new scientific

opportunities. Further details on the implementation are contained in related guidelines and procedures documents.

Access to SSRL is granted through proposals that are peer-reviewed by external reviewers and by the SSRL Proposal Review Panel (PRP), and rated by the PRP. The scientific peer review process is transparent, fair, and efficient, and it recognizes the needs and contributions of users and staff to maintain and strengthen SSRL's position as an internationally leading photon science user facility. Modes of accessing beam time at SSRL include General User (GU) and Partner User (PU) proposals. In addition, proposals can be submitted for non-proprietary or proprietary research.

Policies that impact the user community are developed in consultation and coordination with external advisory boards, including the SSRL Users' Executive Committee (UEC), and are subject to review by the SSRL Scientific Advisory Committee (SAC).

2. User Access

2.1 General User Access

GU investigators apply for, and are awarded, beam time through a centralized, online, peer-reviewed proposal submission and beam time request process that is managed by SSRL. GU mechanisms include standard proposals and rapid access proposals. A small percentage of beam time is available for SSRL staff access and through the Director's discretionary access.

2.1.1 Standard GU Proposals

Calls for standard GU proposals are distributed three times a year, with deadlines announced through the SSRL website, newsletter and by email to the user community. Prospective GUs submit proposals that include an estimated total number of shifts that can be spread out over six scheduling periods, or up to two years. Successful proposals are awarded beam time on SSRL beam lines, with priority given to the proposals rated highest by the PRP.

2.1.2 Rapid Access GU Proposals

SSRL has a mechanism for rapid access proposals for quick turnaround assignment of GU beam time for urgent needs that arise between the standard proposal review cycles. A small amount of beam time is set aside for rapid access on several beam lines (usually one or two days during the scheduling period). Rapid access proposals are considered on a continuing basis and are not subject to evaluation cycle deadlines. Rapid access proposals are reviewed and rated by the PRP and concurrently by the beam line scientist who evaluates the technical feasibility. If the proposal is highly rated by the PRP and determined feasible, it competes for the next available rapid access slot on the desired beam line.

2.1.3 Staff Access

SSRL scientists are encouraged to submit standard, peer-reviewed proposals to compete for beam time. A small percentage of beam time is available to support research programs of SSRL staff scientists and facilitate their interaction and collaboration with external users. Staff access time is limited to an annual maximum of 60 8-hour shifts per individual staff scientist and 20% of the available time on a GU beam line. In addition, instrumentation/methodology development projects can be allocated facility characterization beam time for developing or testing equipment, software, etc.

2.1.4 Director's Discretionary Access

A small fraction of available beam time may be designated at the discretion of the SSRL Director, typically for short experiments deemed desirable for the development of the SSRL scientific and/or industrial program. Director's discretionary beam time can be used to test the feasibility of a 'risky' or exploratory experiment, for novel ideas which have been conceived outside of the normal proposal review cycle, or for students who need a small amount of beam time to complete their thesis. Experiments are typically described in a Letter of Intent (LOI) proposal and are reviewed by the SSRL Director, SSRL Safety Officer, and other individuals as appropriate. LOI proposals do not exceed 15% of the total available beam time.

2.1.5 Peer Review

The PRP includes peer-review groups composed of scientific peers, external to the SSRL staff, and organized by techniques or scientific disciplines that cover a broad range of basic and applied science as well as method and instrumentation development. Peer review criteria used in evaluating and rating proposals includes:

- Scientific, technical and/or industrial importance;
- Experimental plan and technical feasibility;
- Capability of experimental group and quality of past performance based on track record (publications, patents, corporate impact statements);
- Appropriateness of the amount of requested beam time.

These criteria are designed to recognize the value of basic, applied and industrial research, while impartially evaluating the likely success of the experiment. Reviews must be balanced, however, so as not to discriminate against new users or user communities. The numeric rating for each proposal provided by the PRP is used as the primary criterion in allocating GU beam time.

