

Programs in Astronomical Sciences, Atmospheric Sciences, Biological Sciences, Chemistry, Computer and Information Sciences, Defense, Earth Sciences, Engineering, International Locations, Transportation, and National Aeronautic and Space Administration

- **Administration of Non-Profit Organizations**

Program: Nathan J. Stark Internship in Non-Profit Organization Administration

Location: Washington, DC

Program Dates: 12 weeks in summer 2009 – Contact internships@nasi.org or at (202) 452-8097

Deadline: March 1, 2009

Pay: \$3,000

Subjects: Administration of Non-Profit Organizations

Description: Nathan J. Stark was instrumental in ensuring the future of several Washington, DC-based not-for-profit health policy organizations by stabilizing their finances and governance structures and mentoring their leaders. He left a legacy of lessons and results for improving health policy through fund-raising, governance, and leadership development. The Nathan J. Stark Internship for Non-Profit Development will provide two students with the opportunity to learn about non-profit organizations, how they work, how they raise funds, and how they make a difference. Interns will be based at the National Academy of Social Insurance or another non-profit organization, the National Health Policy Forum. Each summer two students interested in a career in the non-profit sector will be awarded the internship based on national recruitment and a competitive selection process. The interns come to Washington, DC for 12 weeks during the summer semester. The internship includes a \$3,000 honorarium and the opportunity to participate in a series of seminars and programs. International Students with valid student visas can be placed with these non-governmental organizations, if placement projects match their skills and interests.

Web: http://www.nasi.org/info-url_nocat3815/info-url_nocat_show.htm?doc_id=149398

- **Astronomical Sciences -**

http://www.nsf.gov/crssprgm/reu/list_result.cfm?unitid=5045

Program – Research Experiences for Undergraduates at Kitt Peak National Observatory

Location – Kitt Peak, Tucson, AZ

Program Dates – June-August, 2009

Deadline – January 30, 2009

Pay – \$625/week for 10-12 weeks (\$6,250 or \$7,500) + travel funds

Subjects – Astronomy

Description – Kitt Peak National Observatory (KPNO), a division of the National Optical Astronomy Observatory (NOAO), anticipates being able to offer six research assistant positions for the summer of 2009 through the NSF-funded Research Experiences for Undergraduates (REU) Program. The KPNO REU program provides an exceptional opportunity for undergraduates considering a career in science to engage in substantive research activities with scientists working in the forefront of contemporary astrophysics. Each REU student is hired as a full-time research assistant to work on specific aspects of major ongoing research projects at NOAO which include the origin, nature, and evolution of stars, galaxies and stellar systems, observational cosmology, analysis of Hubble Space Telescope and Spitzer Space Telescope images, and cometary studies. As part of their research activities, REU students gain first-hand experience with KPNO's state-of-the-art telescopes and develop expertise in astronomical data reduction and analysis.

Web – <http://www.noao.edu/kpno/reu/>

Program: NASA Undergraduate Student Research Program

Location: [Glenn Research Center \(GRC\)](#), Cleveland, Ohio; [Jet Propulsion Laboratory \(JPL\)](#), Pasadena, California; [Johnson Space Center \(JSC\)](#), Houston, Texas; [Langley Research Center \(LaRC\)](#) Hampton, Virginia

Program Dates: Spring 2009; Summer 2009 (USRP experiential opportunities are offered year round in the fall, summer and spring)

Deadline: Spring 2009 October 17, 2008; Summer 2009 January 12, 2009

Pay: \$6,000 summer; \$9,000 fall and spring + round trip transportation costs

Subjects: engineering, science, and mathematics

Description: Students work on practical problems that will see real applications in aerospace or on future NASA missions.

Web: <http://www.epo.usra.edu/usrp/>

Program: REU Program in Earth Sciences and Astrophysics at the American Museum of Natural History

Location: American Museum of Natural History, New York, NY

Subjects: evolutionary biology and physical sciences

Description: Included in the program are a general orientation to the Museum and a series of weekly meetings at which students discuss their research, present informal progress reports, and participate in discussions and seminars regarding systematics and phylogeny as well as graduate and research career opportunities. At the conclusion of the internships, students deliver oral presentations of their work and prepare publication quality research papers.

Web: http://rggs.amnh.org/pages/academics_and_research/fellowship_opportunities#REU

Program: Keck Northeast Astronomy Consortium

Location: Colgate University, Middlebury College, Vassar College, Wesleyan University, Haverford College, Swarthmore College, Wellesley College, Williams College

Program Dates: 10 weeks summer 2009

Deadline: February 2009

Pay: \$4,000

Subjects: astronomy

Description: The REU program runs for 10 weeks, with the start date determined by each individual faculty member. Students participating in the REU program are required to present their work at the Fall Student Research Symposium. Because the symposium facilitates interactions between students and faculty from the various schools, faculty advisors of applicants from non-consortium schools are encouraged to contact Prof. Kim McLeod at Wellesley College (*kmcleod-at-wellesley.edu*) for information about the summer exchange program.

Web: <http://astro.swarthmore.edu/knac/>

Program: National Astronomy and Ionospheric Center Research Experience for Undergraduates

Location: Cornell University, Ithaca, NY

Program Dates:

Deadline: February 2, 2009

Subjects: radar, radio astronomy and atmospheric science

Description: Each summer, Arecibo Observatory hosts at least six students and one Puerto Rican teacher for 10 weeks. The students work with staff scientists on projects related to ongoing research or instrumentation development programs. Research may be conducted in atmospheric science, radio astronomy, or planetary radar astronomy. The students are exposed to the interdisciplinary character of this unique research facility through lectures by the staff and visiting scientists, tours of the Observatory facilities, hands-on labs, and frequent informal discussions with graduate students and scientists. A seminar series provides the students with a background in the major areas of research conducted at the Observatory and introduces them to the exciting science currently being done here. Students usually have the opportunity to conduct their own independent group observing experiment with the telescope. A bonus of our program is the opportunity to explore the beautiful island of Puerto Rico and its culture.

Web: http://www.naic.edu/science/summer_set.htm

Program: Research Experience for Undergraduates in Astronomy and Engineering

Location: McDonald Observatory in the Davis Mountains, Texas

Program Dates: June 8 – August 16, 2009

Deadline: February 10, 2009

Pay: \$2,200 + all housing and meals

Subjects: astronomy, engineering

Description: The students will have the opportunity to spend a few nights working with the public groups at the McDonald Observatory Visitor Center. This world class hands on astronomy museum will put into perspective the roll of astronomical research and major research facilities in public education. One of the last weekends in the program will be spent in a trip to other nearby observatories in New Mexico. Weekend trips to Big Bend National Park, Carlsbad Caverns, Monahans Sandhills, Roswell N.M., Natural Springs and Guadalupe National Park are possible. The local town of Fort Davis offers an authentic small town Americana experience including a fourth of July parade where the observatory staff rides on the observatory fire truck. Because the observatory is a dynamic place with changing engineering priorities the exact projects will be chosen and documented after the deadline for applications are due.

Web: <http://www.as.utexas.edu/reu/>

Program: MSU Physics Department Solar Physics / Astronomy & Space Physics REU Program

Location: Montana State University

Program Dates:

Deadline: February 1, 2009

Pay: \$4,630 plus a \$330 food allowance + travel costs + room

Subjects: unix/linux/Solaris computing, numerical modeling, data analysis

Description: Most projects involve analysis of data from space missions such as [Yohkoh](#), [SOHO](#), [TRACE](#), [RHESSI](#) and [Hinode](#) and ground-based observatories. Experience has shown that data analysis projects are suitable for most undergraduates at the sophomore or junior level.

Additionally, each year there are a few opportunities in the solar-stellar connection (dynamo theory, data analysis), solar magneto-hydrodynamics, and space hardware development. The summer months in Montana offer outstanding opportunities for [outdoor recreation](#) and [other activities](#) associated with the [university](#) and the [community](#). Surrounded by spectacular mountains and rivers, Bozeman is within easy driving distance of [Yellowstone](#) and [Glacier](#) National Parks.

Web: <http://solar.physics.montana.edu/REU/>

• **Atmospheric Sciences -**

http://www.nsf.gov/crssprgm/reu/list_result.cfm?unitid=10020

Program: University of Michigan Biosphere-Atmosphere Studies in a Changing Global Environment

Location: University of Michigan Biological Station

Program Dates: June 20-August 15, 2009

Deadline: February 2, 2009

Pay: \$4,400 + travel and research supply allowance

Subjects: biosphere, atmosphere studies, global environment

Description: The REU Program at the University of Michigan Biological Station (UMBS) is a truly interdisciplinary experience in scientific research in "biosphere-atmosphere studies in the changing global environment." The program provides hands-on experience and training in field biology and atmospheric students with all phases of research, from hypothesis formulation and data gathering to analysis, interpretation and communication of scientific findings. During this eight-week program, students will: Work closely with a selected mentor/professor as part of an ongoing research project; Design, conduct, analyze, and report on a research project of their own; Participate in special workshops and group discussions designed to provide the philosophical bases and technical tools needed to carry out scientific research. REU runs for eight weeks. The 2009 REU Application will be available in January 2009. *Underrepresented minorities are encouraged to apply.*

Web: <http://www.lsa.umich.edu/umbs/>

Program: Real-World Research Experiences for Undergraduates *at the National Weather Center*

Location: Norman, OK

Program Dates: 10 weeks summer 2009

Deadline: February 2009

Subjects: weather, storm prediction, analysis

Description: The [National Weather Center \(NWC\)](#) in Norman, Oklahoma invites motivated undergraduate students from any major who are interested in a career in scientific research to apply for a 10-week summer research program. The Research Experiences for Undergraduates at the Oklahoma Weather Center is funded by a grant from the [National Science Foundation](#) to the [Center for Analysis and Prediction of Storms](#). Students will conduct research on such topics as: severe weather, tornadoes, numerical weather prediction models, atmospheric radiation, climatological studies, dryline studies, and more. Students will prepare and present papers reporting the results of their research. Student research will be supplemented by tours, field trips, and lectures to produce a well-rounded experience that will give students the opportunity to judge whether a career in research is for them. Housing, travel allowance, and a stipend are provided. Students participate in a 10-week research program during the summer under the supervision of mentors from the [National Weather Center](#): Application will be posted by Christmas 2008.

Web: <http://www.caps.ou.edu/reu/>

• **Biological Sciences –**

http://www.nsf.gov/crssprgm/reu/list_result.cfm?unitid=5047

Program: George Washington University REU in Molecular Biology

Location: Washington, DC

Program Dates: 10 weeks summer 2009 - May 26 - July 31

Deadline: March 2, 2009

Pay: \$4,000 + additional related costs and housing if needed

Subjects: Molecular biology, life sciences, bioinformatics

Description: The REU Program provides classes for undergraduate students at GW to take in the fields of computational molecular biology and bioinformatics, as well as a summer undergraduate research experience. Students begin their summer research experience by attending an intense, one-week molecular biology and bioinformatics workshop. After the workshop each student goes to a DC-area laboratory to conduct research for 9 weeks. These include labs in GW's [Biology](#), [Physics](#), [Computer Science](#) Departments, the [Medical School](#), the [Institute for Genomic Research \(TIGR\)](#), the [National Institutes of Health \(NIH\)](#), and the [Children's National Medical Center](#). Each student works on a discrete project. Many students involved in the REU program continue laboratory research through their undergraduate careers, which can lead to their post-undergraduate lives.

