

annual report 2008-09

 VirginiaTech  
*Invent the Future*



**Message from the** **PRESIDENT**



*26th Aug*

## President's Message:

*Charles W. Steger*

As we look back on the 2008-09 school year, the Virginia Tech community has a lot for which to be thankful and proud. But there are also some challenges on the resource side.

We educated a record number of students — students who brought with them the highest-quality high school achievements ever. One of those students won a prestigious Truman Scholarship, which recognizes college juniors who have exceptional leadership potential. The educators who taught those students were recognized nationally and internationally for their accomplishments, including another six CAREER awards for top young professors. Research revenues continued to rise despite the ailing economy, and the university's national ranking in that arena soared 12 places to its top spot ever.

The university made huge strides in its effort to become "greener." The board of visitors and the University Council approved the Virginia Tech Climate Action Commitment Resolution and accepting the accompanying Sustainability Plan. The plan calls for, among other things, pursuing LEED Silver certification or better for all new buildings and renovations, a 35 percent recycling rate by 2012, specific targets for reductions in greenhouse gas emissions, reductions in electric usage, and improvements in transportation efficiency.

Virginia Tech is rapidly moving deeper into medical education and research. The Virginia Tech Carilion School of Medicine and Research Institute in Roanoke broke ground and will open in July 2010. The school of medicine also received its preliminary accreditation in May and is evaluating candidates for the inaugural class. We have high hopes for this novel public-private partnership with the Carilion Clinic.

In a ceremony meant to both honor and respect the victims of April 16, 2007, we officially reopened the west wing second floor of Norris Hall just days before the second anniversary of the tragedy that happened there. Among the tenants of that space is the new Center for Peace Studies and Violence Prevention.

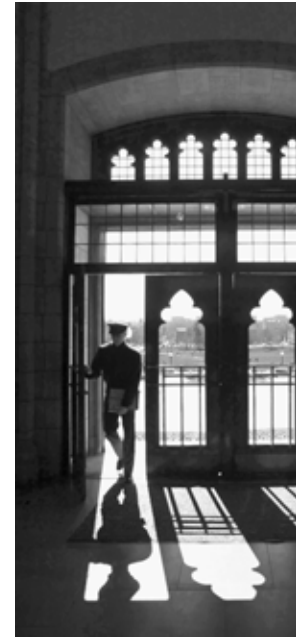
The whole university community continues to make *Ut Prosim* (That I May Serve) more than just a motto. Members of the community donated hundreds of thousands of hours of service and were recognized by the governor for their efforts. And Tech launched a Center for Student Engagement and Community Partnerships to coordinate partnerships, service, and experiential learning activities.

Private philanthropy is essential if Virginia Tech is to remain true to its broad mission of learning, discovery, and outreach. While private giving fell short of 2007-08's total, it was still the third-highest amount in our history, even with the difficult economic times. In addition, the \$1 billion Campaign for Virginia Tech: Invent the Future has raised \$817 million.

Unfortunately, this private giving has become even more essential. The Commonwealth of Virginia just recently assigned reduction targets of more than \$26 million — this on top of earlier cutbacks of some \$42 million. These two cuts equal about 27 percent of our base budget. With this reduction, the state's share of our instructional division budget has shrunk to less than 27 percent, down from 55 percent just nine years ago.

The university has kept programs strong and educated increasing numbers of students. Demand for admission remains strong. However, implementing more cuts will be challenging. Tuition will almost certainly rise again and positions will almost certainly be lost.

Notwithstanding those economic uncertainties, we remain ever optimistic about the university's ability to make a difference in the lives of young people, in bolstering business competitiveness, and in solving the problems of a complex world. Thank you for your support of Virginia Tech.



## 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





## Building scholarship, achieving success *(continued)*

sophomore year, stronger peer connections, increased institutional satisfaction, increased use of campus services, and increased out-of-class faculty/student interaction. Research also confirms that these retention efforts save money.

At Tech, first-year programs include seminar courses, living communities, freshman interest groups or composition courses, and common book projects. Two years ago, the university introduced Hokie Camp, a three-day orientation session at the W.E. Skelton 4-H Educational Conference Center. The camp was so popular that 1,000 freshmen — or about one-fifth of the incoming class — attended in summer 2009.

Virginia Tech has about 40 first-year experience programs that serve about 75 percent of the freshman class, but a faculty study group suggested in fall 2008 that the effort could be even more successful if there were an office coordinating the disparate programs.

So the university hired Mary Ann Lewis, associate dean of undergraduate academic affairs in the College of Liberal Arts and Human Sciences, as Tech's first director of first-year experiences in the Office of the Provost.

In this position, Lewis strengthens the university's commitment to improving the first-year experience for freshmen and transfer students by working with the colleges, student affairs, and other resources on campus to create and establish appropriate first-year experiences across the university.

"I am delighted that Dr. Lewis has agreed to provide leadership for this very important element of our undergraduate education experience," said Daniel Wubah, vice president and dean for undergraduate education. "Her commitment to undergraduate excellence will further strengthen Virginia Tech's reputation as a leader in undergraduate education at major research universities."

### Senior project produces biodiesel

As students acclimate and make their way through Virginia Tech, they can accomplish some amazing things. In one mechanical engineering senior design project, students produced more than 200 gallons of biodiesel in 2008-09, then put it to use running two pickup trucks.

The B100 biodiesel was made from waste vegetable oil (WVO) obtained from local restaurants and processed in a warehouse along Virginia Tech's Plantation Road. It took the students about two months to make the 200 gallons, mainly using pro-

cessing equipment donated to them.

The project was overseen by Foster Agblevor, associate professor of biological systems engineering, who had already made headlines with experimental alternative fuels, such as converting poultry litter into bio-oil.

The group limited its project to 200 gallons of biodiesel because of space limitations at the warehouse but could produce more if needed. For now, the team can make up to 50 gallons at a time, so the potential is there to fuel a small fleet of vehicles.

"We are building a new team for next year who will take it to the next level," Agblevor said. "Giles County Wheatland Eco-Park would like them to install the unit on their property for education and other purposes." Also, an unnamed company is interested in commercializing the project, and the university's cafeterias might provide the waste grease.

The student team consisted of Christopher Block, Christopher Chelko, Matteo del Ninno, Brian Eggleston, Blake Gordon, Meredith Herrmann, and Andrew Yard.

### Other student accomplishments

A team of six undergraduate aerospace engineering students earned first place with their entry, STINGRAE, in the 2008 NASA Aircraft Design Competition. The students were Bakar Bey, Michael Fifer, Jon Frankenfield, Michael Lurie, Stephen Pace, and Cabin Samuels. Their entry was part of a two-semester aircraft design course for graduating seniors.

Students in the Robotics and Mechanisms Laboratory (RoMeLa) won the grand prize at the 2008 International Capstone Design Fair with a trio of pole-climbing serpentine robots designed to take the place of construction workers who have dangerous jobs, such as inspecting high-rises or underwater bridge piers. The autonomous robots are designed to climb scaffolding and buildings by wrapping around a pole or beam and then rolling upward using an oscillating joint motion. The robots were developed by students and recent graduates Gabriel Goldman, Nick Thayer, Michael Bloom, Florian Böss, Cory Kaser, Vic Kassoff, David McDowell, Spencer Patton, and Jeff Philis.

A team of faculty members and students in the School of Architecture + Design in the College of Architecture and Urban Studies represented the United States at the imm cologne furniture fair in Germany.

The National Science Foundation (NSF) awarded graduate study fellowships to a senior and two recent alumnae of the College of Engineering. The winning student was Alek Duerksen, from Waynesboro, Va., who is majoring in mining and minerals engineering and minoring in creative writing and geosciences. Additionally, Elizabeth Traut and Sherri Cook, both 2008 graduates, won fellowships.

The NSF also awarded a prestigious Graduate Research Fellowship to several students:

- Shiv Dutt Kale, a Tech Ph.D. student in the genetics, bioinformatics, and computational biology program;
- N. Danielle Bridgers, a fisheries and wildlife sciences graduate student in the College of Natural Resources;
- Cara Buchanan, a Ph.D. student studying in the bioheat transfer and nanotherapeutics lab and the musculoskeletal and tissue regeneration lab at the Virginia Tech-Wake Forest University School of Biomedical Engineering and Sciences;
- Bradley Shapiro, candidate for a master of science in mathematics and economics in the College of Science; and
- Ricardo Quintana-Castillo, a Ph.D. candidate in computer science in the College of Engineering.

Rachel Mair of Virginia Beach, a graduate student in the College of Natural Resources, received the first-ever Rachel Carson Award for Scientific Excellence from the U.S. Fish and Wildlife Service. Mair is a biologist at the agency's White Sulphur Springs National Fish Hatchery. The award recognizes service employees who demonstrate superior scientific involvement and application to achieve extraordinary results in fish and wildlife conservation.

Ashley D. Morgenstern of Derry, N.H., won the highly competitive Barry M. Goldwater Scholarship. Morgenstern, a junior majoring in human nutrition, foods, and exercise in the College of Agriculture and Life Sciences and biochemistry in the College of Science, is among 278 Goldwater scholars chosen this year from a field of 1,097 undergraduates across the country.

Bigge Saatcioglu, a doctoral candidate in marketing in the Pamplin College of Business, won the American Marketing Association's marketing and public policy dissertation competition for "The Practices of Consumer Resistance among the Working Poor."

## Quality of professors reflected in honors

Producing students who are prepared to become the next generation of leaders and innovators requires world-class educators who truly care about scholarship. At Virginia Tech, the quality of the faculty oftentimes attracts national and international honors and awards.

### English faculty members' work garners national recognition

After gathering an impressive array of awards in 2007-08, Department of English faculty members in the College of Liberal Arts and Human Sciences continued to garner yet more recognition in 2008-09.

For instance, Bob Hicok's work was selected for *The Best American Poetry 2009*, a prestigious annual anthology of poetry. Poems are chosen for inclusion by judges who typically have won the Pulitzer Prize. The odds of having one's work selected for *Best American Poetry* even once in a career are small. This was Hicok's fifth appearance. His work will also appear in the 2009 Pushcart anthology, representing small presses.

Steven Salaita received the Myers Outstanding Book Award for *Anti-Arab Racism in the USA*. It was selected by the Gustavus Myers Center for the *Study of Bigotry and Human Rights* to recognize the work's "understanding of the root causes of bigotry and the range of options we as humans have in constructing alternative ways to share power."

An article in the July/August 2008 issue of *Fine Books and Collections* recognized the work of the Center for Applied Technologies in the Humanities (CATH). The article draws attention to the Virginia Tech Gravell Watermark Archive, an online resource developed through the CATH in partnership with American watermark expert Thomas L. Gravell and the University of Delaware library. Department of English faculty members Daniel Mosser, David Radcliffe, and Ernest Sullivan were instrumental in bringing the project to fruition.

Mosser also spent fall semester as the Leverhulme Visiting Professor at The University of York in the United Kingdom. Mosser, known for his work in paleography (the study of "old writing") and codicology (the study of the codex, or manuscript book), taught and conducted research in the university's Centre for Medieval Studies.

*Hip Hop Speaks to Children*, edited by University Distinguished Professor of English Nikki Giovanni, spent four weeks on the *New York Times* Bestseller list and won a National Parenting Publications Awards (NAPPA) Gold Award, while Hicok and Fred D'Aguiar had poems published in *The New Yorker*.

### Architecture professors among nation's best

The College of Architecture and Urban Studies boasts two of the most admired architecture professors in the nation, according to *DesignIntelligence*. Jack Davis, dean of the college and Reynolds Metals Endowed Professor of Architecture, and Robert Dunay, the T.A. Carter Professor of Architecture and Center for Design Research director, were among 26 selected for the honor in 2009.

