

Teacher, President

Tech community mourns the loss of Paul Torgersen

In Transit

Projects under way to improve campus traffic flow

Math and Melons

Catapult-like device flings fruit hundreds of feet

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“Each cancer is a world.”

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Although cancer may seem a singular entity, lurking in the shadows, it appears in many forms, each requiring a different diagnosis, treatment, and prevention. On a variety of fronts, the Virginia Tech community is fighting the disease.

Above: Autumn had a tumor on her hip joint until Associate Professor John Rossmeisl used miniature electrodes to destroy the growth. For more on Tech's efforts against cancer, see page 28. Photo by Jim Stroup.

On the cover: Ovarian cancer cells with the capacity to form tumors join together to create spheroids, a grouping that enhances the cells' ability to survive. Image courtesy of Associate Professor Eva Schmelz.

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Restaurants of yesteryear

What a great list of eateries! Did you know about Daddy's Money? It was the best name for a restaurant in a college town. It opened in the late 1970s, owned and operated by Virginia Tech alumni. I helped open it and worked there a few years—and I still have a menu.

Tom Vitanza (architecture '79), Montgomery Village, Maryland

I fondly remember Greek's Cellar and the Farmhouse. However, I noted one glaring omission: The Sports Center next to Cook's Cleaners on Main Street. It was the home of the best sandwich in Blacksburg at the time: the TDC (Techman's Delight with Cheese).

Fred Christian (political science '71), Columbia, South Carolina

Being an alumnus and former employee, I enjoyed the article on Blacksburg restaurants. However, I wanted to point out that before the donut shop was Carol Lee, it was called the Spudnut. I think the name had a bit more character.

Pete Santiago (computer science '73, M.S. '81), Clemmons, North Carolina

What great memories [the article] brought back—and I was thrilled to see brief mention of Gillie's. Though probably not technically a restaurant when I was at Tech in the '70s, Gillie's had ice cream that was so good, my friends and I would buy a cone even during the winter!

Edward Chetaitis (accounting '80), Providence, Rhode Island

We spent many happy hours at Corner Drug, Meredith's, and Bryce's Tavern in the '50s and '60s. Also not mentioned were the Outpost (pizza) in Christiansburg and the Bus Stop (cheeseburgers) at the head of the Mall near the Blue Ribbon. You mentioned that the Farmhouse has recently closed—what a terrific restaurant in recent years. Thanks again for the memories; the pictures were great.

Ronald Weade (business administration '63), Virginia Beach, Virginia

Thank you for such a great article. I was hoping to read something about the wife of Nick Kappas. She was so friendly, caring, and polite and also a hard worker. Going to the Greeks to eat dinner was almost like going home, thanks to her—and the good food.

Ray (building construction '67, civil engineering '70) and Sharon (civil engineering '70) Rollins, Kodak, Tennessee

No mention of Cecil's Place? It had the best hamburgers in Blacksburg in the 1960s (the Golden Gobbler was a close second). Cecil's also had other things going for it, such as a diverse and always interesting clientele, discussions with Dr. MacAdoo over draft beers, and the nightly gladiatorial event near the pool table.

Bill Stepp (business management '69), Virginia Beach, Virginia

On Lane Hall

The spring issue correctly mentions the long tradition between the cadet corps and Lane Hall. It omits the historical relationship of many civilians to "Dorm 1." The influx of veterans in the '50s severely

Editor's note:

Thanks to your feedback in our fall 2014 readership survey, we've made some adjustments to the Around the Drillfield and Class Notes sections. In the following pages, you'll see some new approaches. For example, check out "What's In It" on page 7 and the Class Notes "Retro" section on page 55. Meanwhile, some of the sections that were underperforming in your eyes—such as Book Notes—are no more. Instead, books will appear as regular entries in Class Notes' listings of career accomplishments.

overloaded dorm space on the campus. Lane Hall was opened as civilian Dorm 1. I spent years there in room 101, right next to the front door. I shared my 12'-by-12' room with two other veterans. We had two high double bunks, one closet and one sink, and showers and bathrooms down the hall.

Bob Deurer (civil engineering '52), Westminster, Maryland

Corrections

In the spring edition, a Class Notes entry for Kennerly H. Digges (mechanical engineering '55) misidentified his gender. In addition, a Books Notes entry for Susan Coleman (elementary education '83, M.A. curriculum and instruction '90, Ph.D. '94) listed an Ed.D. instead of a Ph.D. We regret the errors.

Have something to say? Send us a letter at vtmag@vt.edu.

Perspectives

from a rising **sophomore**

by TIMOTHY D. SANDS



As we begin the next academic year—my second—Virginia Tech will welcome its biggest first-year class ever. More than 6,000 in number, the Class of 2019 will also be among the most academically prepared and certainly the most diverse of any class in our history. We chose to open the doors just a little bit wider to accommodate some of the demand that was evident in the pool of 22,500 applicants, a record number for us that was 8 percent larger than the previous year's. We thank the General Assembly for its support in providing opportunities for Virginia-resident students.

Although the surge in interest this year was exceptional, it is the latest evidence of a sustained trend: the increasing alignment of Virginia Tech's strengths with the aspirations of this generation, the commonwealth, the nation, and the world. Our strong STEM and health degree programs, complemented by an increasing emphasis on the humanities, the arts, and the social sciences; our development of integrative degree programs that has generated a buzz on campus and across higher education; our "hands-on, minds-on" approach to guided experiential learning; our commitment to innovation, entrepreneurship, and commercialization; and our land-grant heritage of bringing the fruits of our discoveries and the latest knowledge directly to the people of Virginia and the world are all attributes that stand strong in the context of the world that our graduates will enter. What I believe truly sets Virginia Tech apart, though, is our unparalleled sense of community in the spirit of *Ut Prosim* (That I May Serve). Increasingly, prospective students, faculty, and staff are coming to understand that Virginia Tech is just the kind of institution that we need for today and, even more so, for the future.

As the coming year unfolds, you will hear about several initiatives that we have already launched. I hope that one or two of these projects will draw you in as an active participant. Partnering with Gallup, we are polling Hokie alumni to reveal and understand the associations between the Virginia Tech student experience and thriving in later life. Among alumni, we are measuring engagement in the workplace and well-being in the financial, physical, community, purpose, and social dimensions. Our preliminary results support the conclusions of a national study that found that well-being and engagement are strongly associated with two general categories of

experiences in college: 1) the support of mentors and the inspiration offered by faculty, and 2) guided experiential learning, such as internships, deep engagement in student organizations, undergraduate research, and study abroad programs. Virginia Tech will be looking for your help in creating opportunities for mentorships and internships in the coming months. We are also piloting an effort, tentatively known as "VT Stories," to capture the wisdom of our alumni as a tool for mentoring our current students.

As the past academic year drew to a close, I announced a long-term visioning initiative for the coming year that will provide the context for future strategic plans. What does it mean to be a global, 21st-century, land-grant university? How will we position Virginia Tech, in light of long-term trends in public support and demographics, to be stronger than it is today? We will engage the entire Virginia Tech community in this endeavor.

From the perspective of a rising sophomore president, I am even more energized and excited about Virginia Tech's future than I was one year ago. Until you engage with the Virginia Tech community, you cannot fully appreciate the power of this network of people, who are dedicated to working together to make the world a better place—more resilient, more sustainable, healthier, and more secure.

To the future! □

Timothy D. Sands, Virginia Tech's 16th president, took office on June 1, 2014.

Big university, small-campus experience

by LARRY HINCKER '72, '94



I break with personal tradition in this column. I hold the opinion that, notwithstanding my role as university spokesperson, public-relations types operate best in the background. I hope you'll indulge me as I offer a few thoughts about a treasure we share: Virginia Tech.

In a few months, I will conclude more than 27 years at Virginia Tech, including 25 years at the helm of University Relations, our marketing and communications department. During that time, I've met many caring and committed Hokies. More importantly, I've written or directed numerous stories about you—our passionate alumni, bright students, high-achieving graduates, and extraordinary professors.

We have come a long way since the days when explaining our name—Virginia Polytechnic Institute and State University, VPI, Virginia Poly, VPI&SU, Virginia Tech, that awful Vaaaah Tech—was part of any introduction. I once drove a world-famous BBC science writer from Roanoke to campus for a speaking engagement. All along the way, I extolled the virtues and world-class achievements of our university. As we climbed the I-81 grade to Exit 118, he read the highway sign. "Oh, look!" he said. "We're close to Virginia Tech. Is that near your campus?" The sad truth, I swear.

Today, Virginia Tech is known around the world. We consistently rank among the nation's best public universities. Applications for undergraduate admission hit record levels this year. Our graduates are in demand for great-paying jobs. Tech ranks among the nation's top 40 research universities. The days of thinking of Tech as "the state's best-kept secret" are gone, and I am happy to have been part of the brand team that narrowed the litany of monikers and helped shine spotlights on university excellence.

I've also been around long enough, though, to be wary of placing too much stock in one's own propaganda. This nation has many excellent universities; heck, there are even a few other decent ones in Virginia.

But in one notable regard, Virginia Tech is matchless. I cannot imagine any other university with a stronger sense of community and shared values or a tighter bond among its alumni. Have you ever met a Hokie who wasn't an immediate friend upon introduction? Do you recall your first freshman days, stumbling toward class, lost and late, crumpled map upside down, only to be set right by a caring, experienced student? (Admittedly, the maps are now on smartphones.) Whether tailgating in the shadows of Lane Stadium or before a big bowl game, you always find instant friends in orange and maroon.

Sometimes, I think the campus is as warm and friendly as the rolling mountains of Southwest Virginia. As a consultant once exclaimed while reviewing through-the-roof statistics from student-satisfaction polling, there truly must be something in the Blacksburg water.

However, in a variation of lyrics sung by James Taylor, we've seen dark days that we thought would never end. The trauma that befell this campus eight years ago might have crumpled a university that couldn't rely on such a strong coterie of faculty, staff, and students—and especially alumni with such ardent concern for fellow Hokies.

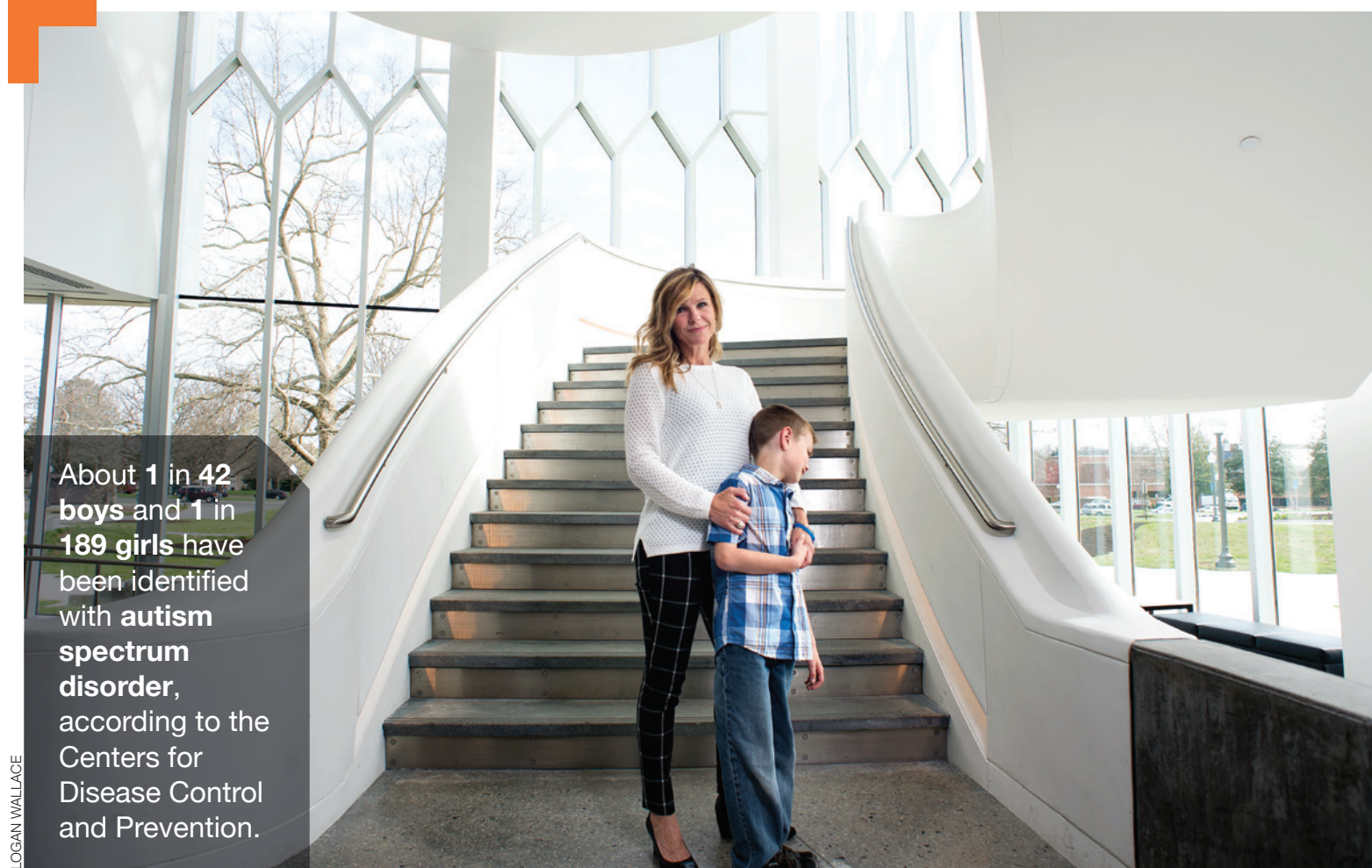
As chief promoter of Virginia Tech, I had long known, if only analytically from survey statistics and the like, that the institution was a big university with many attributes of a small school. It was only after that tragic event that I viscerally experienced this. Alumni too numerous to count returned to campus to help students, faculty, staff, and administrators cope and recover.

We all know that the heartbreaking tragedy of 2007 does not define us. Today, Virginia Tech is as strong as any time in its history. The university's researchers and scholars continue to astound us with their discoveries and insights. A Virginia Tech degree pushes open ever-widening doors. The physical campus expands almost overnight. And yes, the leading edge of the boomer generation is making way for younger, yet no less talented campus leaders. But one thing remains unchanged: the almost indefinable Hokie bond that blossoms early in our lives and grows ever stronger. □

Larry Hincker '72, M.B.A. '94, is the associate vice president for university relations and the publisher of Virginia Tech Magazine.

Around the Drillfield

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About 1 in 42 boys and 1 in 189 girls have been identified with autism spectrum disorder, according to the Centers for Disease Control and Prevention.

LOGAN WALLACE

Assistant Professor Amy Azano helped organize an autism-friendly children's music concert in April at the Moss Arts Center. Designed for children like her son, William, the concert featured softened acoustics and lighting and an instrument "petting zoo" for children.

Inspiration for her professional work is something Amy Azano comes by naturally.

Her son, William, 8, has autism. Prior to countless therapy sessions for speech and sensory issues, the boy communicated by crying and screaming. Because of his sensory issues, Azano would wait for him to fall asleep and then don a headlamp in order to cut his toenails. Today, though, William is a happy and friendly "chatterbox," Azano said.

"You have to relearn parenting," said Azano, who also has a 12-year-old daughter. "You have to relearn patience. You have to relearn unconditionally loving someone."

An assistant professor of adolescent literacy in the School of Education and an affiliated faculty member with the Virginia Tech Center for Autism Research, Azano launched SAFE—Supporting Autism Friendly Events—in the New River Valley. Because autism

often involves sensory challenges and related anxieties, a SAFE Santa event allowed children and families to enter the New River Valley Mall early, before the crowds. "I had a handful of parents who had tears in their eyes tell me, 'This is the closest we've ever been to Santa,'" Azano said.

Azano focuses on gifted and autistic students and their families, educators, and care-providers in rural communities. One grant-funded effort seeks to identify gifted and talented students in rural Virginia and develop programs to serve them.

