wise

Women in Science and Engineering

www.usc.edu/programs/wise

Congratulations!

Najwa Hanel, one of USC's Science and Engineering Librarians, was one of three USC faculty members to earn the 2011 Distinguished Faculty Service Award. The USC Academic Senate presented the award at the University Club on Wednesday, May 11, 2011. For the complete article, click here.

Najwa Hanel (center) with Catherine Quinlan (left), Dean of the USC Libraries, and Maryalice Jordan-Marsh (right), associate professor of social work and chair of the USC Academic Senate Distinguished Faculty Service Award Task Force

To see all the USC WiSE Grant Programs, including ongoing grants without specific deadlines, please click here.

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WISE UPCOMING DEADLINES

Fall Undergraduate Research Awards

Dornsife: August 28
Viterbi: August 1

WISE FACULTY NETWORKING MEETING

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

Why Women Have an Advantage in Technology

By Adriana Gardella
New York Times
June 24, 2011

Audrey MacLean describes herself as an accidental technologist, an accidental entrepreneur, and an accidental investor. But at the age of eight, she made at least one plan: She would earn a college scholarship. Ms. MacLean, 59, executed that plan and went on to help start Network Equipment Technologies, which went public in 1987. Later, she was a founder and chief executive of Adaptive. She has given seed financing to numerous successful start-ups including Pure Software (founded by Netflix's Reed Hastings), AdForce and Selectica.

Ms. MacLean, who continues to invest in early-stage companies and mentor entrepreneurs, is now chairwoman of Coraid, which designs and manufactures data storage products. She is also a Stanford professor, teaching graduate students in the department of management, science, and engineering. Recently, she discussed her early motivation to get an education, the advantages of being a woman in technology, and why a technical career offers the best path to changing the world. A condensed version of the conversation follows.

Q. Why were you so focused on getting a college scholarship?

Ms. MacLean: I was one of 10 children. While the issue was financial, it went beyond that. My dad, who had views typical for the era, thought women went to college just to get their M.R.S. degree. And he thought that if I had college debt — a negative dowry — no one would want to marry me. In his view, he had four sons who had to go to college. So, when I was 8, he told me I'd have to get a scholarship if I wanted to go.

Q. How did you get interested in technology?

Ms. MacLean: I never said, 'Gee, I want a career in tech.' But I saw that I did well in math, and I was economically motivated. That's where the jobs were.

Q. Technology is often described as a field that's inhospitable to women. Has that been your experience?

Ms. MacLean: When I entered the industry, it was burgeoning. Though being a woman was a novelty, it was growing so fast the opportunity was there, just as the opportunity was there for women during World War II. Tech is a true meritocracy. Either you have the goods or you don't. There's less concern with gender, race, color and creed. I really truly believe that, despite data on the dearth of women in technology, tech doesn't have a barrier up to women. In fact, if anything, women who are technically prepared have an advantage.

For the complete article, click here.

Women In Power: Ann Marie Sastry Races to Create Next-Gen Batteries -- Khosla and GM Bet She Can Win

By Matthew Dakotah

Huffington Post

June 26, 2011

A special series profiling trailblazers in energy innovation and champions of the environment. See previous stories here.

"In my family the expectation was that I would contribute," says Ann Marie Sastry. "My dad was a huge inspiration to me. He was my hero. And the expectation was there from a very early age that, 'Of course, I would do mathematics. Of course, I would be interested in science.' That is a huge advantage--that expectation that you will not only be competent at the sciences and technology, but also that your aim is to make a difference."

One can only imagine how proud Sastry's father must be. As President and CEO of Sakti3--a promising next-generation battery startup backed by the likes of Khosla Ventures and G.M. Ventures--and Professor of Mechanical, Biomedical and Materials Science and Engineering at the University of Michigan, she has clearly embraced the lessons of her childhood. "Sakti is Sanskrit for power and three is from the atomic number of lithium and the three founders of the company," Ann Marie explains. "But the name does comprise a bit of an homage to my father, who is from India and a math professor."

Not all girls grow up with such a powerful mentor and Ann Marie seems well aware of this. When asked about the underrepresentation of women in the STEM (science, technology, engineering, math) fields, she says, "We, as a culture, as an academic community, and as an industrial community need to make the opportunity clear to all groups."

But Sastry sees herself as "more of a glass-half-full kind of a guy." There is "ample evidence of gender bias. That is incontrovertible," she says. But at the same time we see young women being much more successful in both early and secondary, and graduate and post-graduate education than young men. And there are a number of studies that show that women's assessment of their own performance is persistently lower than men's. But the women's assessment in carefully controlled sociological and psychological studies hues closer to the fact."

