

## How to Get Research Experience

*"This research opportunity has allowed me to work closely with some of the leading figures in this field. I was able to apply the things I'd learned in the classroom towards solving real-world environmental problems."*

*- Galen Peracca, CNR undergraduate researcher on the California Oak Mortality Task Force*

Our goal in the College of Natural Resources (CNR) is for every undergraduate to get involved in some research before graduating from UC Berkeley. Within CNR, we offer numerous opportunities for you to design an independent research project or to contribute to an ongoing research project with our faculty. Through your research experience, you can expect to be mentored by a professor and gain the hands-on laboratory or field research skills that will complement what you are learning in the classroom. To get started, look into the following various options available to you.



### Supervised Independent Study & Research

You can enroll in a departmental 99 or 199 independent study course to obtain academic credit during the fall or spring semester for the research you complete under the guidance of a faculty sponsor. The number of units earned depends on the amount of research you conduct on a weekly basis (3 hours/week = 1 unit). The grading option is P/NP only. To receive academic credit for your research, you must first identify a CNR faculty member who will supervise you for on-campus research, and then submit a completed 99 or 199 application for independent study to the appropriate CNR department. An application must be submitted for each semester that you wish to receive independent study credit.

Contact your undergraduate staff advisor to obtain an application form and find out about any other departmental requirements regarding independent study for your major.



### CNR Faculty Directory

[http://nature.berkeley.edu/site/faculty\\_staff.php](http://nature.berkeley.edu/site/faculty_staff.php)

Search the online CNR faculty directory to find information on faculty areas of expertise and links to individual faculty websites where you can learn about their research interests, current projects, and selected publications. Investigating the research areas of CNR faculty will help you identify specific professors with whom you might want to work. You can contact professors directly, or visit them during office hours, to ask if they would be willing to sponsor you as you conduct your own research project or if they are seeking undergraduate research assistance.

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## **CNR Expert Finder**

<http://nature.berkeley.edu/site/experts.php>

Researchers at the College of Natural Resources have broad interdisciplinary expertise. The online expert list indicates the major fields of study being addressed by our faculty and cooperative extension specialists, with direct links to the names, contact information, and research areas of CNR professors.

## **CNR Newsline**

The College of Natural Resources Newsline is a moderated listserv that will keep you in the loop about research opportunities, internships, job opportunities, and more. CNR faculty looking for undergraduate researchers will post projects or open positions on this list. To subscribe to CNR Newsline, send an email from your primary email account to [majordomo@listlink.berkeley.edu](mailto:majordomo@listlink.berkeley.edu). Leave the subject heading blank. In the body of the message, type the following command: `subscribe cnr_newsline`

## **CNR Undergraduate Research Opportunities Program (UROP)**

[http://nature.berkeley.edu/site/research\\_ops.php](http://nature.berkeley.edu/site/research_ops.php)

The College of Natural Resources Undergraduate Research Opportunities Program provides funding for qualifying undergraduates in the College to conduct research. To date, more than 100 CNR students have participated in this program, working closely with CNR professors and receiving guidance on their research projects. Once you identify a CNR faculty member whose research interests match yours, talk to that professor about applying for UROP funds with you. Annual deadlines are near the end of fall semester.

## **Undergraduate Research Apprenticeship Program (URAP)**

<http://research.berkeley.edu/urap/>

The UC Berkeley Undergraduate Research Apprenticeship Program gives students the chance to work one-on-one with faculty from the four departments in the College of Natural Resources (Agricultural & Resource Economics; Environmental Science, Policy & Management; Nutritional Sciences & Toxicology; or Plant & Microbial Biology). Each semester, research projects from across campus are listed by department on the URAP website, several of which are posted by CNR faculty. Students with at least a 2.0 GPA are eligible to apply for up to 3 different projects. If selected to work on a research project, students meet regularly with professors for research mentoring and have the option of earning 1 unit of academic credit for every 3 hours of research work (limited to 4 units per term). Application deadlines occur very early in the fall and spring semesters each year.

## **STUDENT SPOTLIGHT**

### **Environmental Science Student Association**



Representing students interested in the environmental sciences at UC Berkeley, the Environmental Science Student Association (ESSA) is an academic and social student group that provides a forum for discussion, access to professionals, and faculty connections. Active members mainly come from the Environmental Sciences major, but all are welcome. The main purpose of the club is to provide a way for students, alumni, and faculty to socialize and work together outside of the classroom. The club also has a new website with sections for discussion, posting pictures, and contacting current members.

Over the course of this semester and in the future we plan on sponsoring trips to environmental firms, holding fun social gatherings, and much, much more! If you are interested in getting to know many of your fellow students, making connections, and learning more about environmental science, the ESSA is for you. Check us out online at: <http://nature.berkeley.edu/essa/> or send an email to [essa@nature.berkeley.edu](mailto:essa@nature.berkeley.edu) for more information.

