

2009 SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATES

Albert Einstein College of Medicine (Bronx, New York)

The Summer Undergraduate Research Program (SURP) at the Albert Einstein College of Medicine offers a unique opportunity to work for the summer in a research laboratory at one of the world's top-ranking scientific institutions. The program is specifically designed for students considering a research career in the biomedical sciences. Approximately 50 students from all over the country come to Einstein, live on the campus, and participate in "hypothesis-driven" research in their area of interest. Summer positions are available in labs in every area of biomedical research. SURP students also attend weekly undergraduate level seminars on "hot" research topics, and also participate in career development workshops and a forum on ethical issues in science and medicine. At the end of the summer, SURP students present a poster describing their research at the annual SURP symposium on the Einstein campus. All SURP students receive a stipend housing, and a full range of social activities including attending a Broadway show, a baseball game, Bronx Zoo Day, student-faculty barbeques and various outings. Program dates, online application and further information are available on our website: <http://www.aecom.yu.edu/phd/summer.htm>

Baylor College of Medicine(Houston, Texas)

The Summer Medical and Research Training (SMART) Program is a 9-week summer research program offered by the Graduate School. From its initiation in 1989, the SMART Program has provided undergraduate students from more than 240 colleges and universities an opportunity to experience research in a medical school environment. Between 80 and 90 positions are available each summer. The size of the program affords a unique chance to work closely with students from many different ethnic, educational and geographical backgrounds who share a common interest in biomedical science careers. Students become functioning members of Baylor laboratories and contribute to research efforts in more than 20 basic and clinical science departments. Students and mentors are matched based on the student's educational level, laboratory experiences and research interests. At the end of the program, students submit a short summary of their research. Daily noon seminars designed for this program help students develop their fundamental knowledge, introduce areas of biomedical research and emphasize the reciprocal relationship between basic research and clinical applications. A wide range of scientific topics, as well as career options and opportunities for participants interested in research, are explored. Seminar speakers span the range of career development from graduate students to world-renowned scientists and physicians. For additional information visit www.bcm.edu/smart/.

Case Western Reserve University (Cleveland, Ohio)

The Summer Program in Undergraduate Research (SPUR) program at Case Western Reserve University is a 10 week summer internship program designed to acquaint students with all aspects of scientific research, from formulation of a question to production of a final report. Each participant is assigned to a faculty member whose research is of interest to that student. While the student's research is expected to contribute to ongoing research in the faculty member's laboratory, the students are encouraged to help in designing a research project. Students share in their departments' weekly activities such as seminars and journal clubs. All participants join in several activities that will encourage interaction among all students engaged in summer research. The program culminates with a one-day poster session where students share their results with the research community at Case Western Reserve University. For additional information, visit <http://www.case.edu/artsci/biol/hhmi/spur.html>.

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Cold Spring Harbor Laboratory

The Undergraduate Research Program (URP) provides one of the few places in the world where young people are instructed in the techniques of modern biology while becoming integrated members of a vibrant scientific community.

Approximately 25 students from around the world will be accepted to the 10-week summer program to work with senior Laboratory staff members on independent research projects, specifically in areas of Cancer Biology, Neuroscience, Plant Biology, Cellular and Molecular Biology, Genetics, Macromolecular Structure, and Bioinformatics. Program dates for 2009 are June 7 - August 15, 2009. Deadline for receipt of applications is January 15, 2009. A \$4000 stipend plus full room and board are provided. Please see our website www.cshl.edu/urp for an application and more information.

Emory University (Atlanta, Georgia)

The Summer Undergraduate Research Program at Emory (SURE) allows undergraduate students to conduct supervised research with a faculty mentor. Students receive training 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, participants share their research via our poster 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. For more information, visit <http://www.cse.emory.edu/sciencenet/undergrad/SURE/SURE.html>

Fred Hutchinson Cancer Research Center (Seattle, Washington)