For the complete article, click here.

Women In Power: Susan Hockfield, MIT President, on Women in Science, Revolutionary Technologies, Why U.S. Policies Must Change

By Matthew Dakotah
Huffington Post
June 22, 2011

A special series profiling trailblazers in energy innovation and champions of the environment. See previous stories here.

"It is very clear to me--and I wish it were clear to everyone else--that the reason I am president of MIT right now is because of decades of very hard work by generations of women before me," Susan Hockfield says. "The first woman graduated from MIT in 1873 and it officially became a coeducational institution in 1883, so there have been women on our campus for a very long time." And that long progression is punctuated by Hockfield, who took the helm of the innovation powerhouse in 2004--the first woman to do so since MIT's founding 143 years earlier.

According to Hockfield, it wasn't until the 1960's when "there was an effort made to increase the number of women students" that any significant presence beyond men could be felt. Fast forward to 2011 and "the world has changed a little bit since MIT began. 47 percent of our undergraduates are women and for them, like the men, 85 percent will graduate with a bachelor's degree in science or engineering," she says.

And where from here? "Of course, with roughly half of our population female, the goal would be for almost half of our faculty to be women--the way almost half of our students are. As a nation and the world we are in desperate need of people with the kind of education MIT provides and when as a society we inadvertently or overtly make it difficult for half of our population to participate, we are much the poorer," Hockfield says. "That really is at the core of our efforts to make sure that places like MIT and the enterprises of science and engineering and mathematics are open and welcoming to women and men and to people of all backgrounds."

That inclusive approach is also evident in Susan's leadership style. In a revelatory move, she immediately embarked on a months-long listening tour upon her arrival from Yale. "MIT is a different institution with different people and what was most important to me was getting to know this community and their ambitions and dreams," Hockfield explains. "What were MIT's responsibilities and opportunities for the next decade?" She was "delighted to hear the response to that question was an almost unanimous cry for MIT to have a greater impact in changing the world's energy system." And so the MIT Energy Initiative (MITEI) was born.

"There were a tremendous number of important energy research projects already underway at MIT," Susan remembers. "And we reasoned that by gathering that work together under the umbrella of the energy initiative, we could have a larger impact and attract more people and funding to the cause, which has been the case."

For the complete article, click here.

State Department and OIC Commit to Promote Women's and Girls' Engagement in Science
Office of the Spokesperson
Washington, DC
June 17, 2011

The State Department and National Science Foundation joined forces with the Organisation of the Islamic Conference (OIC) on June 13 to sponsor a groundbreaking symposium entitled "Changing Mindsets to Promote Women and Girls in Science". The symposium, a commitment under the United Nations Commission on the Status of Women (CSW), brought fifteen women scientists from Benin, Jordan, Burkina Faso, Mongolia, Brazil, India, Tanzania, The Gambia, Nigeria, Pakistan, Iraq, and the West Bank together with more than 100 scientists, educators, and representatives from the private sector and foreign governments.

Participants examined programs and policies that are making a positive impact on attracting girls to science, technology, engineering and mathematics (STEM) fields, keeping them interested in STEM through college, and providing concrete tools to retain women scientists at every level of their scientific careers.

At the symposium the OIC announced that it will host a visit by RAISE Project leadership in OIC member states within the coming months. The visit will offer opportunities to adapt RAISE programming in OIC nations. The RAISE Project, sponsored by the Society for Women's Health Research (SWHR), is a campaign to increase the status of professional women through enhanced recognition of their achievements in science, technology, engineering, medicine, and mathematics. Its searchable database of professional awards is an invaluable resource for scientists wishing to nominate women for professional recognition.

At the conclusion of the symposium, the State Department and the OIC agreed to hold a similar symposium in the Middle East/North Africa region.

The symposium was supported by additional partners, including NASA, the National Institutes of Health, USAID, the Iraqi Women's Fellowship Foundation, the National Academy of Sciences, and Novus International.

For the original announcement, click here.

Women in Science
New York Times
Opinion: Bloggingheads

Video Discussion: Kathryn Clancy, of the University of Illinois and John Hawks of the University of Wisconsin discuss barriers for female scientists.

To watch this discussion, click here.

NILP: Addressing Latino Underrepresentation in Science & Technology Through Social Networking

By Mónica I. Feliú-Mójer

HispanicOhio.com

June 20, 2011

Monica - CienciaPRLatinos are the fastest growing demographic in the United States. The 2010 U.S. Census revealed that there are 50.5 million Latinos in this country, comprising 16% of the total population and 14.3% of the workforce. These numbers are expected to increase rapidly in the next few decades. By 2030, it is estimated that Latinos will make up more than 20% of the population and over 22% of the labor workforce, increasing their standing as a major driving force in the U.S. economy and labor market.

