

Strategizing to Diversify Science

EDUCATIONAL INSTITUTIONS SHARE EXPERIENCES, AND AGREE TO CONTINUE THE COLLABORATION, IN ATTRACTING UNDERREPRESENTED MINORITIES TO SCIENCE AND RETAINING THEM.

THE FUTURE LOOKS BRIGHT FOR BRIAN LEÓN. “I AM IN A POSITION where I cannot be disappointed about anything,” says the University of California, Irvine (UCI), senior. He has already been accepted into five graduate programs and is waiting to hear from three more.

After transferring from a local community college, León joined UCI’s Minority Science Programs (MSP), which provide a combination of study-skill courses, research experiences, and career advice to selected students from minority groups that are underrepresented in the biomedical sciences. “I never go two days without some form of contact [with program staff],” says León, whose family emigrated from Peru. Such steady interaction seems to pay off: in 2007, 15 seniors completed the MSP and 11 entered a Ph.D. program.

UCI’s programs were among the initiatives spotlighted in “Diversifying Science: From Concept to Practice”—a workshop held at HHMI headquarters January 27–29, 2008, and the last in a series. These four diversity symposia, sponsored by HHMI and the National Institutes of Health, brought together institutions committed to increasing the number of underrepresented minority students in the sciences.

All the symposia showcased model programs at colleges and universities with impressive records of graduating minority students in science fields, but the fourth symposium went further by discussing challenges that participants have faced in implementing their programs and the strategies they’ve used to overcome them.

For example, one accomplishment of the earlier symposia was that participating institutions began measuring minority-student attrition from science majors—in large part by tracking the number of minorities in each biology and chemistry class and their grades over a three-year period.

A preliminary analysis of these data indicated that, at least for university biology, how students do in their first year determines whether they will graduate with a science major. “If students have bad experiences in the first science courses, they typically leave science,” says Mount Holyoke College’s Craig Woodard, one of the organizers of the final symposium.

This result helped convince Pam Baker and other administrators at Bates College to start a bridge program that brings incoming freshmen to the Lewiston, Maine, campus for six weeks during the summer to acclimate them to campus life and to accelerate their academic experience by taking chemistry and math courses.

In her presentation at the last symposium, Baker explained that, of the 11 students who participated in the new program, 9 have continued in science courses in the second semester—a good indication that they will pick a science as their major. Because of this initial success, the college has committed to fund the program when the HHMI grant currently supporting it runs out.

Given the fact that the data identified a significant problem and inspired a seemingly effective solution, the symposium participants were enthusiastic about continuing to collect data. And if institutions use commonly agreed-upon measures, it will provide a way to compare them with their peers. “The data were difficult to collect because we had not done it before,” says Woodard, “but everyone agreed it is helpful and important.”

The symposium organizers—others include Robert Lue of Harvard University, Barbara Wakimoto of the University of Washington, and John Matsui of the University of California, Berkeley—are now gathering feedback from participants to determine how best to



Speakers at the fourth diversity symposium, sponsored by HHMI and the NIH, included John Matsui, University of California, Berkeley, and Pamela Baker, Bates College.

continue this multi-institutional collaboration. “One possibility is to hold smaller regional meetings and invite institutions that did not take part in the diversity symposia,” says Woodard. “Also, participants could in effect become consultants, making site visits and giving presentations about their programs.” The long-term goal would be to enlist many more colleges and universities in similar efforts, thereby triggering change at the national level.

For now, success lies in individual stories. “I will be the first to earn a doctorate degree in the family,” says León. “When I think of that I have a real sense of accomplishment, and I hope to inspire my brother to do the same.” ■ —LAURA BONETTA