The former high school teacher recognizes that William has given her an opportunity to help others. "For me, this is deeply meaningful scholarship and outreach work. I love that Virginia Tech is a land-grant institution. The connection to the local community is a real thing."



New executive vice president and provost named

Thanassis Rikakis, vice provost for design, arts, and technology at Carnegie Mellon University, will take office Aug. 16 as Virginia Tech's executive vice president and provost.

Rikakis, whose research and creative work focus on interactive neurorehabilitation, experiential media, interdisciplinary education, and computer music, also will be a tenured professor in the Department of Biomedical Engineering and Mechanics in the College of Engineering and will hold a joint appointment as a music professor in the School of Performing Arts in the College of Liberal Arts and Human Sciences.

Rikakis' "interdisciplinary and collaborative approach to teaching and research and his passion to couple emerging technologies with the performing arts and humanities resonated deeply with those whom he met throughout the interview process," said President Timothy D. Sands.

Glow, little millipede, glimmer, glimmer

Bioluminescence—the ability of living things to glow—may have evolved as a byproduct of a metabolic process to aid survival in harsh climates, at least in one millipede.

Assistant Professor of Entomology Paul Marek (above), a diplopodologist in the College of Agriculture and Life Sciences who oversees the only functioning millipede lab in the U.S., worked with his team to sequence the DNA of the *Xystocheir bistipita*, which Marek rediscovered seven years ago in the foothills of California's Sierra Nevada Mountains.

Unseen since 1967, the species was not thought to belong to the genus of millipedes that glow, but the DNA revealed otherwise. Marek changed its name to *Motyxia bistipita*; reconstructed an evolutionary tree with every species in the genus and its closest nonglowing relatives; and tested their relationships to *M. bistipita*, mapping a gradation of their glow from faint to bright.

After placing individual millipedes in a light tube in a darkroom, the team calculated each bug's toxicity by measuring the volume of cyanide glands lining its sides. When the results indicated that millipedes with larger cyanide glands are brighter, a functional link between luminescent intensity and toxicity was determined. Put plainly, bugs at higher elevations with more predators glow more brightly than those at lower elevations with fewer predators.

"We showed that bioluminescence, a trait typically used as a warning pattern, evolved gradually and for a different purpose," said Marek.

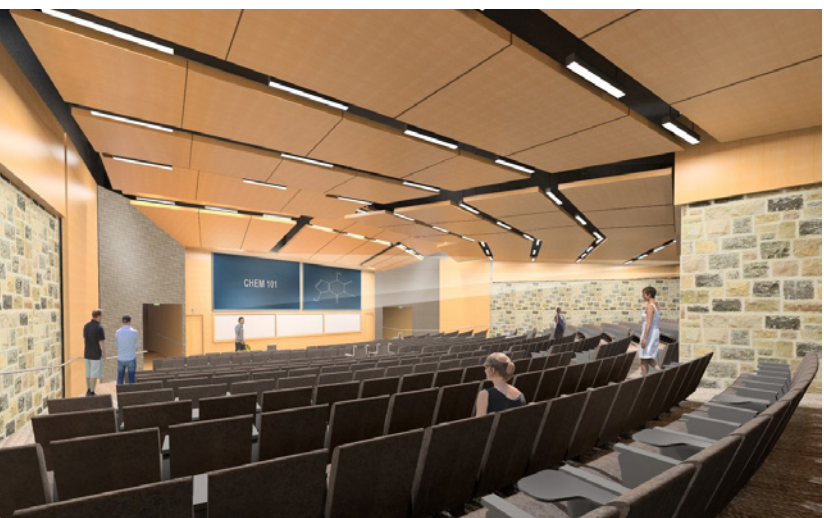
Long story short

At \$101 million, Virginia Tech's agricultural sciences research and development expenditures for 2013—up 14 percent from four years ago—ranked sixth in the nation, according to the National Science Foundation.

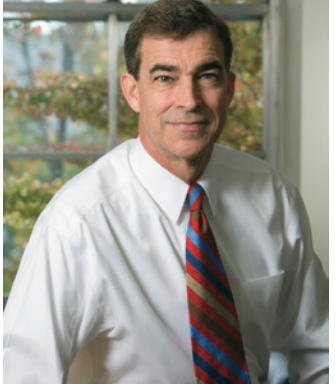
Karen A. Roberto, human development professor and director of both the Center for Gerontology and the Institute for Society, Culture, and Environment, was named a University Distinguished Professor, a rank held by no more than 1 percent of faculty.

The new Corps of Cadets residence hall scheduled to open in August has been named in recognition of James '87 and Renae '90 Pearson, who made a generous commitment to the Corps of Cadets and the College of Agriculture and Life Sciences.

Virginia Tech, a member of the Mid-Atlantic Research Infrastructure Alliance Inc., will upgrade campus connections to 100 gigabits per second, a tenfold increase in capacity to meet the needs of data-intensive research and collaboration.



COURTESY IMAGE



New vice president for advancement takes office

Blacksburg native Charles D. Phlegar (business management '78, M.S. education administration '87) took office on July 1 as the university's first vice president for advancement, poised to lead a new unit formed by the merger of Alumni Relations, University Development, and University Relations.

As vice president for alumni affairs and development and the chief fundraiser leading Cornell University's current campaign, Phlegar more than doubled annual private giving during his nine-year tenure at the Ivy League university.

President Timothy D. Sands noted that Phlegar's "proven fundraising track record will be essential as we move forward with a funding model heavily dependent on philanthropy. He has an extraordinary track record at major research universities, including Cornell, which ranked No. 5 worldwide last year in private philanthropy."



Intuition, compassion, creativity—these are things we do better than machines. These are things you, having sharpened those innate skills here in Blacksburg, can put to use in service of a better day for us all."

—Eric Schmidt, Google's CEO from 2001 to 2011 and now the company's executive chairman, delivered the university's commencement address in May. To read his remarks or watch the video, visit www.vtmag.vt.edu.



Alumni vice president to step down

As we went to press, Tom Tillar, vice president for alumni relations and a member of the Class of 1969, announced that he would step down from his post in December. For more on Tillar's 44-year career with Virginia Tech, see the fall edition of Virginia Tech Magazine.

Makeover: McBryde Hall auditorium

If you attended Virginia Tech during the past 40 years or so, chances are you set foot in McBryde 100, one of the most heavily used instructional spaces on campus.

Because the 540-seat auditorium has begun showing the wear and tear of accommodating some 2,300 people each weekday, renovations to improve accessibility, technology, seating, and acoustics are taking place this summer.

According to Chris Kiwus, associate vice president and chief facilities officer, the project is one of many scheduled this summer to improve teaching and learning facilities, academic and residential buildings, outside spaces, and thoroughfares around campus.

Long story short

A report by the Roanoke Valley-Alleghany Regional Commission pegged the overall **economic impact** of the Hotel Roanoke & Conference Center at **more than \$616 million** since the renovated facility opened in 1995.

After the 2015 earthquakes in Nepal, a Virginia Tech-led agricultural development program working there switched gears to **disaster relief**, providing farmers with seeds for fast-growing vegetables and distributing plastic sheeting for shelter.

The **Virginia Intercollegiate Anatomy Lab**—a \$2.5 million collaboration among the Virginia Tech Carilion School of Medicine, Jefferson College of Health Sciences, and Radford University—was opened in Carilion Roanoke Community Hospital.

CandyBot, the latest math iPad app created by Tech's Learning Transformation Research Group, is proving popular. Primarily teaching fractions and functions, the app excels in engagement, game design, software engineering, and math concepts.

Absorbing knowledge

photos by LOGAN WALLACE and ROBIN DOWDY

If you're studying under Timothy Long (Ph.D. chemistry '87), a College of Science chemistry professor named one of three 2015 Virginia Outstanding Scientists, you just might face a test question that asks you to describe the technology and molecular structure of a diaper.

Long directs the Macromolecules and Interfaces Institute, which harnesses Virginia Tech's interdisciplinary expertise in polymers—crucial materials in the multibillion-dollar chemical and manufacturing industries. For example, his research group is developing "2050 plastics" for use in 3-D printing to potentially replace the 1950s plastics used now. Such initiatives benefit from Virginia Tech's approach of uniting scientists, engineers, artists, and more to make products that people use. "Our interdisciplinary model is no longer a paradigm—it is an expectation. This approach to discovery exemplifies our culture on campus, and that's what makes Virginia Tech unique," Long said.



A

Adhesives: Adhesives are based on novel polymers combined with tailored surface energy and topology. Often, pressure-sensitive adhesives are used for simple bonding and de-bonding.

B

Hydrogels: Networks contain both covalent and noncovalent chemical bonds, forming a sponge-like supramolecular structure capable of binding water.

C

Elastomers: Polyurethanes are segmented copolymers that present a nanoscale, phase-separated morphology to construct a physical network with superior elasticity.

D

Nonwoven fabrics: Polyolefins are hydrophobic, inexpensive, and readily fabricated into a nonwoven fibrous mesh for mechanical durability.

Nano-tech:

For a video on Timothy Long's research, visit www.vtmag.vt.edu.

An academic future

Mark McNamee has served as senior vice president and provost for 14 years—remarkable longevity in such a position. He will step down in August when the new provost, Thanassis Rikakis, takes office.



Q How will the past 14 years shape the next 14 years of Virginia Tech academics?

A I came to Virginia Tech in 2001 with a strong belief that public land-grant research universities like Virginia Tech had a unique opportunity to expand their local and global impact by taking full advantage of the strong synergy among the tripartite missions of research, teaching, and outreach. An immediate strategic goal here was to expand the size, scope, and impact of the research enterprise across all of our existing disciplines and to build new strengths in areas such as health and life sciences. I envisioned a cascade effect whereby growth in research would lead over time to major enhancements in graduate programs, followed by innovations in undergraduate degree programs and eventual improvements in general education, external partnerships, and overall campus quality. These advancements would be driven by the recruitment and retention of outstanding faculty members, an emphasis on strategic initiatives involving institutes, cluster-hiring, interdisciplinary research, and creation of state-of-the-art facilities.

These 14 years have enabled me to see these cascading scenarios come to life. The foundations of the new general education program and the exciting new undergraduate majors and degrees have emerged from the growing graduate programs that in turn were strengthened and developed by the creative input of our faculty. In parallel, a number of advancements—the expansion of our arts programs, symbolized by the Moss Arts Center and the Institute for Creativity, Arts, and Technology; the transformation of the library; the National Capital Region investments; and the renewed commitment to inclusion and diversity—have placed Virginia Tech in the same league as our

aspirational peers. Our ability to establish a major medical research institute and medical school in partnership with Carilion Clinic was an unanticipated opportunity that leveraged our growing strength in the life sciences and accelerated our progress. Our strongest programs have increased in strength, our newer programs are flourishing, and the quality of our student body and the quality of the student experience continue to improve.

The next 14 years can and should provide Virginia Tech the opportunity to outpace and outperform our competition and solidify our position as a rising star among research universities. We will increasingly benefit from our presence in the National Capital Region, and our global reputation will steadily grow. We face relatively few barriers in creating and supporting new academic ventures, and we should be able to attain the ambitious goals set out in “A Plan for A New Horizon,” the university’s strategic plan for 2012-18. The challenge will be to develop a diversified resource base that can meet the needs for competitive faculty and staff salaries, adapt to concerns about steadily increasing tuition in the face of state funding limitations, and adapt to the uncertain prospects for federal research funding. The next capital campaign should help, and increased emphasis on innovation, entrepreneurship, and industrial partnerships should also help.

I could not have predicted all the challenges we faced in my 14 years here, but we never lost focus of our bigger goals, and we always remained pragmatic and optimistic. I am confident that the leaders of Virginia Tech will continue to surge ahead with confidence and optimism about the future.

Long story short

Student and faculty innovation got a boost when the Board of Visitors approved revisions to the university’s **intellectual property (IP)** policy. The guidelines clarify that Virginia Tech generally does not claim ownership of student-created IP, and define

when faculty members retain their IP rights. “An important part of Virginia Tech’s land-grant mission is to advance industrial and commercial uses of intellectual property, such as new inventions,” said Dennis Dean, interim vice president for research.

In July, the International Archive of Women in Architecture, a joint program of the School of Architecture + Design and the University Libraries, will host the 18th Congress of **The International Union of Women Architects**, with guests from 90 countries.

Having identified a **gene for sex determination in mosquitoes**, Fralin Life Science Institute researchers believe that a higher ratio of males could reduce the transmission of yellow fever, dengue, and chikungunya viruses—because only females bite.

Flying lessons

At a Red Bull Paper Wings qualifying contest at the University of Virginia in March, Robby Boys (industrial and systems engineering '15) took second place on the East Coast, one place away from winning a trip to Austria for the world finals. But he'll reach Europe anyway: His role on a student team that built an off-road rally car led to a sales job with a global supplier of washing equipment for quarries and mines. This summer, Boys begins his training in Ireland.

Boys used the basic design below to float a plane for more than four seconds and win the hang-time category, one of three in the contest (along with distance, which he won with an 80-foot toss, and aerobatics). For the sake of weight distribution, he said, ensure that each fold is symmetrical.

By Kenedy McGrath, a rising senior communication major. Photos by Shelby Lum.

- 1** Fold the paper in half vertically.
- 2** Take the two top corners and fold to center.
- 3** Fold each side of the corners of the paper to center.
- 4** Re-create the middle fold and fold down the wings.
- 5** Hold in the middle of the plane and toss.



CHRISTOPHER GALLUZZO / NASDAQ OMX

Ringling the Nasdaq opening bell

At 9:30 a.m. on April 30, Virginia Tech President Timothy D. Sands and Pamplin College of Business Dean Robert Sumichrast rang the opening bell at the Nasdaq MarketSite in New York City’s Times Square.

Sands and Sumichrast were accompanied by Virginia Tech alumni in the New York City area and other representatives from Tech and Pamplin, including the college’s Apex Systems Center for Innovation and Entrepreneurship, which was launched in 2014 to support entrepreneurship and innovation programs across the university.

Bells:

For photos and video from the bell-ringing, visit www.vtmag.vt.edu.

Paging faculty

“**Monte Carlo Methods for Particle Transport**” by Alireza Haghghat, professor in the Department of Mechanical Engineering’s Nuclear Engineering Program, director of the Nuclear Science and Engineering Lab, and director of the Virginia Tech Theory Transport Group



JIM STROUP

Secure: Rising sophomore Marcus Wanner, seen here with the Virginia Bioinformatics Institute's supercomputer, Shadowfax, is applying his experience in cryptography and computer security to genomic research.

Coder, creator

by STEVEN MACKAY

It was an enigmatic puzzle that only the nimblest intellects would take on: a series of highly complicated cryptographic mindbenders containing prime numbers, riddles, and treks through assorted fantasy novels.

And Virginia Tech rising sophomore Marcus Wanner solved it—in 2012, when he was a home-schooled 15-year-old in Copper Hill, Virginia.

The exercise, which first appeared on the underground website 4Chan, was created by a secretive group that identified itself as Cicada 3301. Claiming to be in search of those skilled at deciphering cryptography, the group may have been a loose network

of tech-savvy, free-speech activists looking for new members or perhaps a pool of programmers just having fun. Now all but silent, the group was not, from all reports, a corporation or government.

As one of only a handful of people in the world to have solved the puzzle—all of whom were subsequently invited to collaborate on an online project related to Internet privacy—Wanner was featured in a story about Cicada 3301 in an early-January edition of Rolling Stone magazine.

The Cicada puzzle long behind him and the online project abandoned, Wanner, who's majoring in computer science, held two jobs on campus last year: serving as a computer coder for the university's Learning Enhanced Watershed Assessment System Lab, which monitors nearby Stroubles Creek; and providing high-performance computer coding support for genomic researchers at the Virginia Bioinformatics Institute (VBI).

Long story short

Northrop Grumman committed \$750,000 to support a scholarship program and a faculty fellowship aimed at addressing **national security challenges** of the 21st century in key areas, such as command and control and aviation.

