

Summer Undergraduate Research Experience (SURE) at Emory University

Atlanta, GA
May 26 – July 31, 2009



Emory University
Student Application

Please Post

PROGRAM DESCRIPTION

The Center for Science Education's Summer Undergraduate Research Experience (SURE) allows undergraduate scientists to conduct supervised research with a faculty mentor. Students are trained in the research methods applicable to their research plan, analyze their data, and create written and oral presentations of their results. At the end of the summer, each participant takes part in a formal research symposium. Panels of faculty and graduate students help explore mentoring issues, and make recommendations on how to choose a graduate program and how to balance work and family responsibilities. Speakers address their own involvement in science careers and the requirements for success in their fields. Weekly ethics discussions allow students to explore the ethical aspects of research careers. Awards for popular science essays [optional submission] and scientific posters are made at the end of the program. Approved posters and essays will be published through our program web site. SURE is sponsored by the Howard Hughes Medical Institute, with assistance from the Graduate Division of Biological and Biomedical Sciences, the SIRE program (Emory College) and individual contributions by research mentors.

AWARDS

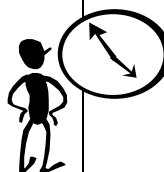
SURE Fellows will receive a \$3,500.00 stipend in return for 10 weeks of participation. Campus housing is provided as part of the award. On-campus housing allowances are not transferable to students to choose to live off-campus. Participants are eligible for travel assistance should they present their poster at professional meetings. All applicants will be notified of their final status by April 15, 2008.

STUDENT RESPONSIBILITIES

- dedicate approximately 40 hours/week for 10 weeks to their research projects
- participate in all weekly seminars, workshops, discussion groups and activities as scheduled
- post a research prospectus on the third week of the program
- routinely consult the updated online program schedule
- present a poster during the SURE poster symposium
- complete a program evaluation
- participate in laboratory meetings, journal clubs, safety training, and other such academic activities as requested by the mentor
- update program organizers of future academic developments for program assessment purposes

MENTOR RESPONSIBILITIES

- communicate expectations to the student (work hours, how performance will be evaluated, share laboratory protocols)
- help define the student's project goals and deadline
- meet with the student at least every other week to provide feedback and guidance on the progress of the student's project
- offer guidance and constructive criticism while the student prepares his/her poster or talk for the end-of-program symposium
- designate additional contacts within the laboratory or department to assist the student if the mentor is temporarily unavailable
- attend the poster session
- apply for NSF or NIH grant supplements if at all possible



EMORY APPLICATION COMPONENTS AND DEADLINE

- completed application form. See mentor listing for available research areas (list is available on our program website)
- web form, available via <http://www.cse.emory.edu/SURE>
- course transcript (may be unofficial)
- research proposal describing work to be accomplished over the summer (guidelines attached)
- letter of support from the faculty mentor who will supervise the student's research

All materials must be delivered by 5 p.m., **February 11, 2009** to:

SURE 2009
c/o Center for Science Education
Emory University,
1399 Oxford Rd.,
Atlanta, GA 30322

