



November 9, 2011  
Issue 3: 31

Women in Science and Engineering

[www.usc.edu/programs/](http://www.usc.edu/programs/)

### WISE FACULTY NETWORKING MEETING

Meetings held the last Thursday of the month at 12pm in HNB 107.

This month's meeting will be on December 1.

Bring your own lunch. Coffee, tea, and cookies provided.

### REMINDER

WiSE Undergraduate Research Awards

Applications Due

December 1

### IN THIS ISSUE

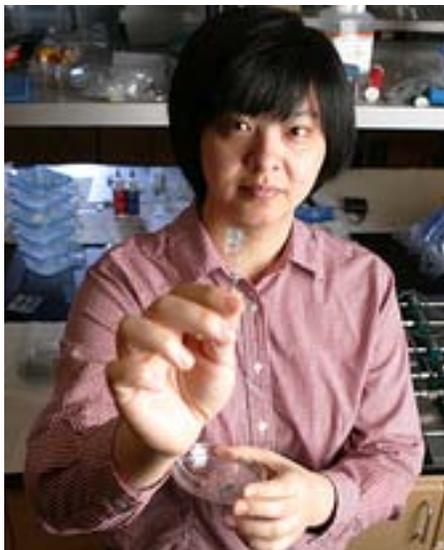
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To see all the USC WiSE Grant Programs, including ongoing grants without specific deadlines, please [click here](#).



[WISEPROG@USC.EDU](mailto:WISEPROG@USC.EDU)

## WISE FACULTY IN THE NEWS



### SCIENTIST'S REVOLUTIONARY DRUG PUMP DRAWS NSF SUPPORT

By Robert Perkins  
November 2, 2011  
USC News

Last month, for the first time in 11 years, USC associate professor Ellis Meng found herself raising her hand and asking questions in the classroom - not answering them.

Meng, whose research at USC focuses on developing a tiny, implantable medication-delivery system, is enrolled in a business crash-course sponsored by the National Science Foundation (NSF), learning how to understand customers, develop viable business models and get on the fast track to creating a commercial product.

For the complete article, please [click here](#).

## ENTREPRENEURSHIP LESSONS FOR THE ACADEMIC-MINDED

by Wendy Kaufman  
October 31, 2011  
NPR

The slow pace of job creation has revived interest in getting promising new technologies out of university labs and into the marketplace. At Stanford University, a group of academic researchers from all over the country gathered to take a crash course in how to turn their projects into startup companies.

The National Science Foundation screened applicants for this Innovation Corps (I-Corps) program and awarded each research team \$50,000. They'll be mentored by entrepreneurs familiar with bringing a new technology to market, and participate in ongoing webinars and progress meetings throughout the process.

Steve Blank, an I-Corps mentor, is passionate about the entrepreneurship course he teaches at Stanford. To instill enthusiasm for the startup and offer a taste of the potential financial rewards, he invited the academics about to take his class to his spectacular ranch on the California coast.

... "Our initial view of who we thought the customers were was a bit flawed," says Ellis Meng, from the University of Southern California. Her team is working on a new implantable device for drug delivery, and they're happy to be part of the program.

"I think the value to us is the focus and then finding the new information," she says. "I think we were actually pretty far along when we came in, but we are now even further and better for that."

For the complete article, please [click here](#).



## AND THE MICROBES SHALL INHERIT THE EARTH

By Robert Perkins  
October 7, 2011  
USC News

Global warming is not a novel phenomenon, and by studying what happened to the planet during a period of global warming about 250 million years ago, one USC scientist hopes to discover what could happen to us this time around.

Of course, given that up to 90 percent of ocean species on Earth went extinct during that period, it's not surprising that the news isn't good.

"Science shows that the earth is changing," said USC Dornsife College of Letters, Arts and Sciences professor David Bottjer.

Global temperatures are up almost three-quarters of a degree Celsius over the past 100 years, with documented increases in the amount of atmospheric carbon dioxide and other greenhouse gases.

Regardless of the cause, scientists must grapple with the question "Is this something to worry about or not?" Bottjer said.

For the complete article, please [click here](#).



## IN THE NEWS

### USC STUDY INDICATES A STRONG PAYDAY FOR STEM STUDENTS

By Andrea Bennett  
September 20, 2011  
USC News

Minorities, who will make up the majority of the country's population by 2050, continue to be underrepresented in science, technology, engineering and math (STEM).

