



May 27, 2011
Issue 2: 21

Women in Science and Engineering

www.usc.edu/programs/wise

WISEPROG@USC.EDU

Congratulations!

****WIEBKE ZIEBIS (MARINE BIOLOGY) HAS JUST BEEN PROMOTED TO ASSOCIATE PROFESSOR WITH TENURE.**

****ANDREA HODGE (AEROSPACE AND MECHANICAL ENGINEERING) HAS BEEN AWARDED A 3-YEAR HUMBOLDT RESEARCH FELLOWSHIP.**

Andrea Hodge, holder of the Philip and Cayley MacDonald Early Career Chair and an assistant professor in the Aerospace and Mechanical Engineering Department, was awarded a three-year Humboldt Research Fellowship. Prof. Hodge’s research will be carried out at the Institute of Nanotechnology at Karlsruhe Institute of Technology in Karlsruhe, Germany. The goal of the research project will be to “develop and characterize new materials that have nanoscale features with engineered grain boundaries and interfaces, which can then be used for a variety of applications ranging from micro-electronics to engines,” explained Hodge. The Alexander von Humboldt Foundation awards such fellowships “solely on the basis of academic record.” Selection criteria include quality and number of academic publications in internationally-reviewed journals and books; expert statements from scholars around the globe on the candidate’s profile and potential; and the academic quality and feasibility of the research proposal submitted by the candidate.

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IN THE NEWS

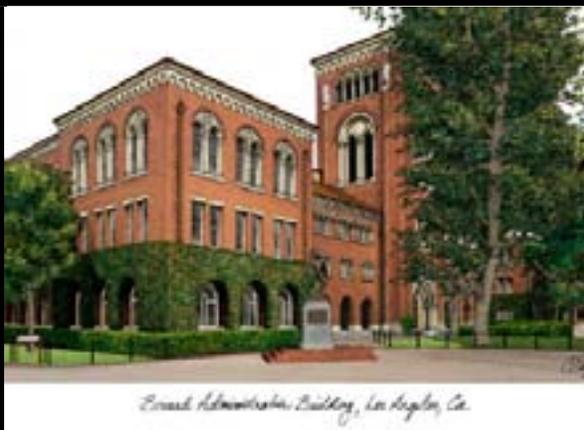
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WISE PROGRAM UPCOMING DEADLINES

Fall Undergraduate Research Awards

Dornsife: August 28

Viterbi: August 1



Ernest Administration Building, Los Angeles, Ca

UPCOMING WISE EVENTS

WISE FACULTY NETWORKING MEETING

Meetings held the last Thursday of the month at 12pm in HNB 107; Thursday, June 30, 2011; Bring your own lunch. Cookies, coffee, tea provided.



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

CONFERENCES/ WORKSHOPS

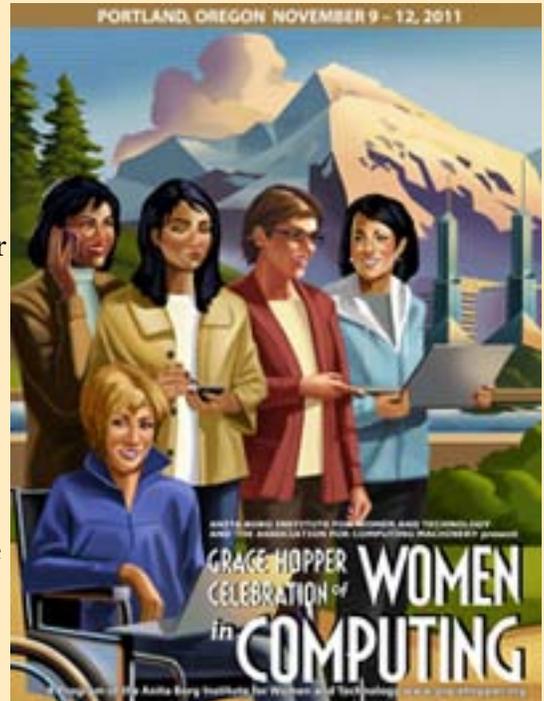
THEME: "WHAT IF...?"