## ALUMNI CONNECTION

After receiving her undergraduate degree from CNR, Alumna Dr. Sharon Jones (B.S. Nutrition and Food Science, 1985) went to UCLA/Drew Medical School and currently has a solo private medical practice in San Pablo, California. She found that her undergraduate experience at CNR prepared her well for medical school. "The fact that Nutrition and Food Science was a real, hard-core science discipline was essential. Contrary to some people's assumptions that it was a 'fluff' degree based on home economics, Nutrition and Food Science taught me a ton of biochemistry, statistics, and epidemiology. It was a very helpful degree for not only getting into medical school, but also being a successful medical student."

For those interested in medical school, she encourages them to get a broad education now and find something they love outside of biology and science. "Once you are in medical school, you will not have the opportunity to study anything non-medical again. Diversifying your interests will broaden your perspective and ability to talk to others outside of medicine."

After graduating from medical school in 1989, she returned to the Bay Area to complete her residency at Kaiser Oakland, specializing in Internal Medicine. By the time she was 28, she was a newly minted, specialty-trained physician. She opened her private practice, becoming both business owner and physician, in 1998.

"Personally, I would advise students to seek this profession only for the love and enjoyment of working with humans in difficult, profound situations. This profession will not provide deep and personal relationships, no matter how much you give of yourself. Your personal life should be fulfilling and rich, with as many supportive relationships as you can develop along the way. Definitely do not pursue medicine if you want to become fabulously wealthy, and if you cannot stand disease, odors, and gore, you should pursue something more glamorous. With that said, medicine is a noble profession, and I admire those who choose to pursue it."



## ON THE C.E. FRONT

Professor David Sunding of the Department of Agricultural and Resource Economics holds appointments as both a faculty member and a Cooperative Extension specialist. He specializes in water resources, environmental regulation (focusing on wetlands and endangered species regulation), land use and technology diffusion.

Most recently, he was named the director of the Berkeley Water Center, a new program at the College of Natural Resources dedicated to addressing water-related environmental, agricultural and legal issues. "The Berkeley Water Center combines biological and ecological expertise with our strengths in water policy and economics," Sunding said. "That's something that doesn't exist anywhere else."

Sunding is also the co-director of UC Berkeley's Center for Sustainable Resource Development and sits on the Science Advisory Boards of the U.S. Environmental Protection Agency and the National Center for Housing and the Environment. He is a frequent advisor to government agencies on environmental policy.

As a member of the UC Cooperative Extension system, Professor Sunding has experience with extending information to groups outside the university. From 1994 to 2000, he directed a federally funded partnership of agricultural water districts, environmental groups and federal and state government agencies to design and implement promising techniques for improving water use efficiency. The project involved researchers from the Berkeley, Davis and Riverside campuses in fields including economics, engineering, agronomy and hydrology and resulted in widely cited water price reforms and other changes. More recently, Professor Sunding worked with faculty at Berkeley and Davis and with various water districts and federal agencies to identify opportunities for conjunctive water use. He was also a co-author of the widely read report, "An Environmentally Optimal Alternative for the San Francisco Bay/Delta," that was praised on the editorial page of the *San Francisco Chronicle* as "deep water thinking."

# COMMUNITY BULLETIN

March 11 Deadline for 2005 CNR Commencement student speaker nominations; for details please check with the CNR Office of Instruction & Student Affairs, 245 Mulford Hall, (510) 642-0542

April 13 The Environment & Human Welfare Undergraduate Poster Session sponsored by the College of Natural Resources

April 16 Cal Day

May 5 CNR Awards Ceremony

May 21 Student Awards Reception

May 22 CNR Commencement 

**For more events and detailed event information go to the calendar at <http://nature.berkeley.edu>**

## Making a Difference

### Cooperative Extension: Research and Public Outreach

*"As extension specialists, we conduct applied research and related educational programs to help people solve practical problems"*

- *Alix Zwane, CE Specialist in international trade and the environment*



Since its founding, the College of Natural Resources has been dedicated not only to basic research, but to applying the physical, life, and social sciences in ways that can meet society's needs. One of the most valuable approaches for relating research to real-world problems has been through the Cooperative Extension Service.

Established in 1914, Cooperative Extension was designed as a partnership of the U.S. Department of Agriculture and the land-grant colleges, which were authorized by the federal Morrill acts of 1862 and 1890. UC Berkeley was the first land-grant college in California.



Today, Cooperative Extension specialists are headquartered at UC Berkeley, UC Davis, and UC Riverside, where they conduct research and coordinate public outreach activities. As a land-grant institution, the Cooperative Extension mandate at Berkeley is tied to the welfare, development, and protection of California agriculture, natural resources, and people. CNR employs more than 20 Cooperative Extension specialists within our four departments to meet specific research and educational needs in a wide range of areas, including childhood obesity, biological control, biotechnology, and more. The complete list of CE Specialists in the College is available online: [http://nature.berkeley.edu/site/coop\\_ext.php](http://nature.berkeley.edu/site/coop_ext.php)

## CONTACT US

CNR Forum is published for the students, faculty, staff, alumni, emeriti, retirees, and friends of the College of Natural Resources at the University of California, Berkeley. We welcome comments, news, and story suggestions. Please e-mail us at [linm@nature.berkeley.edu](mailto:linm@nature.berkeley.edu) or call (510) 643-4647.

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