USC Rossier School of Education assistant professor Tatiana Melguizo believes this could change if people knew how much more money could be earned in these fields.

Not surprisingly, research shows that when selecting a college major, people are influenced by how much money can be made.

Melguizo, along with Gregory Wolniak of the University of Chicago, examined the economic benefits among low-income and high-achieving minority students who major in a STEM field in college and how these students fare once in the labor market.

The study, which was published in *Research in Higher Education*, was conducted as part of a program to promote the use of data from the Gates Millennium Scholars Program funded by the Bill & Melinda Gates Foundation. Its findings provide policymakers and college administrators with evidence suggesting the importance of a major field of study and "occupational congruence," the ability to find a job in a person's field of study.

In other words, the education pays off when STEM college graduates get jobs in STEM fields.

For the complete article, please [click here](#).



### WOMEN MAKING STRIDES IN SCIENCE AND MATH

October 22, 2011  
FoxNews

For many of the women, the chemistry lab was a home away from home -- a sorority for nerds, of sorts, that hints at the slow but steady shift in technical fields that have been traditionally filled with men.

Rebecca Allred has fond memories of that lab at the College of William and Mary in Virginia.

She and her peers spent hours there. They worked into the night for their professor, Elizabeth Harbron, because they wanted to, blowing off steam by dancing to the soundtrack of "Mamma Mia" or taking a break on Fridays to play Putt-Putt golf together.

Harbron was not only their mentor, but often a confidante. They shared their frustrations. They celebrated their successes. Several published their findings with Harbron's guidance, a rarity for undergraduates.

"That lab was a refuge between classes. I loved being there," says Allred, now a second-year doctoral student in the Yale University chemistry department and one of a new generation of young women who are helping change the face of the so-called STEM fields -- science, technology, engineering and math.

For the complete article, please [click here](#).

## UMASS AMHERST HOSTS WOMEN IN ENGINEERING CAREER DAY FOR STUDENTS FROM AREA HIGH SCHOOLS

Media Newswire

(Media-Newswire.com) - AMHERST, Mass. - The annual Women in Engineering Career Day Conference on Oct. 24 is expected to attract more than 250 female students, teachers, and guidance counselors from high schools representing 50 cities and towns in the state. The event begins at 8:30 a.m. in the Campus Center Auditorium at the University of Massachusetts. The program is designed to excite, inspire, and encourage young women to pursue engineering as an academic track and career path.

High schools from Amherst, Northampton, Springfield, Holyoke, Chicopee, Westfield, Pittsfield, Worcester and schools from Boston and suburbs are participating this year.

The keynote address will be by Priscilla "Cissy" George, a 1984 graduate of the UMass Amherst Isenberg School of Management at 10:30 a.m. George, the national engineering director for Verizon Communications in Marlborough, will speak about her path to engineering, what she does in her job, and her family.

For the complete article, please [click here](#).

## STUDY FINDS LACK OF CONFIDENCE PLAGUES WOMEN ENGINEERING STUDENTS

October 29, 2011

WIAReport

A study published in the October issue of the American Sociological Review finds that the major reason for the gender gap in engineering disciplines is a lack of confidence among women that they can have successful careers in engineering. The study surveyed engineering students at MIT, the University of Massachusetts, Smith College, and the Franklin W. Olin College of Engineering in 2003 and for a second time in 2007.

Lead author Erin Cech, a postdoctoral fellow at Stanford University's Clayman Institute for Gender Research, states "Women engineering students go to the same classes, take the same tests, and get the same GPAs as men, sometimes even higher. But the women in our study developed less confidence in their engineering expertise than men did and they also developed less confidence that engineering is the career that fits them best."

For the complete article, please [click here](#).

## NUMBER OF WOMEN IN CU-BOULDER COMPUTER SCIENCE PROGRAM DOUBLES CAMPUS OFFICIALS MAKING AN EFFORT TO INCREASE FEMALE PARTICIPATION

By Brittany Anas,

October 25, 2011

Daily Camera

In middle school, Allison Brown and her friends discovered a free, build-your-own-website offer, and the girls used it to create their very own space on the Internet for their universal crime-solving unit -- custom-designing a purple site with flashing bling.

Now, Brown -- a doctoral student in computer science at the University of Colorado -- laughs about the venture, but it's what initially piqued her interest in HTML coding. She programmed her own calculator in high school. And then, on a whim, signed up for an Advance Placement programming class in computer science and loved it, she recalls.

