Horse Calls
On the road with the Equine Field Service

Welcome to Racksburg
Why open-cloud company Rackspace digs Blacksburg

21st-Century Land-Grant
Virginia Tech and the Morrill Land-Grant Act’s evolution

CELEBRATING DIVERSITY

Nikki Giovanni and her Sheer Good Fortune

Virginia Tech’s role in the Martin Luther King Jr. National Memorial

VIRGINIA TECH MAGAZINE WINTER 2012-13
Geo Balderas remembers the tremendous boost in confidence he received from having his smile corrected as a teenager. A junior majoring in human nutrition, foods, and exercise, he plans to become an orthodontist and help others have a winning smile as well.

Like many Virginia Tech students, Geo is able to pursue his ambition thanks, in large part, to the generosity of donors. In his case, the Robert L. Leach ’36 and Benton R. Leach ’52 Scholarship helps keep college affordable.

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The swordfish recipe
I was shocked that Virginia Tech Magazine printed a swordfish recipe without any consideration of the ethics and environmental impact of the purchase of swordfish. An Internet search would have turned up reliable reports of the advisability of the purchase of swordfish. The advisability of consumption depends on the location and the method of the catch. The magazine takes care to use environmentally preferable inks and paper. It needs to also model responsible consumption behavior.

Sandra B. Conners (M.B.A. ’81), Lexington, Ky.

Editor’s note: In response, we consulted with Eric Hallerman, fish and wildlife conservation department head, who recommended that consumers check the Monterey Bay Aquarium’s Seafood Watch at www.montereybayaquarium.org/cr/seafoodwatch.aspx. (We found that the site, based on where and how swordfish and other species are caught, outlines best choices, good alternatives, and fish to avoid.) Hallerman said that consumers should look for swordfish that is certified as sustainable according to the Marine Stewardship Council, and/or swordfish that is harpoon- and handline-caught in U.S. and Canadian waters in the North Atlantic and eastern Pacific Oceans.

The HokieBird at 50
Nice article on the HokieBird in the fall edition. It is interesting to note that the original HokieBird first appeared in the fall of 1962, named “The Fighting Gobbler.” I wore the costume in its debut, in the final game of my senior year. It was a really big hit. Our bowl game in Orlando will be my 14th bowl game in a row, and the HokieBird, visit www.vtmagazine.vt.edu/fall02/feature4.html.

Mercer MacPherson (civil engineering ’63), San Juan Capistrano, Calif.

Stop or go! Yellow-light dilemmas
Researchers at the Virginia Tech Transportation Institute (VTTI) are attempting to improve intersection safety by researching driver reaction and the timing of yellow lights.

Although observation-based research shows that only 1.4 percent of drivers cross the stop line after the light turns red, more than 20 percent of traffic fatalities in the U.S. occur at intersections.

“If the yellow time is not set correctly, a dilemma zone is eminent,” said Hesham Rakha, director of the Center for Sustainable Mobility at VTTI. “The dilemma zone occurs when the driver has no feasible choice. In other words, the driver can neither stop nor proceed through the intersection before the light turns red. This can also occur if the approaching vehicle is traveling faster than the posted speed limit and/or if the driver’s perception and reaction time is longer than one second.”

Rakha and his team are using the Virginia Smart Road, managed by VTTI, to test drivers’ behavior as they approach yellow lights. Their aim is to determine signal times that are safer yet still efficient.

Thomas R. Fox named Soil Science Society of America Fellow
Thomas R. Fox, professor of forest soils and silviculture in the College of Natural Resources and Environmental Conservation’s ’S 4 million portion of a $20 million grant from the National Institute of Food and Agriculture to study the effects of climate change on southern pine forests. He was recognized during the society’s 2012 annual meeting.

Landscape architecture programs ranked second in North America
Virginia Tech’s School of Architecture + Design, part of the College of Architecture and Urban Studies, has once again earned high marks in national rankings. DesignIntelligence awarded both the undergraduates and graduate landscape architecture programs top marks, with each ranking second in the nation in the America’s Best Architecture & Design Schools 2013 report. Other programs within the school were also highly ranked, and Professor Robert Dunay was listed among the 30 Most Admired Educators for 2013.
A student team from the Department of Aerospace and Ocean Engineering in the College of Engineering won first place in the American Institute of Aeronautics and Astronautics Foundation’s 2011-12 Undergraduate Team Space Transportation Design Competition in September in Pasadena, Calif. The contest required entrants to design and produce a business plan for a commercial Earth-to-orbit passenger vehicle. Members of the winning team, all aerospace engineering undergraduates when the project began in 2011, were Nicole Heersema, Tommy Hertz, Tom Kasmer, Maria Rye, Matt Shepherd, Matt Smith, Bryan Undercofller, and Greg Wheeler. Kevin Shingpaugh, an adjunct faculty member of aerospace and ocean engineering and the director of information technology at the Virginia Bioinformatics Institute, served as the team’s faculty advisor.

New majors, minors added to liberal arts and human sciences offerings

Beginning in the spring semester, two innovative majors, a pair of minors, and a new program option will be available in the College of Liberal Arts and Human Sciences. The State Council of Higher Education for Virginia has approved a bachelor of arts degree in religion and culture and a master’s degree in material culture and public humanities. In addition, the college boasts a new minor in Middle East studies, a minor in 21st-century studies, and a new research methods option in sociology.

Researcher determined to find better treatment for ‘sleeping sickness’

In sub-Saharan Africa, a disease known as sleeping sickness—spread by the tsetse fly—infests hundreds of thousands of people each year. Because domesticated animals also die from the parasite, the disease delivers a tremendous blow to the agricultural economies of these countries. Zac Mackey, an assistant professor of biochemistry in the College of Agriculture and Life Sciences and an affiliated faculty member with the Fralin Life Science Institute, is investigating new ways to develop drugs to combat the parasite. He examines the parasite, Trypanosoma brucei, by studying a protein kinase that may be responsible for controlling DNA replication and repair.

Veterinary college celebrates opening of new addition, research facilities

The Virginia-Maryland Regional College of Veterinary Medicine’s huge cohort of students began their 21st-century studies, and a new bachelor of arts degree in religious studies was approved from the State Council of Higher Education for Virginia. The degree program was meeting in November.

First-of-its-kind degree in real estate approved

Beginning in fall 2013, Virginia Tech will offer a bachelor of science program in real estate, the nation’s first interdisciplinary undergraduate program of its kind. Incorporating Tech’s academic strengths in architecture, building construction, business, applied economics, engineering, property management, and natural resources management, the degree program was unanimously approved by the Virginia Tech Board of Visitors at its quarterly meeting in November. The program, pending approval from the State Council of Higher Education for Virginia, will prepare students to become leaders in today’s complex real estate industry.

Seeing red? Study examines color’s influence on consumer behavior

Researchers found that at auctions and similar situations where consumers compete with one another to buy a scarce or a limited edition product, willingness to pay was strengthened through exposure to red rather than blue backgrounds. In contrast, in situations that allowed negotiations—when a product is readily available—willingness to pay was weakened by red backgrounds compared to blue. Published in the Journal of Consumer Research, the study was authored by Pamplin College of Business Associate Professor of Marketing Rajdeep Bagchi and the University of Virginia’s Amar Cheema.

“Ultimate Hokie” finally sees the Cascades

Although he was dubbed “The Ultimate Hokie” for his passion for Virginia Tech, Justin Graves (sociology ’12) was missing out on a quintessential Hokies tradition—hiking to the famed Cascades Falls in nearby Giles County, Va.

Graves is a paraplegic and has been reliant on a wheelchair since age 3. “I figured it’s just something that would be on my bucket list, never to really ever come off of it. I’ve seen pictures, and that was good enough for me,” said Graves, now a master’s student in the Department of Educational Leadership and Policy Studies.

But it wasn’t good enough for Graves’ fellow Hokies. In the spirit of the Virginia Tech motto, Ut Prosim (That I May Serve), Graves’ longtime friend, Scirpu Gadamsetty, a senior in the Department of Engineering Science and Mechanics, offered to help carry Graves to the falls—two miles, one way, up trails that are decidedly not wheelchair-friendly. More than a dozen Hokies joined in the December quest, carrying Graves on a makeshift stretcher or on their backs.

Roving Mars

When you look at a thick stack of layers, it’s like a book and you start at the bottom with the earliest chapters and work your way up. The cool thing is that whatever was going on on Mars at the time of this story you’re about to read, is at the time life was starting to evolve on Earth. We get to read that story here and see what controlled the early environmental evolution. I hope that will be the legacy of this mission.”

—John Grutter (Ph.D. geology ’89), chief scientist for NASA’s Mars Science Laboratory mission

To find a photo gallery of the trek, along with links to a video of the hike and more, visit www.vtmag.vt.edu.

www.vtmag.vt.edu
In obesity, economics, not genetics, may be to blame

In a first-of-its-kind study that shows environmental conditions can be more influential than genetics, Virginia Tech researchers have found that the cost of food—not someone’s genetic makeup—is a major factor in selecting fattening food. The study, published in The Open Neuroendocrinology Journal, suggests that economic environments could be altered to help counteract the obesity epidemic plaguing more than one-third of Americans. In the U.S. over the past 30 years, the price of fattening food has declined compared to healthy food, while obesity rates increased. This research suggests that if fattening foods cost more or were taxed, people would be less likely to eat them.