But what types of careers will the expanding Latino population be able to access? The fastest growing jobs in the U.S. are in Science, Technology, Engineering, and Math (STEM) careers. Many of these jobs are in the top earning quartile. Yet today, Latinos are largely underrepresented in higher-level STEM positions due to attrition through the STEM training pipeline. According to the National Science Foundation (NSF), Latinos earned 7.7% of bachelors, 4.7% of masters and 2.9% of doctoral degrees in science and engineering in the United States in 2006. In 2008, Latinos represented only 4% of the science and engineering workforce, proportions way below that of Latinos in the general population.

It is interesting to note, however, that Latino students start out college interested in majoring in STEM fields at rates similar to students from other ethnic groups. For example, this year the National Academies of Science reported that a third of the population of university students in STEM majors were Latino, indicating that there is a progressive loss of representation as students move up the scientific training pipeline.

A Troubling Trend

The underrepresentation of Latinos in science is problematic on several levels. The attrition of Latinos among the ranks of scientists limits our ability as a society to benefit from the full range of talent and minds in this country. The scientific enterprise is enriched by the variety of thoughts, experiences and ideas contributed by diversity. A lack of diversity among the research workforce is detrimental for innovation and can also have the effect of decreasing the diversity of research topics, particularly those that pertain to Latino communities and individuals. Minorities, for example, have been found to suffer a disproportionate burden of disease in the U.S. Recruiting diverse talent to scientific and engineering careers could help bring more attention and new perspectives to these problems and enhance the access by researchers to minority communities.

For the complete article, click here.

Women Atop Their Fields Dissect the Scientific Life
By Gina Kolata
New York Times
June 6, 2011

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.

What follows is a condensed and edited transcript of one part of the discussion.

GINA KOLATA: I once wrote about the life of a senior scientist who traveled from meeting to meeting promoting himself and his work. A woman scientist I interviewed said it was really hard for her to travel that much, and she felt that her career had suffered because of that. I was wondering if this is still a problem. And if it is, how do you handle it?

MARY-CLAIRE KING: We are very well established. It may be more of a problem with younger women who can't travel because their children are small or travel far less compared to their younger male counterparts — although it is also true that young men are much more involved nowadays taking care of the small children, and it may be more of an equalizer.

ELENA APRILE: You have to do what the guys do, and it does not matter what it takes. It is important to be out there, and so it comes with the territory. You have to find a way around to solve the practical problems. You have to.

TAL RABIN: Even when we do make it to the conferences, I think that there is still something different about the way that we promote ourselves.

I remember standing next to one of my co-authors, and he was talking to some other guy, and he was telling him, "I have this amazing result. I just did this, I just did that." And I was sitting and thinking there, what result is he talking about? Until he got to the punch line. It was a joint result. It was a result of mine also. I would have never spoken about my result in the superlatives that the guy was speaking about it.

MS. KOLATA: What would you have done?

DR. RABIN: I would have said, you know, "I have this very interesting result, and we achieved very nice things." But not "This is the best thing since we invented the wheel, and here it is."

For the complete article, click here.

Tech Executives See Paths for Women, Especially Geeks

By Amir Efrati
Wallstreet Journal
June 16, 2011

The lack of women in the technology industry has long been a hot topic in Silicon Valley, and statistics suggest the situation has only grown worse.

Women held 25% of computing-related occupations in 2009, down from 30% in 2000, according to the U.S. Bureau of Labor Statistics. The percentage of computer information systems degrees obtained annually by women has held at 18% since the 2007-08 school year, down from 28% in 2001-02.

A scattering of women are in tech's top ranks, including Yahoo Inc. Chief Executive Carol Bartz and Hewlett-Packard Co. senior executive Ann Livermore. But fewer women than men in tech jobs—16% vs. 26%—say they always aspire to be in top management, according to a McKinsey & Co. survey conducted this year.

Three of Google Inc.'s leading female executives recently sat down for a joint interview to discuss women and technology. Marissa Mayer, 36 years old, is a Google vice president; Jen Fitzpatrick, 34, is a vice president who works under Ms. Mayer; and Susan Wojcicki, 42, was promoted earlier this year to be one of three female senior vice presidents, out of 18 total.

The three joined Google in 1999, months after founders Larry Page and Sergey Brin worked on the company's search engine in Ms. Wojcicki's garage. All three say that despite the dearth of women in senior roles, the rise of social-media companies including Facebook Inc. and Twitter Inc. appear to be attracting more women to the field.