The Virginia Tech Transportation Institute has won a \$16.4 million contract from the Transportation Research Board, part of the National Academies, to make a wealth of naturalistic driving data available to auto and highway industry researchers. Totaling

more than 2 petabytes and representing the equivalent of **four millennia of driving time**, the data was captured from 2010 to 2013 in six U.S. cities, using a data acquisition system developed by Tech engineers.

Neuroscientist Harald Sontheimer, an expert on the biology of glial cells, the brain's most abundant cell type, will direct a **university-wide neuroscience initiative** and oversee a laboratory at the Virginia Tech Carilion Research Institute.

Home football games annually bring \$69 million to the area, according to a Tech study. Hotels earn \$5.9 million; restaurants, \$5 million; gas stations, \$2.9 million; shops, \$2.6 million; and grocery stores, \$2.5 million.

The Mid-Atlantic Aviation Partnership at Virginia Tech, one of six national test programs selected by the Federal Aviation Administration (FAA) to conduct research into integrating unmanned aircraft systems into the nation's airspace, welcomed

the FAA's announcement that it would provide "blanket" authorizations for low-altitude aircraft operations. In short, **researchers will be able to get aircraft into the air more quickly and at a lower cost.** "This gives us a tremendous amount of flexibility," said Jon

Greene, acting associate director of the partnership. "We will be able to respond just about anywhere outside of five miles of an airport to save a life, help with a swift-water rescue, or find a missing person."

"Marcus is a unique student in that he realizes he is here to learn and not to show off his excellent programming skills," said Zalman Vaksman, a post-doctorate research fellow at VBI. "He is willing to work on projects in areas where he is less comfortable, which is why he wanted to go into bioinformatics (biology and genomics). ... He is already overcoming this and learning a new problem-solving approach ... [which] makes him far more valuable as a future colleague than others with equivalent skills."

Read the Rolling Stone story about Wanner's involvement with Cicada 3301 at www.rollingstone.com/culture/features/cicada-solving-the-webs-deepest-mystery-20150115.

Q&A

What drew you to the Cicada 3301 puzzle?

I have friends who enjoy puzzles such as this. I was drawn to the 3301 puzzle specifically because it was low-level file format and networking stuff, very minimal and clean from a technical perspective. With most Internet puzzles, if you dig deep enough, you can see some messy, behind-the-scenes clutter, which really kills the mystery for me; but 3301 managed to avoid any of this as far as I can tell. So for me, it was clear that the person running the puzzle had a very high degree of competence, and I was interested in being involved with whatever they were recruiting for.

At the Virginia Bioinformatics Institute, how is your work in cracking genetic codes assisting researchers?

Many diseases can be predicted or treated using an individual's genetic information. The group I'm part of at VBI studies the genetic differences between individuals and between different cells in the same individual. This information often has applications to new medical diagnostics and treatments.

The project I'm working on is an idea that combines my background in cryptography and computer security with the genomic focus of Skip Garner's lab [Garner, a professor, is director of the Medical Informatics and Systems division]. In order for a person's

genetic-sequence data to be useful in research or medicine, it must be processed using a software pipeline, which takes about eight hours to run on VBI's supercomputer, Shadowfax.

Due to the sensitive nature of genetic material, health care providers are more or less required to use in-house computer equipment rather than cloud resources. I'm investigating a way to cryptographically protect genetic data from a cyberattack while it is going through the pipeline so that organizations with access to sequencing technology, but not computational resources, can safely outsource the computational effort to the cloud. Hopefully, this security technique will have the potential to reduce end-user cost and wait time for state-of-the-art medical care.

Both of your employers are dedicated to good causes: curing genetic diseases and tracking water quality. Were you drawn to the causes or the challenges?

One of the reasons I came to Virginia Tech was the opportunity to apply my skills to useful research while a student. I had no initial interest in water quality or health care before I started, but as I have worked with people who have a real passion for each subject matter, and seeing the real data and its implications, I have become excited about the research. None of us is singlehandedly going to change the world, but we are trying to come as close as we can.

What are your post-graduation plans?

I want to do software security engineering, with an emphasis on secure application and protocol design. After I graduated from high school, I took a year off school to work full-time as a software developer at [optical communications company] JDS Uniphase Corp. on Internet-testing handsets for service technicians. This summer, [I'm] working with NetApp Inc. in Durham, North Carolina, doing security-related work on cloud back-end software.

Steven Mackay is the College of Engineering's communications manager.

End of an era

by BONNIE EVANGELISTA '08

To understand the impact that retiring Highty-Tighties director Lt. Col. George McNeill has had on the regimental band, consider his love for music and his endless devotion to inspiring others through music.



MIKE DIERSING

Tribute: After 23 years directing the Highty-Tighties, Lt. Col. George McNeill retired at the end of the spring semester.

After growing up in Baltimore, where he learned to play the tuba, McNeill landed a spot as a marching Spartan at Norfolk State University. He then joined the U.S. Army Service Band, in which he served for 22 years.

His son, Marvin (music '94), then a student at Virginia Tech, introduced his father to the Highty-Tighties. After first serving as the assistant band director under then-director Wally Easter, McNeill took the lead.

McNeill's commitment to the Highty-Tighties never waned, despite the early challenges. "We didn't have a lot of experienced players," he said. In the early 1990s, although band members took great pride in their marching, their interest in progressing musically was wanting, and some members were not as proficient as McNeill had hoped. To rectify the situation, McNeill committed himself to raising the band's musicianship; his emphasis on the recruitment and retention of skilled musicians would become the hallmark of his legacy as director.

First, McNeill asked the Highty-Tighties Alumni Board of Directors to raise money to provide scholarships to all freshman members of the band. He began holding auditions to gauge the abilities of all prospective cadets. McNeill's efforts inspired band members to start other initiatives, including calling prospective high school musicians and staffing the summer orientation tables to speak with incoming cadets. Indeed, many alumni who played under McNeill admit that they had had no interest in joining the band until they heard the question "Do you play an instrument?" during orientation.

These efforts worked. The Highty-Tighties have grown from 60-70 to more than 150. McNeill had always said that he would march a 12-by-12 block on the field before his time as director was up—but he now believes the band can grow to 200 members.

In addition, McNeill's love for jazz brought new energy to the Southern Colonels, the Highty-Tighties' jazz ensemble that now performs for university and private events. And other music groups have emerged as proof of the type of talent being recruited: Caroling by the brass quintet has become a campus tradition.

McNeill spent a great deal of time working with bandsmen individually, helping them developing musically and professionally. "I'm proud," he said, "of all the kids that came through, that I had a part of that."

For band alumni, the past 23 years are defined by McNeill's dedication to developing the Highty-Tighties into a first-class musical organization. Few people are revered as legends, but in the eyes of his band members, McNeill earned the title long ago.

Bonnie Evangelista (political science, Spanish '08), now with the CIA, played the mellophone in the Highty-Tighties.



Optic nerve hypoplasia is the leading cause of childhood blindness, but we don't know much about it. Anything we find will be significant. It'll be completely new."

—Konark Mukherjee, an assistant professor at the Virginia Tech Carilion Research Institute and an assistant professor of biological sciences in the College of Science, received a \$2 million National Institutes of Health grant to study why the optic nerve sometimes fails to fully develop.

Tech among the world's elite

Ranking No. 355 overall, Virginia Tech is positioned near the top 10 percent in the annual QS World University Rankings of more than 3,500 universities around the globe.

Specifically, Tech appears in the top 200 in 18 of the 36 individual subjects evaluated. Ranked in the top 50 are the Department of Mechanical Engineering at 45th—its second consecutive year in the top 50—and the Virginia-Maryland College of Veterinary Medicine at 49th in veterinary medicine, one of six new subjects added to the rankings for 2015.

Among the nearly 11,000 programs evaluated, Tech programs ranking in the top 100 are civil engineering, electrical engineering, and agriculture and forestry; in the top 150 are statistics and operational research, environmental sciences, earth and marine sciences, geography, and materials science; and in the top 200 are mathematics, physics and astronomy, chemical engineering, chemistry, and education.

The rankings, which aim to provide a resource for prospective students to identify the most prestigious institutions for the study of particular subjects, are based on survey responses from faculty throughout the world who evaluate only those universities in their region. This year, more than 93,000 faculty members participated. More information is available at www.topuniversities.com/subject-rankings/2015.



COURTESY PHOTO

When in Rome

As a member of only the second class of women to matriculate at Boston Latin School—founded in 1635 as the country's first public school—and only the fourth class of women at the College of the Holy Cross, long renowned for its classics department, Trudy Harrington Becker was destined to be a classicist.

During her junior year at Holy Cross, Becker, who double-majored in classics and history, was accepted into a highly selective, intensive program at the Intercollegiate Center for Classical Studies in Rome. "I was really moved by being in [Rome]," said Becker, pictured above in the Roman Forum during the 1982 trip. "I needed to see that language, that prose, that poetry, in a space in time."

A 2015 William E. Wine Award winner, Becker, senior instructor and associate chair in the Department of History, has been at Tech nearly 30 years, along with her husband, Andrew Becker, associate professor of Latin and ancient Greek languages, literatures, and cultures.

Since 1997, the Beckers, both in the College of Liberal Arts and Human Sciences' Classical Studies Program, have taken Tech students to the Steger Center for International Scholarship in Riva San Vitale, Switzerland, and to Rome for summer study-abroad programs. In 2014, the couple, who have always traveled with their twin sons and daughter, shared the university's Alumni Award for Excellence in International Education.

"Rome is my place. I know this place. I feel this place. And it's also because I'm with my husband; it's our place," Becker said. "When we arrive in Rome, I can breathe better."

Virginia Tech Daily

Want your Hokie news more often? Visit www.vtnews.vt.edu, where you can sign up for the Virginia Tech Daily email.

Perpetual motion

by JESSE TUEL
photo by LOGAN WALLACE

Corinna Coffin, a sponsored athlete with world-championship aspirations who burst onto the obstacle-course racing scene last fall and quickly found herself, grinning and muddy and bruised after races of 10-to-12-plus miles, up on the podium to collect those giant prize checks, is a high performer by any standard. A Hokie Ambassador and Rec Sports trainer and fitness instructor and CrossFit athlete and Triathlon Club member, sometimes all in a single day, the newly minted alumna with degrees in Spanish and human nutrition, foods, and exercise probably thought it strange to sit still during May's commencement ceremony in her favorite training venue, Lane Stadium, instead of doing what she normally does there: **run up the 220 east-side steps 10 times**, sometimes with a **25-pound weight held overhead** and sometimes **bear-crawling down**, just for kicks, on her hands and feet. She fuels her high-activity days with up to **3,500 calories** so that when she spots the stadium from across campus and hears it call to her **“I challenge you”**

she can say

“Challenge accepted.”

High performer:

For a video on a day in Coffin's life, visit www.vtmag.vt.edu.





ON ASSIGNMENT

Commitment: Four alumni leading Apex Systems—from left) Ted Hanson '91, Brian Callaghan '93, Edwin “Win” Sheridan '94, and Jeffrey Veatch '93—were inspired to support entrepreneurship activities at Virginia Tech.

Apex of innovation

by ANNIE MCCALLUM

Joe Acanfora's goal is to help people reach their destinations. To help achieve that goal, he created an app that helps users determine where they should park on Virginia Tech's campus based on what kind of parking permit they have and what time of day it is. A native of Gilbertsville, New York, Acanfora (computer science '15) developed the app while he was a student.

He said he hopes to expand on the technology and use it elsewhere, including Richmond, Virginia, where he is a software developer and consultant with CapTech. “Even though [the app is] about parking, it's more about helping people get where they want to go,” he said.

Getting people where they want to go is also the idea behind the Apex Systems Center for Innovation and Entrepreneurship, which is helping and inspiring students like Acanfora.

Launched in July 2014, the center supports entrepreneurship and innovation across the university through programs, resources, and the expertise of its staff. While it's based in the Pamplin College of Business, the center assists students and faculty across campus.

In April, in its first-ever Student Innovator and Entrepreneur of the Year Awards program, the center recognized Acanfora for his creation. Acanfora said the awards are a powerful way to encourage students. “I think it can inspire students who have great ideas and aren't sure what the next step is.”



CHRISTINA O'CONNOR

Apex center executive director Derick Maggard '13 and Joe Acanfora '15

While the center was in existence for only a fraction of Acanfora's time at Virginia Tech, he still saw its potential to shape the future. “Hopefully, it grows the community of entrepreneurs in Blacksburg,” he said. “There are tons of great ideas out there and tons of people who have great ideas. It's really about bringing those ideas together and growing and incubating them.”

The center got a serious boost in November 2014, when four Virginia Tech alumni committed a combined \$5 million to help jumpstart the center's activities.

In 1995, Brian Callaghan (psychology '93), Edwin “Win” Sheridan (political science '94), and Jeffrey Veatch (finance '93) founded the information-technology staffing and services company Apex Systems, now the center's namesake. Ted Hanson (accounting '91) joined the company as chief financial officer in 1998. The group gathered at Virginia Tech in April for the center's naming celebration and to present the innovation and entrepreneur awards to Acanfora and five other students.

Thinking back on their time at Virginia Tech, Sheridan said the odds of the group starting a company seemed slim. Two decades later, though, Apex's sales and recruiting staff alone numbers more than 625 people; and in 2014, the company surpassed \$1 billion in revenue.

“We couldn't think of a better way to give back to our university than this great center,” Sheridan said. It's important, he added, to recognize students, give them positive reinforcement, and let them know they can go out and succeed.

That support is the crux of the center's mission, which has been helped significantly by the generosity of the Apex alumni, said Derick Maggard (M.S. industrial and systems engineering '13), the center's executive director.

Maggard pointed to several popular programs helping foster new ideas and businesses while encouraging participants. These include Innovate, a living-learning community that is a partnership between the center and Virginia Tech's Division of Student Affairs, and Entrepreneur Treks, which take students to different cities to visit companies and connect with business leaders. The visits give students a chance to learn in the field and form powerful relationships in the business community.

“It's difficult to simply teach and learn,” Maggard said. “You have to do.”

Innovate, which launched in 2013, provides a place where more than two dozen students are immersed in entrepreneurial activities, such as forming business plans, drafting marketing campaigns, and conducting product research.

Acanfora, the app creator, lived in the Innovate community, where he mentored younger students. He said Innovate helped first-year students and sophomores with the public-speaking skills critical in business and also provided a supportive environment. Now, Acanfora is drawing on his Virginia Tech experiences as he develops his award-winning business idea.

“I think the future is really bright at Virginia Tech for innovation and entrepreneurship,” he said.

Annie McCallum is the Web editor for University Development.

Generosity:
For more philanthropy news, visit bit.ly/vt-philanthropynews.

Math and melons

by RICHARD LOVEGROVE
photos by MICHAEL KIERNAN

Imagine you're in the Middle Ages and preparing to lay siege to a castle that looks like, say, Burruss Hall. In that case, you'd want to employ a trebuchet, the more efficient and much more accurate cousin of the catapult. Until replaced by the cannon, the trebuchet was the most lethal weapon of its day.

Cadets Gabe Grewe and David Sinclair, along with 25 to 30 other members of the Virginia Tech chapter of the Society of American Military Engineers, aren't planning any sieges, but they have built a trebuchet for a competition Tech will host this fall. The team is hoping its machine can hurl a cantaloupe 500 feet while out-flinging a similar machine built by Virginia Military Institute cadets (and possibly one by Old Dominion University students).



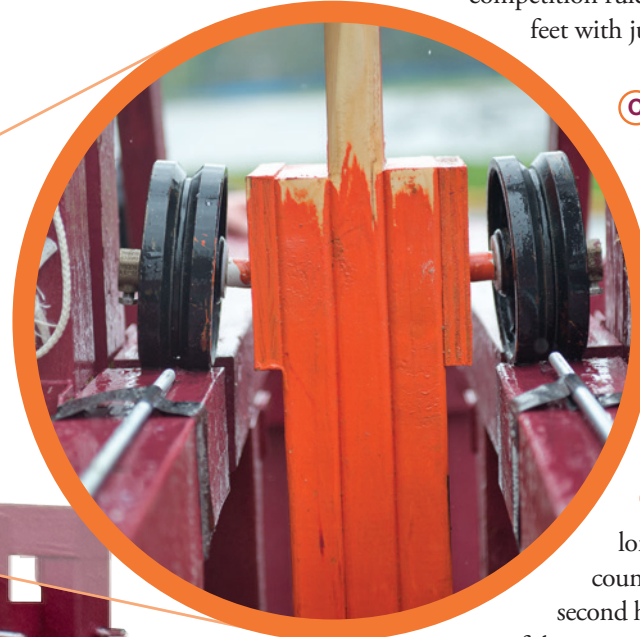
From the side of the trebuchet, a cadet pulls the firing pin, setting the entire system in motion.