Davis became a Leadership in Energy and Environmental Design Accredited Professional (LEED AP) in August 2007 and a Fellow of the American Institute of Architects in 1999. He has received design excellence awards from the Blue Ridge Chapter of the American Institute of Architects (AIA), as well as from the Virginia Society AIA.



## VTC PREPARING FOR FIRST CLASS, STARTING UP RESEARCH

It was a year of giant strides for the Virginia Tech Carilion School of Medicine and Research Institute (VTC). The school won preliminary accreditation and started recruiting its first class of students, and the institute spread seed money for its first collaborative research.

Preliminary approval of the program leading to the doctor of medicine degree by the Liaison Committee on Medical Education (LCME), which is sponsored by the Association of American Medical Colleges and the American Medical Association, in May 2009 means that VTC meets nationally accepted standards of educational quality. The preliminary accreditation was the final step necessary for the school to recruit students and begin operation. State Council of Higher Education for Virginia certification followed in July 2009.

As a result, the school's first class of 42 aspiring physicians will begin their studies in fall 2010, and the first graduates will receive their M.D. degrees in spring 2014.

"Preliminary accreditation for [VTC] is a direct result of the vision by leadership at Virginia Tech and Carilion Clinic to capitalize on core strengths at each of these institutions," said Cynda Johnson, founding dean and president of the school.

The school's vision is to educate clinicians who have all the standard medical skills but also incorporate knowledge gained from research and scientific inquiry into the everyday practice of medicine.

"Preliminary accreditation of the new medical school is another step forward for Carilion Clinic's education and research mission. The value of the school's association with an institution of Virginia Tech's caliber cannot be overstated," said Dr. Edward G. Murphy, Carilion Clinic president and chief executive officer.

Meanwhile, 11 \$30,000 seed grants have been awarded to support collaborative research between Virginia Tech and Carilion Clinic researchers on medical challenges that include heart care, cancer, infectious disease, falling risks, obesity, and prevention and treatment of infectious diseases.

In one project, Shashank Priya, associate professor of materials science and engineering and of mechanical engineering at Tech, and Sonya Ranson, manager of the Center for Experiential Learning at Carilion, are working together to produce a more realistic patient simulator used to help clinicians develop and practice their skills.

"As the Virginia Tech Carilion enterprise grows, these joint efforts will become very important to the success of our educational and research efforts," said Tom Campbell, assistant director for research and operations for the Virginia Tech Carilion Research Institute.

"These . . . grant awards represent the growing opportunities in research and education that exist between Virginia Tech and Carilion Clinic," said Dr. Daniel Harrington, vice president for academic affairs for Carilion Clinic and associate dean for clinic and regional integration for the school of medicine.



## GREEN GAINING GROUND AT UNIVERSITY

While orange and maroon remain the dominant colors on the Virginia Tech campus, green is not far behind.

The drive to go green started in 2006, when students began advocating for the reinstatement of the paper-recycling program, which had become voluntary in the early 2000s after a wave of budget cuts. Then, President Charles W. Steger charged the newly formed Energy and Sustainability Committee on April 25, 2008, to develop a climate commitment and sustainability plan tailored specifically to the needs of Virginia Tech.

University Council recommended approval of the resulting Virginia Tech Climate Action Commitment (VTCAC) Resolution and accompanying Sustainability Plan on April 22, 2009, which was Earth Day. The Virginia Tech Board of Visitors made it official university policy on July 1, 2009.

"The VTCAC Resolution is our sustainability compass. These 14 specific initiatives are unique to Tech," said Denny Cochrane, Sustainability Program manager.

Today, campus leaders — the Student Government Association (SGA); the student-led Environmental Coalition; and faculty, staff, and administrators — are putting that plan into action.

Meanwhile, small changes in the way things are done are adding up.

- ◆ The board of visitors has gone paperless.
- ◆ The Southgate Center began composting in January 2009, reducing landfill food waste by 2.5 tons each week.
- ◆ The Farms and Fields project in Owens Food Court provides students with local, organic, and natural food selections.
- ◆ All dining halls now boast recycling areas for customers to dispose of plastic bottles and aluminum cans, and all dining facilities' kitchens now recycle all metal cans.
- ◆ Motion-sensing lights that detect when no one is in the room were added to 146 classrooms.
- ◆ Upgrades to the steam utility distribution system and Central Steam Plant have reduced heat and energy losses.
- ◆ The SGA teamed up with TCP, the largest producer of compact fluorescent lightbulbs (CFLs) in the country, to distribute 1,500 CFLs to Blacksburg homes during the Big Event.
- ◆ Dietrick and Shultz Dining Halls eliminated food trays, cutting food waste by about 30 percent.
- ◆ The Graduate Life Center at Donaldson Brown loans bicycles to graduate students and staff members to run errands or for exercise.

Those involved in the sustainability movement on campus know that improvements like these are saving not only energy and other resources, but money as well. For example, at the conclusion of the 2008 fall semester, the university set all thermostats to 68 degrees. This initiative alone saved the university more than \$200,000.

To read the full VTCAC Resolution and Sustainability Plan, visit: [www.facilities.vt.edu/sustainability](http://www.facilities.vt.edu/sustainability).



## Quality of professors reflected in honors *(continued)*

Since 1984, when he began teaching at Virginia Tech, Davis has been principal and co-principal investigator on more than \$2.5 million in research grants. He also continues to teach.

Dunay is a member of the AIA and the Industrial Designers Society of America. He has previously served the college as an associate dean and director of industrial design. He is a primary faculty advisor for the 2002, 2005, and 2009 Virginia Tech entries in the U.S. Department of Energy's Solar Decathlon competition. His recent awards include the National Council of Architectural Registration Boards Prize for creative collaboration between the academy and the profession, an *International Design* magazine award for innovative concepts, and the Virginia Tech Xcaliber Award for innovative technology.

### **Vet med professor receives top honor**

The Virginia-Maryland Regional College of Veterinary Medicine has one of the nation's top educators in Dr. Bonnie Smith, a veterinary anatomist who earned the national Carl J. Norden-Pfizer Distinguished Teaching Award, an honor that celebrates her as the best among the thousands of professors teaching in the nation's 28 veterinary medicine colleges.

"This is our profession's most prestigious teaching award and it commends a professor who has been recognized for teaching excellence throughout her career," said Dr. Gerhard Schurig, dean of the veterinary college.

Smith is a professor in the Department of Biomedical Sciences and Pathobiology. She is the third faculty member in the college to receive the national veterinary profession's teaching award in the past 10 years.

### **White House announces engineering professor's award**

Maura Borrego, assistant professor of engineering education in the College of Engineering, received a Presidential Early Career Award for Scientists and Engineers (PECASE) to develop methods that will better prepare faculty members and graduate students for interdisciplinary research.

"[Dr. Borrego's] work as a researcher and an educator is indeed cutting edge and will resound in the field of engineering for decades to come," said Hayden Griffin, professor and head of the engineering education department.

Through her research, Borrego said, she

hopes "to develop strategies to help faculty cultivate interdisciplinary skills among their graduate students, as well as assessment tools so faculty will know if the strategies are working."

The PECASE is the highest honor bestowed by the U.S. government on outstanding scientists and engineers who are beginning their independent careers.

### **Tourism experts among the most cited**

Another department with a good deal of influence is hospitality and tourism management in the Pamplin College of Business, according to a study published recently in *Tourism Management* journal, which listed three current faculty members and one retiree among the 50 most-often cited tourism scholars in the country.

The most influential scholars in tourism studies are those individuals "who have made and continue to make the greatest contributions to tourism research," wrote the study's author, Bob Mc Kercher. "Their efforts shape what we know about tourism; how we think about it; and, importantly, how we research it."

His study, "A citation analysis of tourism scholars," identified the most frequently cited tourism scholars in two periods, 1970-2007 and 1998-2007. Pamplin professors Muzzo (Muzaffer) Uysal, Richard Perdue, and Ken McCleary were listed, along with professor emeritus Michael Olsen.

### **NSF CAREER awards go to six**

Six Virginia Tech professors earned a National Science Foundation (NSF) Faculty Early Career Development (CAREER) Award, which recognizes outstanding young faculty members who effectively integrate research and education.

Louis A. Madsen, assistant professor of chemistry in the College of Science and the Macromolecules and Interfaces Institute, earned his award for research focusing on improving advanced polymers for fuel cells and reverse-osmosis water purification. "Water and energy represent our most pressing needs for sustainable life on this planet," Madsen said.

Leyla Nazhandali, an assistant professor in the Bradley Department of Electrical and Computer Engineering, received the award for her work entitled, "Overcoming Power Challenges in Embedded System Design with Subthreshold-Voltage Technology." An embedded system is essentially any system that contains a

microprocessor but does not have a usual computer interface. Examples include a car, a cell phone, or an airplane. The subthreshold-voltage technology drastically reduces the power consumption of the microprocessor.

Innovative work on a new type of heart stent sensor earned the award for Nakhiah Goulbourne, assistant professor of mechanical engineering. The focus of Goulbourne's research is the development of specific models and experiments to describe what happens to a human artery equipped with a stent that has a unique type of in situ polymer strain-sensing device. She is interested in this research because the percentage of stent implant failures is as high as 20 to 30 percent.

Anil Vullikanti, who holds a joint appointment with the Department of Computer Science and the Virginia Bioinformatics Institute (VBI), received his CAREER award for "Cross-layer Optimization in Cognitive Radio Networks in the Physical Interference Model Based on SINR Constraints: Algorithmic Foundations."

Godmar Back, an assistant professor of computer science, earned his CAREER award to create advanced execution environments for next-generation "cloud" applications. Computers users will shift from traditional desktop/server applications to a model dominated by Web-based application delivery, utility computing, software as a service, data mash-ups, and client-side extensions for Web customization. Back's research project will create advanced Web browser and server execution environments that address the needs of these applications.

Marie C. Parette, assistant professor in the Department of Engineering Education, earned her award for research into faculty expertise and student learning in capstone design courses. She wants to better understand how capstone course teaching happens and what kinds of things faculty do to effectively balance their roles as teachers, evaluators, and mentors to best support student learning.

### **Other professors, administrators honored**

Other university scholars who were recognized for their work during the year included the following:

President Charles W. Steger was honored by the Council for the Advancement and Support of Education (CASE) District III with its Chief Executive Leadership Award. The award recognizes an outstanding president, chancellor, headmaster,

## Quality of professors reflected in honors *(continued)*

or system head of a District III CASE member institution who has created vision and been inspirational to others, led the institution to higher levels of success and increased its stature, encouraged innovation and risk-taking among employees, and is supportive of all aspects of institutional advancement.

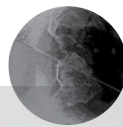
Mahmood A. Khan, professor of hospitality and tourism management in the Pamplin College of Business, received a Fulbright-Nehru Scholar grant to teach at the Indian Institute of Technology in New Delhi during the 2009-10 academic year. Khan teaches at Virginia Tech's Northern Virginia Center.

Yang Zhang, assistant professor of urban affairs and planning, and Patrick S. Roberts, assistant professor in the Center for Public Administration and Policy, School of Public and International Affairs, were named 2009-10 Next Generation Fellows as part of a program led by Thomas Birkland, the William T. Kretzer Professor of Public Policy at North Carolina State University and sponsored by the National Science Foundation. The Next Generation of Hazards and Disasters Research Fellows work together in an intensive year of learning, collaboration, and mentoring.

Doug Nelson, Virginia Tech professor of mechanical engineering, won the 2009 National Science Foundation Outstanding Long-Term Faculty Advisor Award for the EcoCAR Challenge competition. EcoCAR is a design competition sponsored by the U.S. Department of Energy. Engineering students across North America participated in developing the green vehicles of the future. Nelson's award honors him for best promoting the goals, objectives, and activities of the competition.

