



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 who may find it of interest.

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White House and NSF Issue Joint Press Release on New Family-Friendly Policies

The National Science Foundation (NSF) issued a joint press release with the White House Council on Women and Girls Executive Director Tina Tchen and the White House Office of Science and Technology Policy Director John P. Holdren,

announcing their new plan to support family-friendly research environments and increase flexibility for scientists with family responsibilities. According to NSF Director Subra Suresh, “Too many young women scientists and engineers get sidetracked or drop their promising careers because they find it too difficult to balance the needs of those careers and the needs of their families. . . . This new initiative aims to change that, so that the country can benefit from the full range and diversity of its talent.” New policies include allowing grantees to defer or suspend NSF awards for up to one year, providing grant supplements to cover the cost of a research technician during periods of family leave, supporting research on women in STEM careers, increasing flexibility for reviewers, and using their influence with academic institutions to encourage more family friendly policies. This NSF initiative supports the Administration’s goal of increasing representation of women in the scientific workforce.

[The White House and National Science Foundation Announce new Workplace Flexibility Policies to Support America’s Scientists and Their Families](#)

Interview with Stephanie Schierholz, NASA Social Media Manager and Public Affairs Specialist

Stephanie Schierholz is the Social Media Manager and Public Affairs Specialist for NASA Headquarters. She is also the president-elect of [Women in Aerospace](#), an organization designed to increase leadership opportunities for women in the aerospace community. In this interview, she discusses social media, role models, and the importance of encouraging young female scientists. Shierholz offers three pieces of advice for young women starting their careers: “Don’t let anyone—yourself included—tell you that can’t. . . . Cultivate relationships with a diverse group of people who inspire you. . . . [and] Be willing to try and learn new things.”

[How Do We Inspire and Recruit More Female Astronauts and Scientists](#)

Science Fair Winner Meets with President Obama

Last July, sixteen year-old Naomi Shah placed first in her age category at the [Google Science Fair](#). She won a \$25,000 scholarship for her project, “Air Pollution Impacts Lung Health of Asthma Patients.” In October, she visited Washington DC to meet with an impressive line-up: President Barack Obama; Lisa P. Jackson, Administrator of the Environmental Protection Agency; Cathie Woteki, Under Secretary for Research, Education, and Economics; and John Holdren, Assistant to the President for Science and Technology. In addition to her research project, they discussed the importance of STEM education. According to Shah, “They want to focus on how to get other kids, especially women, in science.” Shah’s visit to DC helped confirm her interest in environmental health, and opened her eyes to careers in science policy.

[Beaverton Teenager Talks Science and Technology with President Obama](#)

Harvard Student-Run Programs Support Women and Girls in Science

A recent article in *The Harvard Crimson* highlighted several student-run organizations on the Harvard campus that focus on women in science. Some groups are new, while others are more established, but they all share goals of supporting female scientists, fostering community, offering role models, and shattering harmful gender stereotypes. Groups include

Women Innovating Science and Engineering (WISE) Words, Women in Science at Harvard-Radcliffe (WISHR), the Harvard Science Club for Girls, and WISTEM, a mentoring program for female STEM students. According to Christina Tartaglia, one founding member of WISE Words, “Most people can’t name one female scientist, and we really want to change that.” To achieve this goal, both WISHR and WISE Words focus on increasing visibility of female scientists. Other organizations focus on mentorship. For instance, members of the Harvard Science Club for Girls visit local schools in order to serve as role models, encourage young scientists, and spread excitement about science. These organizations provide opportunities for women in STEM to form communities around their common interests and offer each other support, guidance, and friendship.