Brown took a college degree path that few women do: She majored in computer science as an undergraduate and now is continuing in the field at CU.

For the complete article, please [click here](#).

## WHY SCIENCE MAJORS CHANGE THEIR MINDS (IT'S JUST SO DARN HARD)

By Christopher Drew  
November 4, 2011  
New York Times

LAST FALL, President Obama threw what was billed as the first White House Science Fair, a photo op in the gilt-mirrored State Dining Room. He tested a steering wheel designed by middle schoolers to detect distracted driving and peeked inside a robot that plays soccer. It was meant as an inspirational moment: children, science is fun; work harder.

Politicians and educators have been wringing their hands for years over test scores showing American students falling behind their counterparts in Slovenia and Singapore. How will the United States stack up against global rivals in innovation? The president and industry groups have called on colleges to graduate 10,000 more engineers a year and 100,000 new teachers with majors in STEM — science, technology, engineering and math. All the Sputnik-like urgency has put classrooms from kindergarten through 12th grade — the pipeline, as they call it — under a microscope. And there are encouraging signs, with surveys showing the number of college freshmen interested in majoring in a STEM field on the rise.

But, it turns out, middle and high school students are having most of the fun, building their erector sets and dropping eggs into water to test the first law of motion. The excitement quickly fades as students brush up against the reality of what David E. Goldberg, an emeritus engineering professor, calls “the math-science death march.” Freshmen in college wade through a blizzard of calculus, physics and chemistry in lecture halls with hundreds of other students. And then many wash out.

For the complete article, please [click here](#).

## MORE FOCUS ON MATH, SCIENCE EDUCATION VITAL TO ECONOMIC PROGRESS

By Paula Allen Meares  
Co-written by Mrinalini C. Rao  
October 27, 2011  
The Huffington Post

A great deal of attention recently has been focused on an issue of real importance to the future of our nation -- the need to train more undergraduates, especially blacks, Hispanics and women, in science, technology, engineering and mathematics (STEM) fields. We cannot envision a sustained U.S. economic recovery in our increasingly competitive world without a steady supply of highly trained professionals in the STEM disciplines, nor can we imagine full economic equality and opportunity unless the diversity of STEM professionals mirrors that of our nation as a whole. We congratulate both the Obama administration and the Association of American Universities (AAU) for highlighting this issue. Given the differential achievement gaps and escalating poverty rates among racial and ethnic minorities: How will the nation respond?

The administration has put STEM education on the front burner through a series of reports, and has emphasized the importance of higher education in eliminating disparities among those in the STEM fields. A Commerce Department report released last month found underrepresentation of blacks and Hispanics in STEM fields. “Educational attainment may affect equality of opportunity in these critical, high-quality jobs of the future,” the report said. “... by increasing the numbers of STEM workers among currently underrepresented groups through education we can help ensure America’s future as a global leader in technology and innovation.” This puts significant responsibility for solving this problem on the shoulders of higher education, and it is a challenge we are eager to meet.

For the complete article, please [click here](#).

### WHERE THE WOMEN ARE: BIOLOGY

By Christopher Drew  
November 4, 2011  
New York Times

INCREASING the number of women in science and technology has been an important goal for universities and industries, and substantial progress has surely been made. More women than ever major in so-called STEM fields.

Still, women earn only 17 to 18 percent of the bachelor's degrees in engineering and computer science, and just over 40 percent in the physical sciences and math. Where are the women? Clustered in the life sciences. About 58 percent of all bachelor's, master's and doctorates in biology are awarded to women. But except for medical students, salary prospects are lower in biology, and research jobs, the most coveted of pursuits, hard to come by.

For the complete article, please [click here](#).

### WORK CLIMATE THE TOP REASON WOMEN LEAVE ENGINEERING

October 28, 2011  
Newswire

Newswise — Women who leave engineering jobs after obtaining the necessary degree are significantly more likely to leave the field because of an uncomfortable work climate than because of family reasons, according to a study being undertaken at the University of Wisconsin-Milwaukee (UWM).

Nearly half of women in the survey who left an engineering career indicated they did so because of negative working conditions, too much travel, lack of advancement or low salary, the study shows.

Despite successful interventions to increase the numbers of women earning degrees in engineering, the field now faces the problem of retaining those female engineers. The study, supported by a half-million-dollar grant from the National Science Foundation (NSF), allowed respondents to list more than one reason for leaving, and about half did.

