



Balancing the Scale: NSF's Career-Life Balance Initiative

National Science Foundation (NSF) Policies Aim to Bolster Development of STEM Workforce



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At a time when other nations are increasingly developing and retaining their own science, technology, engineering, and mathematics (STEM) talent, it is critical that the United States develops its own globally competitive, domestic STEM talent in order to ensure future scientific and technological leadership. Although women comprise a significant and growing fraction of the U.S. STEM talent pool, recent studies demonstrate the adverse effects of attempting to balance the often extreme demands of career and life without adequate institutional support. Utilizing women's talent and potential in STEM fields is critical to the nation's future success in science and technology and to economic prosperity.

To address this challenge, NSF's Career-Life Balance Initiative, a set of forward-looking policies and practices, will help to increase the placement, advancement, and retention of women in STEM disciplines, particularly women who are seeking tenure in academe. NSF aims to enhance existing—and implement new—gender neutral, family-friendly policies, as it is important that our nation's colleges and universities accommodate the needs of the largest growing segment of our science and engineering workforce. As part of our vision of OneNSF, the Foundation will pursue an agency-level pathway approach across higher education and career levels (i.e., graduate students, postdoctoral students, and early career scientists and engineers). We hope that the Career-Life Balance Initiative will lead to new and innovative ways in which NSF can partner with U.S. universities, colleges, and research institutions to help attract, nurture, and retain a much greater fraction of women engineers and scientists in the nation's STEM workforce.

We look forward to working with the research and education communities to advance and improve these policies and practices over time. Should you have any comments or suggestions regarding these strategies, send them to career_life_balance@nsf.gov.



STATUS OF WOMEN IN SCIENCE AND ENGINEERING (S&E) IN THE UNITED STATES

- The number of women earning doctoral degrees in all fields increased from 46,010 (42 percent of doctoral degrees awarded) in 1997-98 to 63,712 (51 percent) in 2007-08.
- The proportion of S&E doctoral degrees earned by women has risen considerably in the last few years, reaching 41 percent in 2009, compared to 38 percent in 2004.
- Women constituted 33 percent of all employed academic S&E doctorates and 30 percent of full, associate, and assistant professors and instructors in 2006. The faculty rank with the highest percentage of women is the assistant professor level.
- Women's share of full-time tenured or tenure-track faculty positions in S&E rose from 10 percent in 1979 to 28 percent in 2006. In STEM fields, women are earning ever larger shares of doctoral degrees, but their representation in tenured faculty positions is not keeping pace.
- Unmarried women and women without children made greater numerical gains in their share of full professorships from 1975 to 2006 than did married women and women with children.
- Family characteristics, notably marital status and the presence of children at home, are related to women's chances of earning tenure and for holding either an associate or full professor rank.

National Center for Education Statistics 2010-028; NSF SRS InfoBriefs 08-308, 11-305



Credits: (Top row) Pupa Gilbert, University of Wisconsin–Madison; Biomimetic MicroElectronic Systems Engineering Research Center; Gary Meek, Georgia Tech; Louisiana State University. (Bottom row) Shahryar Kianian, North Dakota State University; Peter West, NSF; Erica Bree Rosenblum, University of Idaho; © 2011 JupiterImages Corporation

OPPORTUNITIES TO ENSURE U.S. STEM LEADERSHIP

The National Science Foundation seeks to strengthen its partnerships with academic institutions in order to change attitudes and perceptions about work and family life, and to enhance and develop effective policies that help primarily early-career scientists and engineers improve their career-life balance. A coherent and consistent set of existing and new NSF policies and guidelines will arm the agency and its constituent grantee institutions to counter key obstacles to recruiting, developing, and retaining U.S. talent in science and engineering. Addressing key financial and quality-of-life issues will help improve the recruitment and retention of U.S. STEM-student majors into the STEM workforce.

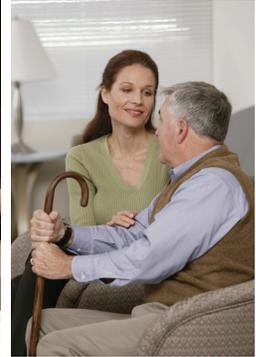
PATHWAY APPROACH

The goal of **NSF's Career-Life Balance Initiative** is to help improve the proportion of women attaining full professorship positions at American colleges and universities by addressing the balance of scientists' work with conflicting demands of life events (e.g., the birth or adoption of a child, raising children, or providing elderly dependent care). To that end, the agency will:

- Continue flexibility in timing the initiation of approved research grants.
- Continue no-cost extensions of awards.
- Continue grant supplements for research technicians or equivalent to sustain research when investigators need to provide family care.
- Encourage parental medical leave (paid, if possible), accommodations for dual-career couples, and part-time options.
- Support research and evaluation of advancement, attrition, and retention of women in STEM fields.
- Enhance the assessment and evaluation of NSF programs in terms of gender/diversity outcomes.
- Draw on relevant NSF Committee on Equal Opportunities in Science and Engineering recommendations (2010) to address issues faced by women of color in STEM.
- Study and recognize best practices for career and life balance.
- Foster mutually beneficial international research and training collaborations that provide career-life balance opportunities.
- Ensure compliance with Title IX of *The Civil Rights Act* to prevent gender discrimination in education programs.
- Incorporate family-friendly practices and policies in NSF's CAREER and all post doctoral programs.
- Further integrate and enhance work-life balance practices into additional program guidelines, including for Graduate Research Fellows and ADVANCE, and subsequently through the broader portfolio of NSF activities, consistent with federal guidelines.
- Collaborate with federal agencies and professional associations to exchange best practices, harmonize career-life policies and practices, and overcome common barriers to career-life balance.
- Communicate broadly to the STEM community, in order to clarify and catalyze the adoption of a coherent and consistent set of career-life balance policies and practices.
- Lead by example to become a model agency for gender equity.



Credit: Doug Levere, University at Buffalo



Credits: (Top left) Amy Snyder, © Exploratorium (Exploratorium.edu); all others © 2011 JupiterImages Corporation

NSF's Career-Life Balance Initiative will take concrete actions to help preserve the nation's domestic STEM talent. The implementation of a coherent and consistent set of family-friendly policies and practices will help eliminate some of the barriers to achieving career-life balance, as we also seek to engage the academic community in additional actions to integrate the family and professional responsibilities of our nation's scientists and engineers.



Credit: Atlanta Center for Behavioral Neuroscience



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www.nsf.gov/career-life-balance

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