Virginia Tech hosts its first LGBT history month

Throughout the month of October, Virginia Tech celebrated the history of lesbian, gay, bisexual, and transgender heritage and related civil rights movements, marking the first time that a cultural awareness month dedicated to LGBT issues was observed at the university. Events included film screenings, guest speakers, and discussions, as well as the Dining Out for Equality Restaurant Week, in which participating restaurants offered discounted menus in support of the LGBT community.

Lack of sleep affects your workplace ethics, study finds

Many studies have looked at the impact of sleep deprivation on workers’ health, safety, and morale, but few have considered its implications for unethical behavior. Barnes and three other scholars conducted four studies in different settings and situations to examine the influence of low levels of sleep in decision-making situations involving ethical considerations. “We consistently found that people were more likely to behave unethically when they were short on sleep,” he said.

National Tire Research Center to open

The National Tire Research Center, located in Halifax County adjacent to the Virginia International Raceway, had a ribbon-cutting ceremony on Oct. 24 for its renovated facility. The center features custom-built equipment that economic development leaders and Virginia Tech officials hope will make Southside Virginia a one-stop destination for global tire testing and development. One test machine, the “Flat-Trac LTR,” is unique in its use of electric motor technology and can run a tire up to 200 mph. It provides data on handling, ride, torque, and braking capabilities on various surfaces, including wet road conditions. The facility also houses the Southern Virginia Vehicle Motion (SoVa Motion) Laboratory, which has an eight-post test rig, wheel force transducers, and a stainless-steel lab.

The $14 million center was created in 2010 through a collaborative effort led by the Virginia Tech Transportation Institute in alliance with the Virginia Tech Department of Mechanical Engineering, the Institute for Advanced Learning and Research, General Motors, and the Virginia Tobacco Indemnification and Community Revitalization Commission. See a photograph of the center on page 18.

People not hooked on fish could get omega-3 through dairy

Not everyone has a taste for fish, even though it is a natural source of heart-healthy omega-3 fatty acids. And while a growing number of omega-3 enriched foods may net health benefits for people who resist the lure of salmon or sashimi, milk remains the product that has gotten away in what has become a billion-dollar health industry.

But now, food science researchers at Virginia Tech may have reded milk into the omega-3 delivery system, showing it is possible to incorporate fish oil into milk and dairy-based beverages in amounts sufficient to promote heart health without destroying the product’s taste or limiting its lifespan. The study was featured in the November issue of the Journal of Dairy Science.

“We were concerned the fish oil would undergo a chemical process called oxidation, which would shorten the milk’s shelf life, or the milk would acquire a cardboard or paint flavor by reacting with the fish oil,” said Susan E. Duncan, a professor of food science and technology in the College of Agriculture and Life Sciences. “It appears we have a product that is stable, with no chemical taste or smell issues.”

Steering driverless cars through intersections

How do driverless vehicles navigate through intersections? Faster and safer than if humans were in charge, according to researchers from the Virginia Tech Transportation Institute. Autonomous vehicles will turn themselves over to an automated intersection controller, which will allow the vehicles to move at the speed limit.

Untold stories of incarceration

I realized I had entered into a ‘hidden pocket’ of experience due to my insider status as a visitor and that these stories of families impacted by incarceration needed to be told. I have never witnessed such pain, vulnerability, and also strength, as I had amongst these families who were also ‘doing time’ with the incarcerated person.”

— Joyce Arditti, professor of human development in the College of Liberal Arts and Human Sciences, whose research deals with the effects of parental incarceration on families.
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* Or ... you can customize your card to show your favorite Hokie moment!

Center for European Studies and Architecture begins expansion, renovation

Situated in a Swiss village between the foot of Monte San Giorgio and the shore of Lake Lugano, the Center for European Studies and Architecture in Riva San Vitale has served as Virginia Tech’s European campus for 20 years. Now, the center is scheduled for expansion and renovation. Plans include the construction of 6,200 square feet of new space and the renovation of 5,200 square feet of existing space in the 19,259-square-foot main building. The expansion will include a new dining area, a large classroom, and renovations and enlargement of the existing library, among other improvements.

Targeting malaria

Malaria causes as many as 907,000 deaths each year, mostly among children in sub-Saharan Africa. Closely related African mosquito species originated the ability to transmit human malaria multiple times during their recent evolution, according to a study published in PLoS Pathogens by Igor Sharakhov (right), an associate professor of entomology in the College of Agriculture and Life Sciences, and Maryam Kamali, a Ph.D. student in the Department of Entomology. The discovery could have implications for malaria control by enabling researchers to detect and target specific genetic changes associated with the capacity to transmit a parasite.

(UN)lucky numbers

Statistics indicate that American businesses lose between $800-900 million when the 13th of a month falls on a Friday. ... in China, where eight is a lucky number, people like to start auspicious events when eight is part of the date (The Beijing Summer Olympics opened on Aug. 8, 2008, i.e., 8/8/08). ... There is also literature on fluency — numbers such as 10-11-12 or 12-12-12 may feel more fluent. They may feel right, give you a sense of pleasure (not discomfort), and this may make you more optimistic. This sense of optimism may lead you to make investments, buy an expensive gift, make more risky choices, or even get married.” —Rajesh Bagchi, associate professor of marketing in the Pamplin College of Business, on the influence of numerical superstition on human behavior

www.ItsStellarBeingaHokie.com
855-VTHOKIE (855.884.6543)
On a chilly morning in October, a group of clinicians and veterinary students set out in two trucks, taking equine medicine on the road in the New River Valley. The program, known as Equine Field Service (EFS), provides on-the-ground, on-the-farm veterinary care to horses within a 35-mile-radius of campus.

Clinicians, interns, and students from the Virginia-Maryland Regional College of Veterinary Medicine piled into the trucks and rode out to the Campbell Arena on campus, which houses horses for Virginia Tech’s riding program. Dr. Becky Funk guided students through a routine chiropractic visit, finding and detecting sore spots for treatment.

“It’s nice to get out in the field and learn from clinicians how to work with horses and talk to clients,” said Theresa Economos, a fourth-year veterinary student. For Economos, who plans to go into equine practice, the three-week stint with EFS confirmed her choice.

“The problems one encounters in field services are different than in the clinic,” said EFS intern Dr. Annie Martin, who noted that issues arising in clinic visits in equine medicine are often more complex.

Cool fall air whisked through the barn as the team huddled around one of the stalls, watching Funk work and taking their own turns examining the horse. The team also took time to check up on other horses that had previously been treated for other conditions—one for sinusitis, another for a fractured mandible. Such experiences prepare students for real-world veterinary scenarios. “More of our equine students will be doing field service, so [EFS] gives them a more realistic experience of what they can expect in the future,” said Martin.

Though EFS offers services similar to those provided by private practices, Dr. Dana Cook, a clinical assistant professor with EFS, noted that the program is primarily a learning tool meant to provide hands-on experience for students. “The students get to go out and talk to clients and see things that they’d see in the world every day,” she said, adding that “in the face of larger class sizes, we have the ability to do some one-on-one teaching.”

EFS offers students a chance to experience in-the-field medical care for horses, including vaccinations and deworming; treatment for common conditions, such as colic, lameness, or lacerations; reproductive care and foal checkups; and dental care.

“This is nice to see how they’re actually in the field,” said Theresa Economos, a fourth-year veterinary student.

“In the field, visits range from routine to emergency situations. Teams are often on the road all day, especially if a call comes in during another visit.

“Essentially, what I’m trying to do is restore motion. You take a joint through its range of motion and sort of push it,” explained Funk as she worked on a series of neck stretches with a horse named Nimue. The students looked on, following Funk’s careful coaching and trying to detect a sore or stiff joint.

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Mitzi Vernon

Metaphorically teaching

by KATE GEHRIT
photo by ANNE WERNIKOFF

Mitzi Vernon, winner of Virginia Tech’s 2012 William E. Wine Award, has a gift for building connections and using metaphors that allow her students to see the world in a new way. As a professor of industrial design in the School of Architecture + Design, she takes a multifaceted approach to her teaching and research. As she explains it, “I speak three languages: design, engineering, and science.”

In the studio, Vernon is not the star of the show; she is a guide and a moderator, but not a lecturer. On a recent critique day, students presented two form projects designed to strengthen their understanding of such concepts as planes, intersections, volume, flow, acceleration, and fair curves, all of which will provide a solid foundation for the students’ future work. The results of their efforts are elegant creations of wood, metal, acrylic, and illustration board.

The entire group actively contributes to the critique, offering feedback and suggestions. The atmosphere is supportive, but Vernon is not one to encourage platitudes. She said that while it can be challenging to get the students to be critical of one another, they need that rigor to improve.

Students describe Vernon’s style as both nurturing and demanding. Jonathan Kim, a sophomore industrial design student in Vernon’s second-year studio, said, “I love the way she gives feedback. It’s very constructive; if you need to change something, she’ll tell you, and I love that about her.”

