

Women in Science

Carolyn Bertozzi, who is profiled in this issue of the *Bulletin*, thrives on difficult scientific problems and, it turns out, large dollops of peanut butter. Intellectual drive fueled by complex carbohydrates makes perfect sense for a scientist interested in the myriad roles played by sugar molecules on the cell's surface. Bertozzi's research straddles departments and disciplines and puts her in rarefied company: Nationwide, women account for only 5 percent of full professors in the chemical sciences.

That particular statistic—among others—has received considerable attention in recent months. Like the leaders of other research organizations and universities, I am well aware that women now comprise almost half of recent Ph.D.s in the biological sciences but continue to be underrepresented in the leadership ranks. In the biological sciences, only about 14 percent of full professors are women; although this situation is somewhat better than in chemistry, clearly many more women than men leave academia after earning the Ph.D. or after obtaining their first independent faculty position.

The Howard Hughes Medical Institute has reason to be proud of the exceptional quality of the women scientists whose careers it has helped foster. Approximately 20 percent of our investigators are women. The excellence of their work has been recognized in a variety of ways, from election to the National Academy to Linda Buck's receiving the 2004 Nobel Prize in Physiology or Medicine. And more than a few women have left HHMI to assume leadership roles at the nation's top universities and research institutes, among them Shirley Tilghman (president of Princeton University), Susan Lindquist (director of the Whitehead Institute from 2001 to 2004), Sharon Long (dean of the School of Humanities and Sciences at Stanford University), and Carla Shatz (chair of the Department of Neurobiology at Harvard Medical School).

Yet this is no time for HHMI to be complacent. As the largest private funder of biomedical research in the nation, we're obligated to ask if the Institute is doing enough to support the careers of women scientists. Over the past several months, we've had a number of lively conversations on these issues with current HHMI investigators, our distinguished alumnae, and members of our Medical Advisory Board. As a result, the Institute is taking a variety of steps that will, we hope, better support our women investigators and the broader goals of enhancing diversity within the scientific community.

First, we are reviewing our nomination process for future HHMI investigator competitions. Currently, we ask nearly 200 research universities, medical schools, and research institutes to nominate candidates to be considered for these appointments. This mechanism has served to identify superb candidates, and the proportion of women investigators selected in the most recent competition (25 percent) is the highest percentage in

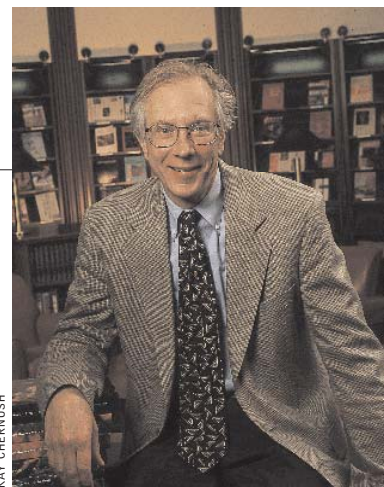
Institute history. Going forward, we can augment that initial pool of applicants by convening temporary nominating groups, an approach borrowed from that used by the National Academy of Sciences. A temporary nominating group might be asked to introduce greater diversity into the pool of nominees by identifying excellent candidates on the basis of their research area, career stage, and other factors, including gender and ethnicity.

We'll continue to look at a host of factors that affect the success of women and other underrepresented groups within the HHMI community. For example, my colleagues and I are committed to ensuring diversity within the membership of the review boards that help guide our decisions, both at the time candidates are selected as HHMI investigators and when they are reviewed for reappointment. Right now, between 20 and 33 percent of the scientific leaders who serve on our various review panels are female, but it's an area we'll continue to work on.

We will also improve the communication of our current policies that offer greater flexibility to investigators with significant family responsibilities. Currently, our investigators have the option of postponing their review for a year because of the birth or adoption of a child, and we need to make sure that this option is clearly understood.

In addition, we will modify a long-standing policy that barred HHMI investigators from serving as permanent department chairs. On the surface, this may seem like an unusual approach to supporting the careers of our women investigators, because many scientists would happily avoid the administrative responsibility that comes with such a post! Yet it appears that our rule may have had a disproportionate impact on women, who are increasingly sought out for leadership roles in their host institutions. We'll still require HHMI investigators to devote at least 75 percent of their time to research—and to pass a rigorous review of their research accomplishments every five years—but the title of "chairman" will no longer force an investigator to resign from HHMI.

Finally—and this is the major challenge for the future—HHMI and other organizations need to think of new ways to encourage young women scientists to seek careers as professors. Nearly half of the Ph.D.s in the biological sciences are awarded to women, and yet many decide not to choose careers in academic research. We need to ask ourselves why, and then to make sure that our educational programs are working to pave the way for a more equitable future.



KAY CHERNUSH

Thomas R. Cech

PRESIDENT

HOWARD HUGHES MEDICAL INSTITUTE