

ADVANCES & INSIGHTS: *The NIH Women in Science Newsletter*

This e-newsletter is brought to you by the NIH Working Group on Women in Biomedical Careers.



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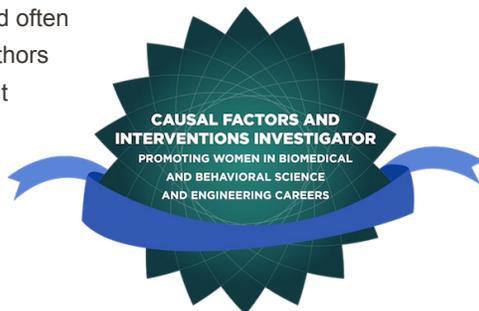
Recent Research and Perspectives

Inadequate Progress for Women in Academic Medicine: Findings from the National Faculty Study

Carr PL, Gunn CM, Kaplan SA, Raj A, & Freund KM. *Journal of Women's Health*. Mar 24, 2015; 24(3): 190-199.

<http://www.ncbi.nlm.nih.gov/pubmed/25658907>

To assess perceptions of gender climate in academic medicine, the researchers conducted interviews with 44 senior faculty members (32 women, 10 men, 2 unreported) at 23 randomly selected American medical schools. The study team identified five themes that emerged from the analysis: a perceived wide spectrum in gender climate, lack of equality in leadership, challenges in retaining faculty, lack of equality in salary, and a disproportionate burden of child care issues. While some interviewees believed that significant gains for women have been made, others described the gains as modest, with variations by department and often no institutional oversight. The authors concluded that these results point to the need for institutions to enact greater oversight of advancement, salary, and gender climate for women in academic medicine.



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In This Issue

Recent Research

Inadequate Progress for Women in Academic Medicine: Findings from the National Faculty Study

Faculty Promotion and Attrition: The Importance of Coauthor Network Reach at an Academic Medical Center

Let's Make Gender Diversity in Data Science a Priority Right from the Start

Scientist Spotlight

Frances Oldham Kelsey, Ph.D., M.D.

Institutional Spotlight

The University of North Carolina

Faculty Promotion and Attrition: The Importance of Coauthor Network Reach at an Academic Medical Center

Warner ET, Carapinha R, Weber GM, Hill EV, & Reede JY. *Journal of General Internal Medicine*. Jul 5, 2015. [epub ahead of print]
<http://www.ncbi.nlm.nih.gov/pubmed/26173540>

Researchers examined factors that predict networking and its association with promotion and attrition at an academic medical center. They analyzed data from the Harvard Pathways data repository on 5,787 Harvard Medical School faculty members with a rank of assistant professor or full-time instructor. Among assistant professors, network reach, defined by the number of distinct co-authors on publications, was higher for whites and men than for women and underrepresented minorities. Between 2008 and 2012, greater network reach was associated with a higher likelihood of being promoted and a lower likelihood of leaving the institution. The authors concluded that connections are important and that co-author relationships contribute to advancement and retention in academic medicine.



Let's Make Gender Diversity in Data Science a Priority Right from the Start

Berman FD, Bourne PE. *PLOS Biology*. Jul 27, 2015; 13(7), e1002206.
<http://www.ncbi.nlm.nih.gov/pubmed/26213996>

The emerging field of data science requires skills in managing large datasets, novel analysis methods, rigorous statistical analysis, new ways to convey outcomes, and more. It is an area of increasing importance within science, technology, engineering, and math (STEM), and the United States will need many more data-savvy professionals by 2020. This evolving field offers the opportunity to narrow the gender gap in STEM. Berman and Bourne indicate that the United States must work to figure out how to increase the number of women in the field and how to change organizational and professional cultures to better retain and advance women in data science. The authors provide some simple actions that readers can take, since the individual actions of many people are what create cultural transformation.

Current News and Reports

NIH Reissues Funding Opportunity Announcement to Promote Reentry into the Biomedical and Behavioral Workforce

Extramural Work: To Serve or not to Serve

Accounting for Career Breaks

Women in Science: Hints for Success

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Spotlights

Scientist Spotlight: Frances Oldham Kelsey, Ph.D., M.D.

