

## Feature

# Meeting Report: Building Bridges for Diverse Professors of Tomorrow

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How can you inspire young minority scholars to pursue an academic career in the professoriate? How do these scholars acquire the necessary skills to be an effective educator and mentor? The Institute on Teaching and Mentoring provides a unique forum for minority scholars to interact with role models across disciplines and learn about key issues young scholars are likely to face in their future academic careers.<sup>1</sup> This four-day conference was the country's largest gathering of underrepresented doctoral students and made a lasting impression on its attendees (Figure 1). The 2004 meeting, organized by the Compact for Faculty Diversity, was held in Atlanta, GA (October 21–24). Topics in plenary presentations and minisymposia focused on diversity issues, teaching and mentoring workshops, and preparation for future academic careers. This report will focus on the structure of this meeting, its content, impact on those in attendance, and the efforts of a program funded by the National Institutes of Health (NIH) aimed at bridging the gap between young minority scientists and their future academic research careers.

### THE COMPACT FOR FACULTY DIVERSITY

Despite significant gains in the number of underrepresented faculty employed in higher education since the mid-1980s, African-Americans, Native Americans, and Chicanos/Latinos remain dramatically underrepresented in the faculty ranks. Combined, the three groups comprise only 8% of the full-time faculty in our nation's colleges and universities, with most occupying the lower faculty ranks. At the rank of full professor, African-Americans comprise 3% of the population; Chicanos/Latinos, 1.8%; and Native Americans, 0.3% (Harvey, 2003). In the health science disciplines, the percentage of full professors from these groups is equally underrepre-

sented: Chicanos/Latinos, 2%; Native Americans, 0.2%; and African-Americans 3.2% (National Research Council, 1998).

In 1994, three regional higher education associations—the New England Board of Higher Education (NEBHE), the Southern Regional Education Board (SREB), and the Western Interstate Commission for Higher Education (WICHE)—created the Compact for Faculty Diversity (referred to in this report as the Compact) to address the serious and chronic problem of minority faculty underrepresentation. In each of the respective geographical regions, the Compact provides financial and academic support, mentoring, and professional development to minority doctoral students who aspire to careers in the professoriate. Additional partners in the Compact now include the National Institutes of Health—National Institute of General Medical Sciences (NIH—NIGMS), the National Science Foundation (NSF), the Ronald E. McNair Postbaccalaureate Achievement Program, and the Alfred P. Sloan Foundation's Minority Ph.D. Program. In addition to financial and academic support, the Compact annually sponsors the Institute on Teaching and Mentoring that brings together graduate students, postdoctoral fellows, and faculty mentors from colleges and universities throughout the nation to discuss strategies for success in graduate school and preparation for academic careers. In its 11th year, the annual Institute on Teaching and Mentoring (referred to here simply as the Institute) draws doctoral students of color from a wide range of academic disciplines, including humanities, arts, and sciences.

Using the Institute as a forum for educating and expanding the skill set of potential academics, the Compact seeks to increase the likelihood of success among minority faculty members who have participated in both the Institute and their respective individual programs. In this way, well-rounded candidates can face the academic job market trained in their “hard” skills by their Ph.D. program, supplemented with additional “soft” skills garnered by their supporting programs and “insider perspectives” learned at the Institute.

### A RECORD OF ACCOMPLISHMENT

The three geographical regions of the Compact enrolled their first students in 1994; established a comprehensive program of academic, social, and financial support; and developed models of ongoing funding support by states and institu-

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<sup>1</sup> Information about the Institute on Teaching and Mentoring, the Compact for Faculty Diversity, and the Bridges to the Professoriate program can be found at the following Web site: <http://www.instituteonteachingandmentoring.org>.



**Figure 1.** Bridges to the Professoriate scholars at the 2004 Institute on Teaching and Mentoring held in Atlanta, GA, October 21–24.

tions. Since its inception, the Compact has become a nationally recognized entity for producing minority faculty. The following achievements are noteworthy:

