



INSTITUTIONAL SUMMER UNDERGRADUATE RESEARCH FELLOWSHIPS (SURF)

Program Guidelines and Call for Applications

Effective: 05/12/2017

1. Synopsis of SURF Program

The benefits of undergraduate participation in research have been widely established. Authentic, mentored research experiences for undergraduates can enhance content learning, attract and retain students in scientific disciplines, and prepare them for careers in science.¹ Students who have engaged in research experiences report improvements in their technical and personal skills as well as increased confidence in their research skills.² Research experiences are also poised to help diversify the workforce: students from underrepresented groups are much more likely to pursue graduate studies if they have participated in research as undergraduates.³ For many students, these research experiences provide their first opportunity to work independently in a laboratory and to engage in real scientific inquiry. Students say that these experiences help them learn how to think like scientists, which can include dealing with ambiguity and uncertainty, formulating hypotheses, designing experiments, communicating their findings, and collaborating effectively with both peers and mentors.⁴

Since 1992, ASPET has funded over 2200 students to conduct summer research in pharmacology and related disciplines across the country through the Summer Undergraduate Research Fellow (SURF) awards. **Our goal is to use authentic, mentored research experiences in pharmacology to heighten student interest in careers in research and related health care disciplines.** Institutional awards are given to groups of faculty at a single institution to conduct a SURF program on their campus. Awardees are responsible for recruiting students to that program. **We particularly encourage participation by students traditionally underrepresented in the biomedical sciences.** For other program requirements and application instructions, please review the following guidelines.

2. Who Should Apply

Groups of faculty from the same campus who conduct pharmacology-related research including, but not limited to, scientists representing departments of pharmacology, toxicology, pharmaceutical sciences and/or biological chemistry are encouraged to apply for funding to establish a SURF program on their campus. If awarded, institutional programs will be responsible for recruiting and selecting students to participate.

¹ Lopatto, D. (2007). Undergraduate research experiences support science career decisions and active learning. *CBE - Life Sciences Education* 6: 297–306.

² Russell, S. H., M. P. Hancock, and J. McCullough. (2007). Benefits of undergraduate research experiences. *Science* 316: 548–49.

³ Eagan, M. K., S. Hurtado, M. J. Chang, G. A. Garcia, F. A. Herrera, and J. C. Garibay. (2013). Making a Difference in Science Education: The Impact of Undergraduate Research Programs. *American Educational Research Journal* 50(4): 683-713.

⁴ Hunter, A., Laursen, S. L., & Seymour, E. (2007). Becoming a scientist: The role of undergraduate research in students' cognitive, personal, and professional development. *Science Education* 91(1): 36-74.

3. Program Requirements

- a. A group of at least five ASPET Regular or Affiliate members in good standing from one institution may apply, with one ASPET member serving as the Program Director.
- b. Students are expected to receive at least a \$2,800 stipend for a minimum of ten weeks participation in the program. ASPET support for an undergraduate fellowship program is \$1800/student for at least 5 students per year of funding (\$9000 total/year). The application should include an institutional commitment for matching funds of at least \$1000/student from local resources.
- c. Program Directors or research mentors are expected to sponsor SURF Fellows for student membership in ASPET no later than the onset of their summer research experience.

4. Terms of the Award

- a. Awards are normally made for three (3) years (\$27,000 total in funding across three years). No indirect costs will be provided.
- b. Allowed expenses include 1) student stipends or wages and 2) student housing (which may include meal plans). No other use of ASPET funds is allowed, including staff salaries, equipment, consumable supplies, or overhead. We expect that these expenses will be covered by matching funds from the institution or other supplementary sources.
- c. Program Directors are responsible for notifying ASPET if fewer than 5 students are participating in their program in a given year. Funds may need to be returned to ASPET.
- d. All Awards will be made directly to institutions.
- e. Awards may be renewed on a competitive basis, subject to the availability of funds. All renewal applications must follow the format described under "Application Requirements".

5. Reporting Requirements

- a. Awardees are required to submit an annual progress report on October 1 of each award year following the template provided at <https://www.aspet.org/awards/SURF/institutional/>
- b. The annual progress report must include a financial report. If there are any unspent funds, the program director must indicate how these funds will be allocated and provide an anticipated date by which the balance will be spent down.
- c. Tracking data for student participants must be provided until the next step after their bachelor's degree, at a minimum. Data should be provided following the template at <https://www.aspet.org/awards/SURF/institutional/>
- d. All participating students must take the Survey of Undergraduate Research Experiences (SURE) no later than October 1 of each award year. ASPET will contact students and provide the information necessary for completion of the survey. After completion of the survey, ASPET will provide aggregate data to Program Directors.
- e. All reporting requirements listed in this section must be completed in order for funds for the following year to be disbursed.

