



October 24, 2011
Issue 3: 30

Women in Science and Engineering

www.usc.edu/programs/

CONGRATULATIONS!!

Dorit Hochbaum, Professor of Industrial and Systems Engineering, has won the INFORMS Computer Science Prize for 2011. This award recognizes the best English language paper dealing with the Operations Research/Computer Science interface. Stan Settles, Chair of the Department of Industrial and Systems Engineering, writes, "The Epstein Department is particularly proud of Professor Hochbaum's recognition from this well-respected society in our field." The ICS Prize will be presented at the 2011 INFORMS Annual Meeting in Charlotte at the ICS Business Meeting. Dr. Hochbaum will also make a presentation in a special prize session. Dr. Hochbaum's paper was entitled: "Polynomial Time Algorithms for Ratio Regions and a Variant of Normalized Cut," which has been published in IEEE Transactions on Pattern Analysis and Machine Intelligence in 2010.

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



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REMINDER

WISE UNDERGRADUATE RESEARCH GRANTS

Applications

**DUE
NOVEMBER 1**

WISE FACULTY NETWORKING MEETING

Meetings held the last Thursday of the month at 12pm in HNB 107. This month's meeting will be on Thursday, October 27.

Professor Malancha Gupta (Mork Family Department of Chemical Engineering and Materials Science) will give a research presentation, emphasizing collaborative research opportunities.

Bring your own lunch. Cookies, coffee and tea provided.

INFORMATION OF INTEREST

A POSTDOC'S GUIDE TO PREGNANCY AND MATERNITY LEAVE

The National Postdoctoral Association (NPA) has developed a new online resource, "A Postdoc's Guide to Pregnancy and Maternity Leave," that may be of use to women postdoctoral scholars in your community. The guide provides general information on pregnancy and maternity leave for postdocs, including tips on keeping your research going and talking with your postdoctoral supervisor. The guide covers such topics as: Research Concerns for your Pregnancy; Maternity Leave and Federal Funding Guidelines; and Making a Maternity Research Plan. For questions regarding the guide, please contact Kathleen Flint Ehm, NPA ADVANCE Project Manager. Please [click here](#) to view the Guide.

GRANTS



L'ORÉAL USA FELLOWSHIPS KEY FACTS AND APPLICATION INFORMATION

The L'Oréal USA Fellowships For Women In Science is a national awards program that annually recognizes and rewards five U.S.-based women postdoctoral researchers at the beginning of their scientific careers who are pursuing careers in the life and physical/ material sciences, as well as mathematics, engineering and computer science. Recipients receive up to \$60,000 each that they must apply towards their postdoctoral research.

Now entering its ninth cycle, this national program annually recognizes, rewards and provides support to five women postdoctoral researchers in the U.S. who are pursuing careers in the life and physical/material sciences, as well as mathematics, engineering and computer science.

Since its inception in 2003, the L'Oréal USA Fellowships For Women In Science program has awarded 40 fellowships to women scientists across the U.S. Each year, the program attracts a number of talented applicants from diverse scientific fields, representing some of the nation's leading academic institutions and laboratories. The Award selection process includes a two stage review process, including a first round review by an interdisciplinary panel of 26 scientists and engineers and a distinguished jury of eminent scientists and engineers reviews the top applications and selects the L'Oréal USA Fellowships For Women In Science recipients.

The recipients of the L'Oréal USA Fellowships For Women in Science program participate in a week of events that include an awards ceremony, professional development workshops, media training and networking opportunities. In 2012, these workshops, which are facilitated by the program's partner, American Association for the Advancement of Science (AAAS), will encompass job search techniques, interviewing skills, budget development for grant requests, and strategies for submissions to peer-reviewed publication.

The L'Oréal USA Fellowships For Women in Science program is open only to women postdoctoral researchers. Applications will be accepted starting October 18, 2011. Application process closes December 15, 2011. Candidates interested in applying may visit the L'Oréal USA Fellowships For Women in Science website at [http:// www.lorealusa.com/for-womeninscience](http://www.lorealusa.com/for-womeninscience). All applications must be submitted online by December 15, 2011. Transcripts must be postmarked no later than December 15, 2011.

ROBOTS BUILT TO HELP AUTISTIC CHILDREN: AN EFFECTIVE THERAPIST MIGHT JUST BE METALLIC, MECHANICAL AND NONHUMAN

By Chris Woolston
October 17, 2011
Los Angeles Times

Robots aren't known for their soft side. They build cars and defuse bombs; they don't, as a rule, make friends or deal with feelings. But a few groups of researchers around the world are working to build robots for an unusual purpose: Making emotional connections with autistic children who often struggle to interact with humans.