Web: <http://www.gwu.edu/~hhmi/reu/>

Program: Four Directions Summer Research Program

Location: Harvard University, Harvard Medical School, Brigham and Women's Hospital, Boston

Program Dates: June 14 – August 8, 2009

Deadline: February 20, 2009

Pay: Transportation to and from Boston, single room, stipend for food and other basic necessities

Subjects: Basic science, Native American health

Description: The focus of activity during the summer is participation in a basic science research project. Students are assigned a medical school faculty mentor who will work closely with the student to ensure completion of a project over the 8-week summer period. Additional program goals include:

- Experience cutting edge research at a leading medical school
- Understand the medical school application process
- Exposure to Native American health care issues
- Integrate Native traditions including talking circles
- Networking with Native American students and faculty

We are looking for students with a demonstrated commitment to the health of Native American communities, and evidence of motivation to achieve the highest goals possible. This does not require the highest grades (we do not request transcripts) or the most extensive research background (previous research experience is not required).

Web: <http://www.fdsrp.org/program/index.cfm#funding>

Program: Summer Honors Undergraduate Research Program

Location: Harvard University

Program Dates: May 31-August 8, 2009

Deadline: February 2, 2009

Pay: \$4,000 (\$400/week x 10 weeks) + all research- and course-related expenses, housing at the medical school dormitory, travel to and from the program, and health insurance if it is needed

Subjects: Biology, Biomedical Research Sciences, Cellular and Developmental Biology, Cell Cycle Regulation, Cardiac and Cardio-pulmonary Functions and Pathology, Studies of Blood Cells, Cancer Biology, Endocrinology, Immunology, Microbiology, Molecular Biology and Genetics, Receptor Structure and Functions, Transmembrane Signaling Mechanisms, Study of Clotting Mechanisms, and Virology

Description: The Division of Medical Sciences administers four research training programs for PhD students in the biomedical sciences at Harvard Medical School. In 2009, the Division will offer for the nineteenth consecutive year a ten-week summer research program primarily for college students belonging to minority groups that are under-represented in the sciences. SHURP presently has 390 alumni from colleges across the country, over 90% of whom are continuing or planning to continue training and careers in the sciences. SHURP is one of the summer research programs participating in the Summer Research Early Identification Program of the [Leadership Alliance](#), a consortium of 33 colleges and universities dedicated to improving the participation of historically underrepresented students in graduate education programs. The Program is offered for currently-enrolled undergraduates who are considering careers in biological or biomedical research sciences, who have already had at least one summer (or equivalent term-time) of experience in a research laboratory, and who have taken at least one upper-level biology course that includes molecular biology. U.S. citizenship or permanent residency is required.

Web: <http://www.hms.harvard.edu/dms/diversity/shurpintro.html>

Program: Summer Research Program in Ecology

Location: Harvard University, Boston, MA

Program Dates: May 26-August 13, 2009

Deadline: February 2, 2009

Pay: \$5,400 + room, food, and travel reimbursement of up to \$350 for one round trip to the Forest

Subjects: Population Ecology, Community Ecology, Paleoecology, Land Use History, Aquatic Ecology, Biochemistry, Soil Science, Ecophysiology, Atmosphere-biosphere Exchanges

Description: The Harvard Forest Summer Research Program in Ecology is an opportunity for students to participate in on-going research at the Harvard Forest. Harvard Forest research focuses on the effects of natural and human disturbances on forest ecosystems, including global warming, hurricanes, forest harvesting, and invasive organisms. Students participate in ongoing research projects with researchers from Harvard University, University of New Hampshire, Marine Biological Laboratory, Ecosystem Center and other collaborators. Responsibilities may include field sampling, laboratory studies, data analysis and scientific writing. In addition, students attend [weekly seminars](#) given by nationally known scientists and workshops on career and graduate school preparation. The program is 12 weeks long.

Web: <http://harvardforest.fas.harvard.edu/index.html>

Program: Research Institute for Undergraduates

Location: Cary Institute of Ecosystems, Millbrook, New York

Program Dates: May 26-August 14, 2009

Deadline: February 1, 2009

Pay: \$5,100 + housing, \$600 food allowance

Subjects: Forest Health, Freshwater Ecology, Invasive Species, Environmental Chemistry, Disease Ecology, Aquatic Food Webs, Native Animal Populations, Nitrogen Pollution, Acid Rain

Description: The REU program, supported by the National Science Foundation, gives students what for most is their first opportunity to conduct independent research as part of a research community. The program aims to help students understand research so they can make good career decisions. Students choosing to pursue a research career receive exceptional training while all participants gain skills and experiences that will serve them in any path they choose. The program emphasizes the community nature of the scientific enterprise. As participants design and complete their own [research projects](#), they consult with other scientists, present their plans for critique, and then speak in our annual [Undergraduate Research Symposium](#), and write a paper for an online Undergraduate Ecology Research Reports publication. Seminars and informal meetings provide training in and reflection on the research process.

Web: <http://www.ecostudies.org/reu.html>

Program: Summer Research Program in Biology

Location: Marquette University, Milwaukee, WI

Program Dates: June 1-August 7, 2009

Deadline: January 31, 2009

Pay: \$3,750

Subjects: Biology, Cellular and Molecular Biology

Description: **SRP Biological Sciences** This program is open to students from all universities and colleges. **NSF-REU Site: Undergraduate Research in Cellular and Molecular Biology** This program is restricted to students who plan to attend graduate school and pursue research careers. Preference will be given to students who are members of minorities underrepresented in the sciences and to students from colleges or universities with limited research opportunities in the Biological Sciences. The program pairs each student with a faculty mentor who will supervise the student projects. Students are involved daily in their selected research. At the end of the summer students present the results of their research at both a department-wide poster session and symposium. In addition, students attend weekly journal clubs, a workshop on ethical issues in research and medicine, as well as sessions on career options and post-graduate education. The program provides informal social and recreational events.

Web: <http://biology.marquette.edu/biosummer/index.htm>

Program: Astrobiology Summer Program

Location: Pennsylvania State University, University Park, PA

Program Dates: June 8-August 14, 2009

Deadline: February 15, 2009

Pay: \$4,000 + travel, living expenses

Subjects: Astrobiology

Description: There will be independent research under the guidance of one or more [astrobiologists](#), a field trip to NASA and astrobiology-related sites around Washington, D.C., weekly seminars, laboratory tours, stargazing opportunities, discussion group, and a research symposium.

Web: <http://evo.bio.psu.edu/asp/>

Program: Seaver Undergraduate Research in Biology

Location: Pepperdine University, Malibu, CA

Program Dates: May 10-August 1, 2009

Deadline: February 15, 2009

Pay: \$3,600 + living expenses

Subjects: Cell Biology, Developmental Biology, Molecular Biology, Neurobiology, and Plant Ecology

Description: The biology faculty at Pepperdine University conducts a summer research program geared specifically to undergraduate students who are interested in pursuing a career in biological research, science education, environmental science or biotechnology. The faculty will conduct a 14-day research orientation workshop (May 11 - May 25). During the workshop, students will be introduced to the uses and limitations of specific research tools and techniques. The workshop will culminate with a visit to the James San Jacinto Mountains Reserve near Idylwild, California and the presentation of student proposals for summer projects. Over the remainder of the summer,

students will pursue individual research projects under the direction of faculty. Visiting scientists will hold special research seminars in each research area.

Web: <http://seaver.pepperdine.edu/surb/>

Program: Summer Research Experience at Hubbard Brook Experimental Forest: Investigating and Communicating Change in Ecosystems

Location: Plymouth State University, Plymouth, NH

Program Dates: June 2-August 11, 2009

Deadline: February 6, 2009

Pay: \$4,500 + living expenses

Subjects: Ecosystem Science, Natural Resource Management

Description: The Hubbard Brook/Plymouth State REU program will host eight undergraduates for the summer field season at the Hubbard Brook LTER site in Thornton and Woodstock, New Hampshire. The program is designed to appeal to students interested in both ecosystem research and, importantly, the communication of ecosystem science to broad audiences. Thus, we expect students this program to be attractive to students interested in careers in research, education, and natural resource management fields. To accomplish this, the program has two major, but related, components. The first is a research project conducted under the mentorship of two scientists active in research at or related to Hubbard Brook. Students will select from eight research projects, organized into four separate research nodes, representing major areas of ecosystem research at Hubbard Brook. Students will be exposed to a full spectrum of ecosystem research at Hubbard Brook, including close relationships with their research mentors and other mentors in their research node, as well as mentors from other research nodes through weekly science presentations given by the mentors. The second component, unique to our program, is a science communication project developed to serve an outside organization with real-world science communication needs. The students will, with support of the education staff at Hubbard Brook and the research mentors, work with a regional organization such as a non-profit, local government, or public agency to create a product needed by the organization to communicate ecosystem concepts to a broad audience.

Web: <http://www.hubbardbrookreu.org/>

Program: Texas A&M University-Corpus Christi Research Experience for Undergraduates in Entomology

Location: Texas A&M University-Corpus Christi, TX

Program Dates: May 26-July 31, 2009

Deadline: March 2, 2009

Pay: \$4,000 + food subsidy + housing + partial travel subsidy

Subjects: Entomology

Description: The major objective of the 10-week annual Summer Undergraduate Research Focus (SURF)-Anthropogenic Impacts on the Environment program is to provide research experiences and education for undergraduate students, especially students from primarily undergraduate institutions. The common focus of the research activities is investigation of the effects of human activities on the environment, particularly the coastal environment. Research experiences will be mentored by faculty members of the College of Science and Technology at Texas A&M University-Corpus Christi. The goals of the program are to improve the critical thinking ability and communication skills of the students and to provide hands-on science experiences to foster life long science learning.

Web: <http://www.sci.tamucc.edu/surf>

Program: Research Experience for Undergraduates: Expanding Scientific Investigation Through Entomology

Location: Texas A&M University, College Park Station, TX

Program Dates:

Deadline: For additional information, contact Rebecca Hapes at (979) 845-9733 or by e-mail at rhapes@tamu.edu

Pay: \$4,500 + meals, housing, travel assistance

Subjects: Entomology

Description: The program is funded by the National Science Foundation and held each summer between 2008 and 2010 to allow undergraduates to experience researching in various projects dealing with entomology. During the summer, students work closely for 10 weeks with a faculty mentor and conduct independent research projects in areas including biochemical analyses, DNA sequencing and extraction, analysis of gene expression, molecular marker development, physiological and toxicological bioassays, and stereomicroscopy, compound microscopy, and scanning electron microscopy. Students will also gain experience in applying research results to practical problems while conducting their research projects in their faculty mentor's laboratory.