“[Vernon’s teaching] has a real emphasis on craftsmanship and not settling for what comes out first or what comes out easy, but what’s truly right visually,” said Martha Sullivan (M.S. architecture ’06), an instructor for a computer-aided design class that relates to the work Vernon’s students are doing in the studio. “What she teaches them in studio is to never settle for ‘almost.’”

Vernon is not interested in having her students memorize answers from textbooks; she facilitates critical-thinking skills. Elizabeth Stokley (industrial design ’12) said of Vernon’s teaching style, “She doesn’t give all the right answers, but rather all the right questions—probing, uncompromising, and practical—encouraging students to search rather than follow.”

Said Vernon, “I delight when students complete work that presents an understanding of the tenets I have tried to convey, but delight is short-lived. What I hope is there has been — continued on page 36.
One conference room is better known as the “Kindergarten Cop” room, named after the 1990 Arnold Schwarzenegger film. There’s a “Usual Suspects” room downstairs, complete with one-way glass on the door. Others depict scenes from the Star Wars and Transformers franchises.

Welcome to the world of Rackspace. Employing about 120 people who call themselves “Rackers,” the Blacksburg branch of the San Antonio-based public cloud company serves as a center for cloud-computing software and application development, manages the company’s hosted email business, and more. Housed in the University City Mall development adjacent to campus, the sprawling office has a cozy atmosphere. In fact, “Racker Kids,” employees’ children, covered the walls of the Kindergarten Cop room with their crayon drawings.

Clearly, Rackers want to be here. And Rackspace clearly wants to be in Blacksburg. Employees even call it Racksburg.

“It’s a core value to treat your fellow Rackers like friends and family,” said Rackspace software developer Iccha Sethi (computer science ’12).

At the helm of this collaborative environment is Doug Juanarena (electrical engineering ’75), Rackspace’s vice president of Blacksburg operations. The entrepreneur was among the first to invest in the company when it was Webmail.us, the fledgling startup of three other Virginia Tech alumni, Pat Matthews (finance ’02), Bill Boebel (computer engineering ’01), and Kevin Minnick (computer science ’00).

In late 2004, Juanarena sat across the table from the trio. “Pat was very upfront with me,” he said. “[Pat] said, ‘This is our third business. The first two failed.’ To me, that was a strength, because you learn 10 times more from failure than you do from success.” Juanarena had made a number of angel investments over the years, but noticed something special about Webmail.us, so he gathered a group of investors to help the company grow.

“This guys needed money to scale up. You think of email and it seems simple,” he said of their business, “but when you look under the hood, it’s like a jet fighter under there.”

In 1977, Juanarena left his job at the NASA Langley Research Center, where he was developing instrumentation, to found Pressure Systems Inc., in Tidewater, Va., and further develop a pressure-sensing technology. He sold the company in 1996 and soon became involved in such tech ventures as Nematron Inc., Luna Innovations, and GenTek Ventures. He returned to Blacksburg in 2000 and invested in Webmail.us in 2004. The company grew in size, and by 2007, it was acquired by Rackspace.
The community will offer the technology already under way in the Blacksburg area, millions of dollars in new construction due to the high quality of life. Montgomery County area population estimated that in 10 to 20 years, the Montgomery County’s Department of Economic Development (MCDED), “Virginia Tech creates a tremendous amount of research and intellectual property, which spills over into the community to create businesses that hire people.”

Juanarena said that Rackspace employees often provide free consulting at area companies, while he personally mentors professionals and Tech students and faculty, helping them “commercialize their dreams and ideas.” Meanwhile, he said, “Virginia Tech creates a tremendous amount of research and intellectual property, which spills over into the community to create businesses that hire people.”

The notion of new ideas and risk-taking is deeply embedded in the Rackspace culture. Look at it this way: The Kindergarten Cop drawings, is more than a funny place to meet. It’s a reminder that challenges and struggle to create businesses that hire people.

The area has another well-known perk: natural beauty. It’s a part of the work-life balance that Rackspace email product manager Brooke Jackson (marketing ‘02, M.B.A. ’04) appreciates. “You get a really right-angle community and amazing outdoor activities, and then you can come to work and be on the cutting edge of technology,” Jackson said.

If the valley has the great outdoors covered, Rackspace takes care of the indoors. In the 2012 “100 Best Companies to Work For” list, compiled by Fortune and Money magazines and CNN, Rackspace ranked 74th.

Rackspace also is highly connected to other area tech businesses and to Virginia Tech. “The power in Silicon Valley is its entrepreneurial ecosystem,” said Juanarena. “We want to build our brand, but we also want to grow that type of ecosystem here in Blacksburg.”

Juanarena said that Rackspace employees often provide free consulting at area companies, while he personally mentors professionals and Tech students and faculty, helping them “commercialize their dreams and ideas.” Meanwhile, he said, “Virginia Tech creates a tremendous amount of research and intellectual property, which spills over into the community to create businesses that hire people.”

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Jesse Steele, a graduate assistant with the marketing and publications unit, is pursuing a master’s degree in public administration and urban and regional planning.

Like the other entrepreneurs interviewed for this series, Doug Juanarena tells us what makes him tick in a podcast interview accessible at www.vtmag.vt.edu.

rackspace
The land-grant today
by JOHN PROVO
Director, Office of Economic Development, Virginia Tech

The roots of the land-grant system are in economic competitiveness—created by placing knowledge in the hands of people who can apply it in the world. Since Virginia Tech’s founding in 1872, this aspect of our mission has helped fuel job growth across the commonwealth.

Today’s economic challenges and technological changes have led to the creation of “living laboratories” across Virginia—places where collaborations among faculty, students, and industry drive discovery and learning, and give the commonwealth an edge in a global economy.

In Blacksburg, the Virginia Tech Corporate Research Center is a seedbed for faculty entrepreneurship, a locus for partnerships between firms and faculty, and a training ground for students. The Virginia Tech Carilion School of Medicine and Research Institute is a unique public-private partnership linking Broadview to global networks in medicine and life sciences.

In central Virginia, we’ve partnered with Region 2000’s Center for Advanced Engineering and Research, a regionally owned and operated center that connects our faculty to wireless technology and nuclear engineering firms. Southern Virginia Institute for Advanced Learning and Research is developing horticulture crops and biopolymers in collaboration with industry players.

Nearby, the National Tire Research Center and SOVA Motion Lab work with General Motors and other firms in the auto, tire, and racing industries.

In Hampton Roads, the National Institute for Aeronautics is a multi-university consortium adjacent to NASA Langley. In the Richmond-Petersburg area, the Commonwealth Center for Advanced Manufacturing is an independent, nonprofit research-and-development partnership bringing together firms like Rolls-Royce Aerospace and Canon with talent from several state universities. At the newly opened Virginia Tech Research Center – Arlington, faculty examine issues in energy, informatics, and cybersecurity.

All represent a sustained investment in the fundamental vision of the land-grant mission. As we put knowledge to work across Virginia, we are transferring valuable intellectual capital and investing in the future competitiveness of the commonwealth.

The land-grant’s challenges
by PETER MCPHERSON
President, Association of Public and Land-grant Universities

As we celebrate the 150th anniversary of the Morrill Act, it is timely to remember the three ideals that drove its creation: strengthening democracy by expanding access to higher education to ordinary people, defining the federal government’s role in economic development, and improving agriculture production by increasing technical and scientific education.

The Morrill Act embodied all of the compelling ideas that shaped Abraham Lincoln’s non-war agenda. Land-grant colleges adopted a model that reinforced cutting-edge teaching, discovery, and community engagement. That model was codified when the Morrill Act was expanded to include research with the passage of the Hatch Act and cooperative extension with the Smith-Lever Act.

Today, land-grant and the other public universities enroll 7 million students and have increased enrollment by 23 percent over the past decade. At the same time, public universities perform more than 60 percent of federally funded academic research.

The nation now faces a new set of challenges: We need to expand economic and social opportunity. Universities must respond with high-quality and affordable education for our diverse population. By the year 2018, more than 60 percent of the nation’s jobs are expected to require at least some college education.

To help drive economic growth, federal and state governments need to invest in research and innovation. Federally funded research must be a national priority as Congress and the administration make critical decisions about federal spending. Moreover, governments must keep higher education accessible. A generation ago, states paid two-thirds of the tuition costs while students and families paid one-third. Today, the situation has flipped and students and families pay two-thirds of the cost.

Public universities are being challenged to provide both a quality education and cutting-edge research while also educating more students with fewer financial resources. As leaders work to meet these challenges over the next decade, public universities will become very different institutions.
Cadet John Turbyfill (above right) always wanted to be a Hokie. His mom's side of the family hails from Blacksburg, and he grew up visiting campus and cheering on Virginia Tech.

He also was active in JROTC in high school and had another Virginia Tech connection that helped him make his college choice. His JROTC instructor, U.S. Air Force Lt. Col. Tracey Carter (chemistry ’88), a corps alumnus, brought Turbyfill and his fellow students to campus for a tour. After that, the decision was easy: Turbyfill would be a Hokie and a cadet so that he could pursue his dream of being an Air Force officer.

As the Turbyfill brothers explain it, James (above left) was another story—long hair and all. James, two years younger, did not participate in JROTC and although he was set on following his brother to Virginia Tech, he had no interest in being a cadet or serving in the military. That all changed when he participated in the Corps of Cadets Spend the Night program last October.