WSJ: There has long been a movement to elevate women in corporate America. Do you see that same push in the technology industry?

Ms. Mayer: It's technology, and what's really important is if you're a geek. People ask me a lot what it's like to be a woman at Google. I don't think of my experience that way. I'm a geek at Google.

Ms. Wojcicki: Google has done a good job from the beginning of focusing on diversity. You get over that issue once you do your work and begin solving problems.

For the complete article, click here.

The Subtle Sexism of the Tech Industry

By Ben Rooney

June 3, 2011

Wallstreet Journal

Here is an intelligent take on that perennial subject of women in technology.

Tara Hunt, CEO & Co-Founder of Buyosphere, has written a well nuanced argument about the subtle sexism that women in tech (and no doubt in other spheres) have to endure.

Ms. Hunt picks up on an speech given by Sheryl Sandberg, Facebook COO, in which Ms. Sandberg says she was convinced that people targeted her not because she was successful, but because she was a successful woman. (As an aside Ms. Hunt admits to being in love with Ms. Sandberg—not romantic love, but the female equivalent of a man-crush. It appears falling in love with Ms. Sandberg is a common occurrence.)

The comments on the article are telling of the underlying biases and attitudes that hold back women. And the same arguments against Sheryl's honest telling of her trail to success are railed against many other women who are telling the story as it happens: "You are imagining things." "Stop blaming everyone else for your failures."

In fact, I watched a kickass woman I admire (and ALSO have a girl-equivalent Man Crush on), Sarah Prevette, experience the same type of comments after being featured in the Globe & Mail by Amber MacArthur. One commenter called Sarah a woman "looking for excuses." Is this the same Sarah Prevette I know who is the LAST person on the planet who looks for excuses?

Clearly Ms. Hunt herself has been on the receiving end of the same subtle sexism.

How many VC meetings have I been in where the VC turns to me and says, "Yeah. I just don't get it. Maybe I'll show it to my wife." BURN! Really? Would he say that to a man pitching him the same concept?

I don't know how to name it, fight it, overcome it or even really expose it. But like Sheryl, the best I (or any other woman I know) can do is to keep our heads down and work hard and push through it so more of us get into power positions like Sheryl and even out the deck. On the way we are going to think we're crazy and feel isolated and understand we need to work 5x harder to prove that we are worthy of our successes. We need to toot our own horns and ignore those who call us 'self-promoters' (I've heard this insult countless times). We need to seek out amazing men who get it and who will help us through their power to get there. We need to stop apologizing, using passive language (I do this too much) and just say, "I know what I'm doing. I'm awesome." We need to come together and support one another – name it, but then change it.

For the original article, click here.

Worried about jobs, college women go 'geek'

By Ilana Greene

Christian Science Monitor

June 27, 2011

A year ago, Harvard University's student newspaper dubbed computer science the most "gender-skewed" major on campus – meaning that many more men majored in computer science than women. Then something happened. In a year, the number of women majoring in computer science has nearly doubled on the Harvard campus.

"Computer science seems like a lot of fun, but it also proves to be a lifesaver," says Katrina Wong, a Harvard literature major who is considering switching to computer science. Since her father lost his job to the recession and she maxed out her credit cards, she's begun writing content for smart-phone apps that her college friends are creating for clients. "It's not a big income, but it buys me necessities as well as opens doors to profit-sharing opportunities."

The financial turmoil of the last few years has made it tougher for college graduates to find jobs. So women at several elite schools are turning to computer science – a field that they used to spurn – in hopes of landing secure employment opportunities after graduation. Their numbers are still small, but the influx of women into computer science programs may change the geeky male-dominated major into something far more cool.

"Men still seem to occupy the technology space," says Henry Chen, managing director of POM Partners, a New York-based digital-media advisory and consulting firm. But "compared with 10 years ago, we are slowly seeing more women enter the space."

Top 10 best value private colleges in America

The change is evident at some – but not all – of the top computer science programs in the United States. At the Massachusetts Institute of Technology, down the street from Harvard here in Cambridge, the number of female computer science majors has jumped 28 percent in the past three years. At Carnegie Mellon University in Pittsburgh, the share of computer science majors who are women has moved from 1 in 5 in 2007 to 1 in 4 last year.

But the biggest change appears to be at Harvard. In the 2009-10 academic year, 13 percent of computer science majors were women, prompting the most "gender-skewed" moniker from the student-run Harvard Crimson. In the 2010-11 academic year, which just came to a close, 25 percent of computer science majors were women.

For the complete article, click here.