

Summer Research Programs

Summer Undergraduate Research Programs for 2009

Summer Undergraduate Research programs are referred to with a variety of titles. These include Summer Undergraduate Research Program (SURP), Summer Undergraduate Research Experience (SURE), Summer Undergraduate Research Fellowship (SURF), and Research Experience for Undergraduates (REU). All of these refer to the same type of program, a summer research position in which students receive a stipend (and sometimes additional funding) for performing research.

These programs let students participate in a research lab, work with the faculty, live in the community, and can help a student decide if this particular program is a suitable graduate school for them or not. If the student decides to apply to the graduate program (or professional program, if applicable) they can usually get a letter of recommendation from their summer research mentor. This personal contact can certainly be helpful in gaining acceptance to the program. Below is a listing of all the summer undergraduate research programs about which the Undergraduate Advising Office has received announcements. ****NOTE:** There may be other eligibility requirements for the programs in addition to the eligibility requirements listed below.

Finding a program: The summer research programs vary widely in the content and scope of what they cover, as well as the areas of concentration, ranging from semiconductors and photolithography to marine science research. Students should look through the listing below to find a program that is similar to their research interests.

You can also find an extensive listing of summer research programs at the following websites:

- <http://acswebapplications.acs.org/applications/epic/epicmain.cfm> -- ACS "Experiential Programs in Chemistry" EPiC site. Lists programs by type, area of interest, and geographical area. At least 68 summer programs are listed here.
- http://www.nsf.gov/crssprgm/reu/reu_search.cfm -- National Science Foundation Research Experiences for Undergraduates (REU) programs listing.
- <http://www.dep.anl.gov/> -- Division of Educational Programs (DEP), Argonne National Laboratory's link to the educational community.
- <http://cirrus.chem.plu.edu/cirrus.php?action=1> -- CIRRUS: Chemistry Internet Resource for Research by Undergraduate Students.

Applying to a program: Application requirements also vary widely from program to program. Usually the more prestigious programs will have higher requirements. Many programs require applicants to submit copies of their transcripts, and most also want one or two letters of recommendation from faculty. Some want applicants to provide a short essay. Be sure to check the details of each program for specific requirements!

Eligibility: Some programs are aimed at students with experience in a specific area, others are open to students with no research experience. Many are limited to U.S. citizens or permanent residents (usually funded by the NSF), but some are open to international students. Some will have higher GPA requirements and increased course requirements. Some are targeted at students who are between their junior and senior years while participating in the program, while others are open to sophomores as well. Once again, be sure to check the details of each program for specific requirements!

Stipends: These vary from program to program, usually in the range of \$2,000 to \$4,000 for the summer. Most programs offer free or reduced-cost housing, some offer health insurance for the summer, and many offer travel allowances. List updated 2/26/2009 University of Texas at Houston Graduate School of Biomedical Sciences Summer Undergraduate Research Program The Graduate School of Biomedical Sciences offers a summer program which provides research opportunities to undergraduate students with a strong interest in a research career. This program includes hands-on research experience under the supervision of faculty sponsors at M.D. Anderson Cancer Center and The University of Texas Health Science Center at Houston. The summer experiences are designed to provide participants with biomedical research opportunities in a broad range of basic science and translational research areas.

The intent of this summer research program is to provide a hands-on laboratory experience for undergraduate students who wish to obtain a PhD degree and pursue a career in basic scientific research and/or science education at the college or university level.

The program is not intended for students who intend to enroll in medical, dental, or other health professional schools and go on to careers that focus on providing health care services.

Stipend: Each participant will be awarded a stipend of \$4,500 for the 10 week internship. Housing, paid by the participant, is available at the near-by Rice University dormitories.

Eligibility: To qualify for this program, the applicant must:

- Be 18 years of age by the start of the program.
- Be a domestic or international student who will have completed a minimum of 2 years of undergraduate study and have at least one year remaining by the start of the program.
- Have a GPA of at least 3.5 in math and science courses and an overall GPA of at least 3.0.
- Be able to work at least 40 hours per week in a research lab for the duration of the 10-week program.
- Complete the online application (no hard-copy paper applications will be accepted).
- Provide transcripts (official or unofficial – no copies will be accepted) which show the name of the institution and the name of the applicant.