“I love [the corps]. I wasn't in JROTC in high school and didn't think about the military until later, but I did Spend the Night last year and was sold on the corps. I wanted the structured lifestyle and the focus on academics. I saw my brother mature and transform into a man after joining the corps and that influenced me to pursue the same leadership skills,” explained James.

James, a finance major, joined Army ROTC hoping to be in the airborne infantry. John is a chemistry and biochemistry double major and is in Air Force ROTC, pursuing his dream to serve his country as a B-1 pilot. James was one of more than 420 new cadets to enter in August, while John served as a cadre sergeant training the corps’ newest members. The addition of the Class of 2016 in August pushed corps enrollment to more than 1,000 cadets for the first time in decades.

John explained that when he joined the corps he was looking for a family atmosphere and found it at Virginia Tech. “Like the military, the corps is one big family you can depend on.”

James echoed these thoughts. “Even if you don’t have a family outside of the corps, once you join the corps you do have a family.” Now the Turbyfill brothers are helping their new family continue to grow and succeed.

Maj. Carrie Cox is the executive officer with the Corps of Cadets.
Virginia Tech’s commitment to outreach and diversity is exemplified in the Martin Luther King Jr. National Memorial.

Dream Design

Officially dedicated on Oct. 16, 2011, the Martin Luther King Jr. National Memorial joins the Washington, Lincoln, Jefferson, and Roosevelt memorials on the National Mall.
“What happens to a dream deferred?”

Thus reads the first line of Langston Hughes’s “Harlem,” one of the most recognizable poems of the Harlem Renaissance. When Virginia Tech’s Washington-Alexandria Architecture Center assumed responsibility for a design competition for the Martin Luther King Jr. National Memorial, the longstanding dream of Alpha Phi Alpha Fraternity Inc.—to erect a memorial to King—was deferred no longer.

In early 1999, before widespread use of e-mail and the Web, an elegant poster was mailed worldwide to the professional design community. Bearing photographer Bob Fitch’s 1966 image of a pensive Martin Luther King Jr. superimposed over a familiar black-and-white image of King’s “I Have a Dream” speech at the Lincoln Memorial—its steps and lawn and both sides of the Reflecting Pool awash in humanity—the poster announced an international design competition for the first memorial on the National Mall dedicated to an African American.

The announcement, which originated from Virginia Tech’s Washington-Alexandria Architecture Center (WAAC), was an emotional milestone for the nation’s oldest historically black fraternity. Some 15 years earlier, five leaders in Alpha Phi Alpha Fraternity Inc. had voiced a dream to memorialize one of their most cherished brothers. To guide the project’s development, the fraternity established a nonprofit fundraising entity, the Martin Luther King Jr. National Memorial Project Foundation Inc., and set out to raise $120 million for the memorial’s construction.

At WAAC, managing architectural competitions is one of the urban center’s many outreach functions—and a serious undertaking that requires careful planning and considerable manpower. “The process is complicated,” said WAAC founder Jaan Holt (architecture ’64), the Patrick and Nancy Lathrop Professor of Architecture and longtime School of Architecture + Design faculty member and administrator. Holt has directed more than $1 million in sponsored projects and outreach-related activities at the center, which has its roots in a few design studios above a retail pharmacy in the Old Town neighborhood of Alexandria, Va., a core city in Tech’s National Capital Region presence.

Deeply honored when approached by Alpha Phi Alpha in 1997, Holt was also well aware of the challenges ahead. “Initial stages of a competition are hardest [to fund],” he explained. “We had no money. Alpha Phi Alpha did not have great funding.”

In light of the less-than-ideal fiscal landscape, Virginia Tech’s involvement in those early stages was crucial, Holt said, adding, “I don’t know if [the competition] would have taken off otherwise.”

Consortium connections + kismet

Since 1985, WAAC has hosted the only architectural consortium of its kind in the United States, the Consortium of Architecture Studies. Each year, the center’s degree programs are opened to students and faculty from schools across the country and around the world.

“My first trip to WAAC on behalf of Virginia Tech was related to [the King Memorial design] project with Jaan Holt,” said Vice President Emeritus of Multicultural Affairs William T. Lewis Sr. (seated), Virginia Tech’s current president. Holt continues to thrive in its urban location, retaining tightly regarded faculty and outstanding architecture students as the college approaches its 50th anniversary in 2014.

Enacting the university’s commitment to service as an integral part of education at a land-grant school, WAAC students have undertaken hundreds of thousands of hours of outreach and public service projects in the region, such as visiting sites that need attention and contributing ideas to refurbish worn spaces, according to center director Jaan Holt (architecture ’64). Other projects have included documenting historic construction data for a variety of the region’s structures and managing a number of prominent design competitions.

Additionally, the über-successful Solar Decathlon, a national competition to encourage the construction of sustainable and affordable dwellings, was organized by WAAC faculty member and outreach coordinator Harry Holsinger (architecture ’89, M.Arch. ’91), who also owns an award-winning design firm in Alexandria.

Foundation: Jaan Holt (above left), founder of Virginia Tech’s Washington-Alexandria Architecture Center; and Benjamin Dixon (above right), vice president emeritus of multicultural affairs, played critical roles in the design competition that led to the Martin Luther King Jr. National Memorial, a project featured in a January 2012 presentation on campus attended by Vice President for Diversity and Inclusion William T. Lewis Sr. (seated) and others.
Established in 1998 as the Office of Multicultural Affairs and led by founding Vice President of Multicultural Affairs Benjamin Dixon, now retired, the office has been housed in a variety of diversity initiatives and programs, helping to guide university policy and serving as an advocate for diverse groups within the campus community. Under Dixon’s leadership, the office grew in both size and scope.

Today, ODI builds on the groundwork established by Dixon and continues to introduce new initiatives that seek to shape Virginia Tech into an inclusive kinship of Hokies.

Traditionally, some of the most popular programs sponsored by ODI have revolved around the university’s Martin Luther King Jr. celebration, which is one of the most significant outreach initiatives. “What we try to do as an institution is to look at the life and legacy of Dr. King and bring that into our campus and larger community in the positive aspects of his contributions to society, as well as his sacrifices for equity, social justice, and nonviolent resolution of conflict,” said Lewis.

One of ODI’s most significant activities is the student essay and poster contest, which has garnered much attention university-wide.

For the 2013 Martin Luther King Jr. celebration, ODI has partnered with the Center for the Arts at Virginia Tech to sponsor a special performance that reflects on King’s legacy: “What Is This Thing Called Freedom? Transforming and Timeless Songs of Protest.” Featuring vocalist Diane Monroe and her jazz quartet, with vocalist Paul Jost, the show at the Lyric Theatre will present music of the civil rights movement by such artists as Bob Dylan, Gil Scott Heron, Joni Mitchell, and Pete Seeger.

“One of the things I had envisioned was to really capture the spirit of the ’60s through music,” said Lewis, “and for that to touch multiple generations. Music cuts across generations, perspectives, and racial boundaries.”

Besides its events to celebrate King’s legacy, ODI offers two signature programs that have garnered much attention university-wide.

Promoting excellence through inclusion, the Diversity Development Institute (DDI) is a set of professional development programs designed to help faculty and staff increase awareness, knowledge, and skills around issues of diversity and inclusion. Now in its sophomore year, DDI offers a diversity and inclusion certificate for participants. More than 300 faculty and staff members participated in the institute’s first year of classes.

Another brand-new, campus-wide effort coordinated by ODI is the Strong Together initiative, which promotes the values set forth in the Virginia Tech Principles of Community, a series of affirmations that underscores the university’s commitment to increasing access and inclusion for all.

In a nutshell, Strong Together is “a way to take the good words of the Principles of Community and turn them into great action,” Lewis said. “We’re looking at the history and traditions at Tech—athletics, the Corps of Cadets—to illustrate that, at Virginia Tech, we prevail. We have a tradition of steadfastness. We are strong when we work together.”

To keep diversity and inclusion in the consciousness of the campus community and to allow students to express how the Tech community truly is strong together, two T-shirt designs have been created. One shirt bears the word “strong,” and the other shirt bears the word “together.” When people wearing the different shirts meet, the concept is illustrated, moving from an abstract idea to a concrete demonstration.

“I have a lot of experts around me who help us take our vision into practice,” said Lewis. “We work together to help the university reach its commitment to inclusivity and to make a welcoming place for all faculty and staff.”

Because Bowie, who later served on the jury that selected the competition’s winning design, was familiar with WIAC’s management of the design contest for the Women in Military Service for America Memorial, she approached Alpha Phi Alpha for help on behalf of the center.

In Dixon’s mind, the university’s involvement in the design competition solidified in the right place at the right moment with the right people. Holt, for his part, feels that Dixon is one of those people. “Dr. Dixon gave us his whole discretionary budget, seed money to get things under way to research the project, get a team, get the site,” Holt said. “That seed money got us going.”

“I was new at the university,” Dixon said. “I had not yet become fully enmeshed and had no outstanding obligations for the office to manage during that early phase of my tenure. Even if I had, I would have still seen [the project] as a significant opportunity to make a contribution. It really wasn’t a tough decision.”