Oregon Convention Center
Portland, Oregon
NOVEMBER 9-12, 2011

The Grace Hopper Celebration of Women in Computing is a series of conferences designed to bring the research and career interests of women in computing to the forefront. Presenters are leaders in their respective fields, representing industrial, academic and government communities. Leading researchers present their current work, while special sessions focus on the role of women in today's technology fields, including computer science, information technology, research and engineering.

Past Grace Hopper Celebrations have resulted in collaborative proposals, networking, mentoring, and increased visibility for the contributions of women in computing.

For more information, click [here](#).



CRA-W TO HOLD CAREER MENTORING WORKSHOP AT FCRC 2011

June 4-5, 2011
San Jose, CA

Deadline to apply for travel support: **March 25th**
Notification about travel support: **April 15th**
Early registration ends - on or around May 5th
(check FCRC site for updates)

The CRA Committee on the Status of Women in Computing research (CRA-W) will sponsor a Workshop on Research Career Mentoring for Women in Computer Science and Computer Engineering at the 2011 Federated Computing Research Conference.

For more information about the workshop and to apply for financial support to attend, [click here](#).

IN THE NEWS

USC ENGINEERS USE NANOTECHNOLOGY TO MIMIC BRAIN SYNAPSE



April 27, 2011 —

Alice Parker, seated, with Chih-Chieh Hsu, center, and Jonathan Joshi Researchers at the USC Viterbi School of Engineering have made a significant step in the use of nanotechnologies to mimic brain functions. They have built a carbon nanotube circuit whose behavior in tests reproduces the function of a neuron input, the synapse, a key building block of the brain.

The team, which was led by professors Alice Parker and Chong-wu Zhou in the Ming Hsieh Department of Electrical Engineering, used an interdisciplinary approach combining circuit design with nanotechnology to address the complex problem of capturing brain function.

In a paper published in the Proceedings of the Life Science Systems and Applications Workshop in April 2011, the USC engineers detailed how they were able to use carbon nanotubes to create a synapse. Carbon nanotubes are molecular carbon structures with walls one carbon atom thick. They are extremely tiny, with a diameter a million times smaller than a pencil point. These nanotubes can be used in electronic circuits, acting as metallic conductors or semiconductors.

For the full story, click [here](#).

RANKING THE STATES IN PRODUCING WOMEN GRADUATES IN STEM FIELDS

WIA Report
May 06, 2011

Data analyzed by WIAReport from the U.S. Department of Education shows that in 2009 American women earned 134,634 degrees in the so-called STEM fields of science, technology, engineering, and mathematics. This was 31 percent of all degrees earned in these fields. The percentage of all degrees in STEM fields earned by women actually declined from 32.9 percent in 2001 to 31.0 percent in 2009.

Some states did a far better job in steering women toward degrees in STEM fields than other states. As shown in the table, South Carolina led the list. In 2009, women earned 38.4 percent of all STEM degrees earned in the state. Other states where women showed a strong performance were Mississippi, Alaska, North Carolina, and the District of Columbia.

For the full story, click [here](#).

WHERE ARE ALL THE WOMEN SCIENTISTS?

Becky Oskin
NewScientist
April 26, 2011

When Amy Csizmar Dalal was hired as an assistant professor of computer science at Carleton College in Northfield, Minnesota, she received anonymous phone calls harassing her at work for several years. She is still sometimes the only woman in the classroom during her lectures and she feels that some of her students treat her differently to her male colleagues, questioning her logic and judgment more often.

Her story sounds like a throwback to several decades ago, but she was hired in 2003.

“Most days, I absolutely love my job,” says Csizmar Dalal, who was the first female faculty member hired in her department. “There are also days when I compose my resignation letter in my head.”

Her experience isn’t an anomaly. A plethora of studies have shown that women in science still face more obstacles than men. The number of women in senior positions is not in line with the number of women qualified for the role, despite evidence showing that when women do apply, they are at least as likely as men to get hired (see bit.ly/gRPGlx for a summary). So why do women drop out of science before they can fill the top jobs?

