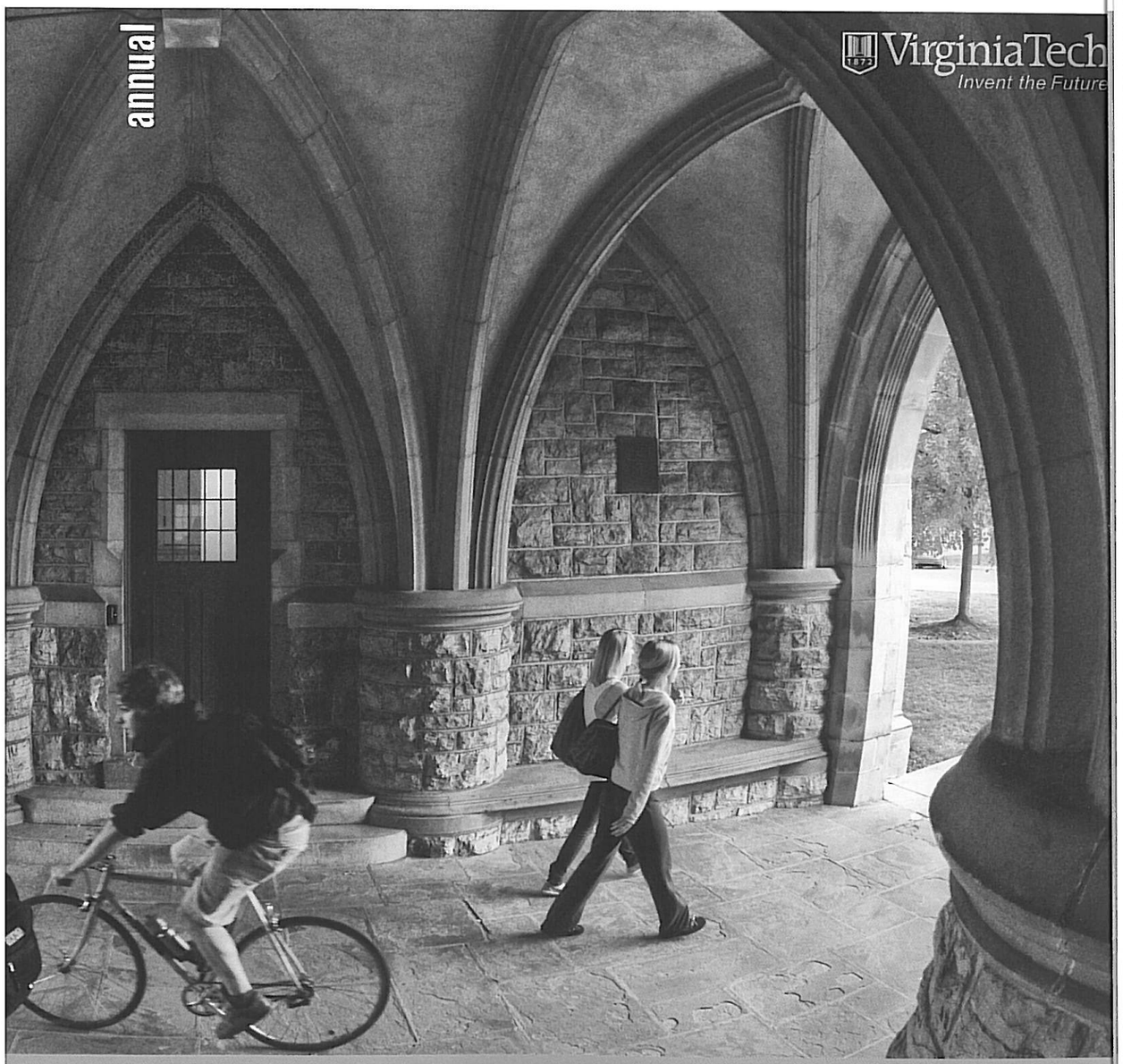
annual report 2008-09



VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

learning

Building scholarship, achieving success

One of the most important missions of any university is teaching its students. At Virginia Tech, students learn in the classroom, in the laboratory, in the library, online, in the residence hall, and through extracurricular activities and daily contact with other students. Hands-on learning is particularly effective, and during the fiscal year, 46 percent of the university's undergraduate students — that's about 10,000 students — participated in some type of undergraduate research.

Since learning begins before college, Virginia Tech recognizes the importance of education to students long before they are old enough to go to college. To aid in that process, programs for pre-kindergarten through 12th grade students that aim to increase the odds for success in college — any college — have burgeoned.

Kids' Tech University

In 2008-09, one such program introduced by a Virginia Bioinformatics Institute (VBI) team was the first of its kind in the United States. Kids' Tech University (KTU) is a pioneering educational program that excites children about science and provides them with on-site university experiences.

KTU gives children between the ages of 8 and 12 the opportunity to participate in a series of engaging scientific activities, including lectures presented by researchers who also have strong communication and teaching skills. The goal is to expose kids early to science, technology, engineering, and math research that will both engage and entertain.

Mathematics Professor Reinhard Laubenbacher started designing KTU after reading a newspaper article in Germany about a program there called *Die Kinder-Uni* (Kid's University). He partnered with Kristy DiVittorio, a senior research associate in education and outreach at VBI, to make KTU a reality.

"KTU is a new approach for getting kids excited about science," Laubenbacher explained. "The goal is not to offer a set curriculum for students but to give children access to passionate speakers who are committed to sparking kids' interest in science, technology, engineering, and mathematics. While this kind of initiative has never been offered in the United States, we believe KTU has significant potential to serve as a model for the development of other kids' tech universities all around the country."

The first semester of KTU began in January 2009. Parents were strongly encouraged to participate in the program's campus-centered activities, which included a semester-long series of lectures, lunch in one of the on-campus dining facilities, and hands-on activities developed in partnership with Virginia 4-H.

Topics for the first semester of KTU included "Why are there animals with spotted bodies and striped tails, but no animal with a striped body and a spotted tail?" "Why are some computer programs so frustrating?" "Why are plastic bottles bad for alligators?" and "Why can't humans survive on Mars?"

"We want to help change the way science is presented to children," says Laubenbacher. "Science is one of the great adventures of the 21st century. We want children to understand that through science they can, in their own way, become scientific explorers like Albert Einstein or Jane Goodall. They can go to new places, participate in discoveries, and make significant contributions to the world we live in."

First-year programs make a difference

Once students arrive at Virginia Tech — or any other college or university — one key to success and to retention is the quality of the institution's programs aimed specifically at the first-year experience. Research shows that universities with first-year experience projects report increased retention of students into the