- Lessons learned from the 2014 competition with VMI
- One of the three most-important moments during a throw, according to cadets
- A note on efficiency

A The frame: The frame is 10 feet tall and 8 feet wide.

- Use 4x4s instead of 2x4s in high-stress areas to resist warping.
- Use a tongue-and-groove system on the horizontal plane so that the wheels glide smoothly.

B The counterweights: The students cast 40- and 60-pound concrete disks. Although competition rules allow for a total of 300 pounds, the cadets' latest machine achieved 450 feet with just 200 pounds of counterweight.



C The axle: The pivot axle slides back and forth horizontally, allowing the counterweight to fall straight down. As a result, the counterweight's vertical force remains true with gravity, yielding a theoretical maximum downward force.

- The axle that holds the counterweights travels along a vertical path that must be narrow enough to guide the bar down, but not so tight that it causes undue friction and saps efficiency.
- The wheels must hit the horizontal track at exactly the right spot to roll straight. In addition, both the wheels and the axle must be strong enough to withstand the forces without bending. Test-firing revealed the need to strengthen the axle even more.

D The throwing arm: About twice the length of the short end, the long end moves at about twice the speed. As the beam rotates due to the falling counterweight, centripetal acceleration causes the payload to move outward. In the second half of the drop, the pivot axle passes over the counterweight, bringing the end of the arm and the attached sling over the top.

- Achieving the longest melon toss is somewhat counterintuitive. The acceleration of gravity can be amplified by using a 5:1 ratio of arm length—the long arm at 10 feet and the short arm at two feet—leading to a velocity five times greater at the long arm's tip, but then the counterweight drops a shorter distance. A long/short ratio of 2:1 greatly increases the drop distance and the power generated, even though the acceleration amplification of gravity is reduced.

E The sling: The sling acts as a second fulcrum so that the projectile, moving both with the arm and rotating around it, ends up moving at up to twice the arm's speed.

- Use a resistant material for the sling pouch so that the melon will stay inside the pouch as force increases.
- The pin or "finger" holding the ring onto one end of the sling must release at about 45 degrees—known as the sling stall point—right when the long end of the arm is at 90 to 100 degrees. The team has to adjust the sling length and the bend in the pin to get the right angle to take full advantage of centripetal acceleration.

F The ammo: In April, cadets conducted test-firing with 4-pound cantaloupes and watermelons.

Richard Lovegrove is an editor with the marketing and publications unit.

Flying fruit:

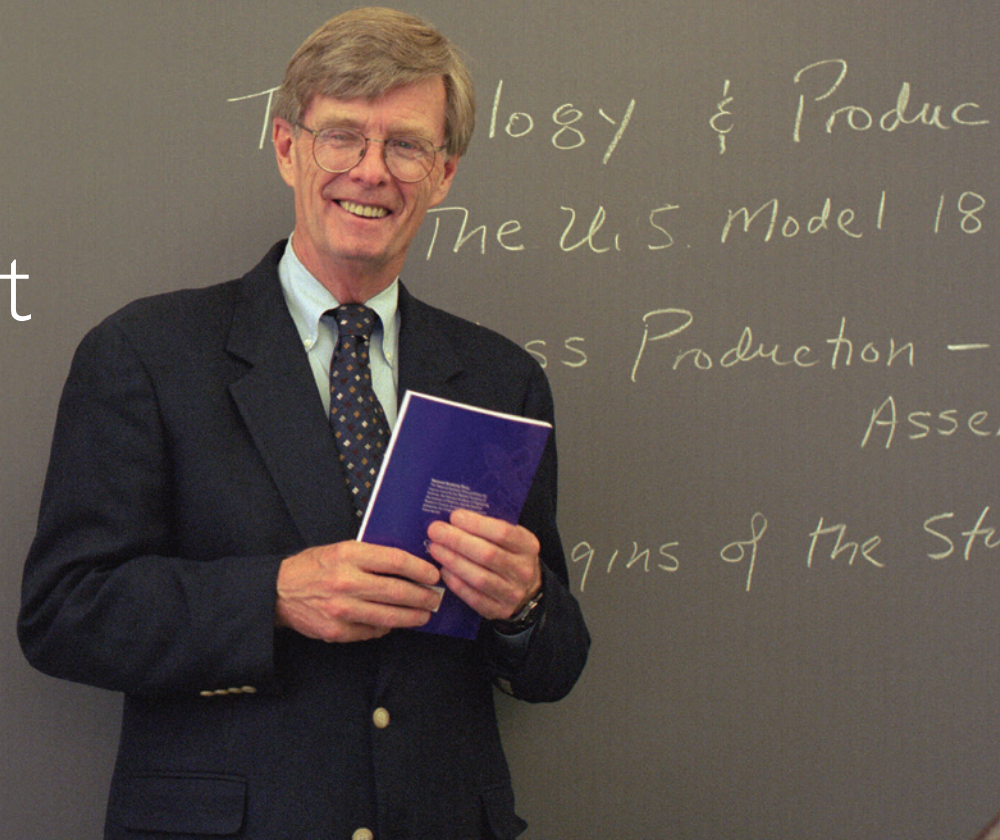
For a video of the trebuchet in action, visit www.vtmag.vt.edu.



Teacher, President

Virginia Tech mourns
President Emeritus
Paul Torgersen

by STEVEN MACKAY and JESSE TUEL



Shortly before Paul Torgersen became Virginia Tech's 14th president, he referred to himself as "a professor who is also serving as president."

A revered educator who treasured his students, Torgersen, who died March 29 at the age of 83, spent 58 years in the classroom. Even while he was the president from 1994 to 2000 and the College of Engineering (COE) dean from 1970 to 1990, he taught at least one course per semester.

"I always felt his best job was as a professor," said COE Dean Richard Benson. "He loved being in the classroom."

W.S. "Pete" White Jr. (electrical engineering '48), the BOV rector when Torgersen became president, remained a close friend. "To know Paul well was to love him," White said. "He was a very caring person. ... He was interested in people. He liked what he was doing. He liked working with young people."

Bevlee Watford (mining engineering '81, M.S. industrial engineering and opera-

tions research '83, Ph.D. '85) experienced Torgersen's intent firsthand.

At a luncheon for black students during her sophomore year, Watford found herself sitting next to a faculty member she didn't know. "When he found out I was studying mining, we started talking about the department, my upcoming co-op position, and many other things," Watford said. "I remember thinking, 'This guy is a total stranger, but seems really interested in me.' It was a nice conversation that ended with him offering me encouragement and saying to contact him if I needed something."

Only when the man left did Watford learn who he was. "Imagine my total shock when I realized I had spent lunchtime talking with the dean of my college, Paul E. Torgersen," she said. "I never forgot that meeting."

The conversation was "one of those truly pivotal events we all have in our lives," said Watford, now a professor of engineering education, COE associate dean of academic affairs, and director of the Center

for the Enhancement of Engineering Diversity. "He was an incredible mentor, someone I could always talk to about any kind of issue. He was always in my corner. I am lucky that he was such a positive force in my life, and Virginia Tech was lucky that he chose Blacksburg as the place to make his home and career."

Torgersen went out of his way to serve students. Once, a student's father was seriously injured in an automobile accident and not expected to live. Torgersen, then the dean, bought the student an airplane ticket to return home, and the student was able to see his father before his father died that evening.

Former BOV rector Mike Quillen (civil engineering '70, M.S. '71) came to Tech from a small town and was discouraged by the difficulty of calculus and physics courses. Torgersen, who was his advisor, encouraged him to stick it out. "Paul was the driving force to make me stay," Quillen said. "There's nobody I respect more than Paul. He was just a great gentleman."



Leadership: Past presidents T. Marshall Hahn, Paul Torgersen, and Charles W. Steger (above) in 2013, and Torgersen in the classroom in 1999 (left).

As much impact as Torgersen had on individual students, the university trajectory he charted as an administrator was equally as impressive.

During Torgersen's time as dean, COE emerged from the bottom 10 percent in rankings for research to join the top 10 percent. During his presidency, the Virginia-Maryland College of Veterinary Medicine received full accreditation and U.S. News & World Report ranked the engineering and business colleges among the nation's top 50. During Torgersen's time as dean, COE emerged from the bottom 10 percent in rankings for research to join the top 10 percent.

In addition, the university community raised \$337 million in a capital campaign, and the university endowment nearly doubled. For the first time, women were hired for the positions of provost and dean. He created the position of vice president for multicultural affairs, for which he hired the university's first black vice president. Through athletic excellence, including a spot in the 2000 national football championship game, Virginia Tech also became more widely known nationwide.

T. Marshall Hahn, Tech's 11th president from 1962 to 1974, offered his insights for a legacy project honoring Torgersen.

"If I were given the task of creating a distinguished, outstanding university," Hahn wrote, "I could do it with three Pauls: one for instruction, one for research, and one for his administrative skills."

Others held Torgersen in similarly high esteem. When Eric Schmidt, now the executive chairman of Google, committed \$2 million to endow a chaired professorship for the position of COE dean, he did so under the condition that the professorship bear the name of Torgersen and his wife, Dorothea, who died in September 2014. Bill Goodwin (mechanical engineering '62) did the same when he gave money toward a campus building, asking that the facility be named Torgersen Hall.

Ultimately, cancer forced Torgersen to gain his nourishment through a tube inserted permanently into his stomach, and Parkinson's disease also took its toll. But he taught through the spring 2014 semester—and after his very last class, students offered a spontaneous standing ovation and then lined up for his autograph.

"He was a hard-driving, charismatic leader who came to be admired by everyone who knew him," said President Emeritus Charles W. Steger, who was a dean alongside Torgersen and served as vice president for development and university relations under him. "I was fortunate to have him as a friend. We all feel a sense of great loss."

Added President Timothy D. Sands, "As a professor, a dean, and a president, Paul Torgersen has made a tremendous impact upon our institution. We are deeply saddened to lose him, but will always remain inspired by his legacy." □

Steven Mackay is the College of Engineering's communications manager.

Paul Torgersen

- 1953 Bachelor's degree, industrial engineering, Lehigh University
- 1956, 1959 Master's degree and Ph.D., Ohio State University
- 1959-1966 Faculty member, Oklahoma State University
- 1967-2014 Faculty member, Virginia Tech
- 1970-1990 Dean, College of Engineering, Virginia Tech
- 1990-1994 President, Virginia Tech Corporate Research Center, along with other interim roles
- 1994-2000 President, Virginia Tech

Named to the National Academy of Engineering and the National Research Council, Fellow in the Institute of Industrial Engineers and the American Society for Engineering Education

Member of the Ut Prosim Society of donors

Memories:

For more on the life and times of Torgersen, visit www.vtmag.vt.edu.

In Transit

Campus traffic-flow improvements under way

by MASON ADAMS

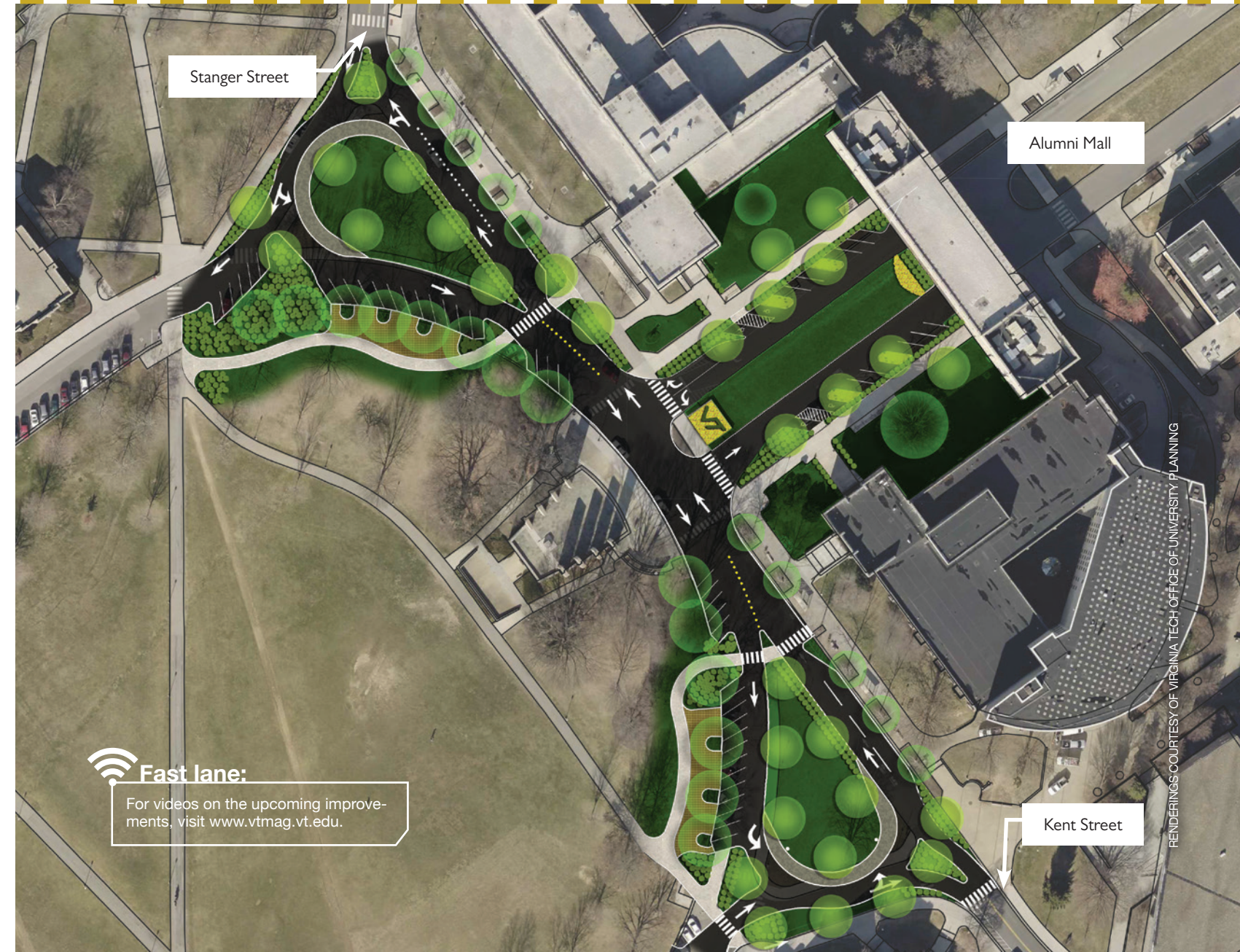
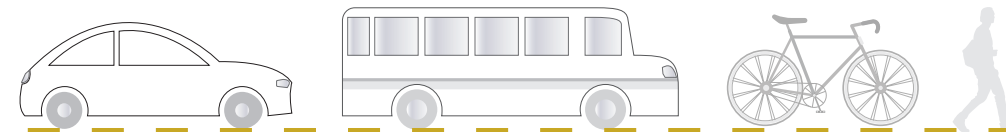
Virginia Tech's Blacksburg campus continues to evolve to better suit the needs of its students, faculty, staff, alumni, and visitors.

The next few years will see substantial changes to Drillfield Drive, the Southgate Drive entrance off of U.S. Route 460, and the north end of campus, all with the goal of improving car, bus, bicycle, and foot traffic.