Web: <http://insects.tamu.edu/reu/index.cfm>

Program: REU In Molecular Ecology

Location: Towson University, Towson, MD

Program Dates: June 8-August 7, 2009

Deadline: March 1, 2009

Pay: More information is available by contacting Don C. Forester at dforester@towson.edu

Subjects: Morphological and molecular examinations of arbuscular mycorrhizal fungi found in urban, suburban and rural forests, Field and Genetic Investigations of larval Movement of the Northern Dusky Salamander, *Desmognathus fuscus*, Dissection of a symbiosis: Understanding carbon flow through wood-eating fishes

Description: The REU program in Molecular Ecology brings 6 highly qualified undergraduate students to Towson University in alternate years to engage in state-of-the art research integrating the fields of ecology and molecular biology. Successful applicants will work in one of three lab groups, consisting of students with interest in ecology, molecular biology/genetics, or both, and a pair of faculty mentors. Each group will use molecular approaches to address ecological questions pertaining to the biology of plants and animals. Students will live in Towson University residence halls and receive financial support in the form of a stipend, funds for housing, a basic meal plan and travel. The program is 10 weeks long with the option for a second summer of support.

Students will participate in a class designed to prepare them for the Graduate Records Examination (GRE). In addition, all participants are expected to publish the results of their studies. Students with limited opportunities at their home institution or from groups under-represented in science are especially encouraged to apply.

Web: <http://wwwnew.towson.edu/biology/REU%20program%202007.htm>

Program: Research Experiences for Undergraduates in Molecular Biosciences

Location: University of Arizona, Tucson, AZ

Program Dates: May 18-August 6, 2009

Deadline: For more information, please contact: Carol Bender, Director, UBRP and BRAVO! The University of Arizona, Tucson, AZ 85721-0106 bender@email.arizona.edu 520-621-9348

Pay: \$3,000 + round trip transportation, food, housing

Subjects: Molecular Biosciences

Description: The University of Arizona invites applications from non-UA students for a summer research experience in the molecular biosciences. The Research Experience for Undergraduates is an educational program sponsored by the National Science Foundation. This program is designed to teach students science by involving them as part of a research team in biologically related research. Students are paid for their time in the lab where they develop an understanding of scientific method and receive a realistic view of biological research. They also acquire the tools necessary to be successful in post-graduate studies in biology should they choose careers related to biology or biomedical research. This program demonstrates how the resources of a major research university can be brought to bear on undergraduate education. Research labs from a wide variety of disciplines participate in this program.

Web: <https://ubrp.arizona.edu/visiting/default.cfm?id=home>

Program: Research Experiences for Undergraduates: Ecology, Evolution & Behavior

Location: University of Colorado, Boulder, CO

Program Dates: June 8-August 4, 2009

Deadline: February 27, 2009

Pay: \$4,500 + food, housing

Subjects: Ecology, Evolutionary Biology, and Behavior

Description: The University of Colorado Research Experiences for Undergraduates program provides students with the opportunity to participate in research projects at the University of Colorado Mountain Research Station. Most student participants will be housed at the Mountain Research Station. Participants will live in cabins at the Station through the summer, offering an opportunity for participation in a unique, focused, research program. There are two goals of this REU site: To train promising undergraduate students, from the University of Colorado and other colleges and universities, in modern research methods in the related disciplines of ecology, evolution and behavior, and To encourage undergraduate students, especially members of groups traditionally underrepresented in the sciences, to enter graduate school in the biological sciences.

Web: <http://www.colorado.edu/eeb/EEBprojects/reu/>

Program: Center for Research on Invasive Species and Small Populations 2009 REU Site

Location: University of Idaho, Moscow, ID

Program Dates: Early June for 9 weeks

Deadline: February 28, 2009

Pay: If you have questions, please contact Dr. Janet Rachlow at (208) 885-9326 or jrachlow@uidaho.edu.

Subjects: Regional and Global Resource Issues

Description: The primary focus of the **CRISSP REU Site** is mentor-guided research. Participants will work as members of research teams (field or lab groups), will share authorship in publication of research results, and will be encouraged to present results at professional meetings. In addition, students will explore ethics in science and the environment, graduate school preparation, and application of the scientific methods to natural resource issues. The goals of the proposed **CRISSP REU** site are two-fold. First, we aim to involve undergraduate students, especially those from underrepresented groups (i.e. Native Americans, ethnic minorities, and women), in innovative and interdisciplinary research addressing regional and global natural resource issues. Second, we will foster development of skills, knowledge, and enthusiasm for successful completion of graduate study and preparation for careers in the natural resource sciences.

Web: <http://www.cnr.uidaho.edu/crissp/ugprojects.htm>

Program: REU in Microbiology

Location: University of Iowa, Iowa City, IO

Program Dates: June 1-July 31, 2009

Deadline: February 13, 2009

Pay: \$3,900 + housing, transportation

Subjects: Microbiology, Bacterial and Viral Gene Expression, Virus Structure and Assembly, Biofilm Formation, Microbial Development, and Prokaryotic Cell Biology

Description: The REU in Microbiology at The University of Iowa seeks to foster the careers of the next generation of microbiologists. We do this by providing an intensive 9-week research experience for bright and ambitious undergraduates who are considering a PhD in microbiology or an allied discipline. We hope that this experience will encourage students to pursue a career in basic science and give them the skills they need to succeed in that career path. The focus of the program is a hands-on research project conducted under the guidance of faculty and graduate student mentors. A range of research projects will be available, including basic mechanisms of bacterial and viral gene expression, virus structure and assembly, biofilm formation, microbial development, and prokaryotic cell biology. Students will also attend lectures to broaden their understanding of microbiology and educate them about graduate school and career options.

Web: <http://www.uiowa.edu/microbiology/summer.shtml>

Program: Maryland Sea Grant Research Experiences for Undergraduates

Location: Chesapeake Biological Laboratory in Solomons, Maryland, or its Horn Point Laboratory in Cambridge, Maryland

Program Dates: May 17-August 9, 2009

Deadline: February 12, 2009

Pay: \$4,200 + housing, round trip transportation

Subjects: Biology, Chemistry, Ecology, Environmental Science, Engineering, Physics, Marine Science, Mathematics

Description: The Maryland Sea Grant Research Experiences for Undergraduates (REU) program offers fourteen students the opportunity to conduct marine research on the Chesapeake Bay — the program is especially designed for students majoring in such fields as biology, chemistry, ecology, environmental science, engineering, physics, marine science and mathematics. During this 12-week REU program each student works with a mentor on an individual research project at one of two labs located on the Chesapeake Bay: the University of Maryland Center for Environmental Science's (UMCES) Chesapeake Biological Laboratory in Solomons, Maryland, or its Horn Point Laboratory in Cambridge, Maryland.

Web: <http://www.mdsq.umd.edu/programs/research/reu/index.html>

Program: REU Site Field Studies in Global Change at the Headwaters of the Mississippi

Location: University of Minnesota, St. Paul, MN

Program Dates: May 28-August 7, 2009

Deadline: February 15, 2009

Pay: \$4,000

Subjects: Global Change

Description: The Earth is changing rapidly and we need to understand how ecosystems and organisms will be challenged in the future. Global change affects ecological processes at many different scales, from sub-cellular to ecosystems and it is the great breadth of these scales that make understanding processes difficult. This REU site is designed to introduce undergraduate students to research into global change ecology and teach them how to deal with large and/or multiple scales and data sets. We strongly encourage participation from underrepresented groups in order to encourage their interest in global change issues and to broaden 'the human perspective' on this rapidly expanding field.

Web: <http://www.tc.umn.edu/~cotne002/REU.html>

Program: Life Sciences Summer Undergraduate Research Program

Location: University of Minnesota, Twin Cities, MN

Program Dates: May 28-August 8, 2009

Deadline: February 12, 2009

Pay: \$4,000

Subjects: Six Different Life Sciences Programs

Description: The University of Minnesota LSSURP oversees and coordinates six life sciences programs. The programs begin with a joint orientation weekend (May 28–31, 2009), followed by participation in a 10-week research project under the direction of a University of Minnesota faculty mentor and numerous special activities focused on professional development as well as social interaction. The summer research experience concludes with a poster symposium and banquet on Aug. 8, 2009. LSSURP is designed to recruit highly qualified students to the graduate life science programs of the University of Minnesota. Underrepresented minority students are encouraged to apply.

Web: http://www.cbs.umn.edu/main/summer_research/

Program: Summer Undergraduate Student Research Programs at the University of Rochester

Location: University of Rochester Medical Center, Rochester, NY

Program Dates: June 1-August 7, 2009

Deadline: March 1, 2009

Pay: \$4,500 + housing, lunches

Subjects: Biology

Description: The REU summer program will provide enhanced research opportunities in Cellular and Molecular Biology to promising undergraduates, so as to encourage these students to pursue graduate education and careers in the Biological Sciences. The Intellectual Merit of the program derives from the major strengths in the University of Rochester's cross campus programs in the Biological Sciences, combining programs from the undergraduate campus Department of Biology and Basic Science Departments of the University of Rochester Medical Center.

Web: <http://www.urmc.rochester.edu/gebs/summer.htm>

Program: NSF REU Cellular Engineering Summer Internship at Rice University

Location: Rice University, Houston, TX

Program Dates: May 26-July 31, 2009

Deadline: February 13, 2009

Pay: \$4,300 + \$500 travel + \$275 and 5 weeks housing assistance

Subjects: Cellular Engineering, Metabolic Engineering, Engineering Cell Surface Interactions Regulating Movement, Cardiovascular Tissue Engineering, Engineering of Hard and Soft Tissue Formation

Description: Cellular engineering is a field with enormous potential to make truly significant contributions to mankind in both medical and non-medical fields over the next decades. The next generation of therapeutics (following recombinant proteins and peptides) will likely utilize cells and tissues. Many new technologies in fields such as environmental engineering and chemical production will also be based on advances in cellular engineering. This exciting, interdisciplinary field, where Rice University offers great depth of research opportunities and expertise, will provide undergraduate students with exciting and impacting research experiences. Under this REU program, ten undergraduate will be selected each summer to work on any of a number of projects under the mentorship of faculty. Students will be recruited nationwide, with particular emphasis on recruiting women and under-represented minorities. The students will participate in cutting-edge research and professional development activities for 10 weeks each summer.