Please mail to:

Dr. Victoria Knutson
Graduate School
6767 Bertner, Suite 3.8344
Houston, TX 77030

- Provide a personal statement of 300 words or less addressing the 5 questions listed on the application. Please prepare this statement in advance and paste it into the appropriate field on the application form.
- Provide two letters of recommendation from faculty members or others who can assess your aptitude for, and interest in, a career in fundamental biomedical research discipline

Application Deadline: Applications will be accepted between November 1st 2008 through February 15th 2009

Website: http://gsbs.uth.tmc.edu/pro_summer.htm Univ. of Texas Southwestern Medical Center SURF Program "The SURF program at UT Southwestern is an intensive summer research training experience designed for college students who are preparing for careers in biological research. Fellows spend ten weeks (beginning June 1, 2009 through August 7, 2009), pursuing individual research projects in the laboratories of UT Southwestern Graduate School faculty members. Fellows gain experience in modern research techniques, and have a chance to plan and execute an experimental strategy to answer a scientific question. The program introduces students to the sorts of projects encountered during postgraduate research training and leads to an understanding of the planning, discipline, and teamwork involved in the pursuit of basic answers to current questions in the biological sciences."

Stipend: The stipend for the ten-week program is \$4,000. Details on local living accommodations will be provided when fellows are notified of their acceptance. The stipend for SURF fellows who require SURF housing is \$5,250. Stipends must be used to cover all travel and living expenses during the fellowship.

Eligibility: Applicants must be enrolled in a natural science degree program at the undergraduate level and have completed the sophomore year. Applicants must also be U.S. citizens or possess an F1 Visa. Criteria used in selection of fellowship recipients will include college grades, relevant experience, and letters of recommendation from faculty who can assess the applicant's potential for advanced training and success in biological research. If you are a mathematics, computer science, physics or chemistry major, you may be eligible for and interested in the Quantitative and Physical Sciences-Summer Undergraduate Research Fellowship Program (QP-SURF).

Application Deadline: Completed applications should be submitted by February 9, 2009. In addition to submitting the on-line application, official transcripts and reference letters must be received through the mail by February 9, 2009.

Website: <http://www8.utswsouthwestern.edu/utsw/home/education/surf/index.html> Univ. of Texas Southwestern Medical Center Quantitative and Physical Sciences SURF Program "The QP-SURF program at UT Southwestern is an intensive summer research training experience which leads to an understanding of the planning, discipline, and teamwork involved in the pursuit of basic answers to current questions at the interface of quantitative science and basic biomedical research. Fellows spend ten weeks (beginning June 1, 2009 through August 7, 2009) pursuing individual research projects in the laboratories of UT Southwestern Graduate School faculty members. Fellows gain experience in modern research techniques, and have a chance to plan and execute an experimental strategy to answer a scientific question. The program introduces students to the sorts of projects encountered during postgraduate research training and leads to an understanding of the planning, discipline, and teamwork involved in the pursuit of basic answers to current questions in the biological sciences."

Stipend: The stipend for the ten-week program is \$4,750. Details on local living accommodations will be provided when fellows are notified of their acceptance. The stipend for QP-SURF fellows who require housing is \$5,250. Stipends must be used to cover all travel and living expenses during the fellowship.

Eligibility: Applicants must be enrolled in a physics, computer science, mathematics or chemistry degree program at the undergraduate level and have completed the sophomore year. Applicants must also be U.S. citizens. Criteria used in selection of fellowship recipients will include college grades, relevant experience, and letters of recommendation from faculty who can assess the applicant's potential for advanced training and success in research which integrates quantitative and biomedical sciences. If you are a natural science major, you may be eligible for and interested in the Summer Undergraduate Research Fellowship Program (SURF).

Application Deadline: Completed applications should be submitted by February 9, 2009. In addition to submitting an on-line application, official transcripts and reference letters must be received through the mail by February 9, 2009.

Website: <http://www8.utsouthwestern.edu/utsw/cda/dept21010/files/234276.html>

American Chemical Society International Research Experience for Undergraduates

"The ACS International Research Experience for Undergraduates (IREU) exchange program gives undergraduate chemical science students an opportunity to pursue research at universities in France, Italy, Germany, the United Kingdom and the United States. Participating institutions are recognized as top producers of scientific knowledge."

IREU students spend 10 weeks working on frontier chemistry research projects under the guidance of faculty members and graduate student mentors to sharpen scientific skills, develop collaborations with scientists abroad, and experience the life and culture of a foreign country.

Stipend: up to \$5,600 for air travel, stipend, insurance, pre-departure orientation, language instruction, and presenting at an ACS National meeting.

