
# NIH Updates on Women in Science
## News for You to Use!

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***NIH Updates on Women in Science is brought to you by the NIH Working Group on Women in Biomedical Careers. We encourage you to forward this e-newsletter to colleagues who may find it of interest.***

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## *Contents of this Issue*



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## *Registration is Now Open for the Second NIH Regional Meeting to Seek New Dimensions and Strategies for Women's Health Research and Advancing Women's Biomedical Careers*

The NIH and Office of Research on Women's Health is holding a series of regional meetings to update the women's health research agenda for the NIH. The next meeting, *Moving into the Future: New Dimensions and Strategies for Women's Health Research at the National Institutes of Health*, which will be held at the University of California, San Francisco on May 27-29 will feature working groups on Global Health, Stem Cells, Environmental Health, HIV/AIDS, Information Technology, and Women in Science. The Women in Science working group will include issues related to career advancement for women of color and women in nonmedical fields such as chemistry, physics, engineering, dentistry, and pharmacology. Public testimony is being solicited on career development issues as well as on the future of women's health research. The deadline for hotel reservations at the meeting rate is Tuesday, May 12. Future meetings will be held on September 21-23 in Providence, RI and on October 14-16 in Chicago, IL.

Moving Into the Future – New Dimensions and Strategies for Women's Health Research for the National Institutes of Health

## *Kathleen Sebelius Confirmed as Secretary of Health and Human Services*

On April 28, his ninety-ninth day in office, President Barack Obama filled the last vacancy in his Cabinet when the Senate confirmed Kansas Governor Kathleen Sebelius as the Secretary of Health and Human Services. As the head of the Department of Health and Human Services, Secretary Sebelius will be responsible for an annual budget of over $700 billion and eleven agencies including the Centers for Medicare and Medicaid Services, the Centers for Disease Control and Prevention, the Food and Drug Administration, and the National Institutes of Health. Besides being intimately involved with the President's proposed overhaul of the US health care system, addressing the current influenza outbreak, and overseeing the regulation of the US food supply, pharmaceuticals, and medical devices, Secretary Sebelius will shape the nation's priorities for biomedical research funding and policies.

Kathleen Sebelius Confirmed as Secretary of Health and Human Services (Bloomberg)

Women Appointed to Presidential Cabinets (Center for American Women and Politics - PDF)

## *Reports Show that Men Still Outearn Women in the US and Australia*

Several studies examining the gender wage gap in a number of industries have been release recently. One report release by the National Bureau of Economic Research in January notes that just after earning their degrees, women with M.B.A.s generally work the same number of hours and make the same amount of money as their male counterparts. However, as women take time off to have children or chose different types of jobs that allow more flexibility, the interruptions and job changes are

associated with gaps in experience and lower salaries. The authors note that the differences in wages between women and men M.B.A.s "are largely, though not entirely due to the presence of children." They also note that just as women Ph.D.s tend to be married to men Ph.D.s, women M.B.A.s tend to be married to men M.B.A.s whose high salaries allow them a greater opportunity to opt for lower paying or part-time jobs.

A report from the Institute for Women's Policy Research released on April 28 notes that "of the over 500 individual occupational categories for which there are sufficient data…in only five occupations do women earn as much as or more than men." The study reports that men outearn women even in jobs traditionally held be women, and in the ten highest and ten lowest paying occupations for women.

Finally, a report released jointly by AMP, an Australian wealth management firm, and NATSEM, a research center associated with the University of Canberra, examines the salary gap between women and men in Australia. The report shows that there are still gaps in paid and unpaid work, wealth, and income. It also notes that women are more likely to work multiple jobs, have greater caregiving responsibilities, and to feel rushed or pressured frequently. Although women in Australia are waiting longer to have children and having fewer children than in decades past, women report that having children can lead to problems in the workplace and can have negative long-term career effects. Although gaps in salary and differences in types of employment still exist between women and men, the authors are hopeful that the progress women have made in the areas of education, employment, income, and wealth over the past few decades will mean the Gen Y women will close these gaps in their working lifetimes.