Web: <http://nsfreu.rice.edu/>

- **Chemistry**

Program – Chemistry Summer Undergraduate Research Fellowship (Chem-SURF) at the University of California, Irvine

Location – Irvine, CA

Program Dates – June 21-August 29, 2009

Deadline – March 2, 2009

Pay – \$3,500 + housing + transportation reimbursement + conference participation costs

Subjects – **Chemistry, Chemical Biology, Chemical Physics, and Analytical, Atmospheric, Bioinorganic, Bioorganic, Computational, Inorganic Materials, Organic, Physical, Polymer, Surface and Theoretical Chemistry**

Description – The Chemistry Summer Undergraduate Research Fellowship (Chem-SURF) at the University of California, Irvine (UCI), provides a unique 10-week summer research opportunity for undergraduates to become fully immersed in a wide range of exciting, cutting-edge specialized and interdisciplinary research projects. Participants will have the opportunity to choose from a variety of challenging and original research projects that explore a diverse and exciting range of topics in chemical biology, chemical physics, and analytical, atmospheric, bioinorganic, bioorganic, computational, inorganic, materials, organic, physical, polymer, surface, and theoretical chemistry.

Web - <http://www.urop.uci.edu/chem-surf.html>

Program – NSF-REU Undergraduate Research on Structure and Function of Proteins

Location – University of South Alabama, Mobile, AL

Program Dates – May 27 – July 25, 2009

Deadline – March 6, 2009

Pay – stipend, free housing, food allowance and travel expenses

Subjects – Organic Chemistry

Description – The University of South Alabama offers an interdisciplinary undergraduate research program sponsored by the National Science Foundation to work for 10 weeks over the summer semester in the area of "**Structure and Function of Proteins**". Students accepted to the program must have a strong interest in basic research, and are expected to work full time in their projects under the direction of faculty advisors

Web – <http://www.southalabama.edu/alliedhealth/biomedical/ucur/index.htm>

- **Computer and Information Sciences –**

http://www.nsf.gov/crssprgm/reu/list_result.cfm?unitid=5049

Program - The Medical Informatics (MedIX) Program – MEDical Informatics eXperiences in undergraduate research

Location – DePaul University, Chicago IL

Program Dates – June 15-August 21, 2009

Deadline – March 2, 2009

Pay – \$4,000 + \$1,475 travel costs + \$1,087 housing & food costs (covers ½ housing & some food)

Subjects – Medical Informatics

Description – The Medical Informatics (MedIX) program's main objectives are to encourage talented undergraduates to pursue graduate education and to expose students to interdisciplinary research, especially at the border of information technology and medicine. All of the projects on which students will work are inspired by state-of-the-art research questions in imaging informatics. Students will work as part of faculty-undergraduate teams on new problems ranging from traditional image processing (e.g. liver segmentation and computer-aided diagnosis, breast density assessment for cancer detection) to structured reporting and natural language processing of radiology reports, to workflow and process re-engineering to the application of data mining and ontology-based means for image annotation and markup (e.g. lung nodule detection and interpretation). Ultimately, each project has the long-term potential to increase the quality of healthcare available to people everywhere. Faculty mentors will conduct tutorials on imaging informatics, conduct biweekly meetings of students and mentors, and create an environment that will expose students to all phases of research and graduate school. Students will participate in defining the direction of their research, give presentations to the group as well as other audiences, write up and publish research results in the format of a conference or journal article, and participate in relevant conferences.

Web – <http://facweb.cs.depaul.edu/research/vc/medix/2009/index.htm>

Program – Research Experiences for Undergraduates at George Washington University in Life Sciences, Physical Sciences and Computational Sciences

Location – George Washington University, Washington DC

Program Dates – May 26-July 31, 2009

Deadline – March 2, 2009

Pay – \$4,000 + additional subsidy and housing if needed

Subjects – Anthropology, Biology, Computer Science, Materials Physics and Materials Chemistry

Description – Our program starts you off with a week-long hands-on introduction to molecular biology techniques and then a nine-week mentored research internship in laboratories. The research is aimed at fundamental questions in Biology that cut across the disciplines of Anthropology, Biology, Computer Science, Materials Physics and Materials Chemistry. Students will be engaged in interdisciplinary ideas through discussions with participating faculty about their on-going research, scientific career options and ethics. Considering that we are located within our nation's capitol, students will also have many opportunities to enjoy the rich variety of Washington D.C.'s cultural and scientific venues. Students who aspire to pursue research careers in the life, computational, and physical sciences will be selected for this ten week program.

Web – <http://www.gwu.edu/~hhmi/reu/>

Program – Research Projects for Undergraduates in Robotics

Location – Ithaca College, Ithaca, NY

Program Dates – June 1-July 31, 2009

Deadline – March 15, 2009

Pay – \$3,800 + housing and meals + \$400 travel

Subjects – Computer Sciences

Description – Ithaca College will host a Research Experiences for Undergraduates (REU) program during the summer of 2009. This program is sponsored by the National Science Foundation and is designed to provide talented undergraduates majoring in Computing Sciences or closely related disciplines the opportunity to experience the challenge and excitement of working

on a team-oriented, collaborative research project. Student participants will work on a research team with other students and a faculty mentor to carry out a research project. Research teams will present the final results of their work at an open poster session during the final week of the program and, where appropriate, at their home institutions and/or scholarly venues such as conferences.

Web – <http://faculty.ithaca.edu/sstansfield/research/vrprojects/>

Program – Research Experiences for Undergraduates in Computer Science

Location – Lamar University, Beaumont, TX

Program Dates – May 25-August 1, 2009

Deadline – February 20, 2009

Pay – Contact Dr. Kami Makki, 409-880-8783, kami.makki@lamar.edu

Subjects – Engineering, Computer Science, Information Technology

Description – Department Computer Science of Lamar University hosts a National Science Foundation-Research Experience for Undergraduates site. This REU site will host up to ten undergraduate students for the summer of 2009. Our program is open to all undergraduate students from all US institutions who are United States Citizen or a US Permanent Resident. Our program objective is to increase the number of future professionals in Engineering, Computer Science and Information Technology from traditionally underrepresented groups (women and minorities). The applicants need to have good knowledge of modern programming (C, C++ or Java) in order to gain maximum benefit of our program which offers summer research experience to reinforce and supplement their future course of study, build their leadership and teamwork skills, and motivate them to go on to pursue graduate degrees. The program also includes practical research activities related to many areas of Engineering, Computer Science and Information Technology and the related fields. In addition to the research skills, the participants will also gain expertise in scientific writing, communication skills. The participants, in collaboration with their faculty mentor, must prepare articles for publication in journals or conference proceedings.

Web – <http://galaxy.cs.lamar.edu/~kmakki/reu.html>

Program - National Science Foundation (NSF) Grant Support for Research and Training Experience for Undergraduates (REU) in the area of Wireless Sensor Computing

Location – Missouri University of Science and Technology, Rolla, MO

Program Dates – May 20-July 25, 2009

Deadline – February 25, 2009

Pay – \$4,000 + transportation, food, housing

Subjects – Wireless Sensor Computing

Description – The main aim of this REU site proposal is to train undergraduate students from Computer Science in the area of wireless sensor computing. The development of effective strategies to handle potential threats to civilian infrastructure and for other applications relies on sensor computing. The reliability, security, and accuracy of these sensor data and wireless devices can affect timely access to information for decision-making. Limitations such as node power, signal propagation delay, and memory within sensor nodes are to be taken into consideration in the computing networking architecture. The students will be exposed to this new exciting area by means of systems, experimental and applications aspects of sensor computing and networking. They will be able to identify the key challenges in realizing such a network. By doing so, students will learn fundamental technology and techniques behind sensor computing to have a good grasp of current and emerging sensor networking applications such as monitoring nation's critical infrastructures and health-care monitoring.

Web – <http://web.mst.edu/~nsfreu/NSFREU/Home.html>

Program – Rutgers University Undergraduate Research Program

Location – Rutgers University, Piscataway, NJ

Program Dates – June 1-July 24, 2009

Deadline – January 31, 2009

Pay – \$3,300 + housing + \$500 travel + other reimbursements as needed

Subjects – Computer Science, Mathematics

Description – The program begins with eight weeks of intensive work during the summer of 2009; students are strongly encouraged to continue their projects during the academic year 2009-2010. We expect DIMACS will select twelve undergraduates to participate, DyDAn will select five undergraduates to participate, and the Math Department will select approximately five to ten students (depending on availability of funds) for their program. Participants will have a DIMACS, DyDAn, or Math Department faculty member as a supervisor. This program requires eight weeks of intense effort and on-site participation. Students should not commit to other activities (e.g., courses) during the REU program. Applicants should be undergraduates with a major in Computer Science, Mathematics, or a closely related field. They should be current juniors (graduating in 2010), although sophomores with exceptionally strong backgrounds will be considered. In exceptional circumstance, seniors will be allowed into the program if they will not have graduated by the time the program begins.

Web – <http://www.dimacs.rutgers.edu/REU/2009/announcement.html>

Program – Rutgers DIMACS/DIMATIA Undergraduate Research Program

Location – DIMACS/DIMATIA participants in Prague, Czech Republic

Program Dates – July 20-August 5, 2009

Deadline – January 31, 2009

Pay – Contact 732-445-5928. reu@dimacs.rutgers.edu

Subjects – Mathematics

Description – Five students from Prague will be participating in our REU, and in return, five of our REU participants will spend two and a half weeks in Prague. There they will participate in DIMATIA workshops, attend a special REU lecture series, and experience Czech culture. You are expected to obtain a valid passport. If you do not already have one you should apply for one as soon as you are accepted into the program. You are expected to have your own health insurance, this includes insurance during your trip to Prague. A good knowledge of combinatorics and/or graph theory is beneficial to understanding the DIMATIA workshops; thus, students with this background will be given priority. Note that the Prague program is entirely optional and only a few are accepted.

Web – <http://www.dimacs.rutgers.edu/REU/2009/announcement.html>

Program – Research Experiences for Undergraduates at Binghamton University REU@BU

Location – Binghamton University, Binghamton, NY

Program Dates –

Deadline – March 1, 2009

Pay – \$5,000 + housing + \$500 travel + \$600 for food

Subjects – Computer Sciences

Description – This program is intended primarily for academically strong rising junior and senior undergraduate computer science majors. Excellent candidates in related fields (e.g. electrical engineering or especially computer engineering) will also be considered, if their expertise matches the needs of potential Faculty Mentors. Exceptional rising sophomores may also be considered.

Web – <http://reu.cs.binghamton.edu/>

Program - CS@TAMU

Location – Texas A&M University, College State, TX

Program Dates – June 1-August 7, 2009

Deadline – February 15, 2009

Pay – \$5,000 + housing or \$1,000 housing allowance + \$1,000 meal allowance + transportation to and from Texas A&M

Subjects – Computer Science and Engineering

Description – Summer 2009 will mark the fifth year that the Department of Computer Science and Engineering at Texas A&M University is offering a summer REU Program (Research Experiences for Undergraduates) with funding provided by the National Science Foundation. The program spans 10 weeks and involves undergraduate students from Texas A&M as well as students from other colleges and universities from across the United States. This year's program will involve approximately 10 students. During the summer research experience, participants will work closely with faculty members, graduate students and undergraduate mentors on current research projects, make short progress presentations to their peers during program meetings, attend presentation

skills workshops, make a formal poster presentation of their research experience at the end of the program, create a personal website and submit a written, final report describing the results of their research. Students may not enroll in additional academic courses during the summer sessions. It is hoped that the students participating in the CS REU program will make significant contributions to ongoing faculty research and, more importantly, will gain an appreciation for and an interest in graduate school and a future research career.