6. Due Dates and Award Timeline

- a. Applications (both new and renewal) are due on October 1. If October 1 falls on a weekend, applications will be due the next business day.
- b. Applicants will be notified of funding decisions by December 15 of the year preceding the summer research period.
- c. Funds will be disbursed to awardees in February of each award year. Disbursement of funds after the first year is contingent upon the timely receipt of the reporting requirements described above.

7. Application Requirements

Applications should be emailed by the designated Program Director to Dr. Catherine L. Fry at cfry@aspnet.org and include the following information in a single PDF.

A. Background and Program History (approx. 1 page)

If the program has had prior SURF funding, please provide a brief history of the program at this institution, including which years funding was in place. Please detail any changes made to the program in light of feedback from faculty and students or shifts in departmental priorities. If the institution has never had previous SURF funds, please comment briefly on the institution's readiness to establish a SURF program (e.g. experience with other undergraduate research programs).

B. Description of Student Research Projects

1. Provide a summary table with the following information for all proposed research mentors. Please clearly identify who will serve as the Program Director (see example below):

Mentor	ASPET Member	Department	Research Area	Previous SURF Students Mentored
John Smith, Ph.D (Program Director)	Yes	Pharmacology	Cell Signalling	Marissa Jones (2011)
Mary Brown, PhD	Yes	Toxicology	Metabolism	Henry Lee (2013), Ashley Green (2012)

2. Provide brief descriptions of each of the research projects students will pursue, including the following information:

- Name of mentor
- Title
- Email address
- Provide the research aims for potential projects in your lab in which SURF student(s) will be involved. Please make sure this is not an overall summary of the research interests of the laboratory.
- Provide a list of potential techniques a SURF student is expected to learn during the course of the fellowship.
- Provide a brief description regarding the degree of independence a SURF student would have in this laboratory. Provide specific descriptions of the role the student may play in observing and/or performing techniques, evaluating data, participating in experimental design, and interacting with laboratory colleagues.
- Provide a brief description of the mentoring plan for interactions between proposed mentors and students. Specifically address what portions of the student's time and training will involve the mentor versus other lab personnel, such as graduate students and postdocs.

C. Programmatic Mentoring Plan

A high-quality research experience requires both mentoring and programmatic support to enrich a student's time in the laboratory. This section should describe any enrichment activities available to the student cohort. If SURF students will interact with students from other programs, please briefly describe any joint activities, noting which activities are shared and which are specifically for SURF students. The following activities are particularly encouraged where possible:

- Scientific seminars and lectures

- Professional development seminars (e.g. public speaking, collaboration/teamwork skills)
- Tours of research facilities
- Trips to local biotechnology or pharmaceutical companies
- Introduction to professionalism, ethics in research, and authorship

D. Description of Recruitment and Selection Process

Provide a description of how the students will be recruited and selected for the summer program, including the following:

- Briefly describe the application procedure and student eligibility requirements.
- How and from where will the program recruit? Will students be recruited from outside the sponsoring institution?
- How will underrepresented students be recruited? Describe any ongoing programs at the institution involving these groups of students that allow for recruitment opportunities.
- Who will review the applications and what are the selection criteria?

E. Dissemination Plan

Provide a description of how the students will report on their research results, including opportunities for presentations and publications. Participants in the SURF program are expected to give a formal (department-wide, at a minimum) scientific presentation within one year of the conclusion of the fellowship. A majority of SURF students are expected to achieve authorship in a published scientific citation within two years of the conclusion of the fellowship. Please include the following:

- Expected presentation format (e.g., PowerPoint presentation, poster session)
- Presentation venue (e.g., campus-wide event or departmental “research day”)
- How will students be evaluated for these presentations and how will students receive this feedback?
- What opportunities are there for authorship in any publications resulting from the research project?

F. Mechanisms for Tracking Program Participants

Briefly describe the mechanism(s) for tracking participant outcomes (e.g., through Facebook or LinkedIn groups) once students complete the summer program. Tracking data must be provided until the student’s next step after their bachelor’s degree, at a minimum. For a description of the required tracking data, please see the annual progress report template at <https://www.aspet.org/awards/SURF/institutional/>.

G. Financial Information and Commitment of Matching Funds

- All Awards will be made directly to institutions. Please indicate to whom checks should be made payable in your application. You must include a contact name, email, and physical mailing address.
- You must provide a letter of support from an appropriate institutional official that commits the required matching funds.

Appendices

Appendix 1: Attach an NIH biosketch (General, Version D) for each proposed mentor. See <https://grants.nih.gov/grants/forms/biosketch.htm> for templates and examples. **Each biosketch must address the individual’s contributions to training and mentoring undergraduates in the personal statement.**

Appendix 2: For renewal applications, please attach your annual progress report to your application.