

Women in Biomedical Careers



NIH **U**pdates on Women in Science News for Yo**U** 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 share this e-newsletter with colleagues.

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National Academies Conference on Women of Color in Academia

On June 7-8, 2012, the National Academies held a public conference entitled “Seeking Solutions: Maximizing American Talent by Advancing Women of Color in Academia.” The almost 200 participants included representatives from academic institutions, professional societies, and federal agencies. Conference participants examined data on career progression for minority women scientists, explored barriers, brainstormed solutions, and shared strategies for institutional transformation. In advance of the meeting, stakeholders provided written testimony on women of color in the scientific workforce. These testimonies can be found on the conference web site. This free conference was supported by the National Science Foundation Division of Human Resource Development ADVANCE-PAID Program. A forthcoming meeting report will be published, capturing the presentations, discussions, and key policy recommendations shared at the conference.

[Seeking Solutions: Maximizing American Talent by Advancing Women of Color in Academia](#)

Analysis of Gender Distribution for Scientific Awards and Prizes

In this study, the authors examined awards and prizes conferred by 13 scientific and professional societies between 1991 and 2010. While they documented a 78.5% increase in the number of awards won by women over this time period, they found that men continued to win a higher proportion of awards than could be explained by their increased representation in the nomination pool. Between 2001 and 2010, women won 32.2% of service awards, and 37.1% of teaching awards, but only 10% of research awards. Interestingly, the chair of the award committee had a dramatic effect on results: Committees chaired by men selected a male winner 95.1% of the time, despite the fact that women made up almost a quarter of their nominating pools. In contrast, committees chaired by women recognized women 23.1% of the time, with women making up one-third of their nominating pools. During this same time period, there was also an increase in the number of awards targeted specifically for women. While on the surface this appears beneficial, the authors expressed concern that these awards may actually be harmful overall, as they can mask the underrepresentation of women and marginalize research performed by women. The authors presented their research as an example of “the Matilda Effect,” a term coined [in 1993](#) and used to explain how women’s scientific achievements often are undervalued compared to scientific achievements by men. The study offers suggestions to help eliminate the gender disparity in award recognition. Recommendations include increasing the representation of women in the nomination pool, enhancing participation of women on award committees, and recognizing the impact of unconscious bias on the awards process.

[The Matilda Effect in Science: Awards and Prizes in the US, 1990s and 2000s](#)

Salaries for Physician Scientists Vary Considerably by Gender

A recent study published in *The Journal of the American Medical Association* surveyed a relatively homogenous group of physician scientists, in order to determine whether their salaries differed by gender. Survey participants were all physician scientists with medical degrees who were awarded K08 or K23 grants from the National Institutes of Health between 2000 and 2003, and continued to hold positions at US academic institutions. The authors designed a linear regression model that considered self-reported salary in light of other variables, including gender, age, race, marital status, parental status, additional degrees, specialty, publications, work hours, and percentage of time dedicated to

research. The mean salary reported for men in this study was \$200,433, compared to \$167,669 for women. Women more often reported specialization in lower-paying fields. However, only two-thirds of the gender difference identified in this study could be attributed to explanatory factors, such as specialization, number of hours worked, or productivity. Based on the model constructed, changing a female participant's gender to male while maintaining all characteristics other than gender would increase her salary by \$12,194. Potential reasons for the salary discrepancy range from gender-based differences in negotiation styles, to lifestyle factors, and conscious and unconscious discrimination.

[Gender Differences in the Salaries of Physician Researchers](#)

New Mentoring Materials from ORWH

Quality mentoring has been shown to increase confidence and enhance career success for women in science. However, even the best mentoring relationships can benefit from training in relationship management. The Office of Research on Women's Health (ORWH) has just released two fact sheets with information on mentoring and advice for both parties in the mentoring dyad. The fact sheet designed for mentors highlights benefits of mentoring, provides tips for effective mentoring, and lists steps institutions can take to promote a positive mentoring culture. The second fact sheet, designed for mentees, explains the importance of mentoring, encourages use of mentoring teams, and provides advice on making the most of your mentors. The fact sheets can be downloaded from the ORWH web site, and can be found at the following links: http://orwh.od.nih.gov/careers/ORWH-Mentee_FS.508.pdf and http://orwh.od.nih.gov/careers/ORWH-Mentor-1_508.pdf.