Web – <http://www.cs.tamu.edu/reu>

Program – Bio-Grid

Location – University of Connecticut, Storrs, CT

Program Dates – June 9-August 1, 2009

Deadline – March 15, 2009

Pay – \$3,600 + travel and subsistence

Subjects – Computer Science, Biological Science and Engineering

Description – The Department of Computer Science & Engineering at the University of Connecticut will host an NSF-sponsored Research Experiences for Undergraduates (REU) program beginning in 2008. The program offers undergraduate students nationwide the opportunity to participate in research activities associated with the Bio-Grid initiatives conducted at the University of Connecticut. The initiatives aim at advancing the application of modern computing infrastructure and information technology to research and practice in various life-science disciplines. Specific research activities include several inter-disciplinary projects led by researchers at the University of Connecticut. This REU site will support 10 undergraduate students for an eight-week summer research program in each project year. A series of training seminars will equip students with preliminary background knowledge. The seminars introduce students to concepts involving modern computing infrastructures, related information technology, as well as research work in life-science disciplines that rely on or benefit from such infrastructures. REU students will work with the project staff on a selected research topic. Students will also have the opportunity to participate in the Annual International Bio-Grid Workshop, which will expose participants to similar research projects conducted worldwide.

Web – <http://biogrid.engr.uconn.edu/REU/>

Program – Summer Research Experience for Undergraduates in Computer Science and Cybersecurity

Location – University of Houston, Houston, TX

Program Dates – June 1-August 7, 2009

Deadline – April 1, 2009

Pay – \$4,000 + food + housing + travel assistance

Subjects – Computer Science

Description – The University of Houston Department of Computer Science will conduct a Summer 2009 research program for undergraduate students. The Department has funds available for 12 ~ 15 students. We solicit interest from undergraduate students in Computer Science and allied fields for the NSF REU site at the Computer Science Department of the University of Houston. REU stands for Research Experience for Undergraduates, it is a grant mechanism sponsored by NSF to promote scholastic activities at the undergraduate level. We will give preference to seniors, but juniors and sophomores will also be considered if they have a strong record. The applicants need to have a solid mathematical background, which includes calculus and statistics, and knowledge of basic algorithms and data structures. They also need to be proficient in Visual C++ or Java.

Web – <http://www.cbl.uh.edu/~reu/>

Program – Research Experiences for Undergraduates in Computer Science

Location – University of Massachusetts, Amherst, MA

Program Dates – June 1-August 7, 2009

Deadline – March 20, 2009

Pay – \$4,500 + food + housing + travel assistance

Subjects – Mobile and Sensor Networks, Bioinformatics, RFID Security, Learning Technologies, Robotics, Software Systems and Architecture, Application of Computer Techniques to Health and Safety, Dispute Resolution and Social Networks

Description – The Department of Computer Science at the University of Massachusetts, Amherst offers a 10-week summer research program for undergraduates in the following areas: Mobile and Sensor Networks, Bioinformatics, RFID Security, Learning Technologies, Robotics, Software Systems and Architecture and the application of computer techniques to Health and Safety, Dispute Resolution and Social Networks. Student participants will work on a research team with other students and a faculty mentor to carry out a research project. Students will present the final results of their work at an open poster session during the final week of the program and, where appropriate, at their home institutions and/or scholarly venues such as conferences. All undergraduates who have taken computer science courses and are entering their junior or senior year (Sept. 2009) are eligible to apply. We particularly encourage students with community college experience, either those in the process of transferring from a community college to a 4-year institution or those who are already at a 4-year institution but were previously enrolled at a community college.

Web – <http://reu.cs.umass.edu/index.html>

Program: Research Experiences for Undergraduates: Integrated Machine Learning Systems

Location – University of Oklahoma, Norman, OK [Symbiotic Computing Laboratory, Interaction Discovery Exploration and Adaptation Lab, Robotics, Evolution, Adaptation, and Learning (REAL) Lab, OU SuperComputing Center for Education & Research (OSCER)]; University of New Mexico, Albuquerque, NM [Computer Science Department, Multi-Agent, Robotics, Hybrid and Embedded Systems (MARHES) Laboratory]

Program Dates – Contact agg@cs.ou.edu, 405-325-8606 or 405-345-3888

Deadline – February 1, 2009

Pay – \$4,800 summer stipend + \$10/hr x 5 hrs/wk x up to 28 academic year weeks + travel support to one academic conference + travel support to and from campus

Subjects – Robot Control, Severe Weather Prediction, Computer Security, Brain-Machine Interfaces, Computational Neuroscience, Bioinformatics, Law and Interactive Art

Description – This REU site focuses on integrating machine learning into real-world applications through interdisciplinary collaborations. Machine learning techniques enable computing devices to automatically discover how to extract salient information from complex data sets and how to optimally perform tasks. Applications include robot control, severe weather prediction, computer security, brain-machine interfaces, computational neuroscience, bioinformatics, law, and interactive art. Students will receive training in a variety of areas, including statistical machine learning, embedded system design, empirical methods, sensor processing, control, embedded interfaces, technical writing, oral presentation, ethics, and graduate school preparation. Each student will be paired with a faculty mentor who is an expert in machine learning and with a supporting mentor who is an expert in the real-world application domain. Due to the advanced nature of this topic, students will be involved during both the summer and academic year (March - October) for up to two years. During the summer, students will spend a 12-week period working full time at either the University of Oklahoma or the University of New Mexico. During the academic year, students will participate from their home institution via video- and teleconference. This latter time (about 5 hours per week) will be used to prepare for the coming summer and to complete experiments and writing projects.

Web – <http://www-symbiotic.cs.ou.edu/reu/>

Program: NSF REU Site for Computer Graphics Research

Location – University of Rhode Island, Kingston, RI

Program Dates – Timing can be tailored for each student. Students work for 32 to 40 hours for 12 weeks. There is funding for four students to work in Germany during August at Europe's premier computer graphics research institution.

Deadline – Contact James Kowalski at kowalski@cs.uri.edu, (401) 874-2701

Pay – A stipend is paid for the work

Subjects – Computer Graphics Research

Description – Looking for an interesting job over summer and the fall semester? We are looking for undergraduate arts and science students who: Are interested in computer graphics from the artistic, design or scientific point of view. May not have thought about research but want to

experience cutting edge projects and technology. Are interested in working with highly trained specialists in interdisciplinary groups on real world problems.

Web – <http://reu.cs.uri.edu/>

- **Department of Defense**

http://www.nsf.gov/crssprgm/reu/list_result.cfm?unitid=10023

Program – Cold Springs Harbor Watson School of Biological Sciences Summer Undergraduate Research Program

Location – Cold Spring Harbor Laboratory, Cold Spring Harbor, NY

Program Dates – June 7-August 15, 2009

Deadline – January 15, 2009

Pay – \$4,000 + cabin lodging + food

Subjects – bioinformatics and computational biology

Description – Ten students are accepted to the 10-week NSF-REU summer research program. Students learn about scientific reasoning, laboratory methods, theoretical principles, and scientific communication. In addition to research, participants attend seminars, workshops, panel discussions on careers in science, lectures on ethics, and special events designed specifically for them.

At the URP Symposium held at the end of each summer, students present a summary of their research to their peers and advisors. Students also write a final report, similar to a scientific abstract, to describe his or her project.

Web – <http://www.cshl.edu/URP/program.html>

Program - Research Experience for Undergraduates at George Washington University - Washington, DC

Location – George Washington University, Washington DC

Program Dates – May 26-July 31, 2009

Deadline – March 2, 2009

Pay – \$4,000 + housing and other costs as needed

Subjects – Anthropology, Biology, Computer Science, Materials Physics and Materials Chemistry

Description – Our program starts you off with a week-long hands-on introduction to molecular biology techniques and then a nine-week mentored research internship in laboratories. The research is aimed at fundamental questions in Biology that cut across the disciplines of Anthropology, Biology, Computer Science, Materials Physics and Materials Chemistry. Students will be engaged in interdisciplinary ideas through discussions with participating faculty about their on-going research, scientific career options and ethics. Considering that we are located within our nation's capitol, students will also have many opportunities to enjoy the rich variety of Washington D.C.'s cultural and scientific venues. Students who aspire to pursue research careers in the life, computational, and physical sciences will be selected for this ten week program.

Web – <http://www.gwu.edu/~hhmi/reu/>

Program - The Effects of Fatigue on Performance in Military, Law Enforcement, and Medical Personnel, Summer 2009

Location – Ogden, UT

Program Dates – May 26-August 1, 2009

Deadline – March 1, 2009

Pay – \$3,500 + \$500 research funds + housing + conference travel possibility

Subjects – Military Performance

Description – This NSF-REU has been offered since 2005 and has funded 32 students to study the effects of fatigue on performance in military, law enforcement, and medical personnel. As a part of this program, students work closely with their mentors to design and carry out an experiment, analyze their data, and then present the results of their research to members of the community. In addition, students and their mentors are strongly encouraged to present their research at a national conference. This is an in-depth, fast-paced research program that requires students to immerse themselves in the research experience. Students spend 10 weeks learning

more about their topic, designing their research, and then working in the community to carry out the research. Students live together on campus, participate in weekly group meetings, and students also have social events scheduled on a regular basis to help them learn more about each other, their mentors, and the community in which they are collecting data.

Web – <http://programs.weber.edu/nsf-reu/>

• Department of Transportation

Program - 2009 Summer Transportation Internship Program for Diverse Groups (STIPDG)

Location - Washington, DC

Program Dates - May 27-August 8, 2009

Deadline Date - February 20, 2009 - Selections will be made as applications are received, so please apply early!

Subjects - Transportation

Pay - \$4,000 + housing + transportation

Description - Funded by the US Department of Transportation Federal Highway Administration's Office of Civil Rights' On-the-Job Training Supportive Services Program, the objective of the STIPDG is to provide college/university students with hands-on experience and on-the-job training while working on current transportation-related topics and issues. The STIPDG is open to all qualified applicants but is designed to provide qualified women, persons with disabilities, and members of diverse groups with summer opportunities in transportation where these groups have been under-represented. Undergraduate applicants must *be juniors or seniors for the fall of 2009*. Undergraduate applicants from Junior, Tribal, or Community Colleges **must have completed their first year**.