For additional program information, visit <http://www.cse.emory.edu/SURE>



SURE Program Application Guidelines for EMORY applicants



- PRINTED APPLICATION FORM:** The printed application form is reviewed by the selection committee. Please provide all requested information and ensure the text is legible.
- We will **contact you** at whichever addresses you indicate. We will use the e-mail account for early notification purposes, and letters will be mailed when selections are made. To update your contact info, email srp@learnlink.emory.edu. If at all practical, please use your campus P.O. Box address as a local contact address.
 - Our program draws funds from a variety of sources, and total funding available determines how many students we can place each year. Please note that you cannot be paid twice for the same period of work, e.g., be paid by your mentor AND by the SURE program. However, your mentor can help support your work in part or in full, so that your award is complete (\$3500 stipend + campus housing). If your mentor can partially or fully support your participation, ask him/her to discuss this issue in the letter of support.
 - SURE fellows are expected to attend all program activities, assigned weekly ethics group discussions, and laboratory meetings or journal clubs as determined by the research mentor. If you accept a SURE fellowship, you agree to work full-time (with research-related program and laboratory activities counting towards that “full time” status). Although we sympathize with the academic pressures faced by our participants, enrollment in MCAT/GRE/LSAT training programs should not interfere with attendance to program activities. We strongly discourage SURE participants from enrolling in summer classes. At current time, it is not possible for us to award research credit hours for SURE participation. Students engaged in summer research may contact our program to request permission to participate in SURE on a volunteer basis. Volunteer participants are welcome at all program activities including the poster session scheduled for the last week of the program.
 - Successful applicants are offered campus housing (shared double-occupancy room). If you reside in the Atlanta area, you are still eligible for campus housing. SURE participants may choose to live off-campus, however, we cannot offer financial support for such housing arrangements. If you have alternative off-campus housing arrangements, please indicate you will not require campus housing. If you are chosen to participate and accept to attend our program, you agree to abide the same Emory College student conduct guidelines that are applicable during the academic year. Violation of these guidelines will result in termination and referral to other College units for follow-up as needed.
- WEB FORM:** Please do not use “creative” spelling when completing the web form (all caps, no caps, no punctuation, etc.): this only slows the processing of all correspondence.
- RESEARCH PROPOSAL:** PLEASE visit our web page at www.sciencenet.emory.edu/SURE for suggestions on how to identify a research mentor. Your proposal should follow the attached guidelines. Your proposal should describe your projected summer work, and should include a timeline and a brief explanation of how this work fits into your undergraduate education. Your research mentor must approve your final draft in writing via his/her letter of support. The research proposal may be your original idea, it may be a project proposed by your mentor, or a combination of both. Remember to ask your mentor if you are eligible for support under supplements to your mentor’s research grants (see attached note regarding NSF and NIH grant supplements).
- COURSE TRANSCRIPT:** We use your course transcript to confirm that you have the necessary background to succeed in our program. The transcript need not be official. However, the transcript must include your name as part of the original printout, and must be generated by your institution (i.e., a typed course and grade listing that you create using a word processor will not be acceptable). You can submit a list of courses currently in progress if your transcript does not include such information.
- THE LETTER OF SUPPORT:** Your research mentor should write this letter, and should address the issue of your potential as a researcher. Your mentor is more likely to write a strong, supportive letter if he/she is familiar with your performance in the laboratory, work ethic, academic background, etc. It benefits you to identify your research mentor as soon as possible, and to do preliminary work in their laboratory before the SURE program begins. You may use your SURE experience to begin a project, or to continue work on a project that is already established. If your mentor has applied for an NSF or NIH supplement that might support your work, have him/her mention this in the letter. We strongly encourage all mentors to apply for supplements if possible. If there are things you wish to address that don’t “fit” anywhere else in the application, let your letter writer know.

➔ If you have any questions about your SURE application, please contact Dr. Cathy Quinones via Learnlink or at (404) 727-3439. Extensive program information is available at <http://www.cse.emory.edu/SURE>



SURE Research Proposal Guidelines & Checklist

- Length: 3 pages maximum (one additional page allowable for figures but not required); your proposal should include all items outlined below.
- Margins and Font: 0.75 inches minimum margins; 10 point and larger
- Spacing: single or space and a half
- Other: applicant's name and page number should appear on each page

Remember: in addition to the proposal, you must submit your application form, online form, a transcript, and a letter of recommendation by the deadline.

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Center for Science
Education, Emory College

Applicant's Name:

Applicant's E-mail address:

I. Proposal Title

II. Proposal Abstract (200 word max.)

III. Proposal Detail

a. Background

b. Clearly stated hypothesis or project goal

c. Methodology / Experimental design

d. Data analysis (proposed statistics)

e. Foreseeable technical difficulties

f. Timeline (start and end dates; for SURE applicants, week-by week break-down)

g. Project goal – whether publication, presentation, senior thesis, report for research for credit

h. References / Literature Cited (5 maximum)

IV. Resources Needed – briefly address the following:

a. Technical assistance (Expertise contacts for science background, statistical analysis, etc.)