Eligibility: To apply for the ACS-IREU program, you must:

- * Be a citizen or permanent resident of the United States
- * Be currently enrolled full-time as undergraduates in chemistry or a discipline closely related to chemistry, such as biochemistry or chemical engineering
- * Have prior experience working in a research laboratory (outside of the normal coursework)
- * Be rising juniors or seniors by the end of the program

Application Deadline: January 31, 2009

Website: <http://www.acs.org/ireu>

Massachusetts Institute of Technology Materials Processing Center and Center for Materials Science & Engineering 2009 Summer Scholar Internship Program

"You'll start the program with a whirlwind, two-to-three-day overview of the various projects available in the 2009 program. During the tour, you'll meet all the profs who are offering positions in their labs, see their labs and equipment/instrumentation, and hear about the projects you can work on. During the remainder of that first week, you'll go back and meet with the faculty whose projects sounded interesting to you, and choose who you'll work with for the remaining eight weeks of the program."

One of the ideas here is that you should be exposed to the broad range of research taking place in Materials Science at MIT. To help you keep an open mind, we don't make detailed descriptions of project offerings available until the lab tours are over.

Stipend: \$5700 stipend, plus travel expenses

Eligibility: you'll need to be a permanent resident or U.S. citizen, and entering your junior or senior year in Sept. 2009

Application Deadline: February 13, 2009

Website: <http://mpc-web.mit.edu/> (click on the "Summer Scholar Internship Program" link)

The University of Texas M. D. Anderson Cancer Center Summer Undergraduate Research Program (SURP) in Biomedical Sciences and the Public Health Student Internship

"The Summer Undergraduate Research Program (SURP) in Biomedical Sciences and the Public Health Student Internship programs are intensive ten-week internships that provides an opportunity for outstanding students to participate in cutting edge biomedical and public health research at one of the premier cancer research and treatment institutions in the United States. The program includes 10 weeks of in-depth research along with a weekly seminar series, field trips, social events, and a student symposium on the last day, which includes oral presentations by the interns. SURP/PHSI participants must complete the entire 10-week program."

Stipend: approx. \$3,000

Eligibility: SURP/PHSI is open to undergraduate students pursuing a 4-year degree in science, public health, or mathematics and wishing to gain "hands-on" experience in research. Criteria used in selection of interns will include college grades, personal statement, relevant experience and letters of recommendation from faculty who can

assess the applicant's potential for advanced training and success in biomedical research.

Foreign students currently residing in the U.S. that are either permanent residents or hold an appropriate visa are eligible for participation in SURP/PHSI.

Application Deadline: February 28, 2009

Website: <http://cred.mdanderson.org/surp/>

Iowa State University Computational & Systems Biology Summer Institute

"High-throughput genomic approaches are generating vast amounts of DNA and protein sequence and structure data, genetic map information, and gene expression profiles. The pace of data accumulation is rapidly outrunning the rate of data processing and comprehension. The value of data repositories will ultimately be valuable only to the extent that the data can be interpreted, annotated and integrated. The broad aim here is to increase the number of trained scientists, in order to shorten the time between biological data acquisition, knowledge derivation, and practical application of new insights. This is a critical challenge since these fields are remarkably interdisciplinary and draw on contributions from biologists, computer scientists, statisticians, engineers, and physical scientists. Our goal is to provide the basic training in Computational and Systems Biology for students at an early stage of their studies, and to provide incentives and perspectives that will encourage them to seek careers in computational and systems biology, thus enlarging the pool of creative, well-educated professionals in this interdisciplinary area."

Stipend: \$4,000 stipend as well as costs of living and travel

Eligibility: - US citizen or permanent resident; - Currently registered in an accredited undergraduate or first-year graduate program.

Application Deadline: March 1, 2009

Website: <http://www.bioinformatics.iastate.edu/CSBSI/>

University of Arkansas Research Experience for Undergraduates (REU) Summer Research Program 2009

"The 10-week summer program allows undergraduate chemistry majors, who will be juniors or seniors in fall 2009, to carry out research in a chosen area, including:

- Analytical Chemistry
- Biochemistry and Protein Dynamics
- Inorganic Chemistry and Nanotechnology
- Organic Chemistry
- Physical or Theoretical Chemistry"

Stipend: Participants will receive a scholarship of up to \$5,100, a housing allowance of up to \$1,600, and \$500 for meal expenses.