Roe-Hoan Yoon, the Nicholas T. Camicia Professor of Mining and Minerals Engineering, was elected to the National Academy of Engineering, the highest honor in engineering. Yoon is the founding director of the Center for Advanced Separation Technology, a consortium of seven universities that develops advanced separation technologies as applied to energy resources and environmental control.

Zenobia Lawrence Hikes, vice president of student affairs until her death in October 2008, was honored posthumously by the National Association of Student Personnel Administrators Foundation as a "Pillar of the Profession." Hikes was one of 12 student affairs professionals honored.



## NORRIS HALL WING RE-OPENS FOLLOWING RENOVATION

Nearly two years after the tragic events of April 16, 2007, Virginia Tech officially reopened the second floor of the west wing of Norris Hall, where 30 students and faculty members were shot to death.

"When we began considering what the future would hold for this section of Norris Hall, we wanted to, first and foremost, honor and respect the memories of those we lost and those who loved them and honor and respect those who survived the tragedy," said Provost Mark McNamee before a re-opening ceremony on April 10, 2009.

The Department of Engineering Science and Mechanics (ESM) and the Center for Peace Studies and Violence Prevention occupy the six new rooms and laboratories in the wing. In addition to the peace center, the facilities house the Global Technology Center, a gathering space for student team projects, the IDEAS Undergraduate Learning Center, a biomechanics laboratory, and the Biomechanics Cluster Research Center.

The Center for Peace Studies and Violence Prevention, a university center affiliated with the Institute for Society, Culture, and Environment, was an important part of the recommendations put forth by a university task force regarding the future use of



## That I May Serve

### Service: More than a motto

Learning and discovery do little for our world without caring communities of people who use what they learn and discover to reach out to others. At Virginia Tech, *Ut Prosim* (That I May Serve) is more than just a motto.

#### Helping Kenyans improve health care

The phrase "It Takes a Village" applies to a recent engineering student design team effort to create a photovoltaic system to provide a Kenyan medical clinic with a desperately needed power source. Generous donations from three companies, IBM, Renesola, and Grundfos Pumps, and help from the Virginia Tech Foundation provided the students on the Renewable Energy Senior Design Team with the materials necessary to create the system.

The system was designed for the Getongoroma Medical Clinic, which provides medical treatment and education for thousands in the surrounding area. But without electricity, the clinic cannot operate at night, provide clean well water, refrigerate vaccines, or take X-rays.

The design team selected solar power for the project because the remote location has an abundance of sunlight. IBM donated silicon wafers, the material used in making solar panels. Renesola, a Chinese company, donated solar wafers and paid another company to make the panels. Grundfos Pumps, a Danish manufacturer of pumps, donated the groundwater pump to work in conjunction with the solar panels.

The system the students assembled should provide about 24 kilowatt-hours (kwh) of solar energy to the clinic daily, exceeding the 18 kwh it needs to function. Although this design is tailored specifically to the needs of the clinic in Kenya, it could be adapted for other locations and even for a mobile medical lab, which could be shipped and set up for disaster relief.

#### Center enhances engagement, service

In an effort to more effectively promote the university's land-grant mission and to help students live *Ut Prosim*, Virginia Tech launched the Center for Student Engagement and Community Partnerships during 2008-09. Associate Professor James Dubinsky, who co-chaired Virginia Tech's Task Force on Student Engagement, is directing the new center.

"Working with our numerous partners outside the university can create a 'virtuous circle,'" said Virginia Tech President Charles W. Steger in announcing the center's creation. "This way we're better able to educate our students and generate new knowledge because of the experiences and talents we gain by engaging with business, civic organizations, governments, and communities."

The new center is comprised of the former Service-Learning Center, which worked with faculty to incorporate community service into courses, and VT-ENGAGE, the university's volunteer initiative launched in October 2007 to honor those lost on April 16, 2007. These two initiatives are central to the center's work; they enhance

approximately 4,300 square feet of space in Norris Hall. Founding center Director Jerzy Nowak lost his wife, Jocelyne Couture-Nowak, in the shootings.

"Through the Center for Peace Studies and Violence Prevention, we hope to develop transdisciplinary programs that target prevention of violence through research, education, and engagement," said Nowak.

"My colleagues and I will re-enter the building with humility in our hearts and resolve in our minds. We will remember the fallen, some of whom sacrificed themselves to protect others on April 16," said Ishwar Puri, professor and ESM department head.

"Together, we have re-created an afflicted space to make it once again suitable for teaching, research, and service. Thus, I hope that the impact of our activities in Norris Hall will fully honor the legacies of the fallen. We know that we have that special objective to remember as a guiding principle."

Renovation of the hall began in fall 2008 and was completed in March 2009 at a cost of approximately \$1 million. Several individuals and building contractors donated goods or services to the project.



## Service: More than a motto *(continued)*

student outcomes, integrate service and community experiences into the curriculum, and support the needs of Virginia Tech communities.

“Engaged students contribute to their local, national, and international communities while they develop personal, professional, leadership, and citizenship skills,” says Steger. “Virginia Tech has a strong heritage of engagement and community service. We are deeply committed to enhancing our outreach and engagement mission by working with others for the common good.”

### Relay for Life tops all other college efforts

In 2009, the Virginia Tech Relay for Life raised \$507,000, more than any other collegiate relay effort in the world.

Relay for Life is an American Cancer Society event that gives everyone in communities across the globe a chance to celebrate the lives of people who have battled cancer, remember loved ones lost, and fight back against the disease. Teams of people camp out at a central location and take turns walking or running around a track or path. Each team is asked to have a representative on the track at all times during the event. Relays are overnight events up to 24 hours in length.

The 2009 Virginia Tech event marked the first year that the Student Government Association and university officials worked together to hold the relay on the Drillfield. More than 3,000 members of the Virginia Tech community participated.

“Holding Relay For Life on the Drillfield is an amazing opportunity to bring students and community members together on the symbolic heart of our campus and to show this university and the nation that Virginia Tech is serious about the fight against cancer,” said Christopher Armstrong, co-director for Virginia Tech Relay For Life.

The 2009-10 relay has a goal of \$650,000.

### Cadets recognized for community service

Service has long been at the heart of the Virginia Tech Corps of Cadets, a fact that was officially recognized this year with the 2009 Governor’s Volunteerism and Community Service Award in the government/education category.

In the fall 2008 semester alone, cadets donated more than 3,600 hours of

community service. In recent years, cadets have raised more than \$172,000 for the National D-Day Memorial, more than \$20,000 for Relay for Life, and \$13,500 for the Matthew LaPorte and Lauren Smith scholarships. In just one year, cadets gave more than 240 pints of blood and sent 500 Christmas cards to wounded soldiers and 125 care packages to troops in Iraq. They also mentored countless Blacksburg-area school children.

The corps’ commitment to the National D-Day Memorial in Bedford, Va., is particularly notable. Former cadet Anthony Madeira ’05 read that the memorial was facing bankruptcy and felt someone needed to step up. His cadet company raised \$6,000 the first year and \$10,000 the next. By Madeira’s senior year, the effort had developed into a corps-wide annual service project. The corps is now the largest non-corporate sponsor of the memorial.

Cadets volunteer all these hours of service, are full-time students, and have the responsibilities of attending a full-time military school. Still, they choose to serve above and beyond these demands. For example, on a Thanksgiving break weekend, cadets turned out for the “Fill a Humvee” project, in which they helped the Military Support Center collect food and supplies for families of deployed guard and reserve members.

### Band members put down instruments, take up tools

Another well-known Virginia Tech student organization honored one of its own by turning out to build a house for a deserving Blacksburg family.

The Marching Virginians joined the Town of Blacksburg and the Community Housing Partners (CHP) in building the house in memory of band member Ryan Clark, who died in the April 16, 2007, tragedy.

The students raised \$41,000 for the project, and Blacksburg and CHP, a regional nonprofit housing and community development corporation, provided funds, supplies, and technical expertise needed to construct the house. CHP also donated a parcel of land and coordinated construction.

“CHP is happy to help the Marching Virginians create a lasting tribute to Ryan with a home that reflects the spirit of community partnership and environmental stewardship,” said CHP President and CEO Janaka Casper.

The Marching Virginians contributed a labor force of 350 students. Members not skilled in construction were put to use painting, taking pictures, bringing in lunch provisions, and doing yard work.

The house holds special meaning for the Marching Virginians. Clark was not only a friend to many of the members of the band, but he was also known for volunteering for such projects as Hurricane Katrina relief and Habitat for Humanity.

### Awards recognize exemplary alumni

Service to the university and the community is so important at Tech that the Alumni Association recognizes alumni who have excelled at outreach. The 2009 recipients are as follows:

Gene Fife of Charlottesville is the recipient of Virginia Tech’s most prestigious award, the William H. Ruffner Medal, which is awarded for outstanding efforts devoted to the promotion, improvement, and development of the university’s mission as a land-grant university. Fife graduated in 1962 from what is now the Pamplin College of Business. He worked for 25 years at Goldman Sachs & Co. before retiring as a general partner in 1995. He continues to stay involved at the university as a member of the Virginia Tech Foundation Board of Directors and its executive committee and as a philanthropist and volunteer. Fife also chaired the quiet phase of the current Campaign for Virginia Tech: Invent the Future.

Henry Long of Warrenton, Va., co-founder of the Long and Foster real estate firm, was given the University Distinguished Achievement Award. Long graduated in 1959 from what is now Virginia Tech’s Pamplin College of Business and then flew B-47s with the Strategic Air Command until retiring as a captain in 1965. In 1968, Long and Wes Foster founded what would become the nation’s largest privately held real estate brokerage firm. He has also worked as an urban development consultant in China and Vietnam in the 1990s. Long is serving on the regional campaign committee for Northern Virginia for the \$1 billion Campaign for Virginia Tech: Invent the Future.

Three people were recognized with the Alumni Distinguished Service Award: Marni Byrum of Alexandria earned her bachelor’s in political science from Virginia Tech in 1976. She is an attorney in private practice, and her emphasis is on labor, employment, and personnel law. Byrum has remained involved with her alma mater by serving on the Alumni

**Service: More than a motto** *(continued)*

Association Board of Directors, the President's Advisory Committee, and the Economic Development Advisory Board. She also has held leadership roles in various professional groups and serves on the board of Horizons Theatre and at Equality Virginia, a nonpartisan advocacy group that seeks equality for gay, lesbian, bisexual, and transgender Virginians.

Patricia Caldwell of New York City earned her bachelor's in mathematics in 1971 and has more than 30 years of experience as a financial analyst and investment banker. She is a fourth-generation Hokie who has been a long-time member of the former College of Arts and Sciences Alumni Roundtable and past chair of the College of Science Roundtable. She has served on the Virginia Tech Foundation Board of Directors, the Department of Mathematics Advisory Board, and the Quiet Phase Campaign Steering Committee and is now a member of the College of Science Campaign Steering Committee and the Women and Leadership in Philanthropy Council.

John Higginbotham of Great Falls, Va., attended Virginia Tech as a recipient of the Alumni Presidential Scholarship and graduated in 1977 with honors in civil and environmental engineering. He has an M.B.A. from Harvard Business School and is chief executive officer and a member of the board of directors at Integral Systems Inc. Higginbotham has served Virginia Tech as president of the Alumni Association and as a member of the Engineering Committee of 100. He is a member of the Ut Prosim Society and has been a member of the Alumni Center National Leadership Campaign Committee.

**lavery**



**pamplin**



**skelton**



**hikes**



**UNIVERSITY LOSES  
FOUR OF ITS BEST**

Four leaders who inspired thousands of members of the Virginia Tech community died during 2008-09. William E. Lavery, Robert B. Pamplin Sr., William E. Skelton, and Zenobia Hikes were giants among their peers and helped shape the university through their leadership and philanthropy.