The good news is that it is not due to a lack of interest in the subject, as the proportion of women studying science and engineering continues to rise in most fields. In 2007, women earned more than half of all bachelor’s degrees, and really tipped the scales in biology, chemistry and agricultural sciences, according to the 2010 National Science Foundation Science and Engineering Indicators report.

For the full story, click [here](#).

MERGED CULTURES TO EMPOWER WOMEN

Kerri-Ann Jones, Shirley Malcom, Sharon Hrynkow
Science
April 8, 2011

The 55th session of the Commission on the Status of Women (CSW) of the United Nations (UN) closed last month with little fanfare, but there was cause for celebration. For the first time, the CSW, traditionally a forum to examine improvement of women’s rights and gender equality, merged this broad interest with issues of science and technology (S&T). This makes sense because empowering women as scientists and engineers, supporting girls’ education in science, and valuing women as builders of economic development all contribute to gender equality. The merger of these two areas produced recommendations to governments and nongovernmental entities that go far beyond what either group would likely have developed independently.

The Agreed Conclusions of the CSW member states* recognize the importance of S&T in every sphere of human existence, from combating malnutrition, the spread of disease, and environmental degradation, to building a more peaceful, secure, and prosperous world. Moreover, they acknowledge gender disparities in S&T at every educational level and in every sector of employment. The Agreed Conclusions emphasize how the use of S&T in poorer nations can free time for women to attend school or generate income. They also value women’s indigenous knowledge in agriculture, health, and other sectors.

For the full story, click [here](#).

BRINGING THEM BACK

Inside Higher Ed
May 17, 2011

Increasing the ranks of women faculty members in science, technology, engineering and mathematics disciplines has become an area of intense focus for academe in recent years, and attempts to boost these numbers have focused on everything from probing the barriers at individual institutions to encouraging more girls, while they are still in school, to consider careers in these fields.

The organizers of the On-Ramps into Academia workshop taking place Monday and today at the University of Washington have taken a different approach: encouraging and coaching talented and accomplished women to leave their positions in private industry and return to campus.

The workshops, and accompanying mentoring and advice, actually address two problems for academe at the same time, said Matthew O'Donnell, dean of Washington's College of Engineering. "Like everywhere, we work hard to retain women faculty and we want more faculty with real world experience," he said. "To me, this is a double-win."

The effort at Washington is notable because it seeks to woo back scientists who may, in turn, serve as role models for younger women about to consider their career options. Some experts on women in science have warned that industry has been attracting talented women away from academe. Many of these women may have left the academic track because of a lack of opportunity, or because they wanted to avoid the insecurity of tenure-seeking while starting a family.

Washington's program is still fairly young and operating on a small scale (and organizers want to attract more participants). The current round of workshops is the second of three; the first took place in 2009. But organizers have been pleased with the results so far: 45 women in total have attended the first two workshops, and four have secured full-time faculty positions, while two or three others are working as adjuncts, said Eve Riskin, professor of electrical engineering at Washington, who is the principal investigator on the project, which is funded by the National Science Foundation.

Riskin did not personally make the switch from industry to academe, but said she was inspired to start the workshops after noting that colleagues in neighboring departments -- including O'Donnell, who worked for General Electric before moving to the University of Michigan -- had made the transition very effectively.

Many times, those who have worked in industry bring skills and experiences with them that are not as well-developed within higher education, said Joyce W. Yen, program and research manager of Washington's ADVANCE Center for Institutional Change. For example, those from private industry have gained experience managing projects and people in ways that are different from the methods practiced at universities. "In academia you just see one model, which is the model you did with your Ph.D. adviser," said Yen. "In industry you get to import those ideas into your academic career."

Riskin said those who work in industry but are active in professional associations, have their own research labs, and are interested in teaching seem to make promising recruits to come back into academe. "They look like faculty, but don't have the faculty title," she said. "Those are the most obvious slam dunks."

Several of those who have made the transition (and were participating in the workshop) described similar reasons for doing so -- and the sometimes unexpectedly difficult challenges involved in negotiating two very different cultures.

