Advancing Women Scientists in Academe: The U.S. NSF Experience

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Framing the Issues

- U.S. STEM Talent Development: The Underrepresentation Challenge
- Representative External Drivers
- Representative US/NSF Activities
  - White House Council of Women and Girls
  - NSF Programs: ADVANCE, GSE
  - NSF Policy Issues: Merit Review, Broader Impacts
  - Critical Systems and Processes: Data
  - International Engagement
Framing the Issues

• International Engagement (cont.):
  • Commission on the Status of Women – U.S. Department of State
  • Women’s International Research Engineering Summit (WIRES)  
    www.wiresnetwork.org
  • Multinational Development of Women in Technology (MDWIT)  
    www.mdwit.org/index.php?ht=d/Home/pid/175
Addressing Underrepresentation

Milestones by Race/Ethnicity and Gender 2009
(rounded numbers)

- **Advanced Degrees in Science and Engineering**
  - Total: 169,000
  - Minority Men: 4%
  - Minority Women: 7%
  - Non-Minority Men: 51%
  - Non-Minority Women: 38%

- **Bachelor’s Degrees in Science and Engineering**
  - Total: 505,000
  - Minority Men: 7%
  - Minority Women: 43%
  - Non-Minority Men: 40%
  - Non-Minority Women: 10%

- **First Time Freshmen Interested in Science and Engineering**
  - Total: 1,178,000
  - Minority Men: 38%
  - Minority Women: 14%
  - Non-Minority Men: 30%
  - Non-Minority Women: 16%

- **First Time Freshman**
  - Total: 3,255,000
  - Minority Men: 14%
  - Minority Women: 17%
  - Non-Minority Men: 33%
  - Non-Minority Women: 38%

- **High School Graduates**
  - Total: 2,826,000
  - Minority Men: 14%
  - Minority Women: 17%
  - Non-Minority Men: 34%
  - Non-Minority Women: 35%

**Sources:** National Center for Education Statistics, IPEDS Completions and Fall enrollment surveys; Higher Education Research Institute, American Freshman Survey; and U.S. Census Bureau, Current Population Survey.
Representative External Drivers
Balancing the Scale: NSF’s Career – Life Balance Initiative
Career – Life Balance Initiative

Why?

➢ To assure an excellent U.S. STEM workforce, by creating a coherent set of career—life balance policies and program opportunities that take into account the career-family life course.

➢ To reduce the rate of departure of women from the STEM pathway, taking into account/taking advantage of, the large production rate of highly capable women graduates.

Why Now?

➢ “To renew and strengthen U.S. leadership in STEM talent development and “to expand STEM education and career opportunities for underrepresented groups, including women” (Educate to Innovate)

➢ Global competitiveness
Career – Life Balance Initiative: NSF Plan

- Agency-level pathway approach across higher education and career levels (i.e., graduate students, postdoctoral students, and early career populations).

- Initial focus on career—life balance opportunities such as dependent care issues across the pathway (i.e., postdoctoral fellows and early career faculty).

- Initial Programs: CAREER and NSF postdoctoral programs.

- Also expand later to GRF, ADVANCE, and others.
Career – Life Balance Initiative: Implementation

FY 2012:

➢ **Leadership**
  - Expand best practices NSF-wide across the pathway
    - Defer award start date for child birth/adoption
    - No cost extension for parental leave
  - Provide resources to accommodate career—life balance opportunities such as support for research technicians
  - Enhance program management
    - Educate/train program officers, reviewers & panelists
    - Revise program solicitations; issue FAQs & announcements
    - Promote family-friendliness for panel reviewers
      - Virtual panels
      - Increase use of NSF lactation room in Health Unit
  - Support research/evaluation on women in STEM issues
  - Promote Federal policy -- Title IX
  - Lead by example to become a model agency for gender equity
Career – Life Balance Initiative: Implementation

FY 2012 (cont.):

➢ Partnerships

  ▪ With institutions of higher education
    ▪ Supporting & promoting institutions’ best practices
    ▪ Extending the tenure clock; dual career opportunities
  ▪ With Federal agencies
    ▪ Exchange best practices
    ▪ Better harmonize family-friendly policies & practices
    ▪ Issue joint statements
  ▪ With professional associations/societies; for example http://www.aau.edu/WorkArea/DownloadAsset.aspx?id=12646.
Career – Life Balance Initiative: Implementation

FY 2012 (cont.):

➢ Communications
  ▪ NSF Important Notice to College/University Presidents
  ▪ NSF webpage and program-specific webpages
  ▪ NSF webinars

FY 2013 and Beyond

▪ Strengthening career-life balance opportunities through broader portfolio of NSF activities

➢ See http://www.nsf.gov/career-life-balance/
“Federal agencies and research universities need to take concerted action to provide a suite of family responsive policies and resources for America’s researchers to change the problems [cited] and keep young researchers in the pipeline to fast-track academic careers in the sciences.”

-- *Staying Competitive*, 2009