[Science-Focused Clubs Empower Young Women](#)

New Study Identifies “Professional Role Confidence” as a Major Factor Causing Gender Imbalance in STEM

There are multiple sociological factors that contribute to the gender imbalance in the STEM workforce. A recent article in *American Sociological Review* examined the influence of three factors on engineering undergraduate students: perceived incompatibility between career and family plans, self-assessment of math ability, and professional role confidence. The authors coined this last phrase to describe “individuals’ confidence in their ability to fulfill the expected roles, competencies, and identity features of a successful member of their profession.” They used online surveys to query 288 freshman starting engineering degree programs at Massachusetts Institute of Technology, the Franklin W. Olin College of Engineering, Smith College, and the University of Massachusetts at Amherst. Three years later, they determined how many of these students were still studying engineering. They found that female students were much less likely to stick with engineering than their male counterparts. Interestingly, women were twice as likely to have changed to another STEM major, whereas men who changed fields often left science completely. The authors found that family considerations and self-assessment of math skills were not significant predictors of whether female college students stayed in engineering. In contrast, they found professional role confidence to be a significant indicator of career persistence, and that women were much more likely than men to lack this confidence. The authors suggest that their data may explain the poor representation of women in many male-dominated professions. Based on the results of this study, female STEM students may benefit from interacting with actual scientists outside of the classroom through shadowing or internship experiences

[Professional Role Confidence and Gendered Persistence in Engineering](#)

Highlighting Best Practices—Distance mentoring programs

Mentoring often occurs face-to-face, where mentors sit down in the same room with their mentees to offer support, guidance, and advice for career success. While this model persists, other approaches are gaining popularity. Distance mentoring programs focus on matching mentees with the most appropriate mentors, regardless of location. These share many of the benefits of conventional mentoring relationships, but take advantage of social networking technology that enables mentoring partners to primarily “meet up” in cyberspace.

How do you carry on a mentoring relationship when you are located in different cities? For distance mentoring pairs, most communication occurs over e-mail, Web sites, and the telephone. These tools allow them to build strong

relationships despite the miles between them. Supporters of distance mentoring point out that this model has advantages for people with tight schedules, as they can send e-mails or take phone calls outside of business hours and from any location. It also works well for people who are shy or are reluctant to discuss problems with colleagues. An added benefit is that communication by e-mail and the Internet increases opportunities for group mentoring.

Distance mentoring programs are available in many fields, including science and technology. Specific programs may target students, postdoctoral fellows, established professionals, or all of the above. While some programs are specialized for women or underrepresented minorities, others have more general enrollment.

[MentorNet](#) is a free e-mentoring program for science and engineering students and postdocs from more than 100 participating colleges and universities. After filling out an online profile, MentorNet matches participants with experienced professionals in their fields. The mentoring relationships require about fifteen minutes a week and last for eight months. Online mentoring training is available to facilitate the relationship. Carol Muller, the founder and president of MentorNet, participated in the 2007 [National Leadership Workshop on Mentoring Women in Biomedical Careers](#), which was sponsored by the Office of Research on Women's Health and the National Institutes of Health (NIH) Working Group on Women in Biomedical Careers.

[The Ontario Medical Association Mentorship Program](#) was started in 2001 to expand the pool of mentors available to female medical students. The province-wide program was so successful that it was soon expanded to include men. More than 375 mentoring relationships have been supported by this program.

The American Society for Cell Biology Minority Affairs Committee recently started a [mentoring program](#) that connects postdoctoral fellows and junior scientists from underrepresented groups with tenured professors. This program is funded through a grant from the National Institute of General Medical Sciences at the NIH. The goal of the program is to help the young scientists navigate the grant submission process and secure funding. Responsibilities of the mentor include reading and critiquing proposal drafts, as well as offering support and guidance. Mentees who are selected for the program are given travel funds to visit their mentors in person.

The Institute of Electrical and Electronics Engineers (IEEE) also offers an [internet-based mentoring program](#). Experienced executives, consultants, managers, researchers, and entrepreneurs are invited to participate as mentors to recent graduates, new professionals, and recent career-changers. Both mentors and mentees are required to complete online orientations, and are asked to devote at least two hours per month to the relationship.

The [Women of Color Research Network](#) (WoCRn) is a new initiative of the Women of Color in Biomedical Careers Committee of the NIH Working Group on Women in Biomedical Careers. This social media site welcomes women of color and all members of the biomedical community who support diversity in the scientific workforce. One primary goal of WoCRn is to facilitate access to mentors who can provide advice on career development and navigating the NIH grants process.

Despite differences in format and intended participants, these programs all share a common goal of connecting scientists with the best possible mentors to offer support, advice, and guidance for professional success.

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