Drillfield

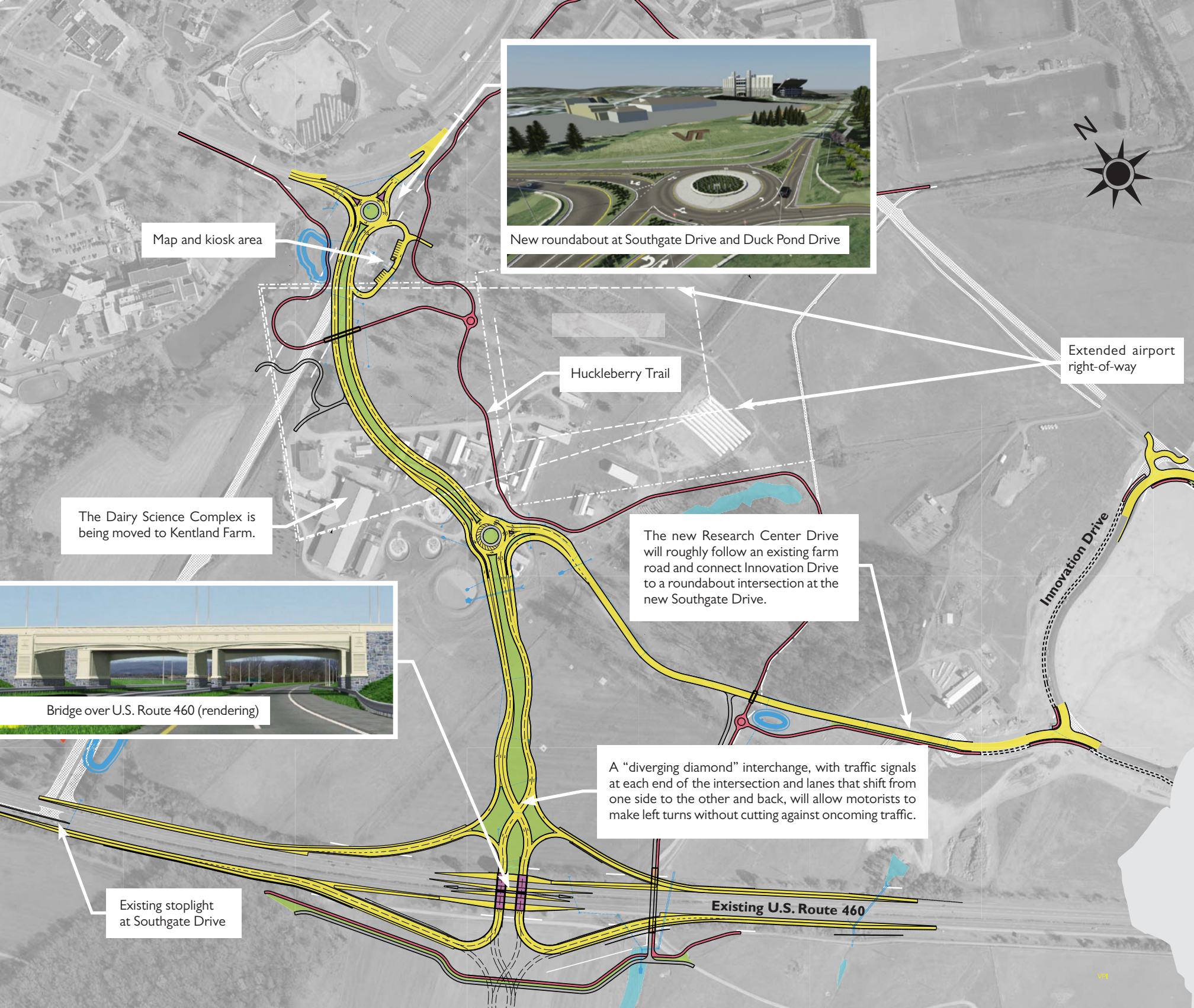
This summer, the section of Drillfield Drive near Alumni Mall and the Pylons will be converted into a two-way road to improve safety and traffic. When finished, the project will allow vehicles entering Drillfield Drive from Stanger Street and Alumni Mall to proceed south onto Kent Street instead of having to travel all the way around the Drillfield.

With plans to complete the work by the start of the fall semester, construction crews are transforming the traffic islands at Stanger and Kent streets, painting traffic stripes, installing signage, and adding other safety improvements.



Fast lane:
For videos on the upcoming improvements, visit www.vtmag.vt.edu.

RENDERINGS COURTESY OF VIRGINIA TECH OFFICE OF UNIVERSITY PLANNING



Map and kiosk area

New roundabout at Southgate Drive and Duck Pond Drive

Huckleberry Trail

Extended airport right-of-way

The Dairy Science Complex is being moved to Kentland Farm.

The new Research Center Drive will roughly follow an existing farm road and connect Innovation Drive to a roundabout intersection at the new Southgate Drive.

A "diverging diamond" interchange, with traffic signals at each end of the intersection and lanes that shift from one side to the other and back, will allow motorists to make left turns without cutting against oncoming traffic.

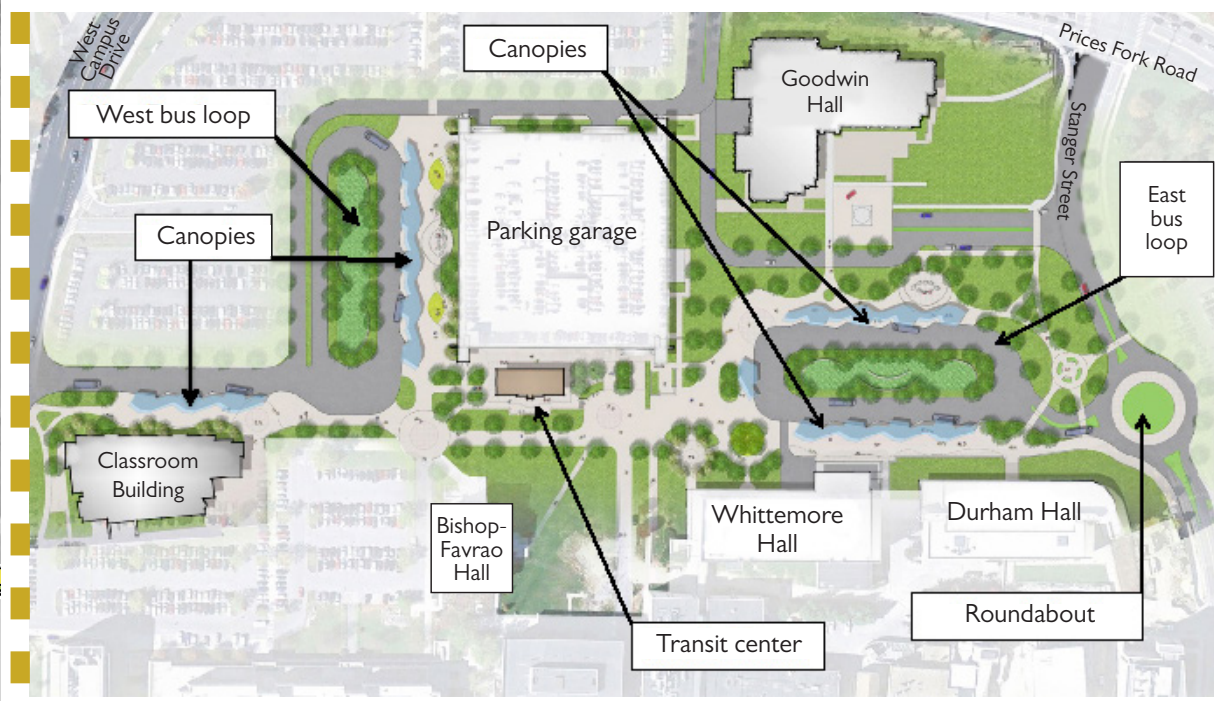
Existing stoplight at Southgate Drive

Existing U.S. Route 460

Innovation Drive

LEGEND

	New road		Grass		New bridge		Stormwater collection
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North campus

Blacksburg Transit and Virginia Tech are planning to build a transit facility on the north end of campus.

The 12,000-square-foot, two-story facility will be located on Perry Street, which will be reconfigured to carry pedestrian and bus traffic, as well as emergency and service vehicles. The facility will include an indoor waiting area with restrooms, enhanced facilities for the Hokie Bike Hub, a locked bicycle-storage area, and meeting and office space.

Nearby bus loops, which will accommodate up to 17 buses and will have canopies for weather protection, will replace the current bus stops in front of Burruss Hall, greatly reducing the number of buses traveling around the Drillfield.

Construction on the new Classroom Building already has begun in what was formerly the Derring Hall parking lot near West Campus Drive and Perry Street.

U.S. Route 460 and Southgate Drive

The Virginia Department of Transportation will build a "diverging diamond" interchange to replace the traffic signal at Southgate Drive and U.S. Route 460.

The new interchange will be built approximately 1,900 feet south of the current stoplight, and a bridge over the highway will allow U.S. Route 460 traffic to flow without a stoplight.

The new Southgate Drive will carry vehicles from the interchange to a roundabout at Duck Pond Drive. Research Center Drive and part of the Huckleberry Trail will be moved to extend the Virginia Tech Montgomery Executive Airport runway and safety zone so that the airport can accommodate larger airplanes.

The new interchange and roads should be open for traffic by 2018.

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As a senior classical

studies major, Chloé Benner loves to immerse herself in the past, but that hasn't stopped her from looking to the future. She's teaching a new generation about antiquities.

As a recipient of the **Class of 1956 Ut Prosim Honors Scholarship,** Chloé was able to study in Athens, Greece.

Her scholarship provides students extraordinary experiences and asks recipients to give back through service projects in return.

Chloé created an after-school program teaching elementary school students about Latin, myths, and art, so her scholarship also helped the young students she taught.

For more about Chloé's story, visit bit.ly/chloebenner.

To learn more about how philanthropy makes an impact at Virginia Tech, or to make your own gift, visit givingto.vt.edu.

 **VirginiaTech**
Invent the Future®

CANCER

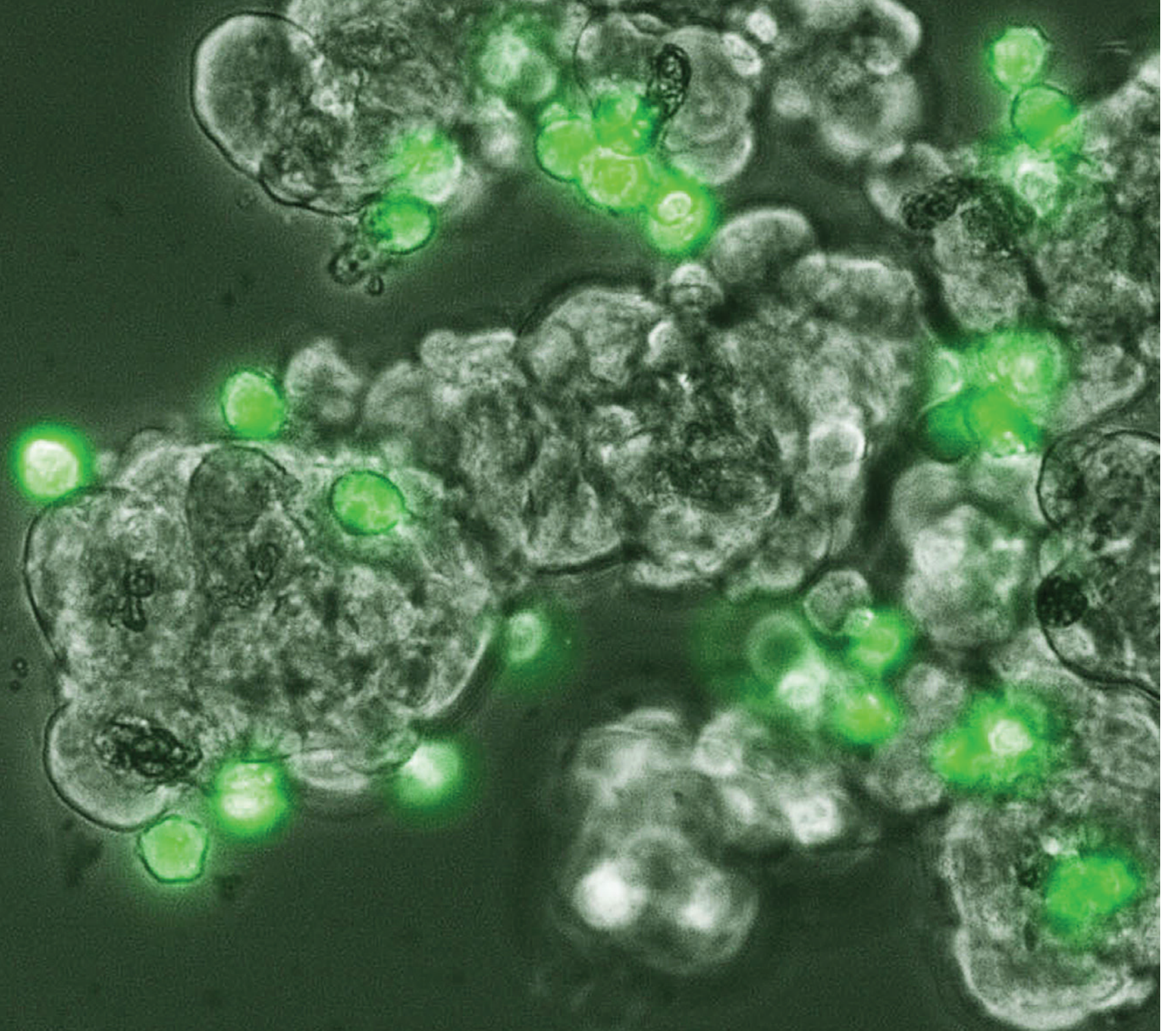
Virginia Tech community forms

UNDER

a strong front against cancer

ATTACK

by MASON ADAMS



Displayed in brilliant green, macrophages—a type of white blood cell—are meant to eliminate microscopic invaders. In this case, though, ovarian cancer cells have redirected the function of the macrophages so that they protect the invaders, according to Associate Professor Eva Schmelz, who provided the image.

Cancer touches nearly everyone in some way.

As humans live longer, cancer seems to lurk in the shadows, ready to pounce when least expected. If it were a demon, cancer would be the “Legion” of the Gospel of Mark’s fifth chapter, for the disease appears in many forms.

The complexity of understanding and fighting cancer may lead us toward such daunting images. Indeed, each cancer is unique unto itself, different both from other types of cancer and from how it progresses in individuals it afflicts. Some forms have been controlled and nearly eradicated; others continue to baffle scientists and kill within a matter of months.

“Each cancer is a world,” said Carla Finkielstein, associate professor of biological sciences in the College of Science (COS). “They all need different strategies and different approaches.”

In the fight against cancer—an extensive war, waged on many fronts and dependent on an ever-shifting supply of resources—Virginia Tech faculty, students, and alumni fill the ranks.



For cancer patients, **Angela Charlton** '82 (right) develops therapeutic diets based on nutritious foods, while **Mary Ward** '80 (left) manages a cancer registry for Carilion Clinic. The women, employed in the Carilion health care system, posed at the Roanoke farmers market.

JIM STROUP

the caregivers

Experiencing cancer—through a friend or family member, or personally—often leads to a stay in the hospital and a range of interactions with doctors and nurses there.

At Carilion Roanoke Memorial Hospital, Mary Ward (biological sciences '80) and Angela Charlton (human nutrition and foods '82) are devoted to serving patients suffering from cancer and the side effects of such treatments as chemotherapy and radiation.

Ward started down her path of service when, to facilitate a career change by her husband, she attended nursing school to pursue a new job.

“The plan was I’d be a nurse a couple of years, and he could switch gears,” Ward said. “Then I realized I loved what I was doing. I loved working with my patients. It was a ministry, not just a job. It was being with people. It was holding their hands. It was looking into their eyes.”

For 14 years, Ward worked as a staff oncology nurse at the hospital. Chemotherapy and radiation require repeated treatment, extending the chances for interaction with the patients.