- Through the Institute, the Compact is bringing information to university departments that have had little—often zero—experience with minority graduate students.
- The Compact has posted a remarkable record in retaining students. Persistence is a serious problem in graduate education—some studies have found that less than half of all doctoral students ever complete the Ph.D. (Bowen and Rudenstine, 1992). Well into its 11th year, the Compact has enabled 80% of the scholars enrolled in the program to either complete the Ph.D. or remain on track to do so.
- The Institute has a powerful impact on participating scholars, faculty, and departments. The community building that takes place is invaluable. Faculty participants have reported that the experience has caused them to introduce improved practices into their own departments.
- Departments in participating universities are adopting practices that not only benefit minority students, but also help all doctoral students in their department. For example, the Institute encourages sharing information learned during the Institute at home institutions. In this way, lessons learned—such as awareness of minority issues and emphasis on professional development and networking—benefit not only the faculty and students who are part of the Compact, but also any graduate program that contains Compact members.
- The Compact has become recognized as an exemplary program with effective practices in graduate education and establishing minority doctoral students in faculty positions. In 2000, the Compact received the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring from President Clinton; and in 2004 it was named one of only two exemplary programs building the faculty of the future by the Building Engineering and Science Talent (BEST) organization.
- A comprehensive external review of the Compact conducted in 2000 stated: “*The Compact is positioned to add significantly to the diversity of the faculty of the future, effect change in departments and institutions, and to serve as a*

*national resource to programs, departments, and individuals*” (italics added; Smith and Parker, 2000).

### THE 11TH ANNUAL INSTITUTE ON TEACHING AND MENTORING

The Institute disseminates information to graduate students and postdocs (collectively referred to here as scholars) and fosters a sense of community through discussion and networking. One major goal of the Institute is to provide scholars with the skills needed to succeed in their respective fields of graduate study. Minority faculty members presented minisymposia emphasizing strategies for success to assist graduate students and postdocs in becoming efficient, organized, and assertive (Table 1). A common theme among these talks was that scholars needed to take their education into their own hands and become proactive participants in their training. Faculty from many fields delivered discipline-independent lessons and advice during the minisymposia and became focal points for networking and mentoring.

Another major goal of the Institute is to prepare senior students and postdoctoral fellows for the academic job hunt. One advantage given to scholars of the Institute is the availability of information presented by more experienced faculty with an established academic career (Table 1). In addition, several talks specifically addressed postdoctoral fellows in the sciences in order to increase awareness of issues pertaining to their positions and to emphasize how to maximize their postdoctoral experiences (Table 1). Information provided in these candid sessions gave a realistic view of life as new faculty members—lessons often overlooked in the everyday shuffle of research.

One unique aspect of the Institute is that the faculty advisors of scholars are invited to attend as well. In order to encourage open communication between graduate students and postdocs without the pressure of having faculty advisors present, faculty in attendance participate in an independent set of sessions. While the scholars attend the minisymposia described above, faculty members discuss what can be done to pave the way for faculty diversity, recruiting and retaining graduate students of color, and mentoring graduate students of color. In most cases, faculty advisors do not have formal

training in mentoring. These mentoring sessions provided tips and strategies for being an effective mentor and introduced the often unseen reality that minority students face novel issues not experienced by majority students.

To bring together the entire community of scholars and advisors at the Institute, speakers presented more global topics at plenary sessions, such as: barriers to overcome in the professoriate, mentoring and teaching, and diversifying faculty. Presenters often shared personal experiences from their own careers, leaving the audience truly inspired. The ability of young, underrepresented scholars to see other people of color in role model positions proved to be some of the most empowering moments of the conference.

### THE IMPACT OF THE INSTITUTE ON MINORITY SCHOLARS

The air of excitement at the Institute is intense. People meet for the first time and returning scholars get reacquainted with old friends. Students, postdocs, and faculty develop a camaraderie throughout the meeting that fosters a positive outlook on careers in academia to combat the potential of becoming disheartened from the everyday grind of graduate school. The Institute also provides a place where students can get advice from individual mentors regarding specific, uncomfortable situations, and students often discover that they are not the only ones facing such problems.

The Institute also projects a very powerful message: start researching your future career now! Talks at the Institute emphasized understanding what a career in academia is really like and how scholars can prepare for these careers as graduate students and postdocs. Importantly, scholars learn that although there are particular issues facing people of color in academia, it is important for them to be good and active members of their academic communities, regardless of race or ethnicity.

**Table 1.** Examples of the talks presented at the Institute on Teaching and Mentoring<sup>a</sup>

a. Targeted at graduate students in all years
Strategic planning for the first 18 months of a doctoral program
Strategies for success beyond the second year
Managing stress and time
Developing your curriculum vitae
Writing the dissertation
b. Targeted at those looking for academic jobs
Public speaking for scientists
Negotiating your first faculty position
The role of the department head
The road to tenure: getting a strong start in your academic career
Balancing family and career
c. Targeted at postdoctoral fellows
Women of color in academia
Awareness of postdoctoral issues
Career development for postdoctoral fellows
Writing proposals for competitive grants in science
Diversifying your skill set

<sup>a</sup>Plenary sessions cover topics of interest to all participants while smaller, more focused breakout sessions occur concurrently.

