“Our goal at Lamont-Doherty has been twofold: To generate fundamental knowledge that will inform environmental decisions at the global level and to build a comprehensive education and outreach program to foster a better-educated citizenry.”

—G. Michael Purdy

In 2008, a paper in Science co-authored by researchers at Columbia’s Departments of Physiology and Cellular Biophysics found that the students of high school teachers who participated in university-led summer research programs performed better on the New York State Regents exams. At Lamont-Doherty, this conclusion was not surprising. For decades, the scientists and students here have devoted themselves to making their work accessible to generations of teachers and young people.

Later that same year, Lamont-Doherty geophysicist Kim Kastens was recognized by the American Geophysical Union with the Excellence in Geophysical Education Award. For years, Kastens has been researching how students process concepts in the geosciences and how teachers might translate their work into their classroom curricula, design hands-on activities and models to illustrate scientific concepts, and host a series of informational fairs and within the wider community on the topic of climate science.

**Earth2Class**

The monthly Earth2Class (E2C) science workshops for classroom teachers, organized by Adjunct Associate Research Professor Tim Kenzes working with summer intern Rodrigo Prugue.

**IcePod**

Turrin and others have begun a four-year effort to improve science, technology, engineering and math (STEM) education in local schools as part of IcePod, an NSF-funded program led by Lamont-Doherty marine geophysicist Robin Bell to develop an integrated ice-imaging system to be deployed on polar research planes flown by the New York Air National Guard.

The education component of Bell’s project is multifaceted: It will feature presentations by members of the National Guard about science-based careers, work with middle and high school teachers to integrate collected data into their classroom curricula, design hands-on activities and models to illustrate scientific concepts, and host a series of informational fairs and within the wider community on the topic of climate science.

**Secondary School Field Research Program (SSFRP)**

In the summer of 2010, SSFRP—a six-week full-time summer internship program—celebrated its fifth field season. In that time, program director and Lamont-Doherty geochronist Robert Newton has enabled 65 low-income students and 12 teachers from eight high schools to take part in field-based scientific research. Students and teachers work alongside Observatory scientists, joining them on field expeditions or in the lab for data analysis.

The program results show promise: Twenty-seven of the student participants have gone on to college. Approximately half of these have declared science or engineering majors, and at least eight are majoring in marine or environmental science. SSFRP has also played an important role in leveraging three National Science Foundation grants to the Earth Institute totaling over $4.5 million.

**Summers Interns**

Every summer, college and university campuses around the country empty. A few students linger to take summer classes or to make extra money. At Lamont-Doherty, however, things are different. Here, students are given the opportunity to work alongside Observatory scientists, joining them on field expeditions or in the lab for data analysis.

While the program began in the 1970s, the blueprint for its education component is multifold: To generate fundamental knowledge that will inform environmental decisions at the global level and to build a comprehensive education and outreach program to foster a better-educated citizenry.

The exposure to research helped me envision other contexts in which I could employ my talents.” The mentoring relationship he developed with seismology professor Mark Cane to study the role large-scale ocean circulation patterns play on temperature and precipitation in the Himalayas. Today, Perls is hoping for a job with the Environmental Protection Agency after she graduates. Not every summer intern alum ends up in a science-related career, a fact that does not bother Abbott. In fact, she explained, one of the main goals of the program is to educate the general populace about the way science functions. If that means training a future doctor or entrepreneur who can conduct original research for a summer, then so much the better. Aaron Lebovitz, Columbia College ’02, came through the program after his junior year. “That summer made all the difference to my undergraduate experience,” said Lebovitz. “The exposure to research helped me envision other contexts in which I could employ my talents.”