Teaching is more difficult than it appears from the outside, several said, and the slow pace of academe can be maddening. "What takes a year in an academic setting would take a month in an industrial setting," said O'Donnell.

For the full story, [click here](#).

ONE FIFTH OF THE NEW MEMBERS OF THE
AMERICAN ACADEMY OF MICROBIOLOGY ARE WOMEN

WIA Report
May 16, 2011

The American Academy of Microbiology is the honorific leadership group within the American Society for Microbiology, the world's oldest and largest life science organization. The mission of the Academy is to recognize scientists for outstanding contributions to microbiology and provide microbiological expertise in the service of science and the public.

Over the last 50 years, 2,700 distinguished scientists have been elected to the Academy. Fellows are elected through a highly selective, annual, peer review process, based on their records of scientific achievement and original contributions that have advanced microbiology.

For the full story, click [here](#).



DARTMOUTH COLLEGE CELEBRATES THE 20TH ANNIVERSARY OF ITS
WOMEN IN SCIENCE PROJECT

May 20, 2011
WIA Report

Dartmouth College recently celebrated the 20th anniversary of its Women in Science Project. The project aims to boost the number of women earning degrees in science, technology, mathematics, and engineering.

The program was established in 1990 with a focus on retaining first-year women students who chose to pursue a science curriculum. Under the program first-year women students in science fields have access to research internships with faculty mentors. There is also a peer mentoring program and an electronic information network dedicated to the project.

When the program began there were 45 women majoring in science fields at Dartmouth. This semester there were 102.

THE 100% SOLUTION

Rana Foroohar
Time
May 23, 2011

You've got to give Donald Trump credit: he's everywhere, and everywhere he goes, he manages to offend in new and different ways. Take his quotes in the latest book by MSNBC Morning Joe co-host Mika Brzezinski, *Knowing Your Value: Women, Money, and Getting What You're Worth*. When asked about hiring working moms, the Donald replies skeptically, "She's not giving me 100%. She's giving me 84%, and 16% is going towards taking care of children."

As a single working mother of two, I take exception to that attitude. But more on that later. The main topic of Brzezinski's book is the wage gap. Four decades after women entered the U.S. workforce en masse, a woman still makes 77¢ for every dollar earned by a man. Some of this gap is due to women's choosing lower-paying and more portable careers in order to support a spouse or allow for more time to care for children or elders. But about 40% of it can't be explained away.

So when women choose the power track, what is holding them back? Brzezinski believes they simply don't know their own worth. Women, she says, don't take the time to research what male colleagues are making and demand the same; they expect, in a good-girl way, employers to be fair about pay; they worry that people won't like them if they negotiate too hard; they get too emotional or apologetic when asking for the money they deserve; and they don't jump as quickly as men do at new opportunities.

We all know women of whom such things could be said, though I certainly know plenty who advocate for themselves as aggressively as any man. (In fact, the book is filled with them, from media maven Arianna Huffington to Yahoo! CEO Carol Bartz.) While Brzezinski makes some valid points, the wage gap is an economic issue that, like so many others today, is bifurcated. Age and education matter a lot. In some major urban areas, young college-educated women are actually ahead of their male peers in pay. "If you walk down the streets of Manhattan, London or Stockholm," says Boston Consulting Group (BCG) senior partner Michael Silverstein, "and you ask 100 single men and women between the ages of 25 and 30 what they make, the women will make more." He believes this is the beginning of a generational shift that will snowball as older women retire and younger women, who started out with equal education and more pay parity, rise through the ranks.



Indeed, a number of economists believe that the average woman in the U.S. and Western Europe will outearn her male peers by 2024. That's because they are better educated and are entering the workforce in greater numbers and in the fastest-growing industries. BCG estimates that women will earn the majority--some \$5 trillion--of the world's new income over the next five years. No wonder banks like Goldman Sachs are starting to rate industries according to how much of the female dollar they are poised to capture. Merrill Lynch recently went "long on women" and companies targeting female consumers, noting that it expected women to "increasingly become the higher-income earners of U.S. households."

For the full story, click [here](#).