With that seed money, along with grants from the U.S. Commission of Fine Arts and the National Endowment for the Arts, WAAC assembled a team. Work to secure an appropriate site for the memorial commenced in earnest.

“For us to have responded so quickly to do this pro bono work impressed a lot of people outside the university,” said Dixon. “That wasn’t our aim, but it was a nice residual. We had the tools, the talent, and the purpose. It was a happy coming together of circumstances.”

Years in the dreaming

“When Alpha Phi Alpha first came to WAAC,” Holt said, “they had no site. They had been offered a number of sites by the National Park Service and weren’t happy with those selected by the Commission of Fine Arts, so our first challenge was to find an appropriate location.”

Henry Hollander (architecture ’89, M.Arch. ’91), a faculty member and coordinator of outreach and alumni relations at the center, remembered that “there was controversy about the site selection. A whole group of folks wanted the King Memorial to the right of the Lincoln Memorial, where King had delivered his ‘I Have a Dream’ speech.”

While the location of King’s speech is commemorated with a plaque, the planning group envisioned a much grander, more expansive site. After looking at the sites proposed by the park service, the WAAC team deemed most appropriate a 4-acre site next to the Franklin Delano Roosevelt Memorial on the Tidal Basin. “We felt it was the best site, a triangle of acreage that site between the Jefferson and Lincoln memorials, positioned in a continuation of the same poles, the same political intentions, culminating in King’s success in the civil rights movement,” Holt said. “Alpha Phi Alpha liked that idea—a path of leadership around the basin, and King would be one of those leaders.”

The site approved, plans were made for its official dedication. “We were asked if
Virginia Tech's annual Martin Luther King Jr. celebration, during which the university showcases King's impact and work leading up to the construction of the Martin Luther King Jr. National Memorial on the National Mall.

“Realizing the dream”

In Holt’s estimation, executing the King Memorial design competition in 2000 required between $150,000 and $200,000. Besides professional oversight, design competitions necessitate a robust workforce, in this case ably filled by architecture students both at the center and in Blacksburg. Without these students’ dedication to the project, costs would have been exponentially higher.

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“Tremendous! Only the design competition consumed with submission boards from approximately two-dozen finalists, and the jury, an international mix of prominent architects and civic leaders, examined them. Later, more than 50 students and graduate student Daryl Wells, WAAC designed promotional posters and programs for the competition.

Response to the call for submissions was tremendous. Only the design competition invited applications from former Martin Luther King Jr. National Memorial and WAAC’s work was completed.

Making it happen

In 2006, following a span during which fundraising efforts wavered in the wake of the 9/11 terrorist attacks and then Hurricane Katrina, a formal groundbreaking for the King Memorial was held at the northwest edge of the Tidal Basin. As part of the team assembled by the King Memorial Foundation to build the memorial, Ken Terry (civil engineering graduate student Daryl Wells, WAAC designed promotional posters and programs for the competition.

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For many who gathered in Burruss Auditorium on Oct. 16, it was the evening of a lifetime. Giants of literature, from Maya Angelou to Rita Dove, gathered on the stage to honor one of their own, Nobel and Pulitzer Prize-winning author Toni Morrison. The author of acclaimed works, including “Beloved” and “The Bluest Eye,” Morrison also received the Presidential Medal of Freedom from President Barack Obama in May 2012.

The evening, dubbed “Sheer Good Fortune: Celebrating Toni Morrison,” was orchestrated by renowned poet and University Distinguished Professor of English Nikki Giovanni. As the author of more than 30 books and recipient of an unprecedented eight NAACP Image Awards for literature, Giovanni is a literary star in her own right.

Planning such events is no new endeavor for Giovanni, who in 2010, along with James Madison University English Professor Joanne Gabbin, planned a tribute to poet Lucille Clifton, who passed away in February of that year. This time, Giovanni and others decided to honor Morrison in person, offering her an evening of dramatic performance, music, and readings of her work that the writer, now 81, could enjoy. Giovanni joined forces with Angelou and Gabbin, also the executive director of Furious Flowers Poetry Center.

“Generations of readers will continue to be inspired by your work,” a letter to Toni Morrison from first lady Michelle Obama, read at the beginning of the event.

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Sheer good fortune

Still dreaming of what's next:

To read more on Nikki Giovanni’s achievements—and to find out what’s to come for the poet and professor—visit www.vt.edu/spotlight/achievement/2012-10-22-giovanni/giovanni.html.

Awful to bury a child. I wanted to find a way to throw as much love as we could around her. Nothing will replace that hole in your heart but love can at least kiss the edges. So I called Maya.”

Word of the event, sponsored by the university’s Center for the Arts, spread quickly; the free tickets were claimed in just 28 hours.

At the end of a series of readings featuring well-respected names that included Yusef Komunyakaa, Sonia Sanchez, and Jericho Brown, Giovanni led a choral reading of Morrison’s work. The musical and dramatic performances and emotional readings garnered a number of standing ovations and kept audience members captivated from start to finish.

Grammy-winning musician India.Arie graced the stage, performing a song entitled “Not Afraid of the Dark,” inspired by Morrison’s “The Bluest Eye.”

More than a tribute to Morrison, the event also spoke to Virginia Tech’s ongoing support of the arts. Ruth Waalkes, director of the Center for the Arts at Virginia Tech, called the event a unique opportunity to celebrate the literary arts in a group setting, noting that literature is usually more of an individual experience. “And it really was [Morrison’s] words we were hearing that night,” she said, “not a lecture.”

With the Center for the Arts’ official opening in fall 2013, such events could be but a taste of things to come: “I think it shows how art has this deeper connection and meaning in our lives, and I think everyone there [at the event] felt that,” said Waalkes.

By the end of the evening, Morrison’s eyes shone with gratitude. “I think this is—yes, I think it is—the first time I have been rendered speechless,” said Morrison of the readings and performances. “Let me tell you, if nothing ever happens again in a crowd for me, it doesn’t matter. This is as good as it gets.”

Susan Bland, communications manager for the Center for the Arts, and Jean Elliott, communications manager for the College of Liberal Arts and Human Sciences, contributed to this story.
Maurizio Porfiri

The Force of Water

by JENN BATES

A
lumnus profile

Maurizio Porfiri

The teacher: Maurizio Porfiri, 30, 06 demonstrates how the design of a fish’s tail can affect its swimming.

Dubbed the “Water Wizard” when Popular Science magazine named him to its “Brilliant 10” list in late 2010, Maurizio Porfiri (M.S. engineering mechanics ’00, Ph.D. ’06) is pursuing a fascination with robot-animal interactions, combining his personal interest in animal behavior with his technical training in mechanics to create a robotic fish designed to steer animals away from potential dangers.

Porfiri, an associate professor of mechanical engineering at the Polytechnic Institute of New York University (NYU-Poly), said that while he is still only beginning to understand how the design of a fish’s tail can affect its swimming.

Operating at the intersection of biology and engineering, Porfiri and his team chose to focus on the zebrafish, a social animal that communicates primarily through visual cues. After a series of experiments, they designed a robot that mimicked the shape and color pattern of the zebrafish—bright yellow with white stripes—through the robot would be four times larger in order to hold all of the necessary equipment. After successfully replicating the visual cues of the zebrafish, the team redirected their focus to determine if the robot could swim in a way that produced a wake the fish would follow. They placed the robot and the fish in a tank of water, controlling the tail speed of the robot, and observed when the live fish would ride the wake of the robot.

“We discovered that for each flow speed, there are certain tail-beat frequencies of the robot for which live fish prefer to be in the robot wake,” said Porfiri. “In these conditions, live fish can reduce their tail-beat frequency by following the robot, that is, reducing their energy expenditure. In other words, the robot can be a leader for live fish by offering them a hydrodynamic advantage.”

Romesh Batra, the Clifton C. Garvin Professor of Engineering Science and Mechanics at Virginia Tech, was Porfiri’s mentor for more than four years. Porfiri is arguably the most accomplished of Batra’s protégés.

“He’s brilliant—in a super,” Batra said, adding that Porfiri’s IQ and his desire to achieve success are a combination of factors that make him stand out.

Nicole Abaid, an assistant professor of engineering science and mechanics at Virginia Tech, studied for her doctorate under Porfiri at NYU-Poly and was a member of the team that discovered how to duplicate communication factors of certain fish, such as visual cues, pressure-sensing cues, and synchronization.

Abaid, whose dissertation was on the mathematical modeling of fish schools, said that Porfiri’s profound curiosity sets him apart. “He’s super-creative and just thinks in a different way,” Abaid said.

Porfiri’s IQ and his desire to achieve success are also what make him stand out. “He’s hardworking and has always been very ambitious; you see that in his work.”

Abaid worked with biology students to generate experimental campaigns comparing the mathematical model to the actual behavior of fish. “Most math departments don’t have labs or let you touch anything; you have pencil and paper,” Abaid said. “In engineering, especially working with Maurizio, I had fish. You get to touch stuff, you get to see how your research lives in the world.”

While Porfiri said he is pleased with the recognition his work has earned, he is also excited that honors like the “Brilliant 10” list, which carry a great deal of weight in terms of public perception and visible impacts on younger students, allow him to interact with the next generation of scientists.