### BRIDGES TO THE PROFESSORIATE

Current data show that 59% of NIH postdoctoral fellows, as well as the majority of those receiving Ph.D.s in the biomedical sciences, choose careers in academia (National Institute of General Medical Sciences [NIGMS], 2000). In 2000, the Compact received funding from the NIGMS to include Minority Access to Research Careers (MARC) Predoctoral Fellows and Ruth Kirschstein National Research Service Awardees in its annual Institute. The Compact's Bridges to the Professoriate program provides a unique opportunity for NIH trainees to acquire the skills and knowledge needed to make a smooth and successful transition from graduate student to postdoc and eventually to faculty.

Increasing the number of minorities entering biomedical faculty careers, however, depends on bolstering the number obtaining a Ph.D. The number of minority doctoral recipients available to fill vacancies in the faculty remains dishearteningly small, especially in the sciences (Table 2). Current debates about the overproduction of Ph.D.s in the life sciences, combined with lengthy time-to-degree and post-doctoral training, may discourage talented young minority scholars from pursuing faculty careers, in spite of the glaring need for a more diverse professoriate. In its 1998 report, *Trends in the Early Careers of Life Scientists*, the National Research Council echoed the need to maintain diversity in graduate school and faculty ranks by continuing to support programs that encourage minorities to pursue careers in the life sciences. That same report recommended a shift in graduate student support from research grants to training grants as a mechanism for increasing the quality and oversight of graduate education.

### SIGNIFICANCE OF THE BRIDGES PROGRAM

Why do we need the Bridges to the Professoriate program? Although the 64% completion rate of NIH-sponsored minority fellows is better than the national average of 50%, the fact that one-third of these talented, NIH-sponsored

**Table 2.** Biological science doctorates awarded by racial/ethnic group, 1993–2001<sup>a</sup>

Year	Total	Racial/ethnic group		
		African-American	Hispanic	Native American
1993	5,092	64	93	5
1994	5,203	66	111	11
1995	5,375	90	104	10
1996	5,724	82	109	11
1997	5,789	101	131	4
1998	5,846	101	150	6
1999	5,583	109	155	10
2000	5,849	110	154	10
2001 <sup>b</sup>	5,678	124	149	8

<sup>a</sup>U.S. citizens (University of Chicago, 2003).

<sup>b</sup>The combined number of doctorates in the biological sciences awarded to Chicanos/Latinos (Hispanics), Native Americans, and African-Americans in 2001 was only 4.9% of the total number of doctorates awarded that year (University of Chicago, 2003).

graduate students fail to complete their Ph.D. signifies the loss of a precious national resource. NIH-supported minority Ph.D. candidates contribute to an ethnically and intellectually diverse climate on campus that enriches the experience of all students. As practicing researchers, NIH minority fellows who join academic faculty can provide significant benefits to society. As mentors and role models to undergraduate students in the biomedical sciences, these minority scholars who enter the professoriate reinforce the possibility of success in academic areas and careers that historically have been unwelcoming to minorities. As classroom instructors, former NIH fellows can ensure an inclusive curriculum that reflects the importance of biomedical sciences in an increasingly diverse society. And as community leaders, these scholars can serve on civic boards and in professional societies whose influence extends far beyond the boundaries of their campuses.

Retaining minority NIH trainees in doctoral degree programs and preparing them for success in faculty careers significantly affects the lives of all students (and potential minority biomedical researchers) with whom they come into contact. Although the NIH offers several programs that bridge critical junctures in the educational pipeline of biomedical scientists (such as the Bridges to the Baccalaureate Degree and the Bridges to the Doctoral Degree programs), the Bridges to the Professoriate program is the only project that bridges the critical gap between completion of the Ph.D. and launching an academic career.

Through participation in the Bridges to the Professoriate program, NIH predoctoral fellows are able to tap into a national network of underrepresented scholars who share similar goals and aspirations: to become productive members in the scientific enterprise. The Institute provides a unique opportunity for educating minority scientists about the aspects of a research career that are seldom learned in the lab. The Institute also exposes Bridges faculty mentors to issues that they may encounter while training students of color and affords them the tools they need to build personal

bridges between themselves and their students. In this regard, the Bridges program serves as an important support system for NIH trainees and their faculty advisors, allowing them to engage in a truly synergistic meeting of minds, providing a support network that extends well beyond the bounds of their academic department and university.

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