On August 7, the scientific community lost a trailblazer for women in science who was known for her tenacity in preventing thalidomide, a drug to treat morning sickness during pregnancy, from going on the market in the United States. Dr. Frances Oldham Kelsey died in London, Canada, at 101 years of age.

Dr. Kelsey attended McGill University, where she received a B.Sc. and an M.Sc. in pharmacology. She then applied to do graduate work with E. M. K. Geiling, M.D., at the University of Chicago. Dr. Geiling accepted her application to work with him, [presumably because he assumed she was a man](#). During her graduate training, Dr. Kelsey became interested in teratogens, drugs that cause defects in developing embryos. Upon completion of her graduate training, she joined the faculty at the University of Chicago, where she met her husband, Dr. Fremont Ellis Kelsey.



Dr. Kelsey being awarded the President's Award for Distinguished Federal Civil Service by President John F. Kennedy in 1962

In 1960, Dr. Kelsey joined the Food and Drug Administration (FDA), where she was one of 11 physicians reviewing drugs for the agency. She was assigned to review the drug thalidomide (Kevadon), which was indicated for use by pregnant women to control morning sickness. At the time, the drug had already been approved for use in Canada and several European and African countries. Dr. Kelsey was concerned about a report that indicated that thalidomide caused nervous system side effects, so she asked for more information.

Despite significant pressure from the manufacturer, Dr. Kelsey insisted that the drug not be approved until further testing was conducted. Soon after, researchers found that thalidomide crossed the placental barrier and resulted in several birth defects. The [Washington Post](#) hailed Dr. Kelsey as a heroine and credited her with preventing birth defects in hundreds or thousands of infants. Dr. Kelsey's work contributed to the passing of the [Kefauver Harris Amendments](#), which led to strengthened drug regulation, and she received the President's Award for Distinguished Federal Service from President John F. Kennedy for her work at the FDA. She was only the second woman to win the award.

Dr. Kelsey retired from the FDA in 2005 at the age of 90. In 2010, she was awarded the first FDA Drug Safety Excellence Award, which has been renamed the Kelsey Award. The award is given annually to an FDA employee in her honor.

Institutional Spotlight: The University of North Carolina

The University of North Carolina (UNC) has been a leader in increasing the representation of women in senior leadership. In July 2013, UNC named Carol Folt, Ph.D., the first woman chancellor of the university. Additionally, three of five deans of schools on the UNC Health Affairs campus are women, and women occupy many leadership roles in the UNC School of Medicine. The university administration, faculty, and students take a multifaceted approach for increasing representation of women throughout the academic ranks.

UNC is one of the original awardees of the [Building Interdisciplinary Research Careers in Women's Health \(BIRCWH\)](#) K12 grants; the university is currently entering its 16th year of funding through the program. The UNC BIRCWH program was initiated by Eugene Orringer, M.D., program director of the UNC M.D.-Ph.D. Program, professor of medicine, and director of the Education/ Training/Career Development Core at the North Carolina Translational and Clinical Sciences (TraCS) Institute. Leadership of the UNC BIRCWH program moved to a former UNC BIRCWH scholar, Kim Boggess, M.D., a professor of maternal-fetal medicine. Although the program is open to men and women, the majority of UNC BIRCWH scholars (31 out of 33) have been women. The UNC BIRCWH scholars have been quite successful: 90 percent of BIRCWH graduates have obtained independent federal or industry-sponsored funding, 90 percent have stayed in biomedical research, and many hold leadership positions at UNC. According to Dr. Orringer, "The return on investment [in the BIRCWH scholars] was extraordinary." During the program, the BIRCWH scholars attend research seminars, grant-writing seminars, and mentorship training, among numerous other activities. BIRCWH alumni, called BIRCWH associates, remain involved in the program to serve as models, trainers, mentors, or collaborators for the current scholars. Overall, the UNC BIRCWH program serves as a model for training scholars for independent careers in women's health. Please visit <https://tracs.unc.edu/index.php/services/education/bircwh-k12-program> for more information about the UNC BIRCWH program.