There's something about machines that really seems to resonate with many kids with autism, says [Maja Mataric](#), co-director of the Robotics Research Lab at USC. These children often have trouble reading human emotions and social cues — complexities they don't have to worry about when they're around a mechanical being.

"Robots are simpler than people," Mataric says.

Still, robots may seem like unlikely candidates for a job usually filled by therapists. As Mataric points out, the general public usually thinks of robots as either cold and efficient workers (at their best) or outright evil beings bent on enslaving humanity (at their worst).

The researchers at USC have a different vision. "We're trying to create something that's endearing," Mataric says.

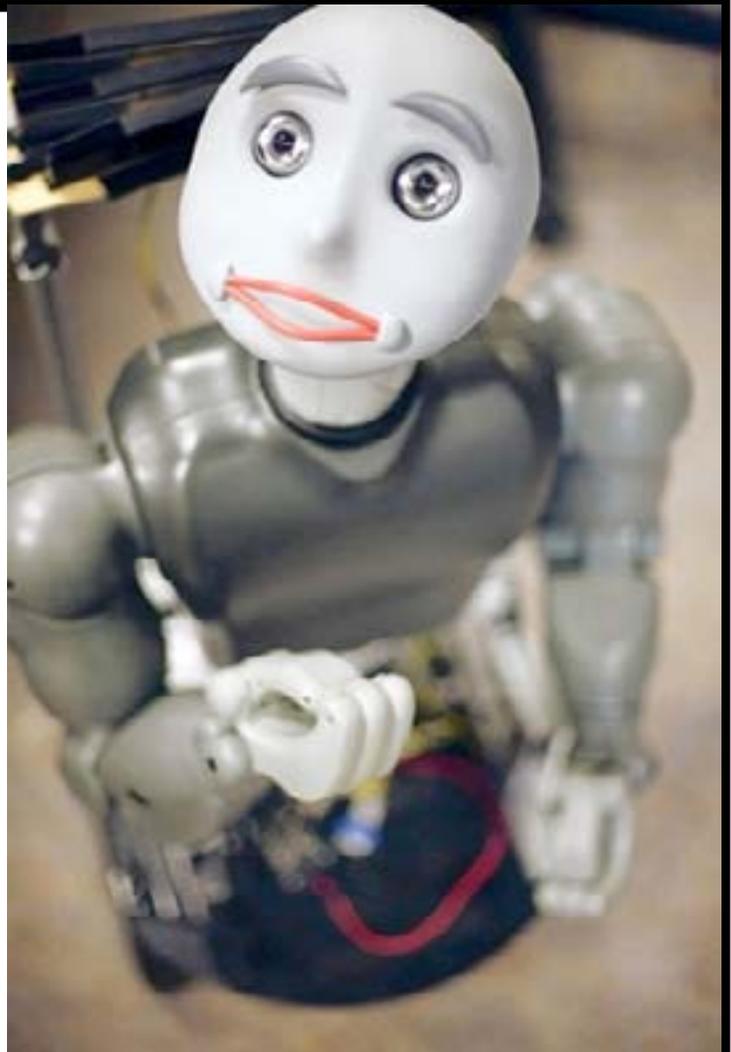
The result: Bandit, a metallic-colored, child-sized robot that can win the attention — and even empathy — of hard-to-reach kids.

Bandit has a pleasant, inviting face with a movable mouth, archable eyebrows and camera eyes that let him "watch" his playmates. He also has proximity sensors to gauge whether kids are backing away or moving in. If they get too close, he can wheel away.

With his motor-driven arms, Bandit can automatically mimic the motions of children and lead a game of Simon Says. He can make sad sighs or happy chips, and he blows bubbles with the push of a button. He can also talk in soothing tones, although USC researchers are just beginning to use Bandit's speech in their work with children with autism.

While not every child is interested in KASPAR, "we've had a lot of successes over the years," says senior research fellow Ben Robins, who has been working with the robot for five years.

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



IN THE NEWS

THE WHITE HOUSE BLOG: FIRST LADY MICHELLE OBAMA: WHEN YOU MAKE LIFE EASIER FOR WORKING PARENTS, IT'S A WIN FOR EVERYONE INVOLVED

September 26, 2011

whitehouse.gov

First Lady Michelle Obama today spoke about the importance of supporting and retaining women and girls who choose careers in the fields of science, technology, engineering and science, the so-called STEM disciplines.

“If we’re going to out-innovate and out-educate the rest of the world, then we have to open doors to everyone,” said Mrs. Obama during an event at the White House held to announce the NSF Career-Life Balance Initiative. “We need all hands on deck. And that means clearing hurdles for women and girls as they navigate careers in science, technology, engineering and math.”