*William E. Lavery*, 12th president of Virginia Tech, passed away Feb. 16, 2009, at age 78.

Lavery built on predecessor T. Marshall Hahn Jr.'s explosive successes. By the time he retired, research expenditures had reached more than \$70.2 million and Tech had moved into the top 50 research institutions in the nation.

Lavery initiated the Corporate Research Center (CRC) and Virginia Tech Intellectual Properties. During his tenure, the university also made giant technological leaps. The CRC received an antenna to link Virginia Tech to the world via satellite, Extension developed a series of 26 downlink sites, and installation began on a new communication system for the campus.

Lavery also alleviated classroom, laboratory, and office shortages with a \$108 million construction program that increased the total inventory of space 50.1 percent. Another \$17.5 million funded a complex to house the Virginia-Maryland Regional College of Veterinary Medicine.

Lavery also hired the university's first vice president for development, who launched a campaign that raised more than \$118 million. Assets of the Virginia Tech Foundation grew from \$6.2 million to \$140.1 million during his term.

Lavery joined the Tech faculty in 1966 as director of administration for the Extension division before being tapped as vice president for finance in 1968. In 1973, he became executive vice president and was appointed president effective Jan. 1, 1975.

After stepping down Dec. 31, 1987, he continued to serve the university. Tech recognized his contributions by presenting him with the William Ruffner Medal in 1993 and by dedicating the William E. Lavery Animal Health Research Center in his honor in 1995, the same year he was named an honorary alumnus.

*Robert B. Pamplin Sr.* once said, "In addition to my education, I received three things from Virginia Tech that have meant more to me in my life and in the business world than anything else. They are honesty, discipline, and humility."

The former chairman and CEO of Georgia-Pacific Corp., who received a bachelor's degree in business administration from Virginia Tech in 1933, died June 24, 2009, at age 97. He was widely respected for his business acumen and leadership and his philanthropic support of higher education. The Pamplin College of Business was named for him and his son, Robert B. Pamplin Jr.

The Pamplins have given more than \$35 million in personal, corporate, and family foundation funds to Tech, including more than \$25 million to the Pamplin College. They also contributed in non-monetary ways, Sorensen said. Father and son gave lectures and workshops and provided information on their business operations for a senior-level case study.

In addition, the Pamplins co-chaired the university's Campaign for Excellence, which was launched in 1983 and raised \$118 million. They generously supported other areas, including the corps of cadets and Student Affairs.

After graduating from Virginia Tech, Pamplin joined a small lumber company that later became Georgia-Pacific. After a 43-year career there, he retired and went on to build his own multimillion-dollar business.

Pamplin's long list of recognitions includes several from his alma mater: the Alumni Distinguished Service Award in 1973, the William H. Ruffner Medal in 1981, and an honorary doctor of letters in 1987.

*William E. Skelton*, a former dean, loyal Hokie for 70 years, and namesake of two centers, died at age 89 on Aug. 30, 2008.

Throughout his long affiliation with Virginia Tech, Skelton (agricultural engineering '40) personified the motto of the university: *Ut Prosim* (That I May Serve). A dean emeritus of the Extension division who began his career at the university as director of 4-H programs and Extension, Skelton expressed his love and loyalty for Virginia Tech through his roles as volunteer fundraiser, reunion organizer, and campaign chair.

Skelton led and chaired the single most important initiative in the Alumni Association's 130-year history: that of building the first alumni center. The project included a hotel and conference center. The conference center portion of the complex was named for Skelton and his wife, Margaret Groseclose Skelton.

Earlier, in the mid-1960s, while Skelton was responsible for 4-H programming, Appalachian Power Co. offered to donate land for a 4-H center. Rather than simply express thanks, Skelton negotiated a better property: 120 acres with two miles of waterfront along Smith Mountain Lake, where more than 20,000 youth and adults participate in programs each year. That facility is now known as the William E. Skelton Smith Mountain Lake 4-H Educational Conference Center.

Skelton received the Virginia Tech Alumni Association's Alumni Distinguished Service Award in 1983 and was later president of that organization. In 1998, then university President Paul E. Torgersen presented him with the William H. Ruffner Medal.

*Zenobia L. Hikes*, whose strength and leadership as vice president for student affairs helped unite the Virginia Tech community, most notably in the days following April 16, 2007, died Oct. 28, 2008, from complications following cardiac surgery. She was 53.

"Dr. Hikes was a deeply dedicated, charismatic, and inspirational leader who brought successful new ideas and leadership to the Division of Student Affairs," said President Charles W. Steger. "Her passing is a terrible loss to our community. She will be deeply missed by the students whom she served daily and by colleagues who were inspired by her dynamic thinking and creative ideas."

Hikes was named vice president Sept. 1, 2005, after serving as vice president for student affairs and dean of students at Spelman College in Atlanta, Ga.

In her three years at Virginia Tech, Hikes made numerous contributions to improve the quality of student life on campus. Among these were Hokie Camp for new students and SafeWatch, a program that promotes individual and collective responsibility among students, faculty, staff, and guests.

"In addition to her many programmatic contributions, Zenobia cared deeply about the students she served," said Edward Spencer, who was associate vice president for student affairs and took over as vice president. "Students connected with her because they could see the compassion she felt for them."

**Groundbreaking research leads to national prominence**

During 2008-09, Virginia Tech continued its drive to the top tier of research universities, and despite tough economic times and the highly competitive battle for research funds, the university hit a record figure in research expenditures for the 10th consecutive year (ending fiscal year 2008). The university also learned that it had moved up 12 places in national rankings based on its 2007 expenditures.

For 2008, Tech reported \$373.3 million in expenditures to the National Science Foundation (NSF), an increase of \$6.3 million over fiscal year 2007.

“While our overall growth was below our goals, the areas that account for competitive research awards continued to grow,” said Robert Walters, vice president for research at Virginia Tech. “We increased our external federal funding by over 5 percent and our industry funding by almost 20 percent. In the current economy, those numbers are encouraging.”

Federal funding grew from \$128.8 million to \$135.6 million, and industry funding grew from \$17 million to \$20.4 million, but funding from the Commonwealth Research Initiative declined from \$19 million to \$7.7 million in 2008 due to budget shortfalls at the state level.

Rankings of research expenditures run a year behind, so it was not until 2008-09 that the university discovered that its fiscal year 2007 research expenditures of \$366.9 million had moved it from 54th to 42nd among 662 universities nationwide in the NSF rankings.

“I am incredibly proud of our faculty and their commitment to discovery and scholarship,” said Virginia Tech President Charles W. Steger.

“The rise in the rankings is exciting,” said Walters. “More importantly, we are about \$35 million ahead of our strategic plan goal to achieve \$540 million in research expenditures by 2012. This is partly the result of the investments that have been made in research over the past several years by the university and the commonwealth and partly due to the increased competitiveness of our faculty.”

Among those that Virginia Tech passed in the rankings for 2007 were the University of Iowa, Michigan State, University of Maryland, University of Georgia, University of Kentucky, and North Carolina State University. The University of Cincinnati was the only school to pass Virginia Tech in expenditures.

Virginia Tech also ranked ninth among institutions without a medical school, sixth in expenditures related to agriculture and natural resources, and 11th in expenditures related to engineering.

As with any year, 2008-09 had its share of exciting research advances and grants.

**Coal technology helps the environment, economy**

With funding from the National Energy Technology Laboratory, Roe-Hoan Yoon, the Nicholas T. Camicia Professor of Mining and Mineral Engineering, and his colleagues developed a hyperbaric centrifuge that can dewater coal as fine as talcum powder that will improve economic returns for coal companies, contribute to energy independence, and reduce the use of polluting slurry ponds.

Peter Bethell of Arch Coal Inc. reported that the dewatering technology developed at Tech succeeded in reducing the moisture content of ultra-fine coal to less than 20 percent, transforming it to a salable product.

“The hyperbaric centrifuge is like the spin cycle on a washing machine, with the

addition of compressed air,” said Yoon. “Combining increased spinning and compressed air has a synergistic effect and cuts the moisture in half compared to conventional technology.

“We have done something for the industry and for the public,” he added.

“The whole purpose of cleaning coal is to reduce the ash content so that the users, usually utility companies, don’t have to deal with it,” said Gerald H. Luttrell, the Massey Professor of Mining and Mineral Engineering at Tech. He noted that “the lower-ash and lower-moisture coals also produce less CO<sub>2</sub> (carbon dioxide) to clean up. They burn more efficiently and thus require less coal to generate a given amount of electricity.”

Yoon and Luttrell also received \$1 million from the U.S. Department of State to help the coal industry in India produce a cleaner product.

**Modeling could help cut trauma effects**

A group of nine international car manufacturers and suppliers awarded \$4.9 million to the Virginia Tech-Wake Forest University School of Biomedical Engineering and Science’s Center for Injury Biomechanics (CIB), known internationally for its research on trauma and how it affects the human body.

The group, the Global Human Body Models Consortium, is looking to the center to produce a better understanding of what happens to individuals subjected to body trauma, and CIB researchers initially will model four sizes of individuals to cover the maximum range of normal sizes in the world and to match industry-standard dummies now used. The consortium will then develop scalable models from the CIB computer model to represent other body shapes and sizes.

Better crash safety technology is the ultimate goal of participants in the Global Human Body Models Consortium. With the consortium, the automotive industry is consolidating its efforts into one international activity that advances crash safety technology. The computer models, which represent human beings in extremely intricate detail, could help investigators determine and better understand injuries that are likely to result from a vehicle crash.

The Center for Injury Biomechanics will act as the integration center for the study and also as the center of expertise for the abdomen portion of the computer model.

**Award-winning software will cut energy use**

Software created by Tech researchers to save data centers millions of dollars in energy costs won the Southeastern Universities Research Association’s first annual Intellectual Property to Market competition. The patent-pending invention, dubbed EcoDaemon, ranked number one among submissions from more than 60 research institutes in the southeast.



According to the winning team, energy costs can reach \$30 million a year for a typical 40-megawatt data center. EcoDaemon, co-invented by Wu Feng, associate professor of computer science in the College of Engineering, and Ph.D. student Song Huang, can automatically save substantial energy while programs run on computers. Beyond the energy savings, the software improves the reliability and useful life of a computer by reducing the core temperature, thus providing an opportunity to significantly lower the cost and environmental impact of data centers and many other computing devices.

“EcoDaemon operates by judiciously and automatically telling the processor when to change its frequency and voltage and what to change it to in order to simultaneously maximize energy savings and performance,” said Bob Summers, a serial entrepreneur who is interested in commercializing EcoDaemon as part of a new company called EnergyWare. “Energy consumption in data centers is doubling every five years and already consumes 3 percent of domestic electric power.”

#### **Discovery could help malaria sufferers around the world**

The U.S. Patent and Trademark Office granted a patent for a Virginia Tech discovery that could help some of the 350-500 million people who contract malaria annually.

For decades, scientists have been searching for a way to target malaria-causing parasites that have infected the human body. Researchers from the Virginia Bioinformatics Institute (VBI) found a way to do that when they discovered and characterized a protein the parasites make, called Heme Detoxification Protein (HDP). Dharmendar Rathore, formerly an assistant professor at the institute, led the effort, working closely with Dewal Jani, a molecular and protein biologist, and Rana Nagarkatti, protein biochemist and molecular biologist, to identify and isolate the protein that is so vital for the parasite’s survival.

“New drugs developed with this discovery will have a huge impact,” said Otto Folkerts, associate director of technology development at VBI. “It’s an entirely new mechanism of action and can help with the increasing problem of drug resistance, for example, as part of a cocktail therapy with other existing drugs.”

