



*HHMI investigator Michael Summers encourages students such as Leila Njimoluh (left) and Adjoa Smalls-Mantey even before they begin their freshman studies at UMBC.*

## *All in the (Science) Family*

HHMI IS INVESTING \$86.4 MILLION TO BRING INDIVIDUALIZED MENTORING AND EARLY RESEARCH EXPERIENCE TO UNDERGRADUATE SCIENCE EDUCATION PROGRAMS ACROSS THE COUNTRY.

WITH ITS 49,600 STUDENTS AND 1,251 buildings, it would be easy for a newcomer to feel disoriented, or even a little lost, on the University of Florida campus in Gainesville. Science for Life, the university's new HHMI-funded program, aims to prevent that from happening, at least for some ambitious science-oriented freshmen.

"We have these remarkable incoming classes of freshmen," says Randy Duran, an associate professor of chemistry and director of Science for Life, which received a four-year, \$1.5 million grant. "We want to capture large numbers of these very talented students who otherwise may be lost in the system."

The program, which aims to build a kind of "science family" at the university, will be centered at the new HHMI Undergraduate Core Laboratory, where each year up to 100 freshmen will participate in interdisciplinary research. These students will then move on to pursue their own independent research projects, mentored by graduate students, postdoctoral fellows, and faculty members.

The grant has also allowed the university to establish, in conjunction with historically black Morehouse College, more than 300 miles away in Atlanta, Georgia, a teaching fellows program for postdocs. "Morehouse provides a very good, diverse, nurturing atmosphere for learning about mentoring and teaching," Duran explains.

The schools' postdocs will spend a year at each institution, teaching and doing collaborative research. "This background will give them experience in teaching, mentoring, and research both at undergraduate and research-intensive institutions," says Duran. As an incentive to

continue their teaching and mentoring, the University of Florida will pay them \$20,000 when they sign on as new faculty members at any college or university.

The grant will also allow both the University of Florida and Morehouse to make "HHMI Distinguished Mentor" awards to at least 27 current faculty members who demonstrate excellence in their mentoring. Each award, consisting of \$10,000 over a two-year period, can be spent at the faculty member's discretion.

### **MAKING IT EASY, KEEPING THEM BUSY**

About 825 miles northeast of Gainesville stands the University of Maryland, Baltimore County (UMBC). With a total enrollment one-quarter that of the University of Florida, UMBC is establishing a national reputation for attracting and retaining talented minority students interested in the biomedical sciences.

Its program, called the Hughes Scholar Program, has supported 25 students so far, 23 of whom have been African American. With a \$2.2 million HHMI grant renewal, UMBC will expand the program to support seven students per year, up from five. Since the program launched in 2002, eight Hughes Scholars have graduated from UMBC, and all have gone on to M.D., Ph.D., or M.D.-Ph.D. programs at places such as Stanford University, The Johns Hopkins University, Cornell University, the University of Florida, and the University of Maryland, College Park. "They're not

just getting into graduate programs, they're getting into the very best programs," says Michael F. Summers, an HHMI investigator and the program director.

Scholars are selected as incoming freshmen, and their tuition and room and board are covered by the grant for their first two years of college. (UMBC covers expenses for the junior and senior years using a government grant.) They do research during the summer and travel to scientific meetings.

To ensure their success, scholars attend a summer "bridge" program before freshman year begins to become familiar with the campus and its research opportunities. During freshman year, they rotate through

several laboratories, eventually choosing a "home" laboratory in which to undertake long-term research. They then begin working in the lab the summer before their sophomore year.

Scholars also are required to complete at least one summer of research with an HHMI investigator elsewhere in the country, usually after their sophomore year. Each scholar also has the option of spending his or her junior year in the lab of another HHMI investigator.

Besides doing research, Hughes Scholars serve as tutors and mentors to local elementary and high school students. Many also tutor fellow UMBC students in chemistry, biology, or physics. ■ —NANCY VOLKERS

#### 2006 UNDERGRADUATE SCIENCE EDUCATION PROGRAM GRANT AWARDS

The new undergraduate research awards provide from \$1.5 million to \$2.2 million over 4 years. HHMI invited 214 universities—each with a proven track record in both research and undergraduate education—to apply; 158 applications were received. In May, 50 institutions received grants to develop new courses, enhance teaching and mentoring skills, improve science literacy in nonscience majors, and attract and retain traditionally underrepresented groups to the sciences.

“They're not just getting into graduate programs, they're getting into the very best programs. ”

MICHAEL SUMMERS

### *EXROP Students Hand Off the Baton*



At its annual meeting in May, the Exceptional Research Opportunities Program (EXROP) honored the work of the 2005 class of students and introduced them to the class of 2006, just before the new group headed out to some of the top research labs in the country to conduct summer projects. Organized through HHMI's Office of Grants and Special Programs, EXROP pairs undergraduates with HHMI investigators and HHMI professors. The program aims to encourage disadvantaged students, including minorities underrepresented in the sciences, to consider careers in science. ¶ The event also introduced the students to the 2006 Gilliam fellows, six former EXROP students who will receive support for five years of graduate training (see May 2006 *Bulletin*). In the left-hand photo above, HHMI program officer, Andrea Stith (right), talks with Gilliam fellow Ana Cristancho (middle); Ana's mother, Maria Pia Cristancho; and friend Alyssa Alter. The keynote speaker at the event, HHMI investigator Alejandro Sánchez Alvarado (right-hand photo) of the University of Utah School of Medicine, presented findings from his studies on regeneration in the flatworm.