b. Budget (available vs. unmet need, if applicable; this is to help you consider resource limitations; the SURE program does not have additional funding for materials or laboratory fees beyond the stipend the student receives)

c. Other logistics (transportation, time constraints, assistance or equipment needed)

d. Institutional approval – radiation safety training, use of animals training, scientific collection permits, vaccinations or titers required, etc. *Your faculty mentor will help you determine what is needed. All requirements must be met before you begin working on your project*

V. Mentor's Name and Department (it is understood the mentor has seen the final draft of the proposal and his/her approval is implied with the submission of a letter of recommendation)

Announcement: Changes to SURE and How Mentors May Seek Student Support via Grant Supplements

Last updated: November 7, 2009

The SURE program at Emory University began in 1991, and supported approximately 10 Emory biology majors. As of 2007, SURE has served over 1000 participants (~52% of which were Emory College students). Most of these SURE awards were funded by the Center for Science Education's Howard Hughes Medical Institute (HHMI) grants. In our current HHMI award (fifth renewal), we had to make strategic decisions about our budget that affect the number and nature of Emory awards:

1) Assessment shows that research opportunities that occur earlier in an undergraduate's career are more likely to result in research career choices. The current grant seeks to support more rising sophomores than in the past (both internal and external candidates). We have set aside 6 positions to support undergraduate researchers at Oxford College, and 2-3 positions to support research abroad with international HHMI investigators. Factoring in the above, there will be approximately 10 HHMI-funded SURE slots available for Emory College students, a reduction relative to prior years.

2) It was important to demonstrate that Emory values and is making an effort to institutionalize undergraduate research. We were able to note that the SIRE initiative (Office for Undergraduate Education, Emory College) now funds 6-9 SURE awards to Emory students; that the Graduate Division of Biological and Biomedical Sciences funds several external students; that many faculty provide supplemental funds; and that we continue our efforts to seek endowment funds. Until a permanent, endowed solution is found, we will continue to seek extramural funding but must also strongly encourage faculty to seek NSF and NIH funds to support their students.

Grant Supplements support undergraduate research year-round (including summer)

The National Science Foundation (NSF) and National Institutes for Health (NIH) make competitive awards to scientists in a variety of disciplines. Many of their research grants allow the primary investigator (PI) to request additional funds beyond the original award for the purpose of creating research and training positions for undergraduate and graduate students, among others. **We are asking Emory faculty to seek this kind of funding when available**, to help us create more paid opportunities for Emory undergraduate scientists. Note that this funding can support research year-round, not just during the summer. Please initiate your supplement request asap, since it can take months for the funds to become available.

- NIH's Research Supplements to Promote Diversity in Health-Related Research are open to faculty holding R01, R10, R18, R22, R24, R35, R37, R43, R44, R41, R42, P01, P20, P30, P40, P41, P50, P51, P60, U01, U10, U19, U41, U42, U54, or S06 grants, and will fund underrepresented minorities, students with disabilities, and students from disadvantaged backgrounds. Supplements can be submitted at any time. Recipient students must be US citizens or permanent residents. The full text of this document is available at <http://grants.nih.gov/grants/guide/pa-files/PA-08-190.html>. Before submitting, please contact the current grant administrator at the NIH. As per the above announcement, applications can be received at any time, applications should be done within 6 months of the projected starting date, and notifications will be made within 10 weeks of submission.
- NSF Research Experience for Undergraduates (REU) Supplements are available to PIs with ongoing research projects, and can be included in new grant submissions and renewals. Recipient students must be US citizens or permanent residents. For a description on how to submit a supplement request via FASTLANE (or add REU lines to a grant you are submitting or renewing), please go to <http://www.nsf.gov/pubs/2007/nsf07569/nsf07569.htm>. International REUs will support collaborations where students may work abroad. Please contact your grant program officer for submission deadlines and notification times.

⋄ Please share this information with your potential SURE mentor. Cathy Quiñones, SURE Program Director
⋄ (cquinon@emory.edu, 404-727-3439), can provide a brief program description and assist mentors in
⋄ determining how much funding to request to cover housing, stipend, and registration fees.