“You really build a trust relationship with them,” Ward said. “As difficult as it is to be on the giving end as a caregiver, I often would tell people my patients gave me more than I gave them. Watching them deal with their illness and the courage and determination that they had was often inspirational, even with patients who were terminal. It would help me to remember my own mortality, to give me perspective on the fact we’re not here forever.”

In 2013, Ward moved into an administrative job managing Carilion Clinic’s cancer registry, which plays an integral role in providing the hospital’s decision-makers

with ground-level data. The information compiled by Ward is incorporated into survivorship care plans, quality-improvement studies, prevention and screening programs, and more.

Charlton, with a background in nutrition, focuses on patient illness in clinical settings. At the Roanoke hospital, she said she is “intellectually, emotionally, and spiritually” engaged with cancer patients who are facing questions of life and death.

“You have to be able to be present in that reality, in situations where people are grappling with that,” Charlton said. “You can’t just rush in and rush out. You have to be available and listen to their stories. Sometimes you have to hear them repeatedly. People are grappling with a lot of important things.”

To help cancer patients deal with disease symptoms or treatment side effects, Charlton plans therapeutic diets to deliver protein and calories when patients have upset stomachs and little desire to eat. Meals play an important social role in life, and disruption of that ritual can dramatically affect a patient’s esteem and mood.

“Finding things that are meaningful, whether it’s what type of diet approach or routine or rituals around food, gives [patients] some control and some sense of empowerment in how to move forward,” Charlton said.

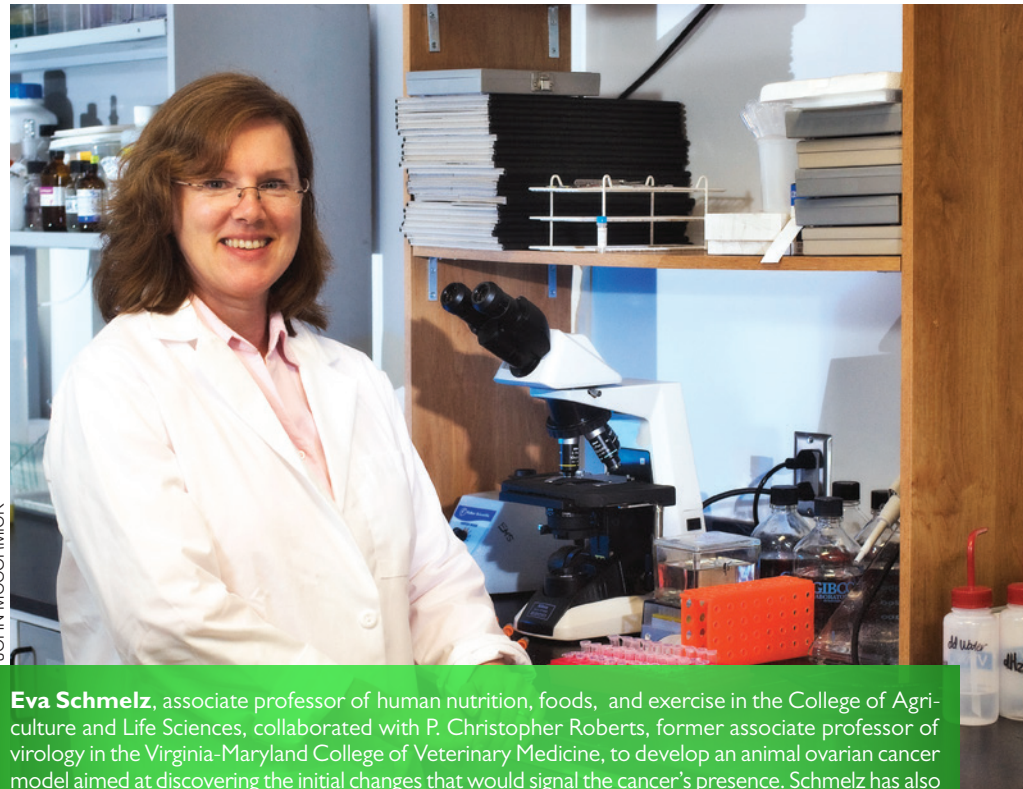
As long as cancer patients require hospitalization as part of their treatment, caregivers like Ward and Charlton are crucial. Thankfully, researchers at Virginia Tech and elsewhere are working on new, less-invasive treatments that may help minimize hospital stays.

“My patients gave me more than I gave them. Watching them deal with their illness and the courage and determination that they had was often inspirational.”

—Mary Ward '80

the scientists

Virginia Tech faculty members investigate not only potentially groundbreaking treatments, but also the biological mechanisms that help explain why and how cancer occurs. Often, their work begins with intellectual curiosity and a fascination with physiology, cellular biology, and more. In turn, their discoveries have enormous potential for real-world application. Published in scientific journals and textbooks, the findings contribute to the world's cancer knowledge and act as a foundation for future scientists. With colleagues from Tech and around the world, the researchers share information and collaborate. Associate Professor Rafael Davalos (lower right), for example, provides technical expertise and devices that often complement the work of others.



JOHN MCCORMICK

Eva Schmelz, associate professor of human nutrition, foods, and exercise in the College of Agriculture and Life Sciences, collaborated with P. Christopher Roberts, former associate professor of virology in the Virginia-Maryland College of Veterinary Medicine, to develop an animal ovarian cancer model aimed at discovering the initial changes that would signal the cancer's presence. Schmelz has also studied the role that natural and synthetic sphingolipid metabolites play in the prevention of cancer as an alternative to more conventional drugs, which often have toxic and debilitating side effects.



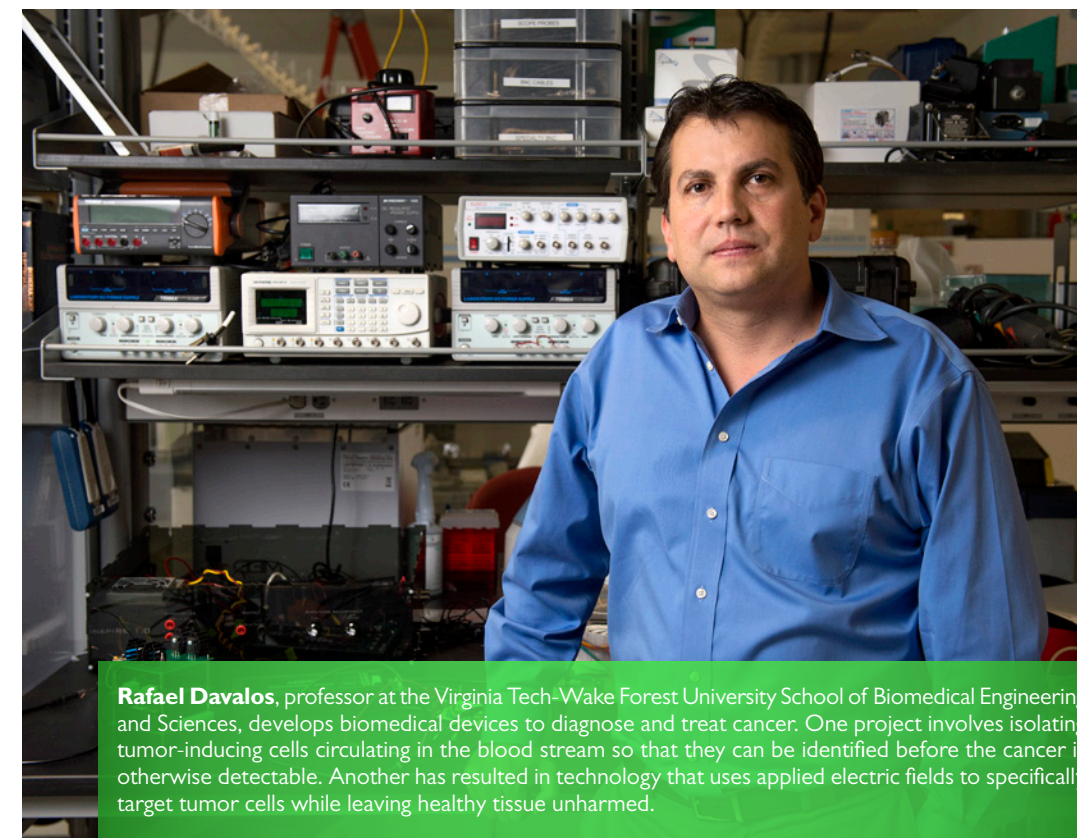
JIM STROUP

Carla Finkelstein, College of Science associate professor, studies how environmental factors influence cancer incidences by understanding how changes in circadian rhythms affect cell division and contribute to the development of breast cancer in women. Her research merges an understanding of cells at the molecular level with larger, community-based prevention strategies.



JIM STROUP

Daniela Cimini, College of Science associate professor of biological sciences, identifies and characterizes the cellular mechanisms that induce aneuploidy, a defect that results in an abnormal number of chromosomes and is known to be a main feature of cancer.



LOGAN WALLACE

Rafael Davalos, professor at the Virginia Tech-Wake Forest University School of Biomedical Engineering and Sciences, develops biomedical devices to diagnose and treat cancer. One project involves isolating tumor-inducing cells circulating in the blood stream so that they can be identified before the cancer is otherwise detectable. Another has resulted in technology that uses applied electric fields to specifically target tumor cells while leaving healthy tissue unharmed.

“Each cancer is a world. They all need different strategies and different approaches.”

—Carla Finkelstein, associate professor of biological sciences

the adapters

While cancer research at the cellular level can feel only theoretical, veterinary medicine offers a bridge of sorts, providing foundational knowledge for those fighting cancer in animals and humans.

John Rossmeisl (M.S. veterinary medical science '03), associate professor of small animal clinical sciences in the vet med college, studies cancer in dogs whose tumors are closer in size and molecular and genetic heterogeneity to those in humans than are the tumors in rodents, which many researchers study.

"A mouse tumor may be 2 millimeters by 2 millimeters, but then you have to adapt it to humans, who may have tumors measuring 10 centimeters by 10 centimeters," Rossmeisl said.

Both Rossmeisl and Timothy Fan (biochemistry and nutrition '91, D.V.M. '95), an associate professor in the College of Veterinary Medicine at the University of Illinois at Urbana-Champaign, are conducting human trials with cancer treatments that originated in dogs.

Fan is recognized for his work with canine osteosarcoma, a type of bone cancer, and pain management for animals suffering from it. Like Rossmeisl, Fan's collaborators often partner with him to take treatments developed in rodents to the next level. Making the leap from discovery toward application, Fan is now investigating a drug being tested in human clinical trials in Chicago.



JIM STROUP

John Rossmeisl '03, associate professor of small animal clinical sciences in the vet med college, is a neurologist and brain surgeon who specializes in developing therapeutic approaches for gliomas, a fast-moving form of brain tumor.



L. BRIAN STAUFFER / UNIVERSITY OF ILLINOIS

Timothy Fan '91, '95 (right), an associate professor in the College of Veterinary Medicine at the University of Illinois at Urbana-Champaign, studies canine osteosarcoma, a type of bone cancer, and is now investigating a drug being tested in human clinical trials.

"It's very unusual for a small molecule or novel therapeutic approach that originates from a scientific investigator to move to a successful, new drug application and phase I clinical trial," Fan said. "Most agents making that path come from 'Big Pharma,' or large pharmaceutical corporations."

Similarly, Rossmeisl's work with Associate Professor Rafael Davalos on irreversible electroporation, a technology that uses electrical fields to precisely target tumors, has been commercially licensed, and their findings are being developed ahead of human clinical trials.



MELISSA BOWERS / AMERICAN CANCER SOCIETY

At the American Cancer Society (ACS), **William Phelps '80** coordinates committees of experts who determine how to allocate ACS funding to support the most-promising areas of cancer research. In 2014, ACS—the largest nonprofit, nongovernmental supporter of cancer research in the U.S.—spent \$144 million on research.

the distributor

Before the clinical trials, animal research, and cellular-level investigations, there is the matter of funding. As director of the American Cancer Society's (ACS) Preclinical and Translational Cancer Research program in the Extramural Research and Training Department, William Phelps (M.S. botany '80) coordinates committees of experts who weigh which grant applications to support.

"My job is to help make the best decisions to put money into the most-innovative and promising areas of cancer research," Phelps said.

Ultimately, only 10 percent of the applications receive ACS funding, but Phelps provides guidance to unselected applicants to help them win funding from other sources, such as the National Institutes of Health. Additionally, he plays a role in ACS fundraising, traveling around the country to share with donors how their money will be used.

Phelps' duties afford him a broad perspective on the fight against cancer. "Anybody engaged in a research enterprise has to understand that it is mostly an incremental industry. You're taking what someone has

found and trying to incrementally learn something new. It's going to be fraught with failure, but that's the way you learn. One success comes out of 10 failures," Phelps said.

Still, those rare successes stack up to make progress. Since 1991, cancer mortality rates have fallen about 1 percent per year. That's not because of any one factor, Phelps said, but from many: a decrease in the number of people smoking, advances in medicine and treatment, and substantial progress in fighting particular types of cancers.

"Take childhood leukemia," Phelps said. "Ninety percent of kids less than four years old will be cured. That number didn't start out at 90 percent. It started much lower, but over the years, we have incrementally improved the survival and cure rates. It wasn't one thing, but the accumulation of thousands of studies that got us to a great success rate."

There is also rapid development in immune therapies for cancers like melanoma. "We got there because people have been unsuccessful with immune therapy for decades," Phelps said. "They'd try something, [it wouldn't] work. Try something else, going back and figuring out, 'Why did it fail?' That led to successes today."

the rally point

Research grants don't grow on trees, of course. Grassroots efforts such as Relay For Life—the top money-generating event for ACS—provide a financial foundation for groundbreaking research.

For six years in a row, Virginia Tech has hosted the world's largest, most-successful collegiate Relay for Life. Since 2009, Hokie students have raised more than half a million dollars each year. This year, the event attracted more than 8,000 participants on the way to exceeding \$500,000 once again. Since Tech's relay efforts began in 2000, Virginia Tech has raised \$4.8 million for cancer research.

"It takes at least \$100,000 to fund an ACS grant," said Emily McCloud (mathematics '15), the 2015 event director who will return to campus in the fall as a graduate student. "Virginia Tech is proud to say we can fund five grants each year."

McCloud lost her father to cancer when she was 12. In the years since, she has lost her aunt and grandfather, too. She participates in Relay For Life in memory of her father and in honor of her mother, who in turn lost her husband, sister, and father.

“Life is short. It’s a cheesy phrase you hear, but cancer is a crazy-scary disease, and it’s incredible how hard you have to fight this,” McCloud said. “It changed our lives. We moved, and I met new friends, and it was different growing up with just one parent. ... The most motivating thing for me is that I have grown up without a father and don’t want other kids to deal with that. That’s what motivates me.”

A personal commitment to the university motto, *Ut Prosim* (That I May Serve), further influenced McCloud. In her freshman year, she first learned about the relay from her residential advisor, and she volunteered to help with stage management.

“I remember standing under the tent, holding the scripts, [and] directing everyone,” McCloud said. “I loved why I was there and loved being able to help out and make the night a great experience for other students. I knew then that Relay For Life was what I wanted to do with my college experience.”



JIM STROUP

Emily McCloud '15 and her mother, **Ruth Intress**, have lost three family members to cancer: Emily’s father, aunt, and grandfather (Ruth’s husband, sister, and father). McCloud was the director for Virginia Tech’s spring 2015 Relay For Life event.

The fighters:

For videos featuring Tech researchers and Relay For Life, visit www.vtmag.vt.edu.

the manager

Ask scientists if cancer will be cured in the foreseeable future, and they’re likely to hedge, saying that cancer someday will be more manageable, more of a chronic disease than a lethal one.

Making cancer manageable is the goal of Karen Roberto, a University Distinguished Professor in the College of Liberal Arts and Human Sciences’ human development department who since 1996 has served as director of the Center for Gerontology.

Roberto’s research focuses on rural Appalachia, where older adults carry a disproportionate share of the U.S. cancer burden and face environmental factors that present major challenges to treatment

and survival. “Understanding differential cancer burden as a result of individual and life-course circumstances is necessary for the development and implementation of best practices to provide optimal care and support for all cancer survivors,” she said.