Porfiri is currently part of three programs operating at the intersection of marine biology and robotics that help teach students about science—two at the New York Aquarium and a third at a middle school in Long Island.

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In addition to robotic fish, Porfiri is also involved in many other water-related projects. He is currently researching how humans interact with machines; how to mathematically model the collective behavior of fish, humans, and robots; and how to harvest energy from water to power environmental monitoring sensors.
Brooklyn. “My research has allowed me the opportunity of impacting K-12 students and the general public through science fairs, invited lectures at conferences, community meetings on environmental science, presentations in local high schools, and symposia for the general public on science, music, and creativity,” he said.

Batra said that Porfiri’s desire to explore all aspects of a problem and to make full use of his knowledge propels him toward greatness. “One of these days, he will come up with something that will be groundbreaking and probably revolutionize underwater robotics,” Batra predicted.

from Bates, a junior communication major, is an intern with Virginia Tech Magazine.

Mitzi Vernon, winner of Virginia Tech’s 2012 William E. Wine Award, has a gift — continued on page 36

a transformation, that the students’ thinking has shifted, unveiling more questions than when they began. I hope that they are not satisfied, but eager to press forward, recognizing along the way that they may have to keep asking the questions.”

Vernon incorporates learning methods that help students approach design challenges in new ways. When introducing ergonomics, for example, she invites Carol Burch-Brown, a professor in the School of Visual Arts, to conduct a life-drawing exercise so that the students understand the anatomy and mechanics of the hand in order to create improved form and utility in product design. Vernon’s approach to teaching design covers all facets, from sutting the needs of end users to planning for the manufacturing process.

While studying physics at Stanford in pursuit of her master’s degree in engineering, Vernon discovered something about her own learning that influenced her teaching and research. As she explained, “I could grasp scientific phenomena through drawing, modeling, and metaphors.” That ability to understand scientific phenomena as metaphors has not only strengthened her pedagogy in the studio, but also influenced her research on using design to teach scientific concepts that are abstract and invisible. Case in point: She leads Fields Everywhere, a continuing research project to develop interactive exhibits that began as a way to teach children about physics principles including gravitational, acoustic, and electromagnetic fields. (For more on the project, see the image and description on page 13.)

Likewise, Vernon’s teaching approach in and outside of the classroom is lighting up young minds, one at a time. From inspiring students in her classroom to energizing future scientists, Vernon recognizes that the world has many complex design problems, and that to solve them, it’s important to imagine what might be possible rather than relying on what has been done in the past.

Katie Gehrt is the communications manager for the College of Architecture and Urban Studies. Emily Goodrich, a sophomore English major and an intern with Virginia Tech Magazine, contributed to this story.

Remember the time what’s-his-face was guarding that guy on that other team? And that one guy took that shot — was it a two- or three-pointer? And boom! He drained it and the crowd went wild. I’ll never forget that!

Forgetting important details about the things you love? Sign up for MyLowe’s at Lowes.com. It remembers what your home needs, even when you don’t.
As a young man in 1946, Harold Hankins started working toward a college degree through a Virginia Polytechnic Institute Extension program in Danville, Va. He juggled his studies with a job in a cotton mill, and recalled it as "the most miserable year I ever spent."

Hankins (secondary education, industrial arts ’57) completed his first-year classes, but his grades were poor. He did not return for a second year. Surprisingly, that unpleasant beginning led to a remarkably long-lasting connection between Hankins, his extended family, and Virginia Tech.

Though it took longer than he first expected, Hankins did complete that degree, which he credits with preparing him to succeed as an executive and entrepreneur in the electronics industry.

He sent two daughters to Virginia Tech and has helped fund the education of several grandchildren who have enrolled. Hankins has also been an extremely generous supporter of scholarships and other programs at his alma mater.

"We just felt like we needed to give something back," said Hankins, who along with his wife, June, has endowed scholarships within the College of Liberal Arts and Human Sciences and the Corps of Cadets, as well as a leadership education fund within the corps. "If it hadn't been for Virginia Tech, I wouldn't have been as successful as I have been."

Hankins said that during the eight years between when he first enrolled and when he resumed his studies, "I always had the knowledge in the back of my mind that I did not complete what I had started, and that was hanging over me all those years, so I thought 'I've got to get back and at least try it.'"

During the gap in his college career, Hankins worked several jobs, including one in a jewelry store, where he learned to repair watches. While serving in the U.S. Navy during the Korean War, he was responsible for servicing ships' clocks.

While working toward his degree on the university’s main campus the second time around, Hankins was urged to apply to a newly formed Blacksburg company, Poly-Scientific, by a professor who was aware both of Hankins’ need to pay his way through school and his skill working with miniature machine parts.

After graduating, Hankins was hired full time by Poly-Scientific, which manufactured slip rings—devices that allow transmission of electrical signals from stationary to rotating devices—in a facility on Blacksburg's Main Street. Hankins progressed within that company and others in the industry over the course of 35 years. He ultimately owned several firms, including Martin Electronics, a world leader in the manufacture of ammunition and pyrotechnics.

Though he was never a member of the Corps of Cadets, Hankins said, "I would see the cadets everywhere and had a lot of respect for them and that program. It was neat."

Several years ago, Hankins said, he was inspired to get more involved with the corps by the story of a cadet named Adnan Barqawi. A descendant of Palestinian refugees who was born in Kuwait, Barqawi enrolled at Virginia Tech, became regimental commander of the corps, and was voted Undergraduate Student Leader of the Year in 2009.

"We called Adnan and developed a relationship with him, and he became part of the family," said Hankins, who still lives in Blacksburg just a few miles from campus.

Today, Hankins has two grandchildren in the corps, David Hankins, a junior management major, and Jason Conder, a junior mechanical engineering major.

In August, Conder’s sister, Briley, became the 10th of Harold Hankins’ relatives to enroll at Virginia Tech. She is double majoring in hospitality and tourism management and theatre arts and cinema.

Briley and Jason Conder were both early-decision applicants and did not submit applications to any other colleges, which illustrates just how strong the bond remains between their family and Virginia Tech—despite its rather inauspicious beginning.

Albert Raboteau is the director of development communications.
Did my brain look like everyone else's—or was I a freak too? I wondered.

"Nothing we can do about this one," he'd say, and move on to the next.

Everything was a jumble of mush and sharp wires all clumped together.

I envisioned a map of the human brain like I had seen on television. Here is a normal brain," a doctor in a white lab coat would say solemnly. He would use a pointer to show his audience the parts of the brain displayed on a screen. Each one would light up in a different color as he talked about it.

"Here is a normal brain," the same doctor would say, shaking his head, as my father's brain appeared on the screen. This one didn't look like the other brain. The doctor could not point out the individual parts.

"Now, here is your father's brain," the same doctor would say, shaking his head. The doctor could not point out the individual parts.


Christal Presley (English '99, M.A. English education '00), has published a memoir, "Thirty Days with My Father: Finding Peace from Wartime PTSD," in which she recounts 30 days of interviews with her father, a Vietnam War veteran.

Presley founded United Children of Veterans, a website that provides resources about PTSD to children of war veterans. The native of Honaker, Va., now lives in Atlanta, Ga., where she is an instructional mentor teacher for Atlanta Public Schools. She received her Ph.D. in education from Capella University in 2009. She is a former intern at Algonquin Books of Chapel Hill and spent seven years teaching middle and high school English in Chatham and Danville, Va.

In her memoir, Presley attempts to understand her father, his PTSD, and her own lifetime of vicarious traumas. What emerges is a harrowing portrait of the past's ability to haunt the present.

Below is an excerpt, reprinted with the author's permission:

I was 6 when my father went to the [Veterans Affairs] hospital for the first time because he was so emotionally disturbed and his hands shook so badly that he knew he shouldn't go on working and that he needed to qualify for disability insurance. That's when he was finally diagnosed with PTSD, but it would take six years before he was approved for full disability. Meanwhile, he just kept on working.

To me, "posttraumatic stress disorder" was just a bunch of words. All I knew was that it had something to do with my dad's brain and he seemed to be going crazy. And I knew it was bad because my mom told me that if anyone found out how sick he was, they'd come and take him away forever, and they'd take me away too, and she couldn't live like that. If he had to be that sick, I wanted him to have something everybody could understand. So I picked brain cancer.

I envisioned a map of the human brain like I had seen on television. "Here is a normal brain," a doctor in a white lab coat would say solemnly. He would use a pointer to show his audience the parts of the brain displayed on a screen. Each one would light up in a different color as he talked about it.

"Now, here is your father's brain," the same doctor would say, shaking his head, as my father's brain appeared on the screen. This one didn't look like the other brain. The doctor could not point out the individual parts.

"Nothing we can do about this one," he'd say, and move on to the next.

"We must receive the book within one year of its publication date. We must receive the book within one year of its publication date.

We must receive the book within one year of its publication date.
The power of mentoring

In a recent Alumni Factor survey that included 104 national universities, Virginia Tech ranked fourth in overall assessment and first among alumni who said the university is one they “would personally choose again.” Quite a feather in our cap, I’d say. One reason for the strong affinity may be something I have long paid particular attention to: the mentoring relationships between faculty and students. Such established bonds inspire students later, as alumni, to remain connected to endeared professors. I’ll share two examples that illustrate the commitment of faculty to go beyond their job expectations and invest significantly in students.

