



Sustaining Women through Critical Career Transitions

With fascinating data and inspirational personal stories, a recent meeting held by the National Academies examined women's careers in science, technology, engineering, and medicine (STEM). The National Academies Committee on Women in Science, Engineering, and Medicine organized the September 18–19, 2008, meeting in Washington, DC, to spotlight obstacles and solutions to smooth career transitions in these fields. A variety of compelling career challenges—many faced by both women and men—are longstanding. Many strategies to address them aren't new either. However, some lessons were apparent and worth examining.

Understanding the Data

An overview of a National Science Foundation (NSF)-funded study, five years in the making, assessing gender differences in academic careers was presented by Claude Canizares.¹ The population studied included tenure-track and tenured faculty at research-intensive institutions. Six disciplines, including biology, were targeted in the 1,800 faculty at 89 institutions studied. By examining hiring, promotion, tenure, and resources (including lab space and start-up funds), the investigators sought to understand where institutions tried to intervene and where they were successful.

The bottom line according to Canizares: "I believe we've made the academic research career unattractive to men and women and particularly for minorities." The age at first assistant professor position has climbed from 34 in 1980 to 38 in 2006, he noted. In addition, the age of receiving one's first NIH R01 grant, as widely noted, is now 43, vs. 37 in 1980.

Kathleen Christensen of the Alfred P. Sloan Foundation cited a recent study at the University of California system finding that women were significantly less likely to want to pursue academic careers than men before starting graduate work: 35% vs. 45%. The gap

persisted after they started graduate school (27% vs. 36%). Women apply for fewer academic positions, submit fewer grants, and express a greater desire for career flexibility, she noted. "What we have is a structural mismatch," according to Christensen. "What's needed is... career flexibility... a way of structurally realigning the career path."

**What's needed?
An institutionally supported mix of programs and services characterized by variety and flexibility.**

Now for the Good News

Recognizing that there was a problem, nine research university presidents began meeting annually in 2001, at the urging of the Massachusetts Institute of Technology, reported Joan Girgus of Princeton University. The university presidents agreed to:

- Analyze the salaries and proportion of other university resources provided to women faculty
- Work toward a faculty reflective of the diversity of the students
- Share initiatives undertaken to achieve objectives

About three years ago the presidents' focus shifted to the work and family life "juggle," Girgus explained. And the focus expanded from faculty to include postdocs and graduate students. What's needed? An institutionally supported mix of programs and services characterized by variety and flexibility, Girgus said. Given the need to relocate for many opportunities, partner placement assistance is important. (Girgus has written about the "two-body" program for the *ASCB Newsletter*. See www.ascb.org/files/0510wicb.pdf.)

At Princeton, the mix includes programs for graduate students (GS) and postdocs (P):

- Maternity leave (GS, P)
- Automatic one additional term of financial support for the primary caretaker of each child (GS)
- Workload relief for the primary caretaker (an additional term of financial support for the primary caretaker of each child for GS)
- Back-up care program (GS, P)

- Dependent care travel fund (GS, P)
- Employee and student childcare assistance program (GS, P)
- Expanded on-campus childcare (GS, P)
- Employee assistance provider work/life program (GS, P)

In addition, Princeton and other institutions provide for faculty an automatic one-year extension of the tenure clock for each child.

Encouraging Cultural Change

To recognize the institutions that seek to transform their culture and policies to provide more support to women, the Alfred P. Sloan Foundation initiated the Alfred P. Sloan Awards for Faculty Career Flexibility. The awards consider policies such as extended time to tenure (including modified duties and tenure clock stoppage, “on and off ramps” through leave policies, delayed entry—to foster late career starts, and phased retirement). The Sloan awards addressed these issues in a first round of foundation awards targeted at research-intensive institutions. The second round focused on master’s granting institutions. The third and current round addresses liberal arts institutions (www.acenet.edu/AM/Template.cfm?Section=sloan_awards).

The awards look at cultural and programmatic changes. Assessments evaluate the engagement of leadership, the training of chairs, communications, transparency, and use of funds. To further foster change, each entrant receives benchmarking reports to make clear how comparable institutions address similar problems. Carrying \$200,000 to \$250,000 each, the awards aim to accelerate efforts as well as recognize leadership and innovation in career flexibility programs.

Inspirational Stories Shared

A diverse group of women speakers described their career paths and spotlighted their transitions: from postdoc to assistant professor, from assistant professor to associate and full professor, into upper administration, and to industry. All the speakers acknowledged the importance of mentors and colleagues, willingness to make geographic and institutional moves, and making choices in building their own career paths.