As part of the Appalachian Cancer Network, Roberto and the Center for Gerontology work with churches in Giles County and Galax, Virginia, to offer a curriculum that includes faith, exercise, diet, and regular cancer screenings as preventative measures. The interactions have generated data on how health disparities are amplified by rural economics, perceptions, and age.

Those ages 65 and above comprise 13 percent of the U.S. population, but account for 54 percent of all new cancer cases, Roberto said, adding that approximately 60 percent of survivors are older adults. “Our view of cancer has changed from a death sentence to more of a chronic illness,” she said.

As a result, the number of older cancer survivors is likely to continue to increase. Said Roberto, “It is important for medical and public health professionals, as well as family caregivers, to be knowledgeable of issues survivors may face, especially the long-term effects of treatment on their physical and psychosocial well-being.”

Higher survival rates are a good problem to have, of course. But for those who’ve won their battles, and for their families and doctors, the extended lifetimes trigger a need to further explore and improve caregiving methods.

If each cancer is a world, as Finkelstein said, the Virginia Tech community is fully engaged in winning each battle—and the broader war—against cancer in all its forms. □

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contributors

Tom Tillar '69
Vice President for Alumni Relations

Dave Hunt
Communications Director

Shirley Fleet
Class Notes Editor



A photo taken by College of Engineering (COE) Dean Richard Benson captures Torgersen Bridge, reflected on War Memorial Court's cenotaph, as a tribute to former COE Dean and President Emeritus Paul Torgersen, who died March 29. For more on Torgersen, see page 20.

Reaching for the clouds

In March, I had the distinct pleasure of visiting with two of our alumni, both living in Texas—Christopher C. Kraft (aerospace engineering '45) and Patrick M. Matthews (finance '02). Despite their age difference, each has had a career associated with “clouds.”

Kraft, one of our earliest aerospace engineering graduates, retired as director of the Johnson Space Center, where the mission control center is named in his honor. He worked in aeronautical research for more than a decade before joining the newly formed NASA and its Space Task Group. As NASA's first flight director, he was associated with America's first human spaceflight, first human orbital flight, and first spacewalk.

Kraft has vivid memories of his experiences at Virginia Tech, where he was part of a class during World War II that was accelerated to complete degrees a year early. As a cadet and member of the baseball team, he recalls the renowned Bosco Rache and other professors who influenced his choice of aerospace engineering. He also is proud of the honor he received 50 years ago, when Virginia Tech declared a Christopher Kraft Day to celebrate his achievements in the space program.

Matthews had a different kind of early career touching clouds—cloud computing—that started during his years at Virginia Tech. At one point, he took time off to create a dot-com, which eventually grew into an email-hosting start-up in Blacksburg called Webmail.us. After returning to complete his degree, he devoted time to expanding his company, later selling it to Rackspace. He then worked as a Rackspace executive for six years as senior vice president for cloud computing and also in a corporate development role.

Today, the San Antonio resident is an angel investor and advisor to dozens of young companies who describes his time-out from college as a period that inspired him to follow his dream and create a company from an idea. Community service, perhaps influenced by his time at Tech, remains an important value in Matthews' life, represented by his volunteer role with Big Brothers Big Sisters of South Texas.

I was truly delighted to visit with two proud Texas Hokies and learn how the university has helped shape their career choices and pathways. Their reach for the clouds has certainly benefited many lives and industries.

Tom Tillar '69

Vice President for Alumni Relations



Chapter speakers help bring the university closer to alumni

Alumni Association chapters across the country host various events that feature inspiring Virginia Tech faculty and administrators, providing an opportunity for attendees to learn about university initiatives and programs while enjoying fellowship with alumni in their communities.

In 2014-15, the roster of speakers included university administrators and faculty favorites, who traveled as far as Seattle and San Diego and, more regionally, to Roanoke and Richmond. Topics were as diverse as the locales, from Alumni Distinguished Professor Rosemary Blieszner's "That's What Friends Are For" to Vice President for Student Affairs Patty Perillo's "Student Life: Then and Now." Maj. Gen. Randal Fullhart visited chapters to provide an update on the growing Corps of Cadets, while Dave McKee, director of the Marching Virginians, discussed the ongoing construction of the band's rehearsal facility.

This year, the Alumni Association celebrated two popular speakers—both Alumni Distinguished Professor emeriti—who reached the milestone of delivering more than 100 presentations. Civil War scholar James I. Robertson Jr. spoke on a variety of topics, including "Untold Civil War Stories" and "The Presidency: What You Want and What You Get." And James Wightman, a retired chemistry professor, delivered a presentation on his most requested topic: "The Chemistry of Beer," an entertaining examination of the chemistry behind brewing.

The chapter speakers' program serves as a valuable outreach opportunity for the university and the Alumni Association. Each occasion brings the university closer to alumni who may not otherwise have such access to campus personalities. Likewise, faculty and administrators enjoy networking with alumni to learn firsthand the impact and influence the university has had on the personal lives and careers of alumni.



COURTESY PHOTOS

In demand: James I. Robertson Jr. (right) and James Wightman (below) are two of the most sought-after speakers for alumni chapter events.



Recent chapter speakers

- Stephanie Adams**, Professor of Engineering Education
- Whit Babcock**, Director of Athletics
- Rosemary Blieszner**, Alumni Distinguished Professor of Adult Development and Aging
- John Boyer**, Senior Instructor, Geography
- Cyril Clarke**, Dean, Virginia-Maryland College of Veterinary Medicine
- Randal Fullhart**, Commandant, Corps of Cadets
- Nikki Giovanni**, University Distinguished Professor of English
- Cynda Johnson**, Dean, Virginia Tech Carilion School of Medicine
- David McKee**, Director, Marching Virginians and Concert Bands
- Lu Merritt**, Senior Director of Development for Intercollegiate Athletics
- P. Buckley Moss**, Renowned Artist and Philanthropist
- Patty Perillo**, Vice President for Student Affairs
- Paul Quigley**, Director, Virginia Center for Civil War Studies
- James I. Robertson Jr.**, Alumni Distinguished Professor Emeritus of History
- Timothy D. Sands**, President
- Edward Spencer**, Vice President Emeritus for Student Affairs
- Tom Tillar**, Vice President for Alumni Relations
- Jesse Tuel**, Editor, Virginia Tech Magazine
- Ruth Waalkes**, Executive Director, Center for the Arts, and Associate Provost for the Arts
- Peter Wallenstein**, Professor of History
- James Wightman**, Alumni Distinguished Professor Emeritus of Chemistry
- Craig Woolsey**, Associate Professor, Aerospace and Ocean Engineering

2015 reunions and homecomings

Six action-packed weekends for alumni



CHELSEY ALLDER

Sept. 7 – Ohio State

Class of 1990 – 25th reunion
College of Agriculture and Life Sciences homecoming
College of Veterinary Medicine homecoming

Sept. 12 – Furman

College of Natural Resources and Environment homecoming
Corps of Cadets homecoming

Oct. 3 – Pittsburgh

Class of 1975 – 40th reunion
College of Architecture and Urban Studies homecoming
Pamplin College of Business homecoming

Oct. 9 – North Carolina State

Class of 1980 – 35th reunion
Class of 1970 – 45th reunion
Graduate School homecoming
Multicultural alumni homecoming tailgate
Marching Virginians homecoming

Oct. 24 – Duke

Alumni Association open house and tailgate, Holtzman Alumni Center
Class of 1965 – 50th reunion
College of Engineering homecoming
Highly-Tighties homecoming
Young alumni reunion
Resident Advisor and Residence Hall Federation alumni reunion

Nov. 21 – North Carolina

Class of 1985 – 30th reunion
College of Liberal Arts and Human Sciences homecoming
College of Science homecoming



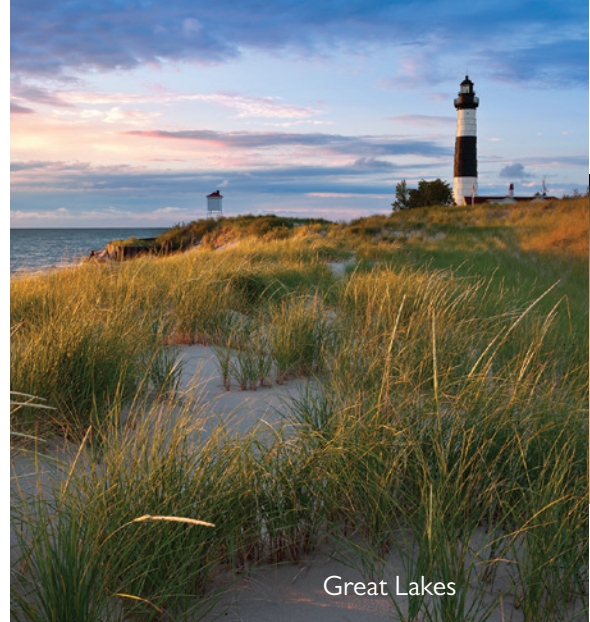
Come home:

For more information on the 2015 homecomings and reunions, visit www.alumni.vt.edu/reunion/index.html.

2015 travel tours



Greece



Great Lakes



Caribbean

Island Paradise, Eastern Caribbean – Oceania Cruises*
Jan. 23-Feb. 2, 2016
From \$2,699 per person, double occupancy (including airfare from select cities)
From sun-kissed islands dotted with emerald palms and pastel colonial architecture to powdery moon-white beaches lapped by translucent aqua seas, a serene Caribbean paradise awaits you on this 10-night luxury cruise. Set sail from Miami aboard Oceania Cruises' newest ship, Riviera, to stunning islands, including the Bahamas, Puerto Rico, St. Barts, Antigua, St. Lucia, and St. Maarten.

The Magnificent Great Lakes*
Aug. 22-31, 2016
From \$4,499 per person, double occupancy (airfare is additional)
Picture yourself surrounded by pristine islands draped in verdant wilderness and rocky shores caressed by sparkling blue waters. Cruise all five Great Lakes, from Chicago to Montreal, and the scenic St. Lawrence River aboard the new 210-guest MS Saint Laurent. Treat yourself to elegant amenities and stunning vistas as this luxurious ship takes you to charming islands and lakeside towns steeped in intriguing maritime history.

Grecian Delights – Oceania Cruises*
Oct. 1-9, 2016
From \$2,899 per person, double occupancy (including airfare from select cities)
Discover the incredible ancient wonders of the Greek isles on a luxury cruise aboard Oceania Cruises' state-of-the-art Riviera. Depart Istanbul, with its dazzling display of exotic bazaars, gleaming domes, and minarets, and sail to the third-largest port in Greece, Volos. Explore Turkey's vibrant port city of Kusadasi, relax on the serene island of Patmos, take in Rhodes' legendary sights, and conclude your Aegean odyssey in Athens.

www.alumni.vt.edu/travel

*Dates and prices are subject to change. Pricing is based per person on double occupancy without air, except as noted. Airfare is based from select North American gateway cities. The Alumni Association encourages all alumni to consider purchasing travel insurance.

Learn about more exciting tours at www.alumni.vt.edu/travel.



LOGAN WALLACE

Career webinars and resources available for alumni

The Alumni Association offers career webinars featuring noted career authors, speakers, and experts. Past topics include learning how to use LinkedIn more effectively, choosing or changing your career path, exploring new careers, conducting effective meetings, and connecting with what you love to do. Registration is required for these free webinars offered through the Hokie Nation Network, the Alumni Association's suite of career resources that includes an active LinkedIn group and a free job board. Webinars are archived for later viewing for free. Learn more at www.alumni.vt.edu/hnn.



At the Nexus

The Virginia Tech Conference on Entrepreneurship and Innovation

November 12-14 | www.research.vt.edu



JAY WHITLOW

Drillfield Series events attract Hokies to campus in winter

In February, alumni and friends returned to Blacksburg for "Food for Thought," the Alumni Association's food and wine pairing weekend. Participants experienced an entertaining presentation and food pairing by Deitrick Dining Hall's executive chefs, a food demonstration by

The Grove's executive chef, and food and wine pairings by The Inn at Virginia Tech's culinary team.

In March, alumni, students, faculty, and guests attended "What Fuels Our Planet?" The program centered on the energy sector and included tours of the award-winning LumenHAUS and the campus coal plant. College of Engineering Dean Richard Benson's keynote presentation was complemented by panel discussions highlighting faculty research, energy industry business practices, and government agency policy requirements.

The weekend concluded with the Union Innovation Challenge, coordinated by the Apex Systems Center for Innovation and Entrepreneurship in the Pamplin College of Business. Students presented clean-energy business proposals, and the top two teams were awarded grants to help turn innovative ideas into practice. Pamplin Dean Robert Sumichrast and Union Bank executives awarded prizes and congratulated the winning teams.

Alumni board elects officers and members

Alumni Association Board of Directors President A. Carole Pratt (biological sciences '72) and Vice President Mark S. Lawrence (management '80) were recently elected to serve one-year terms. Pratt, who resides in Pulaski and Richmond, Virginia, is a retired dentist and a policy advisor with the Virginia Department of Health. Lawrence serves as vice president for governmental and external affairs at Carilion Clinic and resides in Roanoke, Virginia. Also elected to the board's executive committee were Morgan E. Blackwood (industrial and systems engineering '02), Lisa Carter Ellison (finance '86), and Brian C. Montgomery (industrial and systems engineering '03).

Newly elected board members include Thomas J. Fast (finance, management '06), Deborah Barackman Flippo (marketing management '83), Brian T. Sullivan (political science '93), and Claudia K. True (biological sciences '81, D.V.M. '86). Incumbents elected to a second term include Colin L. Goddard (international studies '08) and Gregory J. Sagstetter (philosophy, political science '07).



KRISTINA HARTMAN

(From left) Ethan Pool '16, Michael Sutphin '06, Carling Sitterley '14, and Lia Kelinsky '14 connected at the 2014 Ex Lapide reunion.

Ex Lapide hosts annual gathering

The Virginia Tech Alumni Association will host the third annual reunion for Ex Lapide, a Virginia Tech society for lesbian, gay, bisexual, transgender, queer, and ally alumni, on Oct. 9-11 in Blacksburg. Events will include the unveiling of a Virginia Tech LGBTQA history timeline, the sharing of personal stories from LGBTQA alumni, and the annual multicultural alumni tailgate before the game versus North Carolina State University. In addition, the fourth Out at Work networking reception, highlighting the achievements of underrepresented alumni, will be held at 5:30 p.m. Saturday, Oct. 10, at the Smith Career Center. Visit www.diversity.vt.edu/alumni for registration information.



SUPPORTING STUDENTS AND FACULTY

Gifts made through Annual Giving, designated to Alumni Association programs, help support students and faculty. Various student programs administered by the Alumni Association help strengthen students' awareness of how to become engaged later as alumni by serving as volunteers, mentors, advocates for admission, and other kinds of support. Deserving faculty are recognized for excellence and extraordinary performance through the association's annual awards and stipends. Alumni support designated in these ways helps strengthen these important student and faculty activities at Virginia Tech.

www.givingto.vt.edu (Alumni Association programs)

Virginia Tech Alumni Association
901 Prices Fork Road
Blacksburg, VA 24061



alumnus profile



The Defender

Ken Myers '92 directs the Defense Threat Reduction Agency, an organization protecting America and its allies from weapons of mass destruction.

by JESSE TUEL
photos by LOGAN WALLACE

FORT BELVOIR, VIRGINIA—When no country was willing to host the destruction of 600 tons of chemical weapons material turned over by the Syrian government during the country's civil war, the international community turned to the U.S. for a solution.

The remedy came from the most important Department of Defense organization you've probably never heard of: the Defense Threat Reduction Agency (DTRA).

Tasked with protecting the U.S. and its allies from weapons of mass destruction (WMD)—nuclear warheads, bombers, and submarines; and chemical and biological weapons and the infrastructure to create them—DTRA is powered by some 2,000 biomedical engineers, chemists, microbiologists, nuclear physicists, logisticians, contract specialists, accountants, and more. Because of this unparalleled depth and breadth of knowledge, DTRA is a peerless problem-solver, said Ken Myers (liberal arts and sciences '92), the agency's director since 2009.