Once infected mosquitoes bite and transmit the parasite to the human body, it replicates exponentially and infects the red blood cells, which are composed of approximately 90 percent hemoglobin. The parasite feeds on the globin component of the hemoglobin, and because the leftover free heme component is toxic, the parasite uses a protein to detoxify the heme and convert it into a new form called hemozoin. That protein is HDP.



## Groundbreaking research leads to national prominence *(continued)*

“We’ve discovered the piece to the puzzle that was missing,” said Rathore.

### Scientists to look at nanotechnology in the environment

In 2008, researchers from geosciences and civil and environmental engineering learned that they would be part of a consortium of four principal universities and five other schools to study nanotechnology and the environment. This consortium and another, both funded by the National Science Foundation, form a national Center for the Environmental Implications of Nanotechnology (CEIN). Total funding for the project is \$14 million over five years with an opportunity to renew for another five. Virginia Tech’s portion of the grant is \$1.75 million.

Nanoparticles are as much as a million times smaller than the head of a pin

and have unusual properties compared with larger objects made from the same material. These unusual properties make nanomaterials attractive for use in everything from computer hard drives to sunscreens, cosmetics, and medical technologies. However, the environmental implications of these materials are virtually unknown.

CEIN, which is headquartered at Duke University, will integrate the expertise of researchers in such fields as ecology, cell and molecular biology, geochemistry, environmental engineering, nanochemistry, and social science. In addition to Virginia Tech and Duke, the other schools involved in the project are Carnegie Mellon University and Howard University, with the University of Kentucky and Stanford University playing smaller but also important roles. The other Center for the

Environmental Implications of Nanotechnology consortium is headquartered at the University of California at Los Angeles and includes the University of California at Santa Barbara. The centers are charged with studying the behavior of nanomaterials and helping to assess existing and future concerns surrounding their environmental implications.

Outreach is another key component of CEIN. Thus, the center will develop educational tools for high school science teachers as well as curricula for partner museums, 4-H council, and other learning venues.





## Undergraduate rankings

### *U.S. News & World Report*

Virginia Tech was 30th among national public universities. Among national universities, including such private institutions as Harvard and Yale, Virginia Tech ranked 71st.

The College of Engineering undergraduate program ranked 14th in the nation (tied with Johns Hopkins and Northwestern) among all accredited engineering schools that offer doctorates. It was eighth among engineering schools at public universities.

Eight undergraduate engineering specialties earning top 25 rankings: industrial engineering, sixth; aerospace engineering, 10th; agricultural (biological systems), 12th; civil engineering, 12th; mechanical engineering, 13th; environmental engineering, 15th; electrical engineering, 17th; and chemical engineering, 24th.

The Pamplin College of Business undergraduate program ranked 43rd among the nation's undergraduate business programs and 24th among public institutions. Pamplin's overall ranking places it in the top 10 percent of more than 500 U.S. undergraduate programs accredited by the Association to Advance Collegiate Schools of Business International.

Virginia Tech is also recognized as having one of the top 14 cooperative education and internship programs in the nation.

### Other rankings

Virginia Tech's architecture program in the School of Architecture + Design was recognized by *DesignIntelligence* as one of America's World-Class Schools of Architecture with highest distinction, tied with Harvard, Yale, and Columbia universities. Individual programs within the School of Architecture + Design were also nationally ranked: undergraduate architecture, second; undergraduate interior design, ninth of 148 programs; and undergraduate industrial design, 13th of 47 programs.

Virginia Tech ranked 15th nationally among public colleges and universities that offer a first-class educational experience at a bargain price, up from 18th in 2007, according to *Kiplinger's Personal Finance* magazine.

Virginia Tech was 24th in the nation in the number of alumni (43) serving as Peace Corps volunteers.

## Graduate rankings

### *U.S. News & World Report*

The College of Engineering moved up one place to 27th among all graduate schools of engineering. In addition, four departments finished in the top 10 of their respective categories.

The Charles E. Via Jr. Department of Civil and Environmental Engineering tied for seventh among civil engineering programs; the Grado Department of Industrial and Systems Engineering ranked fourth among industrial/manufacturing programs; the biological systems engineering department, also part of the College of Agriculture and Life Sciences, tied for seventh among biological/agricultural programs; and the environmental engineering program ranked ninth.

The College of Science's psychology department ranked 33rd among clinical psychology programs.

The career and technical education program in the College of Liberal Arts and Human Sciences' School of Education tied for fourth among vocational and technical specialties. The program has placed among the top five seven times and has been a top-10 selection for the past 15 years.

The public affairs program in the School of Public and International Affairs, College of Architecture and Urban Studies, ranked 27th.

### Other rankings

*DesignIntelligence* ranked the School of Architecture + Design's graduate architecture program and the graduate interior design program sixth in the nation.

## Research rankings

Virginia Tech's rank for agricultural and natural resource research spending jumped four places to sixth in 2007, according to the National Science Foundation (NSF). Expenditures in 2007 were \$92 million, an increase of \$15 million over 2006.

Based on research expenditures of \$366.9 million in fiscal year (FY) 2007, the NSF ranked Virginia Tech 42nd in the nation, according to figures released in August 2008. The university had been ranked 54th the previous FY.

**New steps broaden technology leadership roles**

Virginia Tech has long been proud of its leadership in and innovative uses of technology, and continues to make great strides in the field. As a result, the university has received global recognition.

**Getting women into IT professions**

Like many institutions, the university has struggled to get women into information technology (IT). Now, two Tech researchers have a \$2.4 million grant from the National Science Foundation to investigate ways to engage females in IT career fields in five states: Virginia, Kentucky, Tennessee, North Carolina, and West Virginia.

This five-year project, "Appalachian Information Technology Extension Services (AITES)," is led by Peggy S. Meszaros, director of the Center for Technology Impacts on Children, Youth, and Families, and Elizabeth Creamer, professor in the university's School of Education.

Despite efforts to recruit women to computer-based fields, studies conducted by the same Virginia Tech professors show that skilled females with an interest in technology consistently disregard the area and also express less confidence in their abilities than do their male counterparts.

"Factors shown to deter young women from viewing IT as a career choice include lack of encouragement from parents, gender stereotypical views held by parents and teachers, stereotypical views about the nature of IT work, lack of opportunities to use computers in creative and collaborative ways, and having few trusted or credible sources of IT-related information," Meszaros said.

Creamer explained that in many states, technology courses are not part of the curriculum at any level. An effort to recruit and retain women in IT necessitates building broad-based, community-oriented early intervention programs that are grounded in local norms and values.

"The AITES project links community-oriented efforts in workforce development, educational outreach, and economic development to connect and support local students' entry into local information technology jobs," said Meszaros.

Counties participating in the AITES project were selected because of a balance of both need and existing infrastructure to support the development of interest in information technology jobs.

The AITES approach will provide Community Cohort Teams comprised of school counselors, information technology teachers, family and consumer science Extension agents, and 4-H Extension agents, and will ensure that community development professionals have the tools they need to increase interest among middle and high school girls in jobs requiring these skills.

**NSF project could advance radio technologies**

In other technology news during 2008-09, the National Science Foundation awarded a four-year, \$1 million grant to the Network Dynamics and Simulation Science Laboratory at the Virginia Bioinformatics Institute to develop high-performance computer modeling tools for wireless telecommunication networks.

The laboratory will work with the State University of New York at Stony Brook and Alcatel-Lucent Bell Labs to develop models and algorithms that support the work of policy- and decision-makers who want to design efficient wireless spectrum markets.

"We are experiencing unprecedented advances in radio technologies that heighten the demand for the optimal design of spectrum markets," said Anil Vullikanti, senior research associate in the Network Dynamics and Simulation Science Laboratory and assistant professor in the Department of Computer Science. "The need for this type of research is being driven by the rapidly growing demand for wireless communications, the limited availability of spectrum for wireless communication, and apparent under-utilization of some spectrum bands."

**WORLD RANKING PLACES TECH AMONG THE BEST**

Virginia Tech ranked No. 26 among colleges and universities world-wide in a 2008-09 "Webometrics Ranking of World Universities."

The survey that resulted in the rankings is a project of the Cybermetrics Lab, a research group of the Centro de Información y Documentación, part of the National Research Council, the largest public research body in Spain. According to the group's website, the rankings are published to promote open access to academic materials online. "Web presence and visibility are used as indicators of global performance of a university, taking into account its teaching commitment, research results, and its perceived international prestige," the website said. The ratings take into particular account open access documents of academic interest or relevance.

Virginia Tech was the highest-ranked university in Virginia. Massachusetts Institute of Technology, Stanford University, Harvard University, the University of California at Berkeley, and Cornell University were ranked one through five.

Cybermetrics Lab is devoted to the quantitative analysis of the Internet and Web contents, especially those related to the generation and scholarly communication of scientific knowledge.





**ARTS INITIATIVE DEVELOPS CREATIVE PRESENCE** The Arts Initiative, a comprehensive, university-wide effort to enhance the presence and practice of the arts across campus and in the communities served by the university, blossomed into tangible reality in 2008-09.

The initiative has become a major player in the university's latest trek into pioneering collaborations that will strengthen Virginia Tech's missions of teaching and learning, research and discovery, and outreach and engagement.

New and renovated buildings related to the Arts Initiative were planned for the area where College Avenue and Alumni Mall meet Main Street — where the Virginia Tech campus meets the heart of downtown Blacksburg. And it is there that the strides made toward the goals of the Arts Initiative are now most visible.

Renovations to Henderson Hall to prepare it for the university's departments of Music and Theatre Arts got under way during FY 2008-09 and were completed by press time for the annual report. Construction also began during the fiscal year — and is now finished — on an experimental theatre that looks out upon the same street as the historic Lyric Theatre. Located near the performance venues in Squires Student Center, these projects signal the emergence of a performing arts district that will benefit both town and gown.

Central to this ongoing transformation is the Arts Initiative's most significant project, the Center for the Arts (construction scheduled to start in 2010). The complex will feature a 1,300-seat, state-of-the-art performance hall, a visual arts gallery, and the Center for Creative Technologies in the Arts.,

"The project has a university-wide focus," says Senior Fellow for Resource Development Minnis Ridenour. "There is no question that it can further serve as a magnet for community enhancement and economic development throughout the region. The potential for the center's impact is extraordinary."

Less obvious to the general public is the impact the Arts Initiative is having on instruction and learning. A changing global economy; a wired, integrated world; and an expansive, international reach have dictated that the arts assume a more central and integrated role in our lives.

One result is the Center for Creative Technologies in the Arts (CCTA), a technological incubator, laboratory, and studio setting for exploring the boundless

intersections of art, education, and technology. The CCTA operates across disciplines and in collaboration with public school teachers to develop, test, and deliver innovative arts platforms and learning models, methodologies, and materials to secondary school students. The CCTA's approach includes the latest computer design tools, digital art and music technology, and three-dimensional prototyping, and will better prepare students to participate in an increasingly creative workforce and technology-based global economy.

The Arts Initiative shows that Virginia Tech has clear plans for a creative presence that befits a top-tier research university committed to fulfilling the responsibilities of its land-grant mission. In order for the university to attract the best faculty and students, the curriculum, opportunities, and events must reflect the direction of creative thinkers who seek unique learning and research paths.

# philanthropy

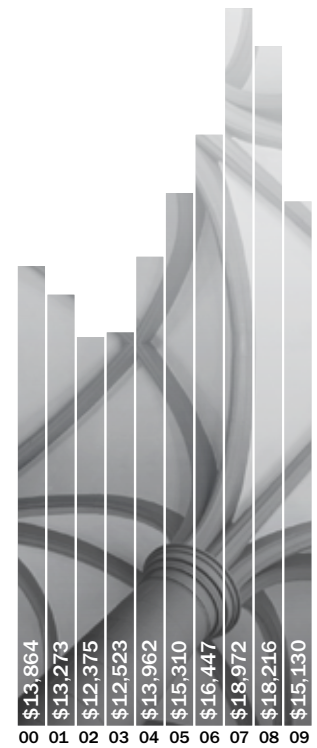
## Private giving dips but supporters still generous

Private giving to the university in fiscal year 2008-09 totaled \$79.2 million. Although this figure represents a 13 percent decrease from last year's record-breaking results, it is the third-highest giving total ever at Virginia Tech — this, despite the worst economy in recent history. Virginia Tech's friends and alumni have proven once again that they believe in the students and faculty at Virginia Tech and are willing to support its mission.