Web - <https://secure.twc.edu/twc/default.jsp>

• Earth Sciences -

http://www.nsf.gov/crssprgm/reu/list_result.cfm?unitid=5050

Program: Research Experiences for Undergraduates in the Headwaters of Appalachian Kentucky: Coal Mining's Impacts on Coal Mining Storage and Erosion in Appalachian Headwater Streams

Location: University of Kentucky, Lexington, KY and Lilley Cornett Woods Field Camp, KY

Program Dates: June 1-August 7, 2009

Deadline: February 27, 2009

Pay: \$4,500 + housing + some food + conference presentation cost possibility

Subjects: Earth Sciences

Description: Environmental Researchers at Eastern Kentucky University and the University of Kentucky are jointly hosting a Summer Research Experience focused on watershed health in the Appalachian Headwaters of Kentucky. The ten week program will include two weeks of field camp centered at Lilley Cornett Woods—the first and largest preserved remnant of old-growth forest in eastern Kentucky. Then, using the Lilley Cornett forest as a comparative control, students will compare nearby sites to determine the effects of mining, forestry, reclamation, and other land uses on watersheds.

Web: http://eri.eku.edu/REU09/reu_home.html

Program: Environmental Research Experiences for Students from Groups Underrepresented in Science and Engineering

Location: University of Idaho, Moscow, ID

Program Dates: June 8-August 7, 2009

Deadline: February 25, 2009

Pay: \$4,050 + housing + \$600 food allowance + \$300 travel allowance

Subjects: Forest Canopy Transpiration, Ecohydrology of Managed Forest Ecosystems, Water Resources Sustainability, Effects of Shoreline Development on Large Deep Lakes, and Watershed Restoration

Description: Our primary goals are to provide undergraduate students with meaningful, satisfying research experiences that: improve students' skills in applying the scientific method to hands-on research and train each student in modern research techniques; lead students to greater independence in pursuing their research interests, particularly those currently enrolled in non-PhD-granting institutions; and contribute to an increased number of women, Native American and Hispanic students (and other students from other groups underrepresented in science and engineering) who enter and complete graduate programs in science and engineering.

Web: http://www.webs.uidaho.edu/envs/undergrad_options/reu/

Program: Fluids in the Earth, from Surface to Core

Location: University of Minnesota, Minneapolis, MN

Program Dates: May 31-August 7, 2009

Deadline: February 6, 2009

Pay: \$4,400 + \$350 travel allowance + housing

Subjects: Water, Other Volatiles, Silicate Melts, Materials in the Earth's Core, Geological Fluids, Fluid Systems, Earth Processes in the Lower Crust, Mantle and Core

Description: The main goal of the program is to provide students with the opportunity to "learn by doing" and to gain scientific research as undergraduates. Through this program, we hope to encourage students to pursue graduate studies and academic careers in the physical sciences. The general theme of the internship program is "Fluids in the Earth from Surface to Core". The concept of "fluids" is broadly defined to include water in its various forms, other volatiles, silicate melts, and materials in the earth's core. Research can involve field, analytical, experimental, or theoretical study of geological fluids, and will range from investigations of surface and near-surface fluid systems to deep Earth processes in the lower crust, mantle, and core. In recent years, interns have conducted field research in British Columbia, Sweden, Montana, Washington (North Cascades), and Minnesota. Interns in the program will work with individual faculty members and their research groups on currently active projects.

Web: <http://www.geo.umn.edu/dept/programs/intern.html>

- **Department of Energy**

Program: United Negro College Fund Special Programs Corporation Mentorship for Environmental Scholars

Location: Fairfax, VA

Program Dates: 9 weeks in summer 2009

Deadline: February 1, 2009

Pay: Contact: Application Transcript Coordinator, 2750 Prosperity Avenue, Suite 600, Fairfax, VA 22031 or Porsche.Parker@uncfsp.org or 650-961-1101

Subjects: Biotechnology, Computer Science, Environmental Science, Engineering

Description: The Mentorship for Environmental Scholars (MES) Program is a nine-week paid summer internship that provides exposure to laboratory research in the areas of biotechnology, computer science, environmental science and engineering to underrepresented college students. The MES program actively recruits qualified undergraduates from MIs for extensive training that will pilot them towards gainful employment in various research and management positions within the Department of Energy (DOE).

Web: <http://www.uncfsp.org/spknowledge/default.aspx?page=home.default>; www.uncfsp.org

- **Engineering -**

http://www.nsf.gov/crssprgm/reu/list_result.cfm?unitid=10006

Program: Research Experiences in Mathematics for Undergraduates and Teachers

Location: California State University, Chico, CA

Program Dates: June 8-July 17, 2009

Deadline: March 1, 2009

Pay: \$2,200 + travel + housing

Subjects: Statistics, Number Theory, Mathematical Modeling

Description: The REU/RET in mathematics at California State University, Chico targets secondary teachers with a strong interest in mathematics or statistics and undergraduates students who have completed their junior year. For six weeks of each summer, twelve participants, including three teachers, will work in three research teams on problems selected from Dynamic Geometry, Knot Theory, Mathematics Education, Mathematical Modeling, and Number Theory. Depending on the field, projects may be appropriate for students from scientific disciplines other than mathematics. The research experience is intended to give participants an appreciation for the breadth and depth of mathematics and its applications, while providing undergraduates an opportunity to improve their communication skills and providing in-service teachers an experience which will deepen their understanding of mathematical content and inspire pedagogical innovation in their classrooms. By working on open problems in mathematics, participants will experience the excitement of exploration, discovery, analysis, proof, and systematization that are part of the mathematician's world. While much of mathematics is accessible only after years of study, the field is rich enough to allow for a fuller mathematical experience at the undergraduate level.

Web: <http://www.csuchico.edu/math/REUT.shtml>

Program: CaNSaM Research Experience for Undergraduates

Location: Oakland University, Rochester, MI

Program Dates: May 11-July 3, 2009

Deadline: February 1, 2009

Pay: \$3,200 + food + housing + \$400 travel allowance + travel to a professional meeting

Subjects: Numerical Statistics, Medical Simulations, Mathematical Models in Engineering, Interconnection Networks, High Throughput Screening Analysis, Algebraic Curves and Automorphism, Scientific Visualization, and Mathematics

Description: CaNSaM offers undergraduate students the opportunity to participate in active numerical and computational research. The participants will gain insights and develop skills for identifying and solving problems that are amenable to computer simulation or solution. They will also develop visual, written, and oral skills in communicating mathematics and statistics. The close contacts developed in this program will be an incentive for participants' further study and eventual employment in mathematics or statistics. Participants in the program will become role models for underrepresented minorities to help encourage mathematically talented students to pursue careers in mathematics and statistics. Students in the program will be encouraged to make themselves visible in their respective communities.

Web: <http://gauss.math.oakland.edu/dept/REUSite/Home.html>

Program: NSF Engineering Research Center Research Experience for Undergraduates in Extreme Ultraviolet Science and Technology

Location: Colorado State University, Ft. Collins, CO; University of Colorado, Boulder, CO; University of California, Berkeley, CA; Lawrence Berkeley National Laboratory, CA

Program Dates: Contact Kaarin Goncz, PhD, (970) 491-8186, kgoncz@engr.colostate.edu

Deadline: February 27, 2009

Pay: Contact Kaarin Goncz, PhD, (970) 491-8186, kgoncz@engr.colostate.edu

Subjects: Engineering, Physics, Chemistry

Description: The EUV ERC is a partnership between Colorado State University, the University of Colorado, UC Berkeley and Lawrence Berkeley National Laboratory. Students participating in the REU program can choose among projects underway at all four institutions. Positions offer opportunities for research in EUV science and technology, workshops on technical writing, preparing journal papers and posters, as well as outdoor social activities. Students receive a 10-week research stipend, as well as housing, and travel allowances. The program is open to students in engineering, physics, chemistry and related fields. Some Potential Projects: (see the web page for more details!)

- √ Optimization of high power EUV lasers
- √ Development of multilayer mirrors using an ion beam sputtering system
- √ Development of high damage threshold thin films for high power laser systems
- √ Design, fabrication and testing of EUV multilayer optics
- √ Imaging and focusing with an EUV laser
- √ Optimization of femto-second lasers

√ Development of laser pulse shapers

Web: <http://euverc.colostate.edu/education/REU/REU.shtml>

Program: Research Experience for Undergraduates (REU) CHILL - Radar

Location: Colorado State University, Ft. Collins, CO

Program Dates: May 18-July 17, 2009

Deadline: March 14, 2009

Pay: \$3,000 + housing + food

Subjects: Electrical and Computer Engineering

Description: The summer research opportunity focused around the CSU-CHILL Radar Facility is approximately a ten week program. Once research topics are assigned, the REU student will go through the full research process to include, literature survey, writing a proposal, preparing and competing for a project budget, writing an interim progress report and a final report and giving a presentation in a conference setting. The philosophy of this program is to incorporate original thinking, independent effort, team effort and project execution via hands-on research!

Web: http://www.engr.colostate.edu/ece/www_research/reu_chill.shtml

Program: Duke University Research Experiences for Undergraduates in Costa Rica

Location: La Selva Biological Station in Costa Rica

Program Dates: June 14-August 21, 2009

Deadline: January 31, 2009

Pay: \$4,000 + room + food + international travel

Subjects: Tropical Biology

Description: The OTS Research Experiences for Undergraduates (REU) was designed for advanced biology students interested in conducting field research under the supervision of an experienced tropical ecologist. OTS will support twelve undergraduates, selected through a competitive application process, for a ten-week research program at the world-renowned La Selva Biological Station in the Caribbean lowlands of Costa Rica. In collaboration with a research mentor, students will design, conduct, and present field research projects at La Selva. The program will provide students with a first-hand look at the challenges and rewards of tropical field research. Students will participate in a rich academic field environment, including research presentations, discussions, an ethics component focusing on issues in tropical biology and conservation. In addition, participants will have access to the social, cultural, and recreational activities of the rural communities surrounding La Selva. Interested students must have 2 semesters of upper-level college biology courses (e.g., ecology, evolution, animal behavior, plant taxonomy, research methods, etc.) and 1 semester of college-level Spanish to participate in the program.

Web: http://www.ots.ac.cr/index.php?option=com_content&task=view&id=317&Itemid=449

Program: Safe Passages

Location: University of Montana, Bozeman, MT

Program Dates: June 1-August 7, 2009

Deadline: March 2, 2009

Pay: \$4,500 + \$900 travel + housing

Subjects: Engineering, Ecology, Biology, Environmental Sciences, and Related Fields

Description: All REU research will center around U.S. Highway 191 between Bozeman and West Yellowstone. U.S. 191 provides an excellent test bed for research in the three focus areas as it follows the Gallatin River, is located within the boundaries of the Greater Yellowstone Ecosystem, and is subject to inclement weather, high traffic volumes, and worrisome accident rates. As a bonus, students will have the opportunity to conduct field work and research in one of the most beautiful outdoor laboratories available. The Safe Passages REU program will center around three interdisciplinary topic areas: 1. Water and Fish Passage There is a need to better understand the effects of road crossings on all aquatic organisms, and to evaluate present design, construction and maintenance practices. Research in this area will focus on how roads impact fisheries, water quality, wetlands, habitat connectivity, exotic species invasions, and subsurface hydrology as well as on standards for best mitigation methods for particular species or habitats. 2. Habitat Connectivity and Wildlife Movement Habitat fragmentation, animal aversion or attraction to roadways, and wildlife-vehicle collisions can all have detrimental effects on wildlife populations.