For the complete article, please [click here](#).

### WOMEN NEEDED IN STEM FIELDS

By Elena Kadvany  
November 6, 2011  
Daily Trojan

Women outnumber men at most colleges and universities — something that would have been unimaginable at a not-so distant point in history.

But when it comes to the STEM fields — science, technology, engineering and math — women are still critically underrepresented.

Though the recent increase of women in fields like biology and medicine indicates a significant change in such traditionally male-dominated academic spheres, it is not an across-the-board change.

The increase of female students signals a potential for future growth and integration, yet the lack of women in other STEM areas means universities should be doing more to keep the numbers growing.

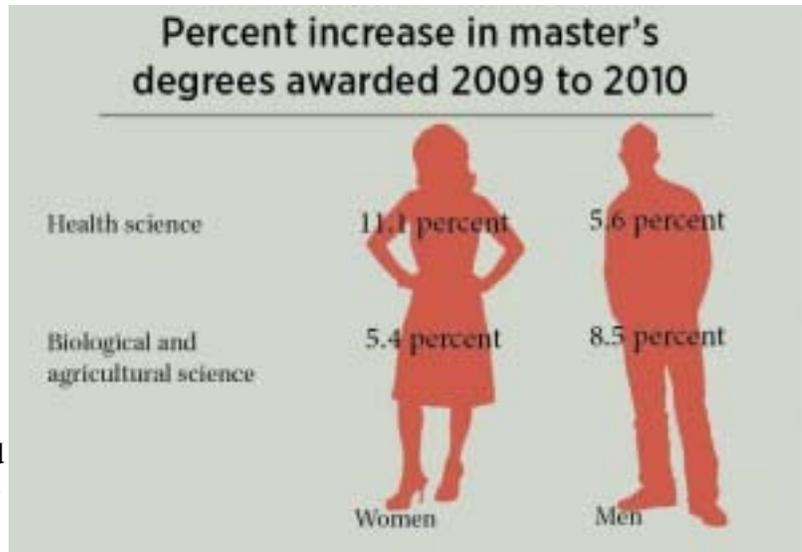
For the complete article, please [click here](#).

## SCIENCE DEGREES AWARDED TO WOMEN INCREASES

By Denise Gonzalez  
October 27, 2011  
Daily Trojan

Women's involvement in the science, technology, engineering and mathematical subjects is higher than ever, as a greater proportion of women have received master's degrees in those fields than before.

There was a 5.4 percent increase in master's degrees awarded to female students in biological and agricultural sciences and an 11.1 percent increase in the number of master's degrees awarded to female students in health science, according to the Council of Graduate Studies.



This marks a trend in higher education, where women are excelling in fields that were traditionally dominated by men.

Melora Sundt, associate dean for academic programs, said the increase in involvement of women in these fields is expected to change some long-standing biases. She said having more women in these fields of study can help them serve as role models, and become the rule rather than the exception in these fields.

For the complete article, please [click here](#).

## THE 14TH ANNUAL L'OREAL-UNESCO AWARDS FOR WOMEN IN SCIENCE HONOR FIVE EXCEPTIONAL WOMEN WHO MOVE SCIENCE FORWARD: PROFESSOR BONNIE BASSLER OF PRINCETON UNIVERSITY IS HONORED AS THE 2012 LAUREATE FOR NORTH AMERICA

November 8, 2011  
MarketWatch

NEW YORK, NY, Nov 08, 2011 (MARKETWIRE via COMTEX) -- The L'OREAL-UNESCO For Women in Science partnership announced today the five exceptional women scientists from around the world who will receive the 2012 L'OREAL-UNESCO Awards in Life Sciences.

An international network of nearly 1,000 scientists nominates the candidates for each year's Awards. The five Laureates are then selected by an independent, international Jury presided by Professor Guenter Blobel, Nobel Prize in Medicine 1999.

Professor Blobel said: "The work of the 2012 Award Laureates yielded remarkable insights into human health issues, such as diabetes, brain seizures, bacterial and viral infections and extending to the cultivation of plants in arid areas. Their research is truly original and each is among the best in five distinct regions of the world."

Faced with global issues such as diminishing resources, increasing and aging populations, and the consequent medical and social challenges, L'Oreal and UNESCO are convinced that these women researchers will have a major impact on society and help light the way to the future.