A summer research program for undergraduate students between their junior and senior year of studies is established at the Hutchinson Center. The program provides financial support and instruction on a research project under the guidance of a faculty member and laboratory staff. Students spend a nine week period as part of a research team after selecting an area of interest, such as: cellular biology, developmental biology, genetics, membrane biology, molecular biology, molecular immunology, structural biology, oncogenes, or virology. Weekly student/faculty research meetings take place throughout the summer, and students are encouraged to participate in other Center colloquia and seminars. For more information, visit <http://www.fhcrc.org/science/education/undergraduates/>

Jackson Laboratory (Bar Harbor, Maine)

The Jackson Laboratory has an 83-year history of engaging students in research internships in genetics, bioinformatics, and mouse models of human diseases. Students work on independent projects under a

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scientist mentor and live together in a waterfront mansion. For more information and an applications (due Jan. 2), visit <http://education.jax.org/summerstudent/index.html> .

New York University School of Medicine (New York, New York)

The Sackler Institute and the Office of Diversity Affairs at NYU School of Medicine have sponsored a research internship program in the medical sciences for undergraduate students for the past 19 years. The purpose of the program is to give highly qualified students, who are interested in pursuing careers in the biomedical sciences (Ph.D., M.D. or M.D.-Ph.D.), the opportunity to conduct research, while exposed to the excitement of an academic medical environment at a major research center. Students may work with faculty in the disciplines of biochemistry, bio-informatics, biomedical imaging, cellular and molecular biology, clinical investigation, computational biology, developmental genetics, forensic pathology, immunology, microbiology, molecular oncology, neuroscience and physiology, parasitology, pharmacology, structural biology and virology. For more information, visit <http://www.med.nyu.edu/sackler/programs/summer.html>.

Northwestern University

The Northwestern University Summer Research Opportunity Program (SROP) provides sophomores and juniors majoring in most disciplines with an opportunity for direct involvement in research. Throughout its 23-year history, SROP has endeavored to increase diversity among students pursuing graduate education and provide a valuable academic research experience for many students who might not otherwise have access to such opportunities. The program is eight weeks in length, from June 22 through August 13, 2009, and includes faculty supervised research, enrichment activities that prepare undergraduates for graduate school (i.e. graduate school application workshop, writing workshops, etc.), and a conference. Sophomores and juniors who are from groups which have been traditionally underrepresented in graduate schools (e.g., certain racial and ethnic minorities, first-generation college students, etc.) are encouraged to apply for SROP.

For more information, please visit:

<http://www.tgs.northwestern.edu/studentlife/multiculturaloffice/research/srop/>

Rockefeller University (New York, New York)

The Rockefeller University, one of the nation's premier centers for scientific research, invites college sophomores and juniors to apply for a unique summer research opportunity. The 10 week Summer Undergraduate Research Fellowship (SURF) program allows students to engage in intensive laboratory research, working one-on-one with faculty, postdocs and graduate fellows to experience life as a graduate student in the biological sciences. For additional information, visit www.rockefeller.edu/surf/

Rutgers The State University of New Jersey

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Rutgers The State University of New Jersey together with the UMDNJ Graduate School of Biomedical Sciences at the Robert Wood Johnson Medical School, invite HHMI grantees with interest in future PhD or MD/PhD to participate in our highly successful summer research program, RISE (Research In Science and Engineering) at Rutgers/UMDNJ, <http://rise.rutgers.edu>. Some features that distinguish RISE from many other summer programs include:

- exciting interdisciplinary opportunities that span the biological, physical, behavioral and computational sciences
- student input into selection of faculty mentor
- extensive professional enrichment including training on scientific speaking and writing, GRE prep, and guidance on graduate school admission and career options

- Poster Session and culminating Research Symposium (oral presentations)
- great location only a short train ride from New York/Philadelphia and at the national hub of the pharmaceutical industry
- outstanding record of alumni awards and graduate/professional school placement

Apply on-line at <http://rise.rutgers.edu>. Admission starts in mid-January.