REU research in this area will focus on road impacts on habitat connectivity and wildlife movements as well as on the ever evolving strategies that are being employed to mitigate these impacts. 3. Public Safety and Mobility Rural highways provide valuable conduits for human movement. They also pose a variety of formidable challenges in ensuring the safety of the motorists that use them. Rural highways pose special challenges related to roadway alignment issues (relatively sharp horizontal and vertical curves), limited sight distances, dangerous weather conditions, relatively long incident response times (i.e., due to distances that must be traveled), and less than optimum communications (i.e., limited or no cell phone or radio communications). REU research in this area will focus on the complex issues related to public safety and mobility along U.S. 191 as a model for developing integrated solutions to improve safe human passage along rural highways nationwide, while maintaining ecosystem integrity and fiscal affordability.

Web: <http://www.wti.montana.edu/Education/REU.aspx>

Program: Texas A&M Aerospace Engineering Research Opportunities for Undergraduates

Location: Texas A&M University, College Station, TX

Program Dates: May 26-August 7, 2009

Deadline: February 28, 2009

Pay: \$4,000 + \$1,000 meals allowance + housing + \$500 travel allowance

Subjects: Aero-propulsion Fluids Research, Fluid Physics

Description: During the summer research experience, participants will work closely with faculty members, graduate students and undergraduate mentors on current research projects, make short progress presentations to their peers during program meetings, attend presentation skills workshops, make a formal poster presentation of their research experience at the end of the program, and submit a written, final report describing the results of their research. Students should not enroll in additional academic courses during the summer sessions. It is hoped that the students participating in the REU program will make significant contributions to ongoing faculty research and, more importantly, will gain an appreciation for and an interest in graduate school and a future research career. Field Trips: GE Energy, Houston, TX; Ad Astra Rocket Co (www.adastrarocket.com) near NASA Johnson Space Center (JSC), Houston; Texas A&M Flight Simulator; Texas A&M Immersive Visualization Center (IVC); Texas A&M Astronomical Observatory; Texas A&M Cyclotron

Web: <http://aero.tamu.edu/research/undergraduate/aero-propulsion-fluids>

Program: Research Experiences for Undergraduates in Engineering at the University of Alabama

Location: University of Alabama, Tuscaloosa, AL

Program Dates: May 18-July 24, 2009

Deadline: March 20, 2009

Pay: \$4,500 + housing

Subjects: Combustion Studies, Boundary Layer Measurements, Wind Tunnel Studies on Membrane Wings, Supersonic Flow Visualization, Magnetic Fluid Mechanics, Computational Analysis of Turbulent Jets

Description: The College of Engineering at The University of Alabama will host its second ten week NSF REU Site program in the field of fluid mechanics during the summer of 2009. Projects will implement both computational and experimental analysis tools. This exciting research opportunity begins the last week of May and is available to six to eight motivated US engineering or science undergraduates. Faculty across three engineering departments (Aerospace Engineering & Mechanics, Mechanical Engineering, and Chemical & Biological Engineering) will act as research mentors for the program. The research areas cover a wide range of topics including but not limited to combustion studies, boundary layer measurements, wind tunnel studies on membrane wings, supersonic flow visualization, magnetic fluid mechanics, and computational analysis of turbulent jets.

Web: <http://aem.eng.ua.edu/FM-ACE/index.htm>

Program: Washington State University Research Experiences for Undergraduates in Extreme Matter

Location: Washington State University, Pullman, WA

Program Dates: June 1-August 7, 2009

Deadline: February 27, 2009

Pay: \$6,000 + travel support + housing

Subjects: Bose-Einstein Condensation, Chaos and Complexity, High-Pressure Physics, Materials and Optics, Physical Acoustics

Description: The REU program goal is to provide undergraduate students in mechanical engineering and related fields an opportunity to participate in ongoing active research programs. Working closely with faculty and graduate students, the participants will gain hands on experience with advanced characterization techniques in demand in the field today.

Web: <http://www.physics.wsu.edu/reu/>

Program: Institute for Cellular Engineering Research Experiences for Undergraduates

Location: University of Massachusetts at Amherst, MA

Program Dates: June 1-July 31, 2009

Deadline: February 27, 2009

Pay: \$3,600 + housing + meals + travel allowance

Subjects: Cellular Engineering

Description: The Institute for Cellular Engineering (ICE) hosts an NSF-funded REU program for U.S. citizens or permanent residents interested in pursuing graduate studies in bioengineering or biological sciences. Cellular engineering is a new frontier of applied biology. Understanding cellular function and manipulating cells/tissues to perform in a particular manner is the basis for many ventures in the biomedical, biotechnology and pharmaceutical industries, including drug production from cell culture, generation of artificial organs for replacement of diseased tissues, and design of bioremediation processes for waste water clean-up. Our faculty and research are at the forefront of cellular engineering innovation, performing cutting-edge work in biosensor development, cell and drug delivery, metabolic engineering and protein engineering.

Web: <http://www.umass.edu/ice/ICE%20REU.html>

Program: Research Experiences for Undergraduates in Physics

Location: University of Illinois, Chicago, IL

Program Dates: June 15-August 21, 2009

Deadline: February 16, 2009

Pay: \$4,500 + housing + travel allowance

Subjects: Experimental and Theoretical Condensed Matter Physics; Experimental and Theoretical Elementary Particle Physics; Non-linear Dynamics and Chaos; Space and Cosmic Ray Physics; Theoretical and Observational Astronomy and Astrophysics; Experimental Atomic Physics & Ultracold Atoms; Experimental Biophysics

Description: The University of Chicago Summer Research Experiences for Undergraduates (REU) Program in Physics, supported by the National Science Foundation offers undergraduates (members of underrepresented minority groups (African-Americans, Hispanics, and Native Americans) and women) the opportunity to gain research experience working in the laboratory or research group of a Physics Department faculty member. The program is particularly intended at encouraging participation by members of underrepresented minority groups (African-Americans, Hispanics, and Native Americans) and women. Supplementing this valuable practical experience, faculty and graduate students present special lectures to provide an overview of the wide-ranging research conducted in our Department. Ten to fifteen internships will be awarded for the ten-week program.

Web: <http://physics.uchicago.edu/research/undergraduate/reu.html>

Program: Novel Advanced Materials and Processing with Applications in Biomedical, Electrical and Chemical Engineering

Location: University of Illinois, Chicago, IL

Program Dates: May 26-July 31, 2009

Deadline: February 28, 2009

Pay: \$3,900 + housing + \$400 transportation

Subjects: Atomic layer deposition of novel multifunctional nanostructures; Neural Interface Engineering and Analysis; Neural Interface Engineering and Analysis; Broad Dissemination of

BioMEMS Devices; Nanotube-Based Nanofluidic Devices and Fundamental Fluid Studies at the Nanoscale; Plasma-Assisted Synthesis of Nanolayer Catalysts; Hydrogen Storage Materials based on Boron; Atomic scale characterization of functional oxide materials; Ultra-low thermal conductivity insulation; Molecular Beam Epitaxy Growth of Multiferroic Oxides for Tunable Memory Devices

Description: The Departments of Bioengineering, Chemical Engineering, Electrical Engineering, and Mechanical Engineering at the University of Illinois at Chicago are pleased to announce their Summer Research Fellowship Program for 2009. Eleven fellowships are sponsored by the National Science Foundation (NSF) Research Experiences for Undergraduates (REU) and the Department of Defense (DoD) ASSURE (Awards to Stimulate and Support Undergraduate Research Experiences) programs. Summer fellows will have the opportunity to conduct research in Novel Advanced Materials and Processing with applications in biomedical, electrical and chemical engineering in an academic setting. This program welcomes students in Science and Engineering. The location of UIC in the heart of Chicago offers a particularly advantageous situation for engineering and science students because of the enormous amount of chemical industry and medical institutions in the Chicago area. UIC is the only public engineering school in the city. The UIC Engineering Departments have grown rapidly with highly active faculty members, undergraduates, graduate students, and postdoctoral fellows. We are located in the east campus of UIC.

Web: <http://www.uic.edu/labs/AMReL/NSF-REU.htm>

Program: Cullen College of Engineering Research Experiences for Undergraduates - Innovations in Nanotechnology

Location: University of Houston, Houston, TX

Program Dates: May 26-July 27, 2009

Deadline: February 25, 2009

Pay: \$4,200 + housing + travel allowance

Subjects: Nanotechnology, Nanomagnetism

Description: The program is designed to infuse qualified undergraduates with enthusiasm toward both graduate level education and a career in research. Participants will make important contributions to the College's ongoing research efforts. The focus of the Cullen College of Engineering's research efforts cover a broad spectrum of areas. Much of our research is cross-disciplinary, and many faculty members are engaged in this effort. The nanomagnetism group deals with physics, design, and fabrication of materials, devices, and systems based on *nanomagnetic* device structures. By nanomagnetism, we mean devices and systems where the building blocks are smaller than the characteristic length, the domain wall thickness, in the constituent magnetic materials. It promises effective control of magnetic states at the single domain level and scalability from 200 nm all the way down to the superparamagnetic limit near 2-3 nm. It is this scalability, over two decades in lateral dimensions, which can provide a long-term, evolutionary path for industrial development and power the information age far beyond the roadmaps of the data storage and semiconductor industries. The students will be directly involved in research towards the development of next generation ultra-high density magnetic recording systems based on nanoscale patterned medium and heat-assisted processes, biomagnetic sensor arrays, and magnetic computing systems. Some background in electromagnetism and modern physics would be highly desirable.

Web: <http://www.egr.uh.edu/reu/>

Program: Research Experience for Undergraduates (REU) in Regenerative Medicine, Multi-Scale Bioengineering and Systems Biology

Location: University of California, San Diego, CA

Program Dates: Contact nsfreu@bioeng.ucsd.edu

Deadline: April 18, 2009

Pay: \$4,000 + housing + transportation

Subjects: Bioengineering, Regenerative Medicine, Multi-Scale Bioengineering, Systems Biology

Description: The Department of Bioengineering at the University of California, San Diego is pleased to announce a National Science Foundation Research Experience for Undergraduates (NSF-REU) program in Regenerative Medicine, Multi-Scale Bioengineering, and Systems Biology. This exciting summer program provides undergraduate students access to state-of-the-art facilities,

the opportunity to work with accomplished and experienced faculty mentors, and to participate in highly collaborative, cutting-edge research projects. In addition to the training students receive in individual research laboratories, extensive professional development opportunities will be provided through weekly workshops, an undergraduate research conference, panel discussions, and GRE preparation courses.

Web: <http://nsfreu.be.ucsd.edu/>

Program: Research Experiences for Undergraduates in Nanomaterials and Nanomechanics

Location: University of Arkansas, Fayetteville, AR

Program Dates: May 17-July 24, 2009

Deadline: March 2, 2009

Pay: \$4,500 + food + housing + \$450 travel allowance

Subjects: Mechanical Engineering, Materials, Mechanics, or Aerospace

Description: This program is open to undergraduates who are interested exploring the exciting area of nanomaterials and nanomechanics. The program provides a unique opportunity for undergraduates to participate in a research and professional development program. Students will work on a research project and interact with faculty members and graduate students throughout the summer.