The UNC Advocates for M.D.-Ph.D. Women in Science: Breaking the Glass Ceiling (AMPWIS) was formed in 2012 by two UNC M.D.-Ph.D. students, Audrey Verde, Ph.D., and Kate Hacker, Ph.D., to address issues that women M.D.-Ph.D. students face.



AMPWIS Founders Audrey Verde (left) and Kate Hacker (right)

While women have reached parity in both M.D. and Ph.D. programs, they comprise only 30 percent of M.D.-Ph.D. students. Approximately 25 percent of the UNC M.D.-Ph.D. students participate in AMPWIS. Since its inception in 2012, the group has hosted book clubs, networking events, outreach to younger students, and career development events. Their signature event, the Southeast Symposium for M.D.-Ph.D. Women in Science, is hosted in collaboration with other southeastern institutions. The second annual symposium was held in May 2015 at Duke University. A total of 32 students from six M.D.-Ph.D. programs attended the symposium, which focused on topics such as building relationships, developing elevator speeches, and presenting research. The [third annual event](#) will be held May 14, 2016 at the Medical University of South Carolina (MUSC) and will include a greater number of universities. One of the group's key accomplishment is

raising awareness on issues affecting the culture at multiple levels, including reaching young girls, undergraduate and graduate students, and faculty. When asked about the group's accomplishments, Dr. Verde said, "We are most proud of the Annual Symposium. It provides a unique training experience where advocates for equality can gather, gain career development skills, and most importantly create a professional peer network through which they can seek support and advice in years to come. It is

a big step for the longevity of AMPWIS for the Symposium to be held at MUSC this year, and we hope to continue to expand it in years to come.” For more information about AMPWIS, visit <http://uncadvocatesformdphdwomeninscience.web.unc.edu>.

In May 2012, the Women in Science and Engineering at UNC (UNC WISE), a discussion group dedicated to exploring the issues that women face in science, was formed. The group was started by graduate students in the UNC Department of Chemistry. They now have representation from graduate students and postdoctoral fellows in a wide array of STEM (science, technology, engineering, and math) fields. The goal of UNC WISE is to bring scientists together to connect, generate ideas, share advice, and learn about problems caused by the disparity of success between female and male scientists, as well as about the inspirational work by female scientists. UNC WISE is both a discussion group and host of many professional development and outreach events, including events to promote networking, improve interviewing skills, and reach out to younger girls in the community, including classroom visits and science fairs. In 2015, UNC WISE partnered with the UNC Libraries and hosted a “Women in Science Wikipedia Edit-a-thon,” where approximately 30 WISE members added or edited Wikipedia articles about women in science. Stephanie Murray, a third-year graduate student in the Department of Chemistry and a WISE executive board member, said, “It was really amazing to see how many female scientists either had pages that contained minimal information or did not have pages at all. It was a lot of work but very worthwhile to increase visibility of female scientists.” UNC WISE is continuing to promote cross-talk between groups focused on women in the biomedical workforce. To learn more about UNC WISE, visit <https://uncwise.wordpress.com>.



WISE members participating in the UNC Wikipedia Edit-a-thon in April 2015

These programs help show how UNC has made great strides in improving the representation of women throughout the biomedical workforce and provides numerous resources for women considering biomedical research careers.



25 Years of Advancing Women in Science

NIH’s Office of Research on Women’s Health (ORWH) is celebrating its 25th anniversary this fall. Established in 1990, ORWH works to ensure that women are represented in scientific research and biomedical careers and also to support research related to the role of sex and gender in health. These issues are important for everyone.

Find out how ORWH and its NIH partners have supported careers of women in the [biomedical workforce](#), from mentored career development programs, grant supplements that allow scientists to re-establish careers in the biomedical or behavioral sciences, and training support on the NIH campuses.

Follow ORWH on [Twitter](#) and [Facebook](#) for research updates and more. To find out about ORWH’s 25th anniversary celebrations, please visit <http://orwh.od.nih.gov/about/25anniversary.asp>.