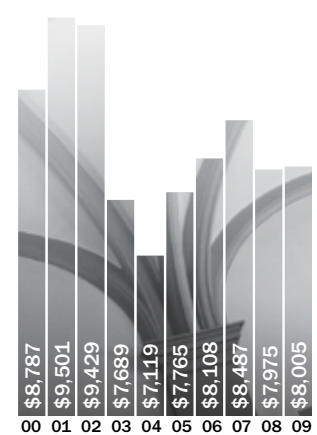
Even more encouraging is that progress toward the ambitious \$1 billion goal of The Campaign for Virginia Tech: Invent the Future remained ahead of schedule, with 80 percent of the campaign elapsed. New campaign commitments totaled \$126.45 million in 2008-09, bringing funds raised to \$809.94 million, or 80.9 percent of the campaign goal. The campaign has raised 76 percent (\$573.2 million) of the current support goal and 95 percent (\$236.8 million) of the future support goal. Eleven of 18 fundraising units are now at least 80 percent of the way toward meeting their campaign goals.



### Endowment Per Full-Time Student



### State Funding Per Full-Time In-state Student



The steady progress in the face of unprecedented economic challenges is no accident. It is a direct result of the university's continued emphasis on personal contact with friends and alumni. The number of personal visits to supporters rose by 16 percent, besting the record set in 2007-08. Those efforts are a reflection of how much Virginia Tech values its supporters and how much it benefits from their participation in the life of the university.

There are other successes of note. The Annual Fund raised nearly \$3.3 million this past fiscal year, the second highest annual giving total in the history of the program. Furthermore, donors are supporting the core mission by continuing their generous support of scholarships, fellowships, and academic programs. This year, benefactors created more than 100 funds supporting students and faculty. Such support enables the university to continue its excellence in teaching, research, and outreach, which means it will be well-positioned to move forward even more quickly when the economy does recover.

Virginia Tech continues to see success, not just in its fundraising endeavors, but also in its academic and research foundation. The university is still making an impact on surrounding communities and is still inventing the future.

NOTE: Figures in the state funding chart for all years will differ slightly from numbers in previous Annual Reports because in the past the Annual Report figures have reflected a method that used fall registration to calculate the full-time equivalent headcount. The numbers in this year's report instead reflect an annualized headcount.

While the 2008-09 state contribution rose slightly, a base reduction in the university's annual state general fund appropriation and significant additional mid-year reductions are on pace to result in an estimated \$6,110 per student for 2009-10, a drop of almost 25 percent from the previous year.

Source: Virginia Tech Office of Budget and Financial Planning

## Highlights

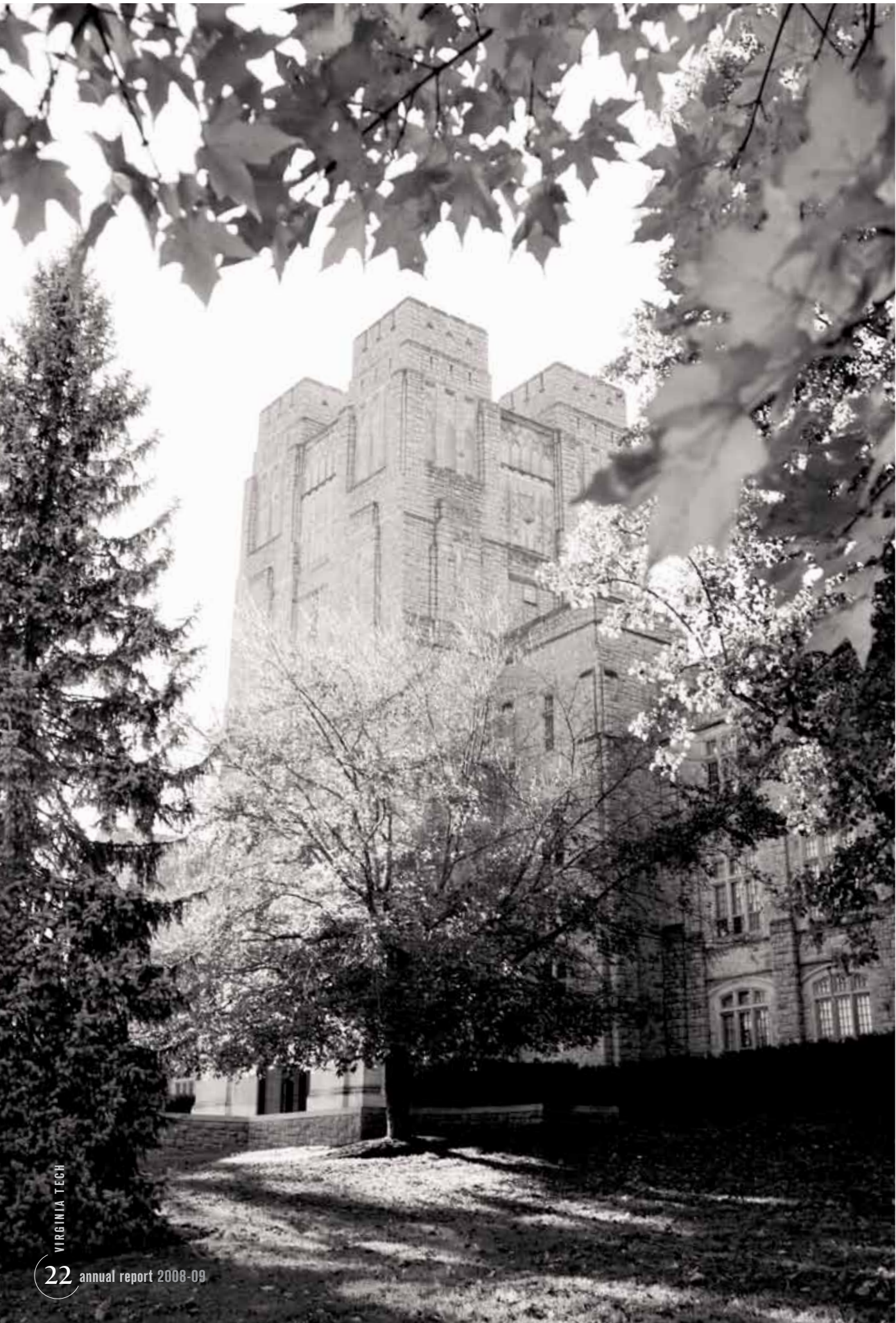
		2004-05	2005-06	2006-07	2007-08	2008-09
Student Admissions	<b>TOTAL APPLICATIONS RECEIVED (INCLUDES TRANSFERS)</b>					
	Undergraduate	20,453	20,281	21,570	22,126	23,351
	Graduate	6,938	6,503	6,878	7,462	8,457
	<b>OFFERS AS A PERCENTAGE OF APPLICATIONS</b>					
	Undergraduate (freshmen only)	67.4	68.2	65.6	65.4	64.0
	Graduate	35.9	37.8	40.6	38.0	37.3
	<b>NEW ENROLLMENT AS A PERCENTAGE OF OFFERS</b>					
	Undergraduate (freshmen only)	40.7	41.7	41.8	42.0	43.1
	Graduate	64.7	65.3	65.2	67.7	62.9
	Total Student Enrollment (head count)	<b>ENROLLMENT BY CLASSIFICATION</b>				
Undergraduate		21,330	21,627	21,997	23,041	23,567
Graduate and first professional		6,289	6,352	6,473	6,857	7,172
<b>ENROLLMENT BY CAMPUS</b>						
Blacksburg campus		25,629	25,915	26,371	27,572	28,259
Northern Virginia Center		1,041	1,030	1,013	1,073	1,107
Other off-campus locations		949	1,034	1,086	1,253	1,373
<b>ENROLLMENT BY RESIDENCE</b>						
Virginia		18,839	19,246	19,817	20,917	21,337
Other states		6,639	6,707	6,654	6,811	7,168
Other countries		2,141	2,026	1,999	2,170	2,234
<b>DEGREES CONFERRED</b>						
Undergraduate		4,837	4,913	4,887	5,050	5,308
Graduate and first professional		1,869	1,908	1,807	1,954	1,940
Faculty and Staff		Full-time instructional faculty	1,265	1,304	1,340	1,371
	Other faculty and research associates	1,463	1,568	1,649	1,690	1,761
	P14 faculty	224	211	233	217	229
	Support staff	3,515	3,606	3,698	3,774	3,816
	Total faculty and support staff	6,467	6,689	6,920	7,052	7,175
	Percent of instructional faculty tenured	67.0	66	65.3	63.4	61.9

## Financial Highlights

For the years ended June 30, 2005 - 2009 (all dollars are in millions; square feet in thousands)

Revenues, Expenses, and Changes in Net Assets (1)	Operating revenues	\$ 500.9	\$ 543.8	\$ 592.7	\$ 633.7	\$ 684.5
	Operating expenses	741.9	815.3	883.8	945.6	970.1
	Operating loss (2)	\$ (241.0)	\$ (271.4)	\$ (291.1)	\$ (311.9)	\$ (285.6)
	Non-operating revenues and expenses (2)	264.4	284.7	317.1	326.7	299.0
	Other revenues, expenses, gains, or losses	35.5	26.1	122.3	25.2	46.1
	Net increase (decrease) in net assets	\$ 58.8	\$ 39.4	\$ 148.3	\$ 40.0	\$ 59.5
University Net Assets (1)	Invested in capital assets, net of related debt	\$ 465.1	\$ 496.8	\$ 568.9	\$ 622.9	\$ 669.7
	Restricted	\$ 106.4	\$ 100.0	\$ 159.4	\$ 118.9	\$ 113.1
	Unrestricted	\$ 58.2	\$ 72.3	\$ 91.7	\$ 117.7	\$ 136.2
Assets and Facilities	Total university assets (1)	\$ 1,046.9	\$ 1,078.1	\$ 1,298.8	\$ 1,339.3	\$ 1,429.5
	Capital assets, net of accumulated depreciation (1)	\$ 698.9	\$ 733.2	\$ 814.5	\$ 871.5	\$ 972.2
	Facilities-owned gross square feet	8,147	8,454	8,498	8,551	8,946
	Facilities-leased square feet	599	604	682	684	858
Sponsored Programs	Number of awards received	2,086	2,122	2,131	2,263	2,384
	Value of awards received	\$ 189.5	\$ 195.9	\$ 203.1	\$ 227.6	\$ 232.3
	Research expenditures reported to NSF (3)	\$ 290.0	\$ 321.7	\$ 367.0	\$ 373.3	N/A
Virginia Tech Foundation	Gifts and bequests received	\$ 71.6	\$ 81.8	\$ 78.5	\$ 91.6	\$ 65.1
	Expended in support of the university	\$ 97.8	\$ 102.4	\$ 107.3	\$ 127.1	\$ 124.8
	Total assets and managed funds	\$ 670.4	\$ 728.0	\$ 940.9	\$ 925.6	\$ 942.1
Endowments (At Market Value)	Owned by Virginia Tech Foundation (VTF)	\$ 361.7	\$ 398.3	\$ 469.4	\$ 475.5	\$ 410.7
	Owned by Virginia Tech	40.8	42.6	47.8	45.1	35.6
	Managed by VTF under agency agreements	6.4	6.9	7.9	7.4	5.8
	Total endowments supporting the university	\$ 408.9	\$ 447.8	\$ 525.1	\$ 528.0	\$ 452.1
Student Financial Aid	<b>STUDENTS RECEIVING SELECTED TYPES OF FINANCIAL AID</b>					
	Loans	10,962	11,140	11,067	11,376	12,077
	Grants, scholarships, and waivers	14,088	14,481	15,600	16,221	16,812
	Employment opportunities	7,923	8,067	8,101	8,699	8,263
	<b>TOTAL AMOUNTS BY MAJOR CATEGORY</b>					
	Loans	\$ 93.6	\$ 101.0	\$ 102.2	\$ 105.9	\$ 127.9
	Grants, scholarships, and waivers	94.8	104.1	119.8	139.2	158.1
	Employment opportunities	48.7	50.5	53.4	58.4	60.3
	Total Financial Aid	\$ 237.1	\$ 255.6	\$ 275.4	\$ 303.5	\$ 346.3

- (1) The university adopted the new Governmental Accounting Standard Board (GASB) reporting model in fiscal year 2002 as required by GASB Statement Number 35, Basic Financial Statement — and Management's Discussion and Analysis — for Public Colleges and Universities.
- (2) The university will always be expected to show an operating loss since significant recurring revenues are shown as non-operating. Major revenue sources reported as non-operating include state appropriations, gifts, and investment income. These revenue sources are used for general operations in support of the learning, discovery, and engagement missions of the university.
- (3) Total research expenditures for NSF report were not available at publication date.