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

MICHELLE OBAMA STRESSES IMPORTANCE OF GIRLS PURSUING SCIENCE

By Katherine Skiba

September 26, 2011

Chicago Tribune

WASHINGTON—First lady Michelle Obama on Monday touted the importance of girls pursuing careers in science, technology, engineering and math, though admitted she became a lawyer because she was “bad at these subjects.”

Obama addressed about 140 people in the East Room as the National Science Foundation, a major funder of basic research, announced a 10-year plan to give greater work-related flexibility to men and women pursuing research careers.

The first lady was introduced by Michelle Del Rio, a Texan who despite her family’s modest circumstances won a bachelor’s degree in biomedical sciences with a minor in chemistry, psychology and Spanish. The woman’s mother, who attended school until the third grade, is a maintenance worker.

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

MATH PRIZE FOR GIRLS THRIVES AT MIT

by Lois Elfman

September 20, 2011

Diverse Issues in Higher Education

Math competitions are nothing new. They’ve taken place for years, but participants have been predominantly boys.

Two years ago Advantage Testing Foundation, the public service arm of Advantage Testing, a private tutorial service dedicated to the highest academic excellence, launched Math Prize for Girls. The competition is designed to inspire girls, create a network of girls with a passion for math and encourage those girls to become mentors for others — particularly girls in underserved communities.

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

THE ACCIDENTAL TECHIE

Emily K. Schwartz
September 20, 2011
The Huffington Post

Some women know from a very young age that technology is in their future. They are 12-year-old science fair extraordinaries, mental calculation geniuses, and computer whizzes. They are the girls studying advanced calculus with relative ease; they are the ones running home after school to code the website for their school club. Numbers are organic. Technology is a natural fit.

I was not one of these girls.

...As women, it's critical that we open doors for young girls who do not know they exist. These are not just doors to the unknown, but doors to the "STEM" careers: opportunities in the fields of science, technology, engineering and math. Last week, Amanda Marcotte wrote a discouraging piece on Slate venting her frustrations with Forever 21 for selling an "Allergic to Algebra" t-shirt. What backwards message is that sending young girls?

... We can continue encouraging girls to pursue interests formerly roped off to The Boys. We can continue being role models. But as the accidental techie among us, I'd advise we start by acting now.

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

BIRGENEAU, AT WHITE HOUSE, PROMOTES CAREER-LIFE BALANCE FOR RESEARCHERS

By Public Affairs, UC Berkeley
September 27, 2011
UC Berkeley News Center

BERKELEY — UC Berkeley Chancellor Robert Birgeneau joined First Lady Michelle Obama at the White House on Monday, playing a featured role in an East Room event to emphasize the need to clear hurdles for girls and women with aspirations to careers in science, technology, engineering and math.

The panel discussion coincided with the announcement by the National Science Foundation of the "NSF Career-Life Balance Initiative," a 10-year plan to provide greater work-related flexibility to women and men in research careers. Key elements of the plan, which would broaden foundation policies to allow researchers to delay or suspend their grants for up to a year to care for a baby or fulfill other family obligations, are already in place at Berkeley.

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

UGANDA: UPHILL STRUGGLE FOR WOMEN COMPUTER SCIENTISTS

Esther Nakkazi
September 21, 2011
AllAfrica.com

Kampala — Aspiring female computer scientists in Uganda face a string of obstacles, including a society that considers the subject too difficult for them, families that fear the independence that success might confer and negativity from male student colleagues, a survey has found.

Interviews with women studying computer science at Makerere University, Uganda's premier institute of higher education, also found that families in rural areas -- where most of the population lives -- are reluctant for their daughters to study far from home, which confines their choices to non-science subjects.

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

HEAD OF PURDUE'S CIVIL ENGINEERING SCHOOL TO LEAD TEXAS A&M ENGINEERING PROGRAMS

September 30, 2011

TAMUtimes

Dr. Margaret Katherine Banks, who currently serves as head of the School of Civil Engineering at Purdue University, has been named vice chancellor for engineering for The Texas A&M University System and dean of the Dwight Look College of Engineering at Texas A&M University. She also was named as the finalist for the related position of director of the Texas Engineering Experiment Station, but action regarding that appointment requires a 21-day waiting period.

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

WOMEN ATOP THEIR FIELDS DISSECT THE SCIENTIFIC LIFE

By GINA KOLATA

June 6, 2011

New York Times

Elena Aprile, Joy Hirsch, Mary-Claire King and Tal Rabin are members of a rare breed — women scientists at the top of their fields.