A participant noted that grants and fellowships can assist with these transitions. For example, the National Institutes of Health has a variety of portable awards to fund individuals at the end of postdoctoral fellowships. These include K, or career development, awards, including the New Investigators Program

Pathway to Independence Award (K99/R00). This award is portable to junior faculty positions.

Nontraditional pathways and interdisciplinary fields can offer special rewards. Stacey Gabriel of the Broad Institute described how she rejected pursuing a postdoc in favor of a staff position. She now runs large-scale multidisciplinary teams in genetics and genomics. Collaboration is a hallmark, and consensus-building rather than competition is critical to her success, Gabriel observed. She also found flexibility and recognition in her career. In fact, it may present a new model, critical for large projects to succeed, and an alternative to the two-class system (of faculty and not faculty).

ASCB Minorities Affairs Committee Vice-Chair Lydia Villa-Komaroff and several other speakers described their two-way paths from, between, and to academic and industry positions. Villa-Komaroff also pointed to the critical role played by mentors and champions.

For students and postdocs looking ahead, Susan Wessler of the University of Georgia argued that being a professor “is a great job if you want to be a mom.” Why? She named flexible hours, good pay, the ability to take long vacations to “cool” places, a diverse career (research, teaching, administration, writing), and fairly reasonable colleagues. She recommended “making smart choices about partners,” and advised asking:

- Is this someone who is supportive of your career?
- Is he or she prepared to contribute equally to parenting if you have children?

In terms of choosing where to live and work, Wessler also advised comparing possible jobs in terms of the availability of:

- Affordable housing
- Affordable childcare
- Minimal commute
- A family-friendly department/workplace

Next Steps

The meeting included invited oral testimony by professional societies—including that by ASCB Council member and WICB member Sandra Masur—offering new directions and highlighting society programs. Masur addressed how the skills of midlife women scientists who have successfully juggled career and family may be overlooked in recruitment for dean and director positions. She called for a new model for identifying candidates for management training.

Many society representatives cited their own programs—including the many ASCB WICB

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programs at the ASCB Annual Meeting and the *Career Advice for Life Scientists* (www.ascb.org, click on “ASCB Merchandise”) series (with a new collection in process). I urged that:

- Professional societies should work together in program development rather than waste time “reinventing the wheel.”
- A shared space for data from evaluated programs that work in providing career flexibility, mentorship, etc., should be developed.
- What works in smoothing career transitions should be better disseminated as well.

One resource now available is provided by the NSF Advance (Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers) program grantees. A portal to their individual websites, which include survey instruments and evaluations, can be found at www.nsf.gov/crssprog/advance/itwebsites.jsp.

While the road ahead may be rocky, institutional support may be increasing. The bottom line: Seek the support you need, from peers, mentors, institutions, and professional societies...and don't give up your goals! ■

—Joan R. Goldberg

¹National Research Council (forthcoming 2009). Report of the Committee on Gender Differences in Careers of Science, Engineering and Mathematics Faculty. National Academy Press.

Want to Discuss Career and Life Issues Online?

A moderated blog, established by the Women in Cell Biology (WICB) Committee offers you an opportunity to discuss career, family, and other “life” issues. You'll find the blog at www.ascb.org. Click on “Committees,” “Women in Cell Biology,” “WICB Blog.” To join the conversation, simply click on “create an account” at the top right of the page. Then respond to an ongoing thread or start your own. If you have questions, feel free to contact moderator Deepti Pradhan (deepti.pradhan@yale.edu). Looking forward to your participation! ■

Teaching Cell Biology in Sub-Saharan Africa: Opportunities and How to Seize Them

Saturday, December 13, 2008

Time: 3:00–3:30 pm

San Francisco Marriott Nob Hill A–D

Attend this special event at the ASCB Annual Meeting, sponsored by the International Affairs Committee. Hear from experienced cell biologists who have taught workshops in Africa. They will discuss opportunities to teach there that are funded by the Carnegie Foundation of New York and other foundations. Learn how you can contribute to the effort. Get your questions answered.

Moderator: *Richard McIntosh*, University of Colorado

Panelists:

Bruce Alberts, University of California, San Francisco

Patrick Duff, Seattle Biomedical Research Institute

Keith Gull, Oxford University

Mahasin Osman, Cornell University

David Roos, University of Pennsylvania ■

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