NSF Experiment Aims to Minimize Implicit Bias in the Peer Review Process

Federal agencies that grant research funding are paying increased attention to issues of fairness in the peer review process. Accumulating evidence suggests that the grants review process could be plagued by unconscious biases that disadvantage women, minorities, and all researchers from less prestigious or non-research intensive institutions. For the last two years, the Molecular and Cellular Biosciences Branch of the National Science Foundation (NSF) has been conducting preliminary experiments to investigate factors that influence their peer review process. For the first two rounds of this experiment, known as "the Big Pitch," they asked researchers applying for specific grants to submit a two-page synopsis, in addition to their standard 15-page proposals. These short-form applications lacked identifying information, including names of the principal investigators and their academic institutions. Each grant application was evaluated in parallel by one peer review committee that assessed the traditional proposal and a second committee that reviewed only the short synopsis devoid of identifying information. When each panel selected their "high priority" proposals (14 and 11 proposals respectively), they found only three proposals in common. Future iterations of this experiment will need to determine whether anonymity actually made the difference, versus the shorter format of the application. In the meantime, a few divisions within NSF have already begun requesting short-form preproposals for a first-round review. However, these preproposals are not currently anonymous, and more research must be done before NSF considers incorporating anonymity into their standard peer review process.

[NSF's 'Big Pitch' Tests Anonymized Grant Reviews](#)

Remembering Scientist and Advocate Dr. Phoebe Starfield Leboy

After a remarkable career as a biochemist and advocate for women in science, Dr. Phoebe Starfield Leboy passed away on June 16, 2012. Dr. Leboy graduated from Swarthmore College in 1957 with a bachelor's degree in zoology, and then completed her doctorate in biochemistry at Bryn Mawr College in 1962. After several years as a research associate and lecturer at the University of Pennsylvania, she did a brief postdoctoral fellowship at the Weizmann Institute in Israel. In 1976, Dr. Leboy accepted a position as Professor of Biochemistry in the University of Pennsylvania's Department of Biochemistry in the School of Dental Medicine. She was the first woman to rise to the rank of full professor at the dental school, and she was the only female professor in her department for 20 years. She remained at the University of Pennsylvania until her retirement in 2005. Throughout her career, she was a dedicated mentor. In addition to a successful career as a scientist, Dr. Leboy was devoted to science education and to achieving recognition for women scientists. She fought strategically for equal compensation and fair promotion for women, with particular interests in implicit bias and awards for female scientists. Dr. Leboy has received numerous awards and honors for her science and advocacy, and has authored over 75 peer-reviewed publications. She was a founding member of the Association for Women in Science (AWIS), and served as their president from 2008-2009. In recognition of her many achievements, AWIS has recently endowed the Phoebe Starfield Leboy Public Policy Fellowship in her name.

[Phoebe S. Leboy AWIS Memorial Page](#)

Highlighting Best Practices—Individual Development Plans for Postdoctoral Fellows

In 2011, the National Institute of General Medical Sciences (NIGMS) of the National Institutes of Health (NIH) completed its strategic planning process, and released the document [Investing in the Future: NIGMS Strategic Plan for Biomedical and Behavioral Research Training](#). Recognizing the role of the NIH in supporting professional development for research trainees on NIH grants, NIGMS considered ways to encourage mentoring and training for all fellows, including those funded by research grants awarded to the principal investigator (PI). To improve training outcomes, NIGMS encourages the use of individual development plans (IDPs) for all graduate students and postdoctoral fellows supported by NIGMS grants.

IDPs are becoming more common throughout academia, the government, and industry. Some academic programs and departments, like the [University of Pennsylvania Biomedical Postdoctoral Programs](#), now require all postdoctoral fellows to complete IDPs within six months of starting their positions.

The goals of an IDP are two-fold. First, it encourages fellows to perform a self-assessment, evaluate strengths and weakness, identify long- and short-term goals, and recognize skills needed to enhance their research projects and career development. Just as importantly, the IDP creates ongoing opportunities for postdocs to discuss their professional development with their advisors. Ideally, IDPs serve as tools to encourage mentoring conversations between the PI and the fellow. Once a fellow has crafted the initial IDP, he/she shares it with his/her mentor, and they work together to revise and fine-tune the document. As the fellow implements the plans delineated in the IDP, the mentor oversees progress and offers constructive feedback. Fellows and PIs should meet periodically to revisit the IDP, and work together on revisions that reflect evolving goals over the course of the fellowship.

The Training and Career Opportunities Subcommittee of the Science Policy Committee of the [Federation of American Societies for Experimental Biology](#) has created a [template IDP](#) for general use. The document, available online, provides sample questions and outlines the collaborative process between a trainee and mentor to develop, revise, and successfully implement a professional development plan.

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