In October, Nikki Giovanni, University Distinguished Professor of English and a nationally acclaimed poet, hosted a magnificent tribute to her dear friend and novelist Toni Morrison, recipient of a Nobel Prize and the Presidential Medal of Freedom. That event, which also included poet Maya Angelou, is described earlier in this issue. One not-yet-famous poet who attended the event was one of Giovanni’s former students, Jonathan Pfaehler (English ’10). He traveled to campus for the mid-week commemoration of Morrison, whom he knew to be a mentor of his mentor. Pfaehler was once a finalist for the Steger Poetry Prize that Giovanni created—the nation’s largest cash prize for a student poetry contest. Now a consultant with the World Bank in Washington, D.C., he remains in touch with Giovanni and describes her as “my most inspiring professor and friend.” Said Pfaehler, “I learned to express myself in poetry through Giovanni’s inspiration.”

Scott Geller, Alumni Distinguished Professor in Psychology, has been a teacher and researcher at the university for 43 years. Like Giovanni, he has touched students’ lives and inspired them to hone their career paths. Shane McCarty (marketing ’11) became Geller’s student in 2008. McCarty had visited the campus the weekend prior to the April 16 tragedy in 2007 and said he accepted the university’s offer of admission the very next week “because of the amazing resilience shown by the entire Hokie Nation.”

Inspired by Geller’s classes and the opportunity to conduct research, McCarty, a marketing major, later added psychology as a minor. He designed a research study investigating bullying behaviors among elementary students and used the “Actively Caring for People” wrist bands that Geller had created 20 years earlier. The wrist bands served as positive incentives for students to reduce bullying. McCarty added psychology as a minor. He designed a research study investigating bullying behaviors among elementary students and used the “Actively Caring for People” wrist bands that Geller had created 20 years earlier. The wrist bands served as positive incentives for students to reduce bullying. McCarty joined Geller and others to author a book, “Actively Caring for People: Cultivating a Culture of Compassion.” Said McCarty, “Professor Geller brought clarity to my career goals and inspiration that only a true mentor could bring.”

Pfaehler and McCarty agree they have benefited from mentoring by faculty who represent a commitment to teach, advise, challenge, and inspire students. Mentoring is one of the attributes that help make Virginia Tech a special place—a place alumni would personally choose again.

Tom Tillar ’69
Vice President for Alumni Relations

IVAN MOROZOV

Virginia Tech Magazine Winter 2012–13
www.vitmag.vt.edu

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Food for Thought: An Indulgence of Wine and Fine Cuisine
Looking for an elegant getaway over Valentine’s Day weekend? Return home to your alma mater and enjoy a stay at The Inn at Virginia Tech for a palate-pleasing weekend. Program highlights include a dessert and sparkling wine reception, chef demonstrations, a Mediterranean food and wine pairing, and an aperitif reception and five-course dinner with wine pairing. $300 per couple/$165 individual.

The Drillfield Series continues in 2013 with weekends devoted to photography, fine dining, student legacies, and special programs for corps and women alumni. Make plans now to attend these events designed for alumni and their families, and take advantage of the specially discounted accommodations available at The Inn at Virginia Tech.

2013 Drillfield Series
The Drillfield Series continues in 2013 with weekends devoted to photography, fine dining, student legacies, and special programs for corps and women alumni. Make plans now to attend these events designed for alumni and their families, and take advantage of the specially discounted accommodations available at The Inn at Virginia Tech.

Focus on Photography 2013
Whether you’re a point-and-shoot photographer or a seasoned one with the latest DSLR camera, year three of this popular program can take your photography to the next level. Instructors will cover processing and editing, shooting and editing video, and topics geared toward individual interests and skills. A reception and most meals are included. $175 per person.

Corps of Cadets Alumni Weekend
Calling all cadet alumni! Come enjoy Tech’s campus in summer and reunite with former cadets. Program highlights include a barbecue at the alumni center, a shooting-range contest and paintball, a Civil War presentation, reflections from veterans, and a briefing from the commandant. Meet student cadets, and possibly learn how to help the corps in your hometowns. $150 per person.

Women’s Getaway Weekend for Alumnae
Bring friends or former classmates for a fun-filled weekend in Blacksburg! Relax, revive, and reminisce. Take some time for yourself and indulge in a weekend especially designed for women. Program highlights include a tai chi and wine reception, massages, recreational activities, a champagne brunch, insightful sessions for today’s woman, and a dinner with special guests. $150 per person.

Lodging for all these events at The Inn at Virginia Tech is $105 per room, per night. For more details on events and registration, go to www.alumni.vt.edu/drillfieldseries.

Virginia Tech Columbarium
Many campuses have a columbarium where alumni and others from an extended university family may choose to be interred. Virginia Tech’s columbarium is located on the grounds adjacent to the Holtzman Alumni Center, on a grassy knoll in view of the Duck Pond.

The Hokie Stone structure contains 60 niches that may be purchased and reserved for individual or dual interments. Each niche is covered with a maroon granite face, on which names will be engraved and gold-filled. Behind the columbarium, there is a terrace and recently added benches, and a walkway leads to the alumni center’s Alumni Terrace. The area is designed to accommodate expansion of additional niche walls bordering the terrace.

Niches are being reserved now, and many are still available. Interments began in 2010. For more information on the Virginia Tech columbarium, contact Josh Burnheimer at 540-231-6285 or ffburnheim@vt.edu.

In this economy, why should I spend money on insurance right now?
Oh, that’s why.

Hokies and their families can save money with exclusive discounts on select insurance plans available through The Alumni Insurance Program. Call 1-800-922-1245 today or visit www.TheAlIP.com/VT for a full list of products including Life, Health, Auto, Home and Travel.

Brought to you by
The Alumni Insurance Program.

AlumniTerm 10/20+-
Group 10– and 20-year term life insurance policies available with or without a physical exam.
$200,000 for alumni under age 60.
AlumniTerm 50+-
Basic group term life insurance available up to $300,000 to alumni under age 60, and renewable to age 75.

AlumniDent-
Comprehensive group dental insurance for alumni and their families that will cover most U.S. dental procedures with guaranteed acceptance up to age 60.
AlumniLife-
Individual long-term care insurance available to age 84 for both alumni and their parents.

GradMed-
Individual major medical protection, ideal for new graduates, job searchers, and newlyweds.

*Offered by Majestic Health, LLC, Life Insurance Company and Insurance Company of Pennsylvania
**American General Life Insurance Company and ***A.M. Best Life Insurance Company of the City of New York

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Virginia Tech Magazine winter 2012-13
Marvels of China

Oct. 12-23
$3,995 (including airfare)

Join Virginia Tech and the Chinese Language Institute (CLI) for an unforgettable 10-day experience in one of the world’s most fascinating and influential countries. Explore Chinese history within the walls of the Forbidden City in Beijing, discover the lure of China’s natural beauty among the limestone mountains of Guilin, and gaze upon the ultra-modern city of Shanghai while high atop China’s tallest skyscraper. Founded and directed by a Virginia Tech alumnus, CLI provides one-of-a-kind travel experiences to students, alumni, and professionals worldwide, including more than 100 Hokies to date.

- 24-hour assistance from CLI’s team
- Full-time bilingual American and Chinese guides
- At least two meals per day
- All group transportation (including airport transfers)
- All tips for drivers, guides, restaurant attendants, etc.
- High-quality four-star hotel accommodations

Beijing | Guilin | Shanghai

Days 1-5          Days 6-8            Days 9-12

Tiananmen Square             Li River Boat Cruise              Yu Garden
Forbidden City                Summer Palace                        Old Town Shanghai
Summer Palace                Peking University                    Propaganda Poster Art Center
Peking University             Tsinghua University                  Silk Factory
The Great Wall of China       The Great Wall of China
The Great Wall of China       The Great Wall of China
The Great Wall of China       The Great Wall of China

The Alumni Board of Directors nominating committee has proposed the following nominees for election to three-year terms from 2013 through 2016. Please vote for up to 12 nominees and return the ballot by April 1. Results will be announced at the board meeting in late April.

Return to: Virginia Tech Alumni Association Holtzman Alumni Center (0102) 901 Prices Fork Road Blacksburg, VA 24061

___Lisa C. Elton (finance ’86), Inverness, Ill.
___A. Jerome Fowlkes (finance ’88), South Riding, Va.
___Kathleen K. Fraizer (agricultural and applied economics, political science ’04), Midlothian, Va.
___William M. Furrer (English ’91), Georgetown, Texas
___Travis E. Hardy (geography ’01), Leesburg, Va.
___Mark S. Lawrence (management ’85), Roanoke, Va.
___W. Park Lemmond (business administration ’54), Petersburg, Va.
___Brian C. Montgomery (industrial systems engineering ’03), Djursholm, Sweden
___Melissa B. Nelson (finance ’85), Richmond, Va.
___James P. O’Connell (biochemistry ’97), Downingtown, Pa.
___Judy M. Springer (international studies ’90), Woolwich Township, N.J.
___Kai M. Zuehlke (engineering science and mechanics ’05), Atlanta, Ga.