Current News and Reports

NIH Reissues Funding Opportunity Announcement to Promote Reentry into the Biomedical and Behavioral Workforce

In August, NIH published the funding opportunity announcement “Research Supplements to Promote Reentry into Biomedical and Behavioral Research Careers (Admin Supp).” The goal of this program is to support a candidate by allowing them to reenter an active career following a qualifying circumstance (e.g., family care-giving responsibilities). This award supplements an active NIH research grant or cooperative agreement and supports full- or part-time research by the reentry scientist. Upon completion of the award, it is anticipated that the reentry scientist will be in a position to competitively apply for a career development award, a research award, or some other form of research support.

In order to qualify for the award, the candidate must hold a doctoral degree (M.D., D.D.S., Ph.D., O.D., D.V.M., or equivalent) and have been in or accepted into a postdoctoral or faculty position when they left active research. The duration of the career interruption should be at least one year and no more than eight years.

Applications are submitted by the candidate’s mentor, who must currently have an active NIH grant or cooperative agreement. Applications will be reviewed for the following criteria:

- The qualifications of the reentry candidate
- The plan for the proposed research experience in the supplemental request and its relationship to the parent grant
- Evidence from the mentor that the experience will enhance the research potential, knowledge, and/or skills of the reentry candidate
- Evidence from the mentor that the activities of the reentry candidate are an integral part of the project
- Evidence of effort by the reentry candidate to initiate the reentry process
- Evidence that proposed research will achieve the stated objectives of the reentry supplements
- Quality and appropriateness of the mentoring and career development plans
- Appropriateness of the mentor’s experience and mentoring track record for the applicant’s career development needs, as well as the commitment of the mentor to the applicant’s continued career development and independence

For more information about the NIH reentry program, please visit <http://grants.nih.gov/grants/guide/pa-files/PA-15-321.html>.

Extramural Work: To Serve or not to Serve

Written by Roberta Kwok for *Nature*, July 30, 2015

<http://www.nature.com/nature/journal/v523/n7562/full/nj7562-627a.html>

Scientists commonly serve their institutions by joining committees to review research proposals, contributing to professional organizations, and helping universities foster strong research and student development. This work can have career benefits, but it also runs the risk of overburdening researchers. Also, many scientists may feel obligated to accept every committee request. For example, women or researchers from underrepresented minorities may be asked to serve on committees more often than their peers, in order to increase diversity, and may feel pressure to play a representative role. Kwok outlines ways for scientists to more strategically manage committee work and determine which committee positions to accept or decline.

Accounting for Career Breaks

Written by Emily Nicholson for [Science](#), May 15, 2015

Nicholson describes her strategic approach to securing academic tenure as a largely part-time researcher who has had three children within six years and took eight months of maternity leave for each child. Her early job applications did not prominently highlight her career breaks, and she did not receive any interview requests. She then reshaped her CV by emphasizing her career interruptions in a positive way and reporting productivity metrics (i.e., numbers of publications, citation rates, and grant income), taking into account her time away from work. Her first application after adjusting the CV yielded a tenured position.

Women in Science: Hints for Success

Written by Susan Henning and Mary Estes for [Gastroenterology](#) on May 25, 2015

Two female, late-career basic science researchers provide a list of advice for career success, illustrated by examples from their own experiences. Their advice is as follows: (1) Have a career plan, but have flexibility for unexpected deviations; (2) read constantly about your current research and also more widely to see the big picture and think outside the box; (3) be prepared to take risks and venture outside your comfort zone; (4) create a unique research niche by determining ways you are different from your colleagues; (5) be tenacious, persistent, and resilient, because scientific careers and complex scientific problems are not accomplished overnight; (6) be confident and optimistic and believe in yourself and your science; (7) collaborate, but choose your collaborators carefully; (8) remember that women may feel the tendency to stay quiet rather than speak up, but this may not always be the best approach, so pick your battles and do not be intimidated; (9) learn to manage your time, because women with families must be organized to balance their many responsibilities; and (10) be obliging and collegial, but learn when to say no.