Eligibility: requirements not listed; it does look like the program is open to international students;

Application Deadline: March 3, 2009

Website: <http://chemistry.uark.edu/1197.htm>

Iowa State University Summer Research Experiences in Computational Materials Science

Stipend: \$4,000

Eligibility: To be eligible, you must be a U.S. citizen or permanent resident and plan on receiving your bachelor's degree no earlier than January, 2010.

Deadline: February 1, 2009

Website: <http://www.chem.iastate.edu/reu/>

Virginia Tech SURP in High Performance Materials & Polymer Science and Engineering

"In 1989 the National Science Foundation established a Center at Virginia Tech to conduct research and provide education focused on advanced materials having polymeric constituents. Both adhesives and composites were included in the charter for investigation and instruction. A highly successful and competitive by-product of the Center featured visiting undergraduates' research. Thanks to two (2) new Research Experience for Undergraduates (REU) grants (funding pending) - with focuses on the Design and Delivery of Polymer-Drug Complexes and Materials and Processes for PEM Fuel Cells - the twenty-first consecutive summer of research opportunities is being made available for undergraduates who wish an exciting laboratory experience. We have over 490 graduates from the REU summers!"

Stipend: \$6,300

Eligibility: Rising juniors and seniors (preferred) who attend universities in the USA and are U.S. citizens or Permanent residents of the United States.

Deadline: February 1, 2009

Website: <http://www.mii.vt.edu/SURP/>

Stanford University Center on Polymer Interfaces and Macromolecular Assemblies SURE

"The Center on Polymer Interfaces and Macromolecular Assemblies (CPIMA) provides qualified undergraduates in chemical engineering, chemistry, materials science, physics, and related fields with a ten week summer research opportunity. The SURE program allows students to work on independent research projects involving direct interaction with research scientists, post-doctoral scholars, and graduate students at Stanford University, IBM Almaden, University of California - Berkeley, University of California - Davis, or a CPIMA Industrial Affiliate."

Stipend: \$4,500

Eligibility: - Open to all undergraduate students who will be sophomores, juniors, or seniors majoring in an engineering or physical science discipline. - Applicants must have an interest in pursuing a graduate degree in engineering or physical sciences. - Applicants must be a U. S. Citizen or U.S. Legal Permanent Resident.

Deadline: February 2, 2009

Website: <http://cpima.stanford.edu/education/sure-program-reu/>

National Nanotechnology Infrastructure Network Research Experience for Undergraduates Program

"During the summer of 2009, the National Nanotechnology Infrastructure Network will host a Research Experience for Undergraduates (NNIN REU) Program from June through August, hiring approximately 70 interns to work at the 14 NNIN sites. We are looking for engineering and science students with broad interests across disciplines focusing on nanotechnology.

Minority and female candidates are especially encouraged to apply, along with students with no previous research experience."

Stipend: \$4,000

Eligibility: Undergraduate student interns must be citizens of the United States of America or its possessions OR, if citizens of another country, must be permanent residents of the United States. If you are a permanent resident, a copy of your green card is required as part of your application. An undergraduate student is a student who is enrolled in a degree program (part-time or full-time) leading to a baccalaureate or associate degree. Students who are transferring from one college or university to another and are enrolled at neither institution during the intervening summer may participate.

Deadline: February 11, 2009

Website: http://www.reu.nnin.org/nnin11_login.php

Stowers Institute Scholars Program

"A Stowers Scholars Program for undergraduate students is available during the summer for talented and dedicated students who would like a research-intensive experience. Eligible students will be enrolled during the academic year in an accredited college or university and pursuing a degree in the biological or physical sciences.

The Stowers Scholars Program is an eight-week summer experience in a stimulating scientific environment with state-of-

the-art laboratories equipped with the most advanced technology. Serious science students will benefit from the Institute's commitment to training in a unique environment that emphasizes our interdisciplinary approach to research."

Stipend: \$3,000

Eligibility: To be considered for the program, students should have completed 60 credit hours of undergraduate coursework with at least a 3.5 GPA and be enrolled in a degree-granting program in biology, biochemistry, molecular biology, genetics, chemistry, physics, computing, engineering, mathematics, or a related field.

Deadline: February 27, 2009

Website: <http://www.stowers.org/ScientistsSought/training/scholarsprogram.asp>

University of California Santa Barbara CAMP Summer Internship Program

"The California Alliance for Minority Participation provides resources and opportunities to under-represented students in Science, Technology, Engineering and Mathematics.