The Gender Wage Gap by Occupation (Institute on Women's Policy Research - PDF)

Dynamics of the Gender Gap for Young Professionals in the Corporate and Financial Sectors (NBER)

She Works Hard for the Money: Australian Women and the Gender Divide (AMP.NATSEM)

Men Out Earn Women in Almost All Occupations (PRNewswire)

Why the Earnings Gender Gap in Business? Women Work Less (New York Times)

Gen Y Women's Salaries Almost on Par with Men (WAtoday.com.ua)

## *Studies Examine Engineering and Graduate Education*

### Measuring and Improving Effectiveness in Engineering Education

A recent study by the National Academy of Engineering, funded by the National Science Foundation, examines existing methods to evaluate and improve the teaching effectiveness of engineering faculty. The report also makes recommendations for the development of new metrics and faculty development programs. The report concludes that only if thoughtfully designed and agreed-upon methods of evaluating teaching effectiveness are developed will teaching and mentoring be seen as an important component of tenure and promotion decisions. This would provide faculty members with a powerful incentive to invest time and effort in becoming better teachers. It noted that faculty development

programs should not be carried out by those making tenure and promotion decisions, as that would discourage faculty from seeking help to improve their teaching effectiveness.

Developing Metrics for Assessing Engineering Instruction: What Gets Measures and What Gets Improved (National Academy of Engineering)

**Enhancing Diversity and Participation in Graduate Education**

A report released by the Council of Graduate Schools "advocates for strengthening diversity and inclusiveness efforts in the graduate education enterprise as a key component of a national talent development strategy, that will ultimately strengthen our economy and maintain our quality of life." It calls for an increased emphasis on minority recruitment by graduate schools and highlights initiatives which promote participation in graduate education, especially in science and engineering. It recommends that incentives be created to encourage all students, but particularly those from underrepresented groups to pursue graduate education. These incentives could take the form of fellowships, training grants, and loan forgiveness, etc. The report concludes that efforts to encourage participation in graduate education must be accompanied by support mechanisms to help ensure the success of all graduate students.

Broadening Participation in Graduate Education (Council of Graduate Schools)

## *Rethinking Tenure and Part-Time Careers*

In a recent commentary in the *Chronicle of Higher Education*, author Mary Ann Mason, Ph.D., of the Berkley Law Center on Health, Economics & Family Security writes that the tenure system, as it is currently designed, is extremely unfriendly to women and is "fast fading away." Due to the up-front demands that force young academics to work extremely long hours at the same time they are starting their families, many women make the choice very early in their careers to pursue positions such as lecturers or adjuncts, which are much more flexible but also offer lower salaries, fewer benefits, and little or no job security. In fact, since these types of employees cost the institution less than tenured faculty, there has been a shift in recent years to use more part-time staff and reduce the number of tenured faculty positions. Dr. Mason argues that eliminating tenure is not the right answer for either women or academia, since tenure ensures high quality research and promotes intellectual freedom. Rather, she recommends redesigning the tenure system to make it more flexible, to allow part-time faculty to apply for tenure-track positions, and to encourage search committees to be mindful that time gaps in a CV do not indicate a lack of ability or dedication.

In the January issue of *Academic Medicine*, authors Rebecca A. Harrison, M.D., and Jessica L. Gregg, M.D., Ph.D., of the Oregon Health & Sciences University present a study examining the attitudes of internists and department leaders towards part-time work. The study focused on the Society of General Internal Medicine Horn Scholars Program, which is intended to "foster a new career track for physicians centering on successful balance of career, family, and social responsibilities." Horn Scholars hold a half-time appointment as a clinical educator, which includes spending two half days a week working in clinics which serve the indigent, and spend the equivalent of the other half of the

appointment focusing on family. Through interviews of the Horn Scholars Program applicants – who were all women, junior faculty – and their division chiefs – who were all men, senior faculty – the authors compiled lists of the perceived positive and negative aspects of part-time work. They also noted the applicants and chiefs either looked at part-time work as "working less" or "working differently" and that this distinction affected their overall view of part-time work. They concluded that physicians and their leaders must reconceptualize their model of work to focus on organizational satisfaction rather than simply number of hours worked or patients seen. They also noted that many physicians say that if part-time work were not available or the barriers to it were to high, they would likely choose to leave academia rather than stay in it full-time.

Is Tenure a Trap for Women (Chronicle of Higher Education)

A Time for Change: An Exploration of Attitudes Towards Part-Time Work in Academia (Academic Medicine)