Write-in Nomination ____________________________________________
Signature _____________________________________________________

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Alaskan Adventures
Aug. 5-12 | $1,999* (air included)
Hosted by Jack Davis, dean of the College of Architecture and Urban Studies, and his wife, Linda Davis, an instructor at the university
Travel to a place of stunning landscapes and unspoiled wilderness, a place where nature reigns supreme: amazing Alaska. Discover America’s last frontier from the elegant decks of Oceania Cruises’ Regatta, an intimate vessel with outstanding amenities, cuisine, and service. Depart from Seattle and travel north along Canada’s coast to Wrangell, one of Alaska’s oldest towns and the only one in the state to be governed by four nations: Tlingit, Russia, Great Britain, and the U.S. Continue cruising through Tracy Arm, a breathtaking fjord with pristine waters that reflect icy-blue tidewater glaciers and soaring granite cliffs. Follow the Alaskan coast to Sitka, the former Russian capital of North America and an astonishingly picturesque city known for its many historic attractions, and visit the small wilderness outpost of Ketchikan, known as the “Salmon Capital of the World.” Sail on through the scenic Inside Passage heading south to the cosmopolitan city of Vancouver, where your voyage concludes. This Alaskan cruise is truly an unforgettable adventure.

**Dates and prices are subject to change. Pricing is based per person on double occupancy. Pricing is without air, except as noted.**

**Travel insurance**
The Alumni Association encourages all alumni to consider purchasing travel insurance. Learn more at www.alumni.vt.edu/travel/insurance.
w e d d i n g s
births and adoptions
d e a d e d

Alumni, we want to hear what you’ve been doing. We can post online photographs of weddings, babies, and spirited alumni, with some images appearing in print. Mail photos to Virginia Tech Magazine, 205 Media Building, Blacksburg, VA 24061, or email them to vtmag@vt.edu/submit-classnote.php.
Please mail career, wedding, birth, and death news to Alumni Notes, Virginia Tech Alumni Associa- tion, Holtzman Alumni Center, Blacksburg, VA 24061, or email them to fsealvt@vt.edu or submit them online at www.vtmg.
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Class Notes

Class Notes

Faculty

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w e d d i n g s
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Alumni, we want to hear what you’ve been doing. We can post online photographs of weddings, babies, and spirited alumni, with some images appearing in print. Mail photos to Virginia Tech Magazine, 205 Media Building, Blacksburg, VA 24061, or email them to vtmag@vt.edu/submit-classnote.php.
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virginia.edu. 

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w e d d i n g s
births and adoptions
d e a d e d
Robert “Bob” Lambrecht (electrical engineering technology ’80), Glenville, Calif., an entertainment industry executive regarded as a major player in the shift toward digital animation, died Sept. 7, 2012. Lambert worked in various roles with Walt Disney Co. for 25 years, helping to usher in the computer’s era, including working with Pixar. While in other roles, he was also founder and chairman of Digital Cinema Initiatives, a consortium of studios that helped review theaters transition to digital exhibits.

1981 Frederick P. Hollar (FSM), Richmond, Va., received the Com- putational Science and Engineering Division’s Best Paper Award at the Shafran regional support activity meeting for the Joint Program Office Mission Research, Technology and Protocols Program.

Thomas A. Conover (CEE), Carol- ina, Va., is an incoming member of the College of Engineering at Oregon State University.

1980 John C. Sudditt (MKTG), Blacksburg, Va., has been named of the Deseret Market Research team.

1979 Edward G. Schaefer (AGSC), Blacksburg, Va., was named the 2012 Young Scientist of the Year by the Institute of Crop Science.

1978 John L. Monroe (EDPE), Virginia Beach, Va., was awarded the 2012 Early Career Scientist Award from the Society of Critical Technology and Applied Science.

1977 Maurice J. Fisher (PSYCH), Blacksburg, Va., was named the 2012 Virginia State University Professor of the Year.

1976 Robert J. Waid (ARCH), Blacksburg, Va., has been named the 2012 Virginia State University Professor of the Year.

1975 James E. Farrow (MKTG), Blacksburg, Va., has been named the 2012 Virginia State University Professor of the Year.


1973 Timothy G. Tingle (ACCOUNTING 100), Williamsburg, Va., was named the 2012 Small Business Person of the Year for the Williamsburg Chamber and Tourism Alliance.

1972 Margaret B. McQuaide (EDP), Davis, Del., died Oct. 12, 2012.

1971 Robert P. Rice (EDP), Roanoke, Va., has been promoted to director of the accounting program at Virginia Tech.

1970 Roderick A. Hall (PHARM), Blacksburg, Va., has been named the 2012 Virginia State University Professor of the Year.


1966 Robert D. Grisso Jr. (PSYCH), Blacksburg, Va., has been named the 2012 Virginia State University Professor of the Year.

1965 Thomas C. Maness (ARCH), Blacksburg, Va., has been named the 2012 Virginia State University Professor of the Year.


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1958 William C. Daskal (PCG), Lynchburg, Va., was promoted from National Guard Adjutant to judge advocate.

1957 Walter L. Daniels (GM), Worthington, Ohio, was promoted to Brigadier General and Chief of Staff at Ohio National Guard.

1956 Malcolm J. Vanderpool (AGSC), Blacksburg, Va., received the 2012 Virginia State University Professor of the Year.

1955 William C. Daskal (PCG), Lynchburg, Va., was promoted from National Guard Adjutant to judge advocate.

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From the D.C. rat race to Alaskan dog races

by JENN BATES

Alaska may not be a preferred vacation destination for most, For Maj. Dr. Christensen, the rugged terrain of the Yukon race may not be a preferred vacation destination for most. For Maj. Dr. Christine Christiansen, the challenge of a dog sled race, such as the Yukon Quest and the Iditarod, is a great sport and I enjoy using my professional skills to support it.

Jenn Bates, a junior communication major, is an intern with Virginia Tech Magazine. Photos courtesy of Christine Christiansen.

Over the course of a race, I work with tissue in the lab, but at the races I’m working with animals. I get to use my clinic skills. I don’t touch a stethoscope during the day, only on the race. She said Christiansen.

Christiansen said that last year’s weather was warmer than usual, with highs reaching 20 degrees in past years. In 2012, she said, temperatures have been as low as 60 degrees below zero. She brings her own survival gear—an arctic sleeping bag, an arctic parka, a fur hood, mukluk boots, and more. “I love the cold and the winter,” she said.

Christiansen also said that last year’s weather was warmer than usual, with highs reaching 20 degrees in past years. In 2012, she said, temperatures have been as low as 60 degrees below zero. She brings her own survival gear—an arctic sleeping bag, an arctic parka, a fur hood, mukluk boots, and more. “I love the cold and the winter,” she said.

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We set up a photo booth on our campus and asked faculty how they are inventing the future. The story featured here represents just one sample of the innovative work that is being done at Virginia Tech.

David G. Schmale III, an associate professor of food and safety and plant biosecurity, engages his students with topics that include the majesty of the humble fungi and ways to measure crop-threatening pathogens with model airplanes.

“It’s important to train students to be scientists because we need the next generation of critical thinkers,” said Schmale. “Students doing research in my lab are generating their own questions, their own ideas, and their own methods to test these hypotheses or educated guesses that they’ve come up with themselves.”

At Virginia Tech, professors create opportunities for undergraduate students to get hands-on experience in the lab in a real-world environment.

“The students are the No. 1 driving factor for excellence,” said Schmale. “[Their] eagerness to learn [and their] ability to acquire new information and demonstrate that knowledge in a critical context are some of the greatest rewards for any teacher.”

David G. Schmale III
College of Agriculture and Life Sciences
Associate Professor: Food Safety and Plant Biosecurity

Facebook.com/virginiatechinvents

TEDxVirginiaTech
The art of improvisation.
Emotion, the new musical instrument.
How snakes fly
More passion, less pedagogy
Why nuns don’t have mid-life crises

Now these are ideas worth spreading.

Twenty-one faculty members, alumni, and students spoke on those topics and more at the TEDxVirginiaTech event on Nov. 10 on campus. Centered on the theme of “knowing,” all 21 speeches from the independently organized event can be accessed at www.tedxvirginiatech.com.

Photos by Robin Dowdy

“I invent a taste for facts about fungi.”

Still life
The Virginia Tech Alumni Association Hokie Classic

June 17

Join fellow alumni for a captain’s choice golf tournament at the Pete Dye River Course! Greens fees, cart, door prizes, lunch, drinks, and a post-tournament dinner in the new clubhouse overlooking the New River. It’s all included. Registration is limited to the first 120 golfers, so register early. Enjoyable for golfers of every skill level. $150 per person. Visit www.alumni.vt.edu for more information.

2013 Drillfield Series

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Feb. 15-17  Food for Thought: An Indulgence of Wine and Fine Cuisine
May 10-11  Focus on Photography 2013
June 21-23  Corps of Cadets Alumni Weekend
July 12-13  Virginia Tech Admissions Weekend
July 19-21  Women’s Getaway Weekend for Alumnae

See pages 44-45 for descriptions and visit www.alumni.vt.edu/drillfieldseries for more information.