GU proposals can be eligible for up to six scheduling cycles or two years, or shorter eligibility periods as deemed appropriate by the PRP. The PRP reviews the number of shifts requested in the proposal and recommends the number of beam time shifts to be allocated during the lifetime of the proposal. GU proposals are eligible to request a one-time proposal extension from the PRP, who evaluates progress accomplished to date; new elements; future plans to be pursued under the existing proposal; an updated list of collaborators; a summary of how previous beam time at SSRL and other facilities was used; and a list of publications related to work conducted at

SSRL on the proposal. Based on the extension material, the PRP may extend the proposal for up to two years, change the rating, change the beam time allocation, or terminate the proposal.

2.1.6 Beam Time Allocation

After proposals have been reviewed and rated, GUs submit beam time requests (BTRs) for each scheduling cycle in which beam time is desired. A typical run year is about nine months, and includes three scheduling cycles. The BTR provides users with the ability to provide details about the amount of beam time desired on a specific beam line, equipment and configuration, potential safety hazards, and preferred or unavailable dates.

GU proposals and beam time requests are reviewed by an SSRL Safety Officer to evaluate potential safety hazards and to coordinate mitigations needed for the proposed experiment. Beam line scientists and technical support staff also conduct feasibility reviews of proposed experiments and beam time requests, and they provide input on the appropriateness of scheduling experiments on various beam lines. This input along with PRP ratings and shift allocations are used in determining beam time schedules, which are centrally coordinated by SSRL User Research Administration staff. A formal beam time allocation committee will be established in consultation with the SAC, PRP, and UEC to ensure that the process is fair and transparent.

2.2 Partner User Access

Partner user (PU) arrangements may include Collaborative Access Proposals (CAPs) or Participating Research Teams (PRTs). PUs typically involve a greater degree of collaboration with SSRL than is expected of GUs and may drive new developments that ultimately will be managed and operated by SSRL. Individual users or user groups who are interested in collaborating with SSRL to develop research capabilities that contribute (or have a strong potential to contribute) to the facility or user community are strongly encouraged to contact SSRL management to discuss if their proposals can be accommodated with available resources.

PU arrangements will be negotiated on a case-by-case basis but will generally not exceed one third of the available user shifts on a particular beam line. Although PUs may provide funding or support for development on SSRL beam lines, SSRL manages the operations and improvements of all beam lines in order to maintain laboratory-wide standards and to ensure consistency in areas such as computer hardware, user interfaces, instrumentation, robotics and user support. This consistency ensures that GUs can easily make effective use of the PU beam lines without retraining. Scheduling of PU beam time, coordination of safety review, and support for beam line checkouts/changeovers that require SSRL equipment is centrally managed by SSRL staff.

PU proposals are expected to have a positive impact on the GU program, and this is considered during the evaluation process. PU proposal review criteria are similar to the GU criteria and include:

- Scientific or technical merit, innovation and/or industrial importance ;
- Experimental plan and technical feasibility;

- Capability of experimental group and quality of past performance based on track record (publications, patents, corporate impact statements);
- Appropriateness of the amount of requested beam time;
- Impact on the GU program.

PU arrangements are documented in a PU Agreement, such as a Memorandum of Understanding (MOU), that includes specific terms as well as understandings, such as those related to contributions of the parties, relationships and responsibilities in developing and/or supporting beam line operations, deliverables, milestones, review and renewal mechanisms. The terms of the PU Agreement will typically be for two or more years and will define a process for review and possible renewal.

2.2.1 Collaborative Access Proposals

Upon determination of mutual interest by a user/user group and SSRL to engage in a collaboration to enhance or develop a new capability or beam line, to engage in outreach activities to build up a new research area, technique or user community, or support a science activity, users may submit an SSRL Collaborative Access Proposal (CAP). CAPs may vary in scope, with more comprehensive collaborative arrangements requiring resources to support GU users. Depending on the scope of the CAP, access to a fraction of beam time may be negotiated.

Although SSRL recommends following the GU standard proposal deadline to facilitate review by the PRP during their regularly scheduled meetings, CAP proposals may be submitted at any time (electronically to the SSRL User Research Administration Office, knotts@slac.stanford.edu).