For the complete article, please [click here](#).

## MIT'S NANCY HOPKINS SPEAKS TODAY ON GENDER PARITY: BU WOMEN FACULTY'S STATUS IMPROVED SINCE BROWN'S ARRIVAL

By Leslie Friday  
November 9, 2011  
BU Today

Deborah Belle sat in an MIT auditorium last spring at an event celebrating the institution's female scientists. The keynote speaker had been a major force for change in the university's recruitment and promotion of, and pay scale for, female faculty: Nancy Hopkins, MIT's Amgen, Inc. Professor of Biology. It was Hopkins, most people knew, who in 2005 famously walked out on former Harvard president Lawrence Summer's speech suggesting that women may not have the same innate abilities in math and science as men. Deep into Hopkins' lecture, Belle, a College of Arts & Sciences professor of psychology, saw a familiar face flash across the projector screen.



"There was Bob Brown's picture and name," says Belle, referring to BU President Robert A. Brown. Belle remembered that as MIT provost, Brown had cochaired with Hopkins a council that reformed discriminatory practices against female scientists. A lightbulb went on. "I thought, wow, we've got to get an additional, larger audience at BU to continue this conversation," says Belle, director of the Women's, Gender, and Sexuality Studies (WGSS) program.

For the complete article, please [click here](#).

FOR FUN

## HAPPY BIRTHDAY MARIE CURIE! TOP FIVE SONGS ABOUT SCIENCE

By Neda Salamat  
November 7, 2011

It's Marie Curie's birthday today, so raise a glass for one of the most historically notable women in science. In case you don't know, Curie was the first person to score two Nobel Prizes -- one in physics, and another in chemistry. Though she accomplished much during her 66-year lifespan (including becoming the first-ever female professor at the University of Paris) her most notable achievements are her theory of radioactivity, isolating radioactive isotopes, and discovering polonium and radium.

We've got your soundtrack for your scientific kickback--and while, unfortunately, most of music's references to science tends to involve unsavory connotations (drugs, man), we've managed to scrounge up a top five (in no particular order) that you (and Curie) can toast to.

For the complete article, please [click here](#).

# AWIS

[Click here](#) for the AWIS Newsletter.

The Mission of the Los Angeles and Ventura County Chapter of AWIS is to foster the personal and professional skills of women so they can become leaders in their field, support women at all stages of their career through career development workshops, networking opportunities, social gatherings, and specific mentoring programs, promote a collegial environment where women from different disciplines and employment sectors, feel confident to share their experience, advice, and expertise for the benefit of all members, and cultivate the next generation of women in science to be confident and ready to pursue their full potential.

Networking: Digital Photo Shoot, Nov 12, 10am

AWIS LAVC Digital Photo Shoot  
Pictures for the Professional Side of Life

Saturday, November 12  
10am- 2pm

Your image is everything to you professionally so what is your digital pictures saying about you?

We have arranged for professional digital pictures to be taken by a qualified photographer. Pictures will be lighted appropriately to the setting and will be high resolution. They come with the digital rights so they may be used for anything from your online profile to your business card (not greater than 5" x 7" final print).

Location: Anthony C. Beilenson Park in Sepulveda Dam Recreation Area near Lake Balboa  
Note: in the event of rain, we will be using an indoor location near UCLA.

Costs for 3 digital shots  
AWIS LA-VC Members: \$20 – Non-members: \$30

You must RSVP in order to participate.

RSVP NOW: <http://tinyurl.com/AWISPhotoShoot>

We will only be taking 10 people to participate in this activity.

Those signing up will be notified within 24 h of registering if we are able to schedule their appointment.

Panel event: Lessons from Women Leaders: All you ever wanted to know, Nov 16, 6:30pm

A panel discussion featuring:  
Diana Bartlett, Assistant Vice President , KGI  
Tammy Dwyer, Professor, University of San Diego  
Rosalind Lewis, PRINC Director, Aerospace Corporation  
Nancy Y. Moore, Senior Management Scientist, RAND

When: Wednesday, November 16, 2011 , 6:30pm  
Where: Rand Corporation, Room 1226, 1776 Main Street, Santa Monica, CA  
Please RSVP by Monday, November 14.

AAAS Science & Technology Policy Fellowships:  
now taking applications!