Web: <http://comp.uark.edu/~jjrencis/REU/>

Program: Research Experiences for Undergraduates in Fluid Mechanics With Analysis Using Computations and Experiments

Location: University of Alabama, Tuscaloosa, AL

Program Dates: May 18-July 24, 2009

Deadline: April 20, 2009

Pay: \$4,500 + housing

Subjects: Fluid Mechanics, Aerospace Engineering, Chemical Engineering, Mechanical Engineering

Description: The College of Engineering at The University of Alabama will host its second ten week NSF REU Site program in the field of fluid mechanics during the summer of 2009. Projects will implement both computational and experimental analysis tools. This exciting research opportunity begins the last week of May and is available to six to eight motivated US engineering or science undergraduates. It is strongly encouraged that applicants have successfully completed a sophomore-level course in fluid mechanics.

Web: <http://aem.eng.ua.edu/FM-ACE/>

- **International Science and Engineering -**

http://www.nsf.gov/crssprgm/reu/list_result.cfm?unitid=10003

Program – Research Experience for Undergraduates in Marine Science and Engineering in China – Clarkson University

Location – Marine Science & Engineering will be located at Dalian University of Technology and Advanced Material Science projects will be located at Tsinghua University co-sponsored by Corning Research China, Corning, Inc.

Program Dates – May 27-August 6, 2009

Deadline – March 5, 2009

Subjects – oceanography, structure engineering, coastal engineering, material science, environmental science

Description - Students don't need to know Chinese. Students will communicate with research mentors in English. The program is for highly motivated undergraduate students in Engineering and Science, who are interested in gaining first hand research and international experience at top research universities in China. The summer research projects will be carried out at Dalian University of Technology located in a port city along the Bohai Sea and the Yellow Sea, and at Tsinghua University located in Beijing, the capital of China.

Pay – \$3,000, + domestic + international travel expenses + room + housing

Web - http://web2.clarkson.edu/projects/reushen/reu_china/

Program – 4 Programs: DIMACS REU mentored by DIMACS members; DIMACS/DIMATIA REU program mentored by DIMACS members, the program is extended by two weeks, and the last two and a half weeks of the program are spent at our sister site DIMATIA at Charles University in Prague, Czech Republic; Rutgers Math Department program mentored by members of the Rutgers Mathematics Department; DyDAn REU program related to homeland security mentored by DyDAn researchers

Location – Rutgers University, Piscataway, NJ and Prague, Czech Republic

Program Dates – June 1-July 24, 2009

Deadline – January 31, 2009

Subjects – Optimum Strategies of Container Inspection at Port-of-Entry, Mitigating Malware on Emerging Networks, Securing Software with Transactional Memory Introspection, Higher Order Learning, DIMACS Graph Mining, Name That Cluster, Point Configurations, Protein-induced DNA Looping, Permutations, Clustering Permutations, Biosurveillance, Social Networks, k-Partite Graphs, Haplotype Selection, Computing Shift Equivalence, Combinatorics in Genomics, Decision Tree, Cyclic Games, Genomics and Proteomics

Description - There is one application for all of these programs so an applicant can apply simultaneously for all the programs in which he/she is interested. The DIMACS REU, DIMACS/DIMATIA REU, Math Department REU, and DyDAn REU all offer the same stipend, housing and office accommodations. We've consolidated the organization of the programs to create a larger interactive group experience for the participants and so that the programs may share a single coordinator. The source of funds to support the students and some of the departmental staff are separate for the DIMACS, the Math Department, and the DyDAn programs.

Pay – \$3,300 + housing + \$500 domestic travel + international travel if selected for Prague

Web - <http://dimacs.rutgers.edu/REU/>

Program: Duke University - Organization for Tropical Studies REU Program in Costa Rica

Location: La Selva Biological Station, Costa Rica

Program Dates: Summer 2009 June 14 – August 21

Deadline: January 31, 2009

Pay: \$4,000 + room, board, transportation to and from Costa Rica

Subjects: Advanced biology, tropical ecology

Description: The OTS Research Experiences for Undergraduates (REU) was designed for advanced biology students interested in conducting field research under the supervision of an experienced tropical ecologist. OTS will support twelve undergraduates, selected through a competitive application process, for a ten-week research program at the world-renowned La Selva Biological Station in the Caribbean lowlands of Costa Rica. In collaboration with a research mentor, students will design, conduct, and present field research projects at La Selva. Students will participate in a rich academic field environment, including research presentations, discussions, an ethics component focusing on issues in tropical biology and conservation. In addition, participants will have access to the social, cultural, and recreational activities of the rural communities surrounding La Selva.

Web: http://www.ots.ac.cr/index.php?option=com_content&task=view&id=317&Itemid=449

Program: Domestic REU Program, With the Florida Museum of Natural History; LSAMP Center for International Undergraduate Research, With Morehouse College and Spelman College; South America REU Program in Chemistry and Molecular Biodiversity, With Morehouse College; France REU Program, With Morehouse College and Furman University

Location – Gainesville, FL, Atlanta, GA, Argentina, Brazil, France (Toulouse, Strasbourg, Grenoble, Paris, Lille), Ghana

Program Dates – 12 weeks

Deadline – January 15, 2009

Subjects – Ecology, Conservation, Environmental Science, Bioprospecting, Chemistry, Molecular Biodiversity, Math, Engineering, Physics, Biosciences

Description - Research topics vary from site to site, but generally involve the best research laboratories at each location. Students with appropriate research interests and majors in Math, Engineering, Physics, the Biosciences, Chemistry and all STEM areas are encouraged to apply. Each participant will spend most of their time working with graduate students, post-doctoral

researchers, staff, and other undergraduates on a well-developed research project under the mentorship of an experienced faculty member. Ample opportunity for broader encounters such as seminars, scientific visits, as well as social outings will also be made available at each location. All students write a publication-style report for their research credit provided through the UF Honors Program. The France and South America programs offer a total package in the range of \$7000, the LSAMP program is in excess of \$10,000, with the domestic program providing slightly less.

Pay – \$5,500, \$6,000, or \$7,000 or \$10,000 + food + housing + travel

Web - <http://www.reu.chem.ufl.edu/>

Program: The University of Michigan/Peking University Summer Undergraduate Exchange Program in the Chemical, Biological, and Life Sciences

Location – University of Michigan, Ann Arbor, MI and Peking University, Peking, China

Program Dates – US-to-China Program Dates: May 24-Aug 7, 2009

Deadline – March 13, 2009

Subjects – Chemistry, Biology, Life Sciences

Description - A total of 29 students, 7-10 from around the US, 9-12 from UM, and 12 from PKU, will work closely with the members of their host laboratories, and will have opportunities to interact with students and others in their host country. This is an excellent opportunity for American and Chinese students to experience living and working in another country.

Participants will have the chance to form personal and professional relationships that will enrich their perspectives on chemistry and on the world. Original research projects that cover the breadth of scientific interests are available in both countries. Thanks to the University of Michigan and Peking University Joint Institute, a robust structure exists to manage the communication and organization of programs between Ann Arbor and Beijing. We are contracted with the Joint Institute to provide a number of attractive features.

Pay – \$2,500 + housing + domestic travel + international travel

Web - <http://www.umich.edu/~michchem/UMPKU/>

Program – Research Experiences for Undergraduates in Computer Graphics

Location – University of Rhode Island, Kingston, RI and Germany

Program Dates – 12 weeks

Deadline – Contact kowalski@cs.uri.edu

Subjects – computer graphics from the artistic, design or scientific point of view

Description – The US Department of Commerce is projecting growth in the number of job openings for computer scientists through 2012 and researchers are now predicting a shortage of IT professionals in the USA over the next ten years. This trend contradicts the public belief in a tight IT job market. The bursting dot com bubble and the outsourcing of jobs from the USA have caused a significant drop in enrollments in computer science programs in the USA. With the dependence the US economy has on innovation, a talent shortage will have broad economic impact in what is becoming an increasingly competitive global market. Another threat to this sector is the marginalization caused by the disproportionately low number of students who are female, minority or have a disability. The goals of this program are therefore to offer an interesting and enlightening experience with research to undergraduate students who are preferably from universities or colleges with no established research program and are from underrepresented groups in science.

Pay – Stipend + travel allowance + housing + food + research costs

Web - <http://reu.cs.uri.edu/>

- **NASA, National Aeronautical and Space Administration**

Program: United Negro College Fund Special Programs Corporation

Location: Ames Research Center in Moffett Field, California, Johnson Space Center in Houston, Texas, Glenn Research Center in Cleveland, Ohio

Program Dates: 10 weeks in summer 2009

Deadline: February 1, 2009

Pay: \$5,000 + year round tutoring + 3 year renewal option

Subjects: Minority Education and Leadership, Science, Engineering, Technology, Math, International Programs, Public Health, Community Education, Technical Services

Description: The NASA Science and Technology Institute (NSTI) Summer Scholars Program, a component of the Institute, is a ten-week paid summer research experience for undergraduates from minority institutions (rising sophomores, juniors or seniors) who are pursuing degrees in the STEM disciplines. NSTI Scholars will be matched with a mentor to conduct NASA-relevant research. Possible locations for the internships include Ames Research Center in California, Johnson Space Center in Texas, and Glenn Research Center in Ohio. NSTI-SSP scholars will also have the opportunity to participate in professional development workshops. Undergraduate students from the NSTI Cluster Schools are strongly encouraged to apply.

Web: www.uncfsp.org/NSTI-SSP

Program: MUST Scholarship – Motivating Undergraduates in Science and Technology – Including a NASA 10-Week Summer Internship

Location – One of 10 nationwide NASA Centers

Program Dates – You may also contact Ms. Porsche Parker at (650) 961-1101

Deadline – February 2, 2009

Pay – \$6,000 + transportation and location allowance of \$1,000

Subjects – STEM subjects – physical science, technology, engineering and math

Description – UNCFSP, as part of a consortium led by the Hispanic College Fund with the support of the Society of Hispanic Professional Engineers, is administering NASA's Motivating Undergraduates in Science and Technology (MUST) Program. The MUST Program, which began in 2006, awards scholarships and internships to undergraduate students pursuing Science, Technology, Engineering and Math (STEM) degrees. Each year, 100 students receive one-year competitive scholarships of up to \$10,000 and a paid internship relevant to their chosen field. Additionally, students benefit from year-round tutoring and mentoring. The scholarships and internships are renewable for up to three years provided the students continue to meet the academic requirements. Students must be U.S. citizens from underserved and underrepresented groups (i.e., women, minorities, and person with disabilities) in STEM disciplines, including those residing in rural and economically disadvantaged communities,

Web – www.uncfsp.org/must