The SSRL PRP along with the SSRL Deputy and Scientific Directors serve as the CAP review group. Depending on the scope of the proposal, the CAP review group evaluates the proposal and makes a recommendation for immediate approval, further review, or rejection. Additional reviews may include feasibility input from staff, peer review of proposals by external experts with appropriate scientific/technical skills, review of Conceptual Design Report (CDR), management and safety plan reviews by facility-appointed committees, documentation of funding commitments, and/or a presentation and review by the SSRL Scientific Advisory Committee (SAC). The final decision is made by the SSRL Director.

The term of approved CAPs is typically for two or more years, with a formal process for renewal detailed in the PU Agreement (usually every year or two). Based on their review, the CAP review group may recommend to renew without modification, change some of the conditions, revise the beam time allocation or terminate the CAP. The final renewal decision is made by the SSRL Director.

2.2.2 Participating Research Team Access

The Participating Research Team (PRT) approach is used, under limited situations, for large-scope, long-term arrangements that meet institutional needs and that involve significant

investment, such as a beam line facility, with long-term commitment by the institutions involved to support GU operations.

PRTs are reviewed by SSRL management and the SAC. PRT arrangements must have a positive impact on the GU program, and this is considered during the evaluation and approval process. The ultimate decision of the terms and conditions for the PRT is made by the SSRL Director within the framework of, and consistent with existing policies.

PRT agreements are negotiated and executed to document understandings as well as specific terms for approved PRT arrangements, including the relationships, contributions of the parties, deliverables, milestones, review and renewal mechanisms. At regular intervals specified in the agreement (approximately every three years) each PRT is reviewed by the SSRL SAC, augmented by outside scientists drawn from the community as appropriate. Based on their review, the SAC may recommend to renew, revise the terms, or terminate the PRT. The final PRT renewal decision is made by the SSRL Director.

3. User Agreements

All GU and PU experiments must be run under the terms of a user agreement executed by an officer at the user's institution. A single user agreement covers all experimenters from that institution. The DOE implemented standard user agreements for Non-Proprietary Research and for Proprietary Research, and only minor modifications to the terms of the standard agreements may be made. Substantive changes require approval by the DOE which can delay user access to the user facility. In instances where DOE Contracting Officer approval for substantive changes cannot be obtained, Work for Others (WFOs) and Cooperative Research and Development Agreements (CRADAs) may be considered.

4. Non-Proprietary and Proprietary User Access

Beam time usage at SSRL can be either non-proprietary or proprietary. The majority of SSRL beam time is used for non-proprietary research.

SSRL can accommodate proprietary users who have scientific projects for which they wish to maintain confidentiality of proposal, data or results for a certain period of time (as needed for patent or other reasons). Proprietary users may submit GU proposals, or they may submit PU proposals if affiliated with a CAP or PRT.

Proprietary research proposals are subject to the same safety review and approval process as non-proprietary use proposals. Proprietary research proposals are peer reviewed in accordance with criteria described previously. Proprietary research proposals must provide sufficient information to enable peer review; however, confidential details of specific composition of a sample can, for example, be withheld if it will not compromise the ability to review the proposals. Confidence is maintained on these proposals during the review process.

Proprietary research follows the guidelines for implementation by the Stanford University Faculty Senate and is executed through the DOE's Proprietary User Agreement template. Proprietary Research is subject to the DOE full-cost recovery advance payment of facility charges. The facility charges are established as a dollar rate for each shift of beam time and are updated based on the annual facility budget and available shifts. In accordance with the DOE accounting policies, proprietary research experiments performed at SSRL shall neither start nor continue without advance payment.

Consistent with Stanford University and SLAC policy, other conditions related to proprietary research include:

- Stanford faculty, students, or research staff will not be directly involved;
- Sufficient information on samples needs to be provided so that the SSRL Safety Officer can assure that all ES&H guidelines are met and that there is no risk to people, the facility, or the environment;
- Proprietary time is limited to no more than 15% of total available beam time; and
- Disclosure of the intellectually significant results of the experimental work will be made public within five years from the time of completion of the analysis of the data.