University of Maryland Baltimore County

The Summer Biomedical Training Program at the University of Maryland, Baltimore County (UMBC) provides biomedical research experiences for U.S. citizens and permanent resident undergraduates, particularly those underrepresented in these areas that are interested in receiving a Ph.D. or MD/Ph.D. in the biomedical or behavioral sciences. Students from across the country complete a ten-week research experience with energetic faculty in state-of-the-art facilities at UMBC. This 10-week program offers a cross-disciplinary research experience in the 7 participating science and engineering departments. The program benefits include: round trip transportation, on-campus housing, meal allowance and a stipend. As a participant in the Summer Biomedical Training Program (SBTP) students also participate in a GRE Prep Course. This course is geared toward providing a thorough preparation for each of the sections of the GRE. At the end of the summer, the participants participate in the Annual Summer Research Festival hosted by the College of Natural and Mathematical Sciences. This event serves as the culminating event for all of the summer research programs on campus and features poster presentations by approximately 70-80 summer researchers, with 3-4 students selected to give a ten-minute oral presentations. For more information visit www.umbc.edu/meyerhoff/Undergrad/summer/

University of Texas Southwestern Medical Center (Dallas, Texas)

The Summer Undergraduate Research Fellowship (SURF) program at UT Southwestern is an intensive, 10 week summer research training experience designed for college students who are preparing for careers in biological research. 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

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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. Over two hundred and fifty participating faculty offer training in genomics, cancer biology, computational biology, developmental biology, molecular genetics, structural biology, cell biology, chemistry, systems biology, pharmacology, microbiology and infectious diseases, neurosciences, immunology, and mechanisms of disease. For more information, visit www.utsouthwestern.edu/SURF.

The Quantitative and Physical Science Summer Undergraduate Research Fellowship (QP-SURF) program at UT Southwestern is an intensive, 10 week 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 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 quantitative/biological sciences. Applicants must be enrolled in a physics, computer science, mathematics or chemistry degree program at the undergraduate level, have completed the sophomore year, and be a U.S. citizen. Forty five participating faculty offer training in biophysics, computational biology, and quantitative and analytical chemistry. For more information, visit www.utsouthwestern.edu/QP-SURF.

University of Wisconsin – Madison (Madison, Wisconsin)

The University of Wisconsin-Madison's Integrated Biological Sciences Summer Research Program offers research experiences to undergraduate junior and senior students interested in biological research careers. Each student does full-time research for 10 weeks with a faculty member in one of seven disciplinary clusters: Bioenergy, Cellular & Molecular Biology, Computational Biology & Biostatistics, Environmental Biology, Neurobiology, Plant Breeding & Genetics, or Virology. The seven disciplinary areas are woven together in an interdisciplinary learning community through discussions about evolutionary theory. In addition, science writing, research ethics, preparation for graduate school, and biological science career choices are highlighted. At the end of the program, students orally present their research at a symposium, and publish written reports summarizing their research in a program journal. For more information visit: <http://www.wisc.edu/cbe/srp-bio/>.

Washington University (St. Louis, Missouri)

The BioMedical Research Apprenticeship Program (BioMedRAP) at Washington University in St. Louis is a 10-week summer research program for exceptional students interested in pursuing biomedical research careers. Students are provided with a generous stipend, housing and travel to and from St. Louis. The program is designed to provide a rigorous, in-depth research experience to prepare participants for top-quality Ph.D. and M.D./Ph.D. programs in the biomedical sciences. Weekly faculty and graduate student science talks and social and career building activities are integral to the program. For more information, visit <http://biomedrap.wustl.edu>.

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Weill Cornell Graduate School of Medical Sciences (New York, NY)

The Weill Cornell Graduate School of Medical Sciences, centrally located on Manhattan's Upper East Side, has established the ACCESS Summer Internship Program for training under-served college students in the biomedical sciences. The aim of the internship is to awaken and foster an interest in biomedical research and education. It is open to students who are interested in getting a **Ph.D.** degree and who have excelled in their sophomore or junior years in college. During the 10-week program students receive: (1) hands-on experience in a research laboratory under the mentorship of an experienced scientist; (2) attend lectures and discussions aimed at enhancing an understanding of the current status of biomedical research, and the range of career opportunities available. A mandatory intensive GRE preparatory course was implemented in the summer curriculum. At the end of the program the students give oral and poster presentations on their research. For more information, visit <http://www.biomedsci.cornell.edu>.