## *Highlighting Best Practices – University of California, Davis*

*Contributed by Sylvia Parsons*

For over ten years, the University of California, Davis has been focused on taking aggressive measures aimed at recruiting and retaining a diverse faculty in research and leadership positions. The process began with a task force commissioned in 2000 to collect data on faculty diversity, recruitment statistics, and other demographic data from the science and medical departments. The task force proposed several initiatives designed to increase diversity, with incentives for success and consequences for continued failure. These initiatives led to a 22% increase in women and minority faculty throughout the university between 1997 and 2007, with a 30% increase in women faculty in the school of medicine. Some of the "best practices" instituted by UC Davis include hiring more faculty at the junior level where there is a more diverse applicant pool; "cluster hiring" in which several positions are identified in a broad area which can lead to a larger pool of outstanding candidates and can be particularly effective in preventing the potential isolation of new faculty; and carefully monitoring the recruitment process to address problems early. The active involvement and support of the deans has proven to be a key factor in the university's success. Addressing work/life issues through programs that extend the tenure clock, modifying active service to accommodate family needs, providing employment opportunities for partners, and initiating career reviews to ensure equity and fairness have also been important. New training programs that offer tools for hiring and retention and overviews of hiring and retention policies have been implemented for department chairs. In addition, workshops for new hires on how to navigate the merit and promotion process, apply for grants, and career resources available from the university have sought to address some of the roadblocks mentioned in surveys by women and minorities.

These policies were presented by Barry Klein, Ph.D., Vice Chancellor for Research, at the *Women in Biomedical Research: Best Practices for Sustaining Career Success*" workshop which was co-hosted in March 2008 by the NIH Working Group on Women in Biomedical Careers and the NIH National Center for Research Resources.

UC Davis Office of the Chancellor and Provost - Faculty Diversity

Partner Opportunities Program

Target of Excellence Program

## *New Feature: Women Scientists in Action – Julie Brittain, Ph.D.*

Starting this month, the NUWS will present profiles of successful women scientists. This month, Julie Brittain, Ph.D., a junior faculty member in the Departments of Biochemistry & Biophysics and Obstetrics & Gynecology at the University of North Carolina, Chapel Hill (UNC) will be featured.

Dr. Brittain is a recipient of a Building Interdisciplinary Research Careers in Women's Health (BIRCWH) scholar award. The BIRCWH program was developed and implemented by the NIH Office of Research on Women's Health to promote the career development of junior faculty members who are commencing an independent career working on women's health issues by pairing scholars with senior investigators in a mentored, interdisciplinary research environment.

Dr. Brittain is a graduate of UNC and is currently a member of the UNC Comprehensive Sickle Cell Program. She is an interdisciplinary scientist whose research, both as a graduate student and a postdoctoral fellow, has focused on helping people with sickle cell anemia (SCA) through a better understanding of the mechanism of the disease. In people who suffer from SCA, the red blood cells, which are normally disc shaped and flow feely through blood vessels, can become crescent-shaped or "sickle" in cells with low oxygen density. The sickled cells have a tendency to adhere to one another and can occlude blood vessels. These blockages prevent blood from reaching tissues throughout the body, causing damage and severe pain.

Currently, the main treatments for this disease are pain killers, which only treat the symptoms, and a drug called hydroxyurea. Hydroxyurea was originally used as a chemotherapy agent for cancer patients but has been found to help SCA patients by causing the body to produce fetal hemoglobin, which carries higher levels of oxygen than adult hemoglobin. Women with SCA are discouraged from becoming pregnant, and if they do, they can not take hydroxyurea because it could be dangerous for the child.

As a graduate student, Dr. Brittain's research, which compared the adhesiveness of red blood cells of unaffected people to those of SCA patients, challenged the hypothesis that red blood cells were simply non-responsive "bags" of hemoglobin and demonstrated that adhesion of sickled red blood cells could be regulated by processes that were activated by naturally occurring chemicals in the blood of SCA patients.

In her current research, Dr. Brittain studies the role of white blood cells in SCA. She has discovered an entirely novel mechanism of vessel blockage in these patients – sickled red blood cells adhere to a type of white blood cell, both in a model system that she developed and in the whole blood collected from SCA patients. Furthermore, she has elucidated the mechanism of the adhesion between the two types of cells and identified the protein the mediates the interaction, $\alpha 4$ integrin, as a feasible target for cost-

effective, small molecule therapy. She is also looking at risk factors that are specific to pregnant women in an effort to develop novel drugs that will be safe for both mother and child.

When asked why she chose to study SCA, Dr. Brittain said, “The very first time I looked at a blood smear from a SCA as a graduate student at UNC, I knew that this illness was my calling. The angry, sickled shape of red blood cells ignited a passion in me that cannot be extinguished until I can offer some relief, some solace, for these patients that is not found in a bottle of prescription narcotics. These patients, deserve the best, the best minds, the best medicines that science can offer. These patients deserve to have their best life – a normal one, free from pain, but filled with family, children, careers and control of one’s own destiny.”

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