**JULY****NEW EQUITY OFFICE IS FORMED**

Two long-standing offices at Virginia Tech, the Office for Equal Opportunity and the Office of Multicultural Affairs, merge to become one entity, the Office for Equity and Inclusion. The expanded office provides leadership and serves as the focal point for university-wide efforts to promote and sustain just, fair, diverse, and inclusive working and learning environments in the university community.

**PAMPLIN TO ESTABLISH NEW CURRICULA**

The Pamplin College of Business is one of two schools selected to partner with audit and consulting firm Deloitte to develop much-needed college accounting curricula on the International Financial Reporting Standards (IFRS). IFRS is being used in more than 100 countries and about 40 percent of Fortune Global 500 companies, and materials are needed to help teach the differences between IFRS and U.S. accounting rules.

**AUGUST****GOBBLERFEST DEBUTS**

University Unions & Student Activities initiates Gobblerfest, a new welcoming event for Virginia Tech students. Activities include a business showcase expo, student job fair, student organization showcase, VT-ENGAGE volunteer fair, Meet Your Neighbor, the Wayne Robinson Principles of Community Family Run/Walk, the Class of 2010 kick-off concert, food, games, and prizes.

**FRALIN AND IBPHS GET A NEW NAME**

The Fralin Biotechnology Center and the Institute for Biomedical and Public Health Sciences (IBPHS) merge administratively to form the Fralin Life Science Institute at Virginia Tech (Fralin). The Fralin Biotechnology Center was established in 1995 to promote research, education, and outreach related to the life sciences. IBPHS was created in 2003 to provide strategic support to enhance biomedical research at Virginia Tech.

**WILLIAM SKELTON PASSES AWAY**

The Hokie Nation mourns the death of one of the university's most loyal supporters, William E. Skelton, who was 89. (See page 12.)

**SEPTEMBER****LIBRARY ADDS MINOR DIARY TO COLLECTION**

University Libraries acquires a diary written during the Civil War by Charles

Landon Carter Minor, who became Virginia Tech's first president in 1872. Minor kept the diary while serving as a captain in the Confederacy. In 1864, a Union soldier and musician acquired the diary and used it to record his own experiences at the battles of the Wilderness, Spottsylvania, North Anna River, and Cold Harbor. Records from Minor's presidency at Virginia Tech were destroyed in a fire, so this diary serves not only as an important tie to the university's first leader, but also a remarkable specimen of Civil War history from both Confederate and Union perspectives.

**MESSAGE BOARDS ADDED TO CLASSROOMS**

Virginia Tech improves its emergency notification system to ensure rapid dissemination of important information to the university community. Among the improvements, the university installs electronic message boards in all 165 general assignment classrooms on the Blacksburg campus.

**WEBSITE SHOWS HOW TECH HELPS VIRGINIANS**

Virginia Tech launches ThisIsTheFuture.com, a user-generated website that highlights how the university's innovative research and high-quality educational and outreach programs have affected the daily lives of Virginians. Another focus of the project is to get people who visit the website to share their own stories of how they impact the lives of Virginians.

**OCTOBER****VT ALERTS REQUIREMENT IS EXPANDED**

Virginia Tech requires all students, regardless of class level or campus, to notify the university whether or not they want to subscribe to VT Alerts, the university's emergency notification method used to reach mobile communications devices.

**ZENOBIA HIKES DIES**

Vice President for Student Affairs Zenobia Lawrence Hikes dies from complications following cardiac surgery. She was 53. (See page 12.)

**FOUNDATION SALUTES URBAN FORESTRY EFFORTS**

Through its Tree City USA program, the Arbor Day Foundation recognizes Virginia Tech for best practices in campus community forestry. Eight other college campuses across the United States are also recognized for their efforts. The program honors college campuses and the leaders of their surrounding com-

munities for promoting healthy urban forest management and engaging the campus community in environmental stewardship.

**ARMY ROTC RUNNERS SHINE**

Training pays off for two Virginia Tech Army ROTC Detachment Army 10-miler teams. The runners travel to Washington, D.C., for the Army 10-miler, which, with 18,857 participants, is America's largest 10-mile race. The Tech teams finish first and third among the 49 ROTC team competitors, and they finish 33rd and 41st among the 507 overall teams. Cadet John Steger of Springfield, Va., records the fastest time of any cadet — ROTC or service academy — finishing in 57 minutes, 43 seconds and coming in 74th overall.

**ENVIRONMENTAL CONFERENCE DRAWS HUNDREDS**

Virginia Tech hosts the 2008 annual conference of the Society of Environmental Journalists (SEJ), which attracts more than 600 working journalists, government officials, industry leaders, business executives, and nonprofit administrators to the Roanoke and New River valleys. Virginia Gov. Tim Kaine opens the conference with Virginia Tech President Charles Steger and West Virginia Gov. Joe Manchin.

**NOVEMBER****SPENCER TAKES STUDENT AFFAIRS HELM**

Edward F.D. Spencer is appointed vice president for student affairs. Spencer will oversee 15 university departments, including such areas as housing and dining, career services, university unions and student activities, international and multicultural programs, recreational sports, student health services, and the corps of cadets. He has spent the past 25 years dedicated to student life at Virginia Tech as director of housing and residence life, director of residential and dining programs, assistant vice president for student affairs, and associate vice president of student affairs.

**TECH GARNERS DISABILITIES AWARD**

Virginia Tech is selected as a 2008 Virginia Department of Rehabilitative Services Employment Champion. The Disability Employment Champions Award honors individuals and organizations in public, private, and nonprofit sectors who have championed the employment of people with disabilities through partnerships with the Department of Rehabilitative Services and/or

other service agencies. Past awardees include the John F. Kennedy Center for the Performing Arts in Washington, D.C., and Virginia Gov. Tim Kaine for his support of the Virginia Medicaid Buy-In Program.

**TAUBMAN FEATURES TECH-BUILT EXHIBIT**

Faculty members in the Virginia Tech School of Visual Arts, in collaboration with the university's departments of computer science, music, and theatre arts, create a multimedia exhibition — "Revo-over" — for Roanoke's Taubman Museum of Art's grand opening. Professors and students spend three years creating and installing the piece, which sends virtual entities into constant motion across free-form projection screens. These entities then react to the presence of visitors within the installation by moving and making sounds as the gestures and voices of the audience are processed by elements of the exhibit's system.

**DECEMBER****APRIL 16 RECORDS ARE RELEASED**

Virginia Tech releases an archive of documents related to the April 16, 2007, shootings to families of those who lost loved ones and to surviving victims. In 2009, the archive is made available to the public in the Library of Virginia in Richmond and Newman Library in Blacksburg. All public documents within the archive are accessible except those unique to a victim and that which would otherwise be private.

**FORD RETIRES, TECH HIRES WUBAH**

David R. Ford retires as vice president and dean of undergraduate education after more than two decades of service to Virginia Tech. Under Ford's leadership undergraduate enrollments have grown, the University Honors Program has expanded, academic advising has been strengthened, and the VT Pathways to Learning was launched to guide students throughout their undergraduate career. Named to succeed him is Daniel A. Wubah, associate provost for undergraduate academic affairs at the University of Florida.

**NEW DEPARTMENT OVERSEES EMERGENCIES**

Virginia Tech establishes a new department to oversee emergency planning and preparedness and names Michael J. Mulhare, chief of the Office of Emergency Response and the emergency response administrator for the Rhode Island Department of Environmental

## 09 TIMELINE *(continued)*

Management, as director of emergency management. Mulhare will be responsible for an all-hazard approach to the coordination and management of risk assessment, emergency management, disaster planning, and continuity of operations planning.

### JANUARY

#### FUNDS TO HELP STUDENTS FACING FINANCIAL HARDSHIPS

The university creates an emergency loan fund for students and families buffeted by changing employment conditions. The Horizons Program features a pool of \$500,000 that will assist enrolled Virginia Tech undergraduate students and families experiencing a significant reduction in income due to family job loss or other significant reduction in family funds. The loan fund is in addition to other financial aid resources already available.

#### GRADUATE STUDENT IS MURDERED IN DONALDSON BROWN

The Virginia Tech community is struck by tragedy again when a female graduate student from China is assaulted and killed in the Graduate Life Center at Donaldson-Brown. The suspect is a male graduate student, Haiyang Zhu, 25, also from China. The victim, Xin Yang, 22, had just arrived in the U.S. to begin graduate studies in accounting. Police, who cannot determine the reason for the murder, say the two students knew each other.

#### HIGHTY-TIGHTIES PERFORM FOR PRESIDENT

The Virginia Tech Corps of Cadets Regimental Band, the Highty-Tighties, performs in the inaugural celebration for President Barack Obama. This is the 12th time the band has marched in the inaugural parade. The last time was in 2005 for George W. Bush's second inauguration.

#### PRITCHARD HALL WELCOMES WOMEN

Pritchard Hall, the largest all-male college residence hall on the East Coast, is going co-ed. Pritchard housed 1,016 men for the 2008-09 academic year, and since opening in 1967, has housed more than 40,000 men. Administrators plan the conversion because of increasing demand for co-ed housing and the changing gender balance of the Virginia Tech campus. In 2009-10, Pritchard will have a mix of 41 percent females and 59 percent males.

QUISENBERY MOVES ON  
College of Agriculture and Life Sciences

Dean Sharron Quisenberry announces that she is leaving Virginia Tech to become vice president for research and economic development at Iowa State. Mark McNamee, senior vice president and provost, praises Quisenberry as a transformative leader who is leaving the college poised for continued success as one of the most progressive agriculture programs in the country.

### FEBRUARY

#### SOBRAL STEPS DOWN, CONTINUES RESEARCH

The founding director of Virginia Tech's Virginia Bioinformatics Institute (VBI), Bruno Sobral, announces he will step down effective March 2. Sobral will remain on staff to continue his scientific work in cyberinfrastructure and pathosystems biology and his efforts to secure large-scale grants. Under Sobral's leadership since 2000, VBI grew to become one of the largest research institutes at Tech with more than \$97 million in active research.

#### LAVERY DIES

Virginia Tech's 12th president, William Edward Lavery, dies at age 78. (See page 12.)