Dr. Aprile, a professor of physics at Columbia University, is searching for dark matter. Dr. Hirsch, a professor of neuroscience at Columbia University, maps brain processes. Dr. King, a professor of medical genetics at the University of Washington, studies the genetic basis of common complex medical conditions like breast cancer and mental illness. And Dr. Rabin is a cryptography researcher at I.B.M. All four were in New York for the World Science Festival, and were invited to a 30-minute round-table discussion at The New York Times on Wednesday. They talked about their lives as scientists, the joys and struggles of research, and the specific challenges women in science face.

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

ADA LOVELACE DAY CELEBRATES WOMEN IN STEM

By Audrey Watters

October 6, 2011

Mindshift.qued.org

Tomorrow, October 7 is Ada Lovelace Day, to commemorate the work of women in science, technology, engineering, and mathematics....Ada Lovelace Day aims to help correct the ways in which women's contributions to science and technology are overlooked.

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

YOU GO, GIRL!

Jim Coplien

September 30, 2011

IEEE Computer Society

If you're reading this, chances are that you are male. The British National Guidance Research Forum says that men outnumbered women in Engineering by 4-to-1 to 5-to-1 over the past 15 years. The U.S. department of commerce reports the 2009 ratio at about 3 to 1 even though the job market as a whole is split half and half. And the numbers for women in computing are falling (Beedle et al., "Women in STEM: A Gender Gap to Innovation," U.S. Department of Commerce, ESA Issue Brief #04-11).

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

ACADEMIC WOMEN WHO WON 2011 GENIUS AWARDS

September 28, 2011

WIAReport

The John D. and Catherine T. MacArthur Foundation of Chicago has announced this year's class of 22 MacArthur Fellows. The fellowships, often referred to a "Genius Awards," offer scholars, artists, writers, and performers \$500,000 in unrestricted support for the following five years. Winners also receive health insurance.

This year, 10 of the 22 MacArthur Fellows are women. Several have affiliations with higher education.

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

SINGLE-SEX SCHOOLS: SEPARATE BUT EQUAL? WHAT WE'VE DISCOVERED

Jane Dammen McAuliffe

October 17, 2011

New York Times

....Even after the majority of U.S. colleges and universities have gone coed, women's colleges continue to prepare an inordinate percentage of their students to succeed in fields traditionally dominated by men.

At Bryn Mawr College, our students are six times more likely to graduate with a degree in chemistry than college students nationwide and nine times more likely to do so in math. Indeed, we are second in the nation in the percentage of female students receiving degrees in math, beating out science-oriented coed universities like the California Institute of Technology and the Massachusetts Institute of Technology.

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

HOW DO WE INSPIRE AND RECRUIT MORE FEMALE ASTRONAUTS AND SCIENTISTS?

Leslie Bradshaw

October 19, 2011

Forbes

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

ASTRONOMY AND GEOPHYSICS BRING WOMEN INTO SCIENCE, UK STUDY SHOWS

October 6, 2011

Science Daily

Women are better represented in astronomy and solid-Earth geophysics research than in other areas of physics, according to a major study by the Royal Astronomical Society, with a summary published in the October edition of the journal *Astronomy and Geophysics*. The RAS Demographic Survey of Astronomy and Geophysics collected data on more than 2000 research employees and students in astronomy and solid-Earth geophysics in the UK to establish the composition of this community and better understand its work. Less encouragingly, the survey results show how these research areas are poor at recruiting people from black and minority ethnic (BME) groups and that addressing this deficit remains a significant challenge.

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

WOMEN IN SCIENCE: THE GENDER DIVIDE REMAINS

By Prihatha Narasimmaraj

October 21st, 2011

The Daily Princetonian

University President Shirley Tilghman still remembers her freshman physics lab.

“We were working with a vacuum tube, and, like a foolish person, I touched it and got an electric shock,” Tilghman recalled. “The professor happened to be walking by and said, ‘That’s why there are no girls in physics.’”

She could have brushed off the comment, though it stung. But the fact remained that, for Tilghman and her female peers, “those kinds of things happened — not every day, but enough that if you didn’t believe you had the capacity to be a female scientist, they would start breaking you down.”

Since becoming University president in 2001 — the first woman to do so, and only the second in the Ivy League — Tilghman has devoted a significant amount of attention to the issue she faced as a college student and budding scientist: the dearth of women in science and engineering disciplines.

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

THE GENDER GAP IN SCIENCE FACULTY

October 16, 2011

WIAReport

A new report from the National Science Foundation finds that in 2008 there were 221,000 faculty at colleges and universities in the United States who had doctorates in the sciences, engineering, and health fields. Of these, only 70,300 were women. Thus, women made up 31.8 percent of all faculty who had doctorates in these fields.

The gender gap was prevalent for all races and ethnic groups but was smallest for African Americans. In 2008, black women accounted for 43.4 percent of all African-American faculty who had doctorates in the sciences, engineering, and health fields.

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

