

Peter Bruns Seeks to Bind Science to Education

Peter J. Bruns, who was the driving force behind nationally recognized programs at Cornell University for undergraduate research and outreach to high school teachers, has two important collections within steps of the office he is leaving there.

The first is his freezer filled with strains of *Tetrahymena thermophila*, the curious pond organism that Bruns has studied for years to learn how two nuclei in a single cell can have different roles yet work together to divvy up the vital functions of life. Then, downstairs, is his room crammed with teaching kits on DNA gel electrophoresis, immunology and dozens of other topics, which Bruns and his colleagues share with high school teachers.

Science and education are also the two nuclei of HHMI's world, and Bruns has been given the task of binding them more closely together. Late last year, he was elected by the Trustees to become the Institute's vice president for grants and special programs, overseeing activities that complement HHMI's primary mission of carrying out research with its own scientific teams. Since 1987, the Institute has awarded more than \$1 billion for fellowships, precollege and undergraduate education programs, U.S. research institutions and international science.

"I want to lure more of the scientific community into education programs," Bruns says during a conversation in his small office overlooking the soccer field at Cornell, where he'll spend part of his time until he and his family move to Maryland after the spring term. "Right now, I don't think that our research universities value undergraduate education



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Bruns oversees HHMI's grants and special programs, which support science education at all levels.

as a make-or-break function. I want to help change that nationally, just as we've done at Cornell." Bruns emphasizes that his first priority at HHMI will be to assist the grantees, but he's quick to add that "I didn't take this new job just to make people feel good"—words that don't surprise Cornell colleagues who have seen the strong determination behind his gentle demeanor.

"Peter is terrific at turning bright ideas into workable programs," says Laurel Southard, who oversees an array of undergraduate research programs at Cornell, several of which Bruns started. "He made some enemies by pushing so hard for student research when he was the director of the biology division here. But now, largely because of his efforts, high school students are applying to Cornell *because* of these opportunities, and faculty are coming because they want to teach as well as do research."

"Peter's been able to change the culture, which is very difficult," agrees Rita Calvo, who teamed with Bruns to create a widely admired—and imitated—outreach program with high school teachers. Launched in 1990, the Cornell Institute

for Biology Teachers has expanded beyond Ithaca to all of upstate New York and to satellite operations in Manhattan, Boston, Hartford and Cleveland. Teachers work alongside Cornell scientists during the summer to learn what's new in biology and to develop hands-on lesson plans. The program also distributes teaching kits, holds workshops at education meetings and assists teachers throughout the school year.

Hunter R. Rawlings III, Cornell's president, says Bruns "had a huge impact on biology on this campus and throughout the state of New York. He really does care about people learning biology well."

After three decades in Ithaca, Bruns says he's ready to move onto the national stage. He knows HHMI well, having served as the program director for three undergraduate education grants totaling \$6.2 million—indeed, he credits the Institute with expanding his own horizons beyond the laboratory. "Frankly, those grants were one of the main reasons I got so heavily involved in education programs," he says.

HHMI President Thomas R. Cech, who has "known Peter as an outstanding scientist for many years," says the Cornell geneticist emerged over the past decade as "one of the country's most creative science educators." In his new role, Bruns will continue searching for ways to better integrate research and education and strengthen ties between scientists and teachers—not only to educate future researchers but also to improve scientific understanding among the public.

He stresses that he will work closely with the HHMI staff, grantees and the broader scientific community to analyze possible new initiatives rather than just replicate his work at Cornell. Pausing on his way home to Ithaca after completing his first full week at HHMI's headquarters, he muses that "some of my friends at Cornell have asked how I can give up doing experiments. I tell them that I used to do experiments in genetics; now I plan to do experiments in education." ■