The Summer Research Program provides a 10 week intensive research experience for CAMP eligible students interested in a career in science, engineering, technology or mathematics. CAMP participants work in a UCSB laboratory with a graduate student or postdoctoral researcher mentor. Mentors provide one-on-one training and support for the research project. In addition to research, the interns also participate in weekly group meetings to develop oral presentation skills, attend special seminars and present their results at an end-of-summer poster session. Students also present their research at the statewide CAMP symposium the year after completing their internship."

Stipend: \$3,000

Eligibility: - US citizen or permanent resident; - Member of under-represented group: blacks/african americans, native americans/alaskans, pacific islanders, latinos and latinias; - Be enrolled as a sophomore, junior or senior in Fall 2009

Deadline: March 2, 2009

Website: <http://www.mrl.ucsb.edu/CAMP/>

University of Georgia Summer Undergraduate Research Opportunities in Chemistry

"The Department of Chemistry at the University of Georgia is soliciting applications from outstanding undergraduates majoring in chemistry and related disciplines for our SURO2008 Summer Undergraduate Research Opportunities program. Undergraduate researchers will join active research groups and participate in projects directed by faculty members. Participants are introduced to new and innovative areas of research in a variety of chemistry sub-disciplines through interaction with several faculty members and joint seminars with other participants in the summer research program."

Stipend: \$5,000

Eligibility: Undergraduate students who are completing their sophomore or junior years in the spring of 2009 are encouraged to apply.

Deadline: "Applications are reviewed frequently until the available openings are filled. Those received by March 6, 2009 are assured of full consideration."

Website: <http://www.chem.uga.edu/suro/>

Dartmouth College Center for Nanomaterials Research 2009 Research Experience for Undergraduates Summer Program

"With the support of the Department of Defense Awards to Stimulate and Support Undergraduate Research Education (DOD ASSURE) program, administered by the National Science Foundation Research Experience for Undergraduates (NSF REU) program, we offer a nine-week summer program in nanomaterials research in the beautiful rural New England college town of Hanover. Participants work on projects at the forefront of nanomaterials research. Students choose between experimental and theoretical investigations of materials' properties. Professors work closely with the undergraduate students to help them accomplish their research goals, to learn how to communicate their results orally and in writing, and to help them develop as responsible scholars. Weekly group discussion sessions and field trips to industrial laboratories, where students view materials research in the "real world," are all a part of the summer

experience."

Stipend: \$4,050 plus housing and travel allowance

Eligibility: The program is open to US Citizens or permanent residents.

Deadline: March 13, 2009

Website: <http://engineering.dartmouth.edu/nanomaterials/> (click on "Summer Program")

University of Pittsburgh Bioengineering & Bioinformatics Summer Institute

The BBSI @ Pitt provides a unique training experience to students wishing to explore the field of computational biology by providing an opportunity for talented students to learn quantitative computer modeling methods at multiple scales in the Life Sciences (molecular to cellular). Students will attend classes taught by core faculty, and will have a unique opportunity to work with leading scientists and subsequently apply their knowledge towards a mentored state-of-the-art research project of their choice.

The BBSI @ Pitt is a joint program offered by the University of Pittsburgh, the Pittsburgh Supercomputing Center, Duquesne University, and Carnegie Mellon University.

Stipend: Undergraduate students: \$3500; Graduate students: \$5000

Eligibility: The program is open to all U.S. citizens and permanent residents. Applications from students in the life sciences, mathematics, engineering, and computer science are welcome. A total of 13 students will be admitted: 11 undergraduate students entering their junior or senior year, and 2 graduate students entering their first or second year of graduate school. Students from groups underrepresented in math, science, and technology are especially encouraged to apply.

Deadline: March 8, 2009

Website: <http://www.ccbb.pitt.edu/bbsi/>

The Biophysical Society Summer Course in Biophysics

If you are a minority or Canadian aboriginal undergraduate student interested in learning about graduate level programs, biophysics, & working with top scientists in the field, you should apply!

Stipend: Participants receive: - Paid tuition; - Paid room & board; - Text books; - Travel grant; - Stipend for living expenses;

Eligibility: - Studying quantitative science: chemistry, physics, biochemistry, computer science; - 2 semesters of calculus-level physics; - 3.0 cumulative or higher GPA in science courses; - Must be a minority undergraduate student residing permanently in the U.S. or citizen of U.S., or Canadian aboriginal undergraduate student.

Deadline: March 13, 2009

Website: <http://www.biophysics.org/tabid/88/Default.aspx>