CALL FOR APPLICATIONS  
The 2012-2013 AAAS Science & Technology Policy Fellowships online application system is now open. The deadline for applications is December 5, 2011, 5:00 p.m. Eastern Standard Time. Interested applicants are encouraged to start their application early and contact their references as soon as possible.

For more information:

<https://fellowshipapp.aaas.org/applications/subsectionid.1,pageid.13/default.asp>



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## PLEASE POST

The University of Pennsylvania is pleased to announce a new graduate training program in Robotics and Perception funded by the National Science Foundation's IGERT traineeship program. The program focuses on Complex Scene Perception, and is open to PhD students in Computer Science, Electrical Engineering, Neuroscience, and Psychology. Relevant research programs consider how humans and robots perceive, navigate, and interact with natural environments.

Additional information, including information on how to apply, may be found on our website:

<http://igert.perception.upenn.edu>

Enclosed is our program poster, as well as a program flyer. Please post these in your department and bring them to the attention of interested students.

Thank you very much!

# Graduate Traineeships in Perception and Robotics at the University of Pennsylvania Philadelphia, PA



Humans' remarkable perceptual abilities to perceive, navigate and interact with natural environments dramatically eclipse those of current robotic systems. Graduate research connecting perception and robotics studies questions such as: How do humans recognize objects in natural scenes? How can we make a robot recognize and pick up objects in a kitchen? How do humans and animals find their way around? How can we build a car that drives itself? Interdisciplinary research will enable new insights into the astounding performance of human and animal perception as well as the design of new algorithms that will make robots perceive and act in complex scenes.

The Integrative Graduate Education and Research Training (IGERT) program in Complex Scene Perception at the University of Pennsylvania supports the development of a new training paradigm for perception scientists and engineers, and is designed to provide them with a unique grasp of the computational and psychophysical underpinnings of the phenomena of perception. It will create a new role model of a well-rounded perceptual scientist with a firm grasp of both computational and experimental analytic skills. The existence of such a cadre of U.S. researchers will contribute to the country's global competitiveness in the growing machine perception and robotics industry.

Graduate traineeships, with support from the National Science Foundation's Integrative Graduate Education and Research Training Program, are available to qualified applicants to cover tuition costs and to provide stipends of up to \$30,000 per year for five years of graduate training leading to a Ph.D. in a relevant discipline.

U.S. citizens and permanent residents who are Hispanic/Latino, African-American, American Indian, Alaskan Native, or Native Pacific Islander are strongly encouraged to apply, as are women in computer science and engineering.

For more information, visit the IGERT website at: <http://igert.perception.upenn.edu>  
or e-mail us at: [igertpreview@seas.upenn.edu](mailto:igertpreview@seas.upenn.edu)

## ***JOB ANNOUNCEMENT***

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### **Research Specialist (postdoctoral-level position) in oceanography**

A position as an Assistant Specialist III (recent PhD) is available in the Earth Research Institute within the Maritorea/Siegel Research group at the University of California, Santa Barbara. The successful candidate will work on the NASA Measures ocean color project at UCSB (<http://wiki.ices.ucsb.edu/measures>). We are looking for someone to analyze and validate global, advanced, satellite ocean color products (e.g. IOPs, PSD, PFT, merged products) and/or to develop and implement new bio-optical models to understand ocean color variability in the UV spectral region including phytoplankton fluorescence.

The candidate must have a PhD in oceanography or related discipline, a working knowledge of ocean optics, experience in the analysis satellite ocean color data sets, a strong publication record, and the desire to work on highly interdisciplinary problems.

The Specialist series is a research position that carries with it the expectation that the candidate will bring to a project special skills, experience, and knowledge. The candidate will be responsible for carrying out his/her own research and coordinating critical team activities. He/she must be able to work independently in the field, including in potentially remote study areas.

The position is full time and offers a salary of \$45,732 per year and full benefits. The initial appointment is for one year beginning December 15, 2011, continuation beyond one year will be based on performance and availability of funds.

The University is especially interested in candidates who can contribute to the diversity and excellence of the academic community through research, teaching, and service.

Applications will be reviewed starting on December 1, 2011. The position will remain open until filled. Please send a cover letter describing your research interests and experience, curriculum vitae, names of three referees including names, email addresses, and telephone numbers, and representative publications to: [recruit@eri.ucsb.edu](mailto:recruit@eri.ucsb.edu), please include code ***Ocean Color*** in the subject line of the email.

*An Equal Opportunity/ Affirmative Action Employer.*