#### CLASSES ON HOLD FOR APRIL 16, 2009, AND 2010

In what Senior Vice President and Provost Mark McNamee calls a complex and emotional decision, the University Steering Committee for the April 16, 2009, Day of Remembrance recommends that classes be suspended in 2009 and 2010 but that regular classes resume April 16, 2012, which will fall on a Monday. McNamee and President Charles W. Steger accept the recommendation.

### MARCH

#### RESEARCH EXPENDITURES UP AGAIN

For the 10th consecutive year, research expenditures at Virginia Tech reach a record high — \$373.3 million for fiscal year 2008, which ended June 30, 2008. The figure represents an increase of \$6.3 million. In addition, the 2007 fiscal year total moved Tech to 42nd in the nation. For 2008, federal and private funding grow, but state funding drops sharply and the research ranking falls to 46th.

#### RENOWNED PHILOSOPHER DIES

Marjorie Grene, Honorary University Distinguished Professor of Philosophy and professor emerita at Virginia Tech, passes away at age 98 after a brief illness. Grene was the first woman to join

the ranks of such great philosophers as Albert Einstein, Jean-Paul Sartre, and John Dewey with the publication of *The Philosophy of Marjorie Grene*, a volume in *The Library of Living Philosophers*, in 2002. Inclusion in the series is one of the highest honors a professional philosopher can receive.

### APRIL

#### SECOND BUILDING IS NAMED FOR HAHN

The 85,000-square-foot Chemistry-Physics Building is named Hahn Hall-North Wing in honor of T. Marshall Hahn Jr., Virginia Tech president from 1962 to 1974. An adjacent building was named for him in 1990 and now will be known as Hahn Hall-South Wing. Hahn spearheaded some of the most significant changes in the university's history by fully opening enrollment to women, eliminating the requirement that male freshmen and sophomores be in the corps of cadets, and reorganizing the institution's colleges to transform Tech into a comprehensive research university.

#### NEW DEAN TO COME FROM WITHIN

Virginia Tech names Paul Winistorfer as dean of the College of Natural Resources effective on the September 2009 retirement of Dean Michael Kelly. Winistorfer came to the college in 2001 from the Forest Products Center at the University of Tennessee to head up the wood science and forest products department. He moved the department forward through the creation of Wood Week at Virginia Tech and by co-leading a biomaterials faculty recruitment initiative with other departments and colleges on campus.

#### RESEARCHERS FIGHT MOSQUITOES

Researchers from Virginia Tech and Molsoft LLC receive a five-year, \$3.557 million grant from the National Institute of Allergy and Infectious Diseases (NIAID) to continue their promising work on a new class of resistance-breaking insecticides to reduce malaria transmission. Because of a growing resistance to the pyrethroid insecticides, the research is striving to develop a new class of insecticides that will be safe for use on nets and effective against pyrethroid-resistant mosquitoes.

### MAY

#### TECH GOING TO EUROPEAN SOLAR CONTEST

Virginia Tech is one of only two U.S. universities invited to compete in the

first Solar Decathlon Europe, which takes place in Madrid in June 2010. The competition is modeled on the biennial U.S. Department of Energy Solar Decathlon. In these decathlons, universities compete to design and build a self-sufficient house using solar power as the only energy source. The Tech team will enter the house they are developing for the U.S. Department of Energy Solar Decathlon in October 2009.

#### MEDICAL SCHOOL READY TO RECRUIT FIRST CLASS

The Virginia Tech Carilion School of Medicine and Research Institute (VTC) receives word that its educational program leading to the doctor of medicine (M.D.) degree has received preliminary accreditation by the Liaison Committee on Medical Education, which is sponsored by the Association of American Medical Colleges and the American Medical Association. Preliminary accreditation means that the school meets nationally accepted standards of educational quality, a requirement to recruit students and begin operating. VTC's first class of 42 aspiring physicians will begin their studies in fall 2010 and graduate in spring 2014.

### JUNE

#### BOARD APPROVES PUBLIC HEALTH DEGREE

The board of visitors approves a master of public health degree program that will be based in the Virginia-Maryland Regional College of Veterinary Medicine and operated as a collaborative program with the Virginia Tech Carilion School of Medicine and Research Institute. The nation is facing a critical shortage of trained public health professionals coinciding with a period of substantially increased risks related to food safety, zoonotic infectious disease agents, cancer, diabetes, and obesity.

#### PAMPLIN COLLEGE NAMESAKE DIES

Former chair and CEO of Georgia-Pacific Corp. Robert B. Pamplin Sr. dies at age 97 after a long illness. (See page 12.)

#### BOV GOES GREEN

The Virginia Tech Board of Visitors adopts the university-wide Virginia Tech Climate Action Commitment Resolution and accompanying Sustainability Plan, making it official university policy. It also takes its own step toward sustainability by going paperless. Now, board members use laptops instead of three-ring binders stuffed with paper.

**University Administration**

President  
Charles W. Steger

Senior Vice President and Provost  
Mark G. McNamee

Vice President for Alumni Relations  
Thomas C. Tillar

Vice President for Finance and  
Chief Financial Officer  
M. Dwight Shelton Jr.

Vice President for Administrative Services  
Sherwood G. Wilson

Vice President for Development and  
University Relations  
Elizabeth A. Flanagan

Vice President for Information Technology  
Earving L. Blythe

Vice President for Equity and Inclusion  
Kevin G. McDonald

Vice President for Research  
Robert Walters

Vice President for Student Affairs  
Edward F.D. Spencer

Vice President and Executive Director,  
National Capital Region  
James Bohland

Vice President and Dean for  
Undergraduate Education  
Daniel A. Wubah

Vice President for Outreach and  
International Affairs  
John E. Dooley

Vice President and Dean for  
Graduate Education  
Karen P. DePauw

University Treasurer and Chief  
Operating Officer, Virginia Tech Foundation  
Raymond D. Smoot Jr.

**Deans**

College of Agriculture and Life Sciences  
Loke T. Kok (interim)

College of Architecture and Urban Studies  
A. Jack Davis

College of Engineering  
Richard Benson

College of Liberal Arts and Human Sciences  
Sue Ott Rowlands

College of Natural Resources  
Michael Kelly

Pamplin College of Business  
Richard E. Sorensen

College of Science  
Lay Nam Chang

Virginia-Maryland Regional College of  
Veterinary Medicine  
Gerhardt Schurig

University Libraries  
Eileen E. Hitchingham

Virginia Tech Carilion  
School of Medicine  
Cynda A. Johnson

University Legal Counsel  
Kay Heidbreder

(As of June 30, 2009)

**Virginia Tech Board of Visitors**

John R. Lawson II, Rector  
George Nolen, Vice Rector  
Michael Anzilotti  
Beverley Dalton  
Ben J. Davenport Jr.  
Michele L. Duke  
Douglas R. Fahl  
L. Bruce Holland  
Calvin D. Jamison Sr.  
Sandra Stiner Lowe  
James W. Severt Sr.  
James R. Smith  
Philip S. Thompson  
Lori L. Wagner

Hardus Odendaal  
Faculty Representative

Tom Tucker  
Staff Representative

Ariane Gordon-Bray  
Undergraduate  
Student Representative

Lindsey Barker  
Graduate Student  
Representative

Kim O'Rourke  
Secretary to the Board

(July 1, 2008 ~  
June 30, 2009)

*Prepared by the Office  
of University Relations  
Virginia Tech  
Blacksburg, VA 24061*

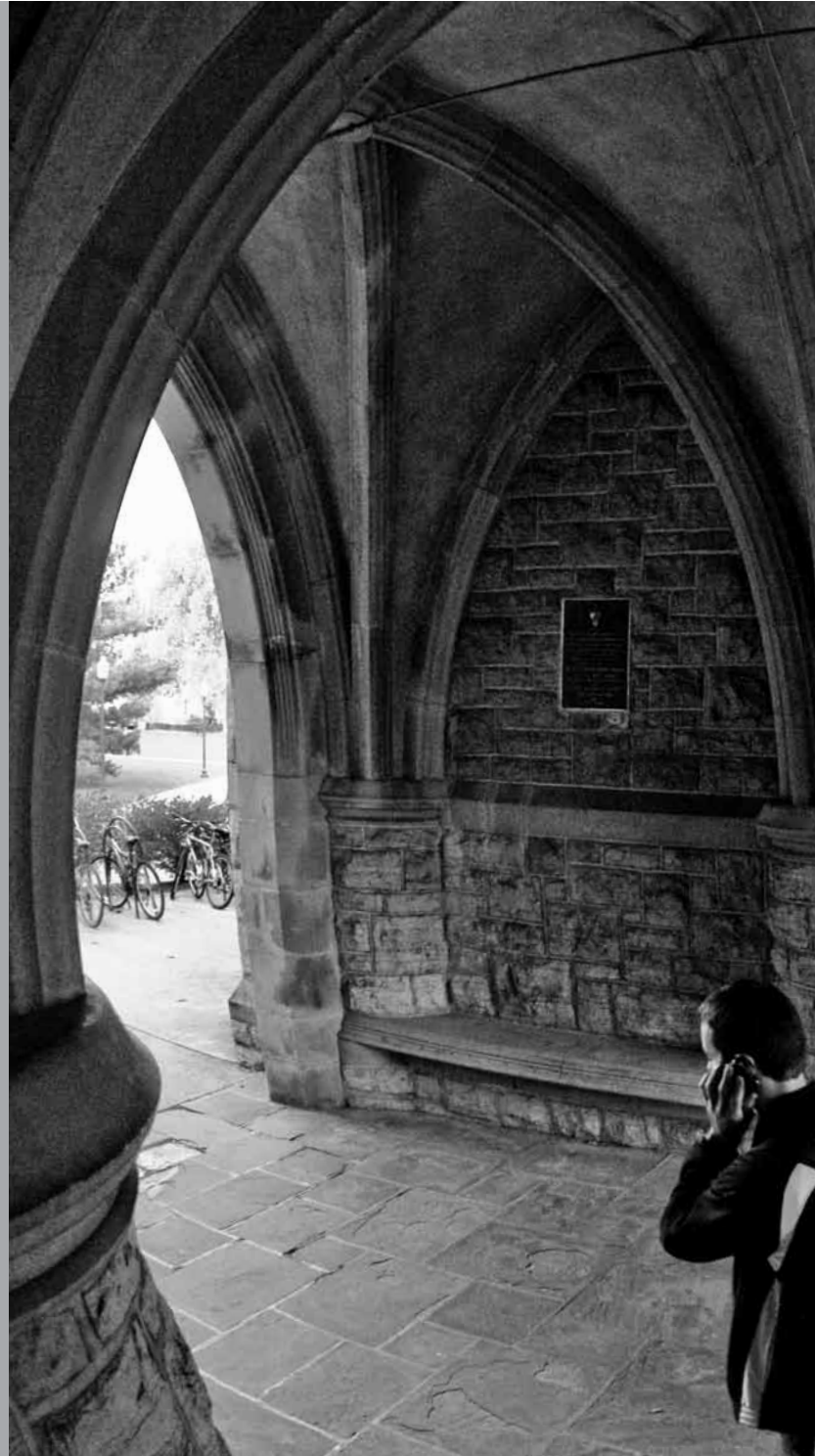
*Virginia Tech does not discriminate  
against employees, students, or  
applicants for admission or employ-  
ment on the basis of race, gender,  
disability, age, veteran status,  
national origin, religion, sexual  
orientation, or political affiliation.  
Anyone having questions concern-  
ing discrimination should contact  
the Office for Equity and Inclusion  
VT/1209/15M/NSJ10-12/MM*



Office of the President  
210 Burruss Hall  
Blacksburg VA 24061

Non-Profit Org.  
U.S. Postage  
PAID  
MWI

*Invent the Future*



[www.vt.edu](http://www.vt.edu)

**Go Green!**  
Please deposit this publication  
at a recycling collection site.