The agency explored the idea of outfitting an American ship so that the weapons and materials could be destroyed at sea, in international waters. "The first couple of times we briefed on it, people thought, 'No, no, that simply can't be done.' Well, it can be done," Myers said. "It can when you bring all those specific skill sets ... together as one team. They come up with brilliant ideas. We can solve problems that literally no one else in the world can solve."

Much of DTRA's efforts in Syria were borne out of the Cooperative Threat Reduction Program, better known as the Nunn-Lugar Act. Enacted in 1991 at the behest of former Sens. Sam Nunn and Richard Lugar, the program aimed to secure and dismantle WMDs in former Soviet Union states. The program is now based at DTRA, whose mission has gone global.

When the status of Libyan and Syrian chemical weapons was uncertain amid civil wars; when radiation from the Fukushima nuclear plant meltdown threatened U.S. troops and dependents and a critical ally, Japan; and when the Ebola virus broke out in West Africa, DTRA, as a support entity for the various U.S. military commands, proffered solutions first theorized at the agency



years prior. DTRA's robust R&D team, funded by about \$2 billion a year, is engaged in basic, applied, and advanced research.

Nunn said Myers' leadership role in keeping Americans safe is unmistakable. "There's no more important position in the Department of Defense. There [are some that are] higher-level, but there's none more important," Nunn said.

Immersion

From his office at the DTRA headquarters, with an expansive view of the dense woods typical of Northern Virginia, Myers admitted that his ascension involved luck: From 2003 to 2009, as a senior professional staff member for the U.S. Senate Committee on Foreign Relations, Myers rubbed shoulders with senators who have since become the U.S. president, vice president, and secretary of state and a recently retired secretary of defense. There was also the good fortune of Myers' father's serving as an aide and later staff director for Sen. Lugar.

Even so, to ascribe Myers' ascension to luck alone would dismiss the expertise he honed during his 15-year immersion in the Senate's global efforts in nonproliferation, counterproliferation, and arms control. Traveling overseas regularly, helping to secure Congressional appropriations, and understanding Capitol Hill personalities, U.S. foreign policy, and the technical aspects of WMDs, Myers offered critical continuity to the Nunn-Lugar legacy.

His broad perspective made him "as strong as anybody I've ever worked with," said Nunn. "I had as much trust in Ken and his dad as I did in my own staff. We all worked as partners in common. I give him an A+ in all dimensions."

Said Lugar, "[Myers] developed a very keen sense of the dangers and the possibilities. It's one thing to sign legislation and pass treaties. It's quite another to figure out physically how this is to be done. Ken became a master of detail, figuring out ... the physical problems and how to solve them."

—continued on page 48

Alumni, we want to hear what you've been doing. Mail career, wedding, birth, and death news to Class Notes, Virginia Tech Alumni Association, Holtzman Alumni Center (0102), 901 Prices Fork Rd., Blacksburg, VA 24061; email the news to fleets@vt.edu; or submit the news online at www.vtmag.vt.edu/submit-classnote.php, where photos may also be uploaded for consideration.

Alumni mailing addresses may be viewed online at www.alumni.vt.edu/directory by logging in with your Virginia Tech PID and password. For assistance, call 540-231-6285.

- career accomplishments
- weddings
- births and adoptions
- deceased

Horace "Ed" Alphin (biological sciences '34, M.S. dairy bacteriology '35), a Virginia Tech benefactor and distinguished military officer, died Jan. 21. The colonel completed his military career serving as director of the U.S. Army's Personnel Services Support Directorate at the Pentagon, retiring in 1967 with more than 33 years service. He funded a variety of scholarships and three professorships in the College of Agriculture and Life Sciences and contributed to the construction of the Alphin-Stuart Livestock Teaching Arena.

'37 **Arthur A. Kirk** (BIOL), Portsmouth, Va., 1/26/15.

'42 **David "Alec" B. Alexander** (PSCI, POUL), Edinburg, Va., 12/4/14.

F.L. "Frank" Carr (ANSC '47, CE '48), Eau Claire, Wis., 1/4/15.

William A. Fleet (ME), Mechanicsville, Va., 1/8/15.

Russell "Tip" E. Spivey (AGED), Virginia Beach, Va., 3/11/15.

'43 **Frank R. Bucko** (CHE), Irmo, S.C., 1/10/15.

Edwin C. Cotten (ANSC), Raphine, Va., 3/10/15.

Burton G. Hurdle (PHYS), Falls Church, Va., 3/4/15.

Paul M. Simpson Jr. (IE), Henrico, Va., 3/18/15.

R.M. "Tokie" Tokarz (IE), Midlothian, Va., 2/9/15.

'44 **Archie "E. Cromer Jr.** (BAD '46), Christiansburg, Va., 3/21/15.

Melvin "Shorty" L. Miller (AGED), Stanley, Va., 12/14/14.

Alphonse K. Popolato (CHE), Rio Rancho, N.M., 1/28/15.

Ferdinand "Harvey" H. Wilbourne (ME '48), Roanoke, Va., 2/14/15.

'45 **L.P. "Lew" Brooks** (ME), Burlingame, Calif., 3/6/15.

Jerrold Havermale (ME '47), Atlanta, Ga., 11/9/14.

Robert "Abner" L. Yocum (CE '50), Southbury, Conn., 3/25/14.

'46 **John H. Kroehling** (CERE '48), Merritt Island, Fla., 3/19/15.

Shelby L. Spradlin (BIOL), Virginia Beach, Va., 1/24/15.

John T. Sutton Jr. (BAD '47, BAD '47), Williamsburg, Va., 12/24/14.

'47 **E.W. "Gene" Brabston** (ME), Birmingham, Ala., 3/10/15.

Leigh "Bud" C. Budwell (BIOL '46), Cobbs Creek, Va., 1/8/15.

O.J. "Ollie" Parsons (EE, ME), Satsuma, Fla., 12/23/14.

Turner A. Ramey (HORT '49), Charles Town, W.Va., 3/17/15.

Richard F. Sutton (FW), Summerville, S.C., 8/2/14.

'48 **George W. Watts** (ASE), Maricopa, Ariz., 3/11/15.

'49 **Paul F. Cecchini** (CE), Hardyville, Va., 1/14/15.

Alfred M. Coffman (CHE), Knoxville, Tenn., 12/20/14.

Isaac "Ike" N. Fuqua Jr. (BAD), Bluefield, W.Va., 1/4/15.

Ritchie A. Jordan (AGRN), Suffolk, Va., 12/18/14.

Ross M. Orr Jr. (BIOL), Bethlehem, Pa., 1/30/15.

John H. Rowe (ME '48), Roanoke, Va., 2/6/15.

Helen Reaves Simpson (CTRA), Lynchburg, Va., 1/23/15.

Robert L. Slusher (ME), Marion, Va., 3/2/15.

Hobart "Hobie" A. Weaver Sr. (ME '50), Glen Allen, Va., 2/14/15.

'50 **Theodore N. Bacalis** (BAD '51), Virginia Beach, Va., 12/19/14.

Morris Barret III (EE), Talbott, Tenn., 1/28/15.

Hugh L. Gordon (IE), Marietta, Ga., 1/2/15.

L. Lynton Goulder Jr. (BIOL), Delray Beach, Fla., 8/6/14.

W.B. "Bill" Harrison (CERE '51, CERE '51), Minnetonka, Minn., 2/4/15.

Moreover, as a Senate staffer, Myers had a hand in penning the future of DTRA's role. "I am now overseeing the implementation of the programs that I helped Senator Lugar design and write into law," Myers said.

Expansion

At DTRA, each day brings a new challenge, a new analysis, or a shift in an R&D approach. "We're not dealing with a static situation," Myers said. "There's a great line that military leaders like to use: 'The bad guy gets a vote, too.'"

U.S. military commands rely on DTRA expertise to help contain threats far from American soil. Under Myers' leadership, the agency has exported its success in the Soviet states into the Middle East, Southeast Asia, Africa, and elsewhere. DTRA now conducts programs in 100-plus sites worldwide, working alongside host-nation partners as an "advance shield" against threats, Lugar said.

After Myers became DTRA director, he asked Lugar to help establish stronger diplomatic ties in Kenya to provide, without encroaching on Kenyan sovereignty, security around a laboratory where farm animals were being tested for traces of such elements as anthrax and Ebola—agents sought by terrorists in the country.

"I would not have envisioned going to Kenya, for example, to further the cause of Nunn-Lugar," Lugar said. "I think [the approach in Kenya] was exceptionally creative thinking. Very few people would've thought through the problem in that way."

The "it" factor

Myers acknowledged that he has "an incredible opportunity to lead a skilled workforce that really does not exist anywhere else in the world," he said.

According to a defense-industry executive and a former fraternity brother, Myers has the right persona for the job. "He's got that kind of 'it,' whatever it is," said Craig Starnes (statistics '88, M.S. mathematics '89), a Booz Allen Hamilton vice president who has brought Myers to the company to speak about problem-solving and other professional development matters. "He's got a lot of charisma, and you want to follow him wherever he's going."

Raised in Northern Virginia, Myers was recruited by Virginia Tech and other universities to play soccer. In a tale many Hokies will understand, the campus visit sold him. As he approached campus on U.S. Route 460, the sun was rising behind Lane Stadium. "The whole place was glowing. It was beautiful," he said. And then he met Heather, a Radford University student. Married 19 years, the couple has two children.

As a student, drawn by the convergence of classroom lessons and world events, such as the first Gulf War and the fall of the Berlin Wall, Myers focused on political science, international studies, and English. "I fell in love with the concepts and the way that the world was changing before our very eyes," he said.

The lifelong learner now has an unparalleled understanding of global threats and how to defeat them, Nunn said. "[Myers] is quietly and effectively working every day, not seeking headlines, to secure Americans. We all should be very appreciative of that."

Book Notes: Drawing from the feedback we've received in reader surveys, we have discontinued the page dedicated to **alumni and faculty books**. Instead, alumni books will appear as career accomplishments in Class Notes, and faculty books will appear in Around the Drillfield. Alumni are welcome to send information on published books to fleets@vt.edu.

Roby J. Jarrett (EE '51), Vinton, Va., 1/24/15.
Claude E. Kinder (CE), Henrico, Va., 2/10/15.
M.E. "Van" Shamburger III (ME '51), Doswell, Va., 2/8/15.
Donald "Pat" L. Shook (AGE, ME '55), Morton, Ill., 2/27/15.
David R. Stanton (GSC), Richlands, Va., 3/8/15.
Mathew "Jack" J. Thompson III (ME), Yorktown, Va., 2/12/15.
Thomas "Bud" C. Walsh (ME), Dublin, Va., 4/4/15.

Robert O. Williams (BIOL), Williamsburg, Va., 3/3/15.
Gordon B. Wills (BAD), Suffolk, Va., 12/12/14.
Dewey E. Wornom (ASE), Hampton, Va., 9/21/14.
Robert B. Wysor (ME), Knoxville, Tenn., 1/9/15.
'51 **W.C. "Moose" Cummings** (CHEM), Victoria, Texas, 1/6/15.
James F. Dickenson Sr. (AGEC), Roanoke, Va., 2/23/15.
John C. Eargle Jr. (CHE), North Augusta, S.C., 12/20/14.
Robert H. Fairfield (IAED), Newport News, Va., 3/14/15.
John K. Hale (AGE, AGE '54), Narrows, Va., 2/15/15.
Hugh L. Kirkland (DASC), Richmond, Va., 12/23/14.
William L. Ricketts (IE), Hagerstown, Md., 1/25/15.
B. Leon Shumate (CE), Richmond, Va., 12/26/14.
George C. Wells Jr. (EE), Petersburg, Va., 2/15/15.

'52 **John "Barney" W. Barna** (ME), Saint Albans, W.Va., 3/25/15.
Charlie A. Beck (ME '51), Powhatan, Va., 2/13/15.
Waring Claud (BAD), Virginia Bch, Va., 11/21/14.
Rodney E. Cox (CE), Melbourne, Fla., 8/16/14.
James T. Gauldin (EE), Danville, Va., 3/10/15.
Donald H. Martin (IE), Pittsburgh, Pa., 12/29/14.
Robert W. Massie (BAD), Lynchburg, Va., 1/25/15.
Gordon L. Mears (EE '53), Seaford, Del., 1/28/15.
'53 **Robert L. Bezek** (FW), Lees Summit, Mo., 1/15/15.
Virginia Brown Bowen (BED '52, BED '52), Charlottesville, Va., 3/2/15.
E. Dale Crews (GAG '54), Claymont, DEL., 1/24/15.
E.F. "Gene" Curling Jr. (RS), Norfolk, Va., 1/14/15.
Billie C. Hall (BAD), Greensboro, N.C., 12/27/14.

'54 **James E. Atkins** (AGED), Richmond, Va., 1/6/15.
J.J. "Jim" Bardsley (CERE), Clinton, S.C., 12/16/14.
Frank L. Bradley (BAD), The Villages, Fla., 3/15/15.
John "Pat" P. Haden (ME '57), Charlottesville, Va., 2/19/15.
Walter A. Harrell (ME), Richmond, Va., 12/23/14.
Conrad "Rod" H. Miller (HORT, AGED), Raleigh, N.C., 12/28/14.
A.J. "Alan" Sheppard (AGRN), Maumee, Ohio, 3/19/15.
'55 **Kennerly H. Digges** (ME), Charlottesville, Va., was awarded the BMW Vehicle Safety Lifetime Achievement Award for essential groundwork on BMW's intelligent emergency call system.
John W. Booker III (BAD), Danville, Va., 1/14/15.
Richard C. Chewing (BAD), Fayetteville, ARK., 2/17/15.
F. Earl Frith (DASC), Floyd, Va., 1/2/15.

Renon "Ray" M. Hoge (IE), Chagrin Falls, Ohio, 1/20/15.
Robert L. Miller (AGEC), Winston, Salem, N.C., 2/5/15.
Charlie T. Moon (IE '56), Broad Run, Va., 1/31/15.
Richard E. Norman (CHE '56), Virginia Beach, Va., 1/7/15.
Clyde H. Watson Jr. (ANSC), Wytheville, Va., 3/26/15.
'56 **Robert K. Altizer** (GSC), Boca Raton, Fla., 3/1/15.
R. Shelton Jones (BED '62, BED '62), Winston-Salem, N.C., 3/26/15.
Frank A. Mentlik (POUL), Henderson, Nev., 7/28/14.
'57 **Alfred Patrick** (BAD, EDDBS '60), Richmond, Ky., completed his second novel, "Clinch Mountain Echoes."

Harvey Y. Clayton (CE), Norfolk, Va., 2/17/15.
Kenneth N. Ellis Jr. (EE '58), Fulton, Md., 3/10/15.
John M. Emmett Jr. (BAD), Gloucester Point, Va., 12/11/14.
Guy "Litt" L. Furr Jr. (IE), Radford, Va., 12/13/14.
Pa H. Hsu (AGRN), Sunnyvale, Calif., 2/25/15.
Thurman "Bud" M. Mutter (BAD '56), Crossville, Tenn., 3/10/14.
Marvin L. Pollard (EE '58), Roanoke, Va., 3/13/15.
J.T. "John" Quillen (EDBS '58), Hazard, Ky., 1/7/15.
C. Morgan Rogers (CHE), Richmond, Va., 2/28/15.
Richard E. Welch (EM), Chicago, Ill., 1/12/15.

'58 **Douglas T. Boynton** (ACCT '61), Henrico, Va., 2/12/15.
Burnis "Doc" W. Dockery (ME), Richmond, Va., 1/25/15.
Sidney A. Gilmore (BAD), Pearisburg, Va., 12/26/14.
Willard D. Hamill (BAD), Roanoke, Va., 1/21/15.
Lloyd R. Johnson (ARE, ARE), Carmichael, Calif., 2/27/15.
Henry "Hobson" King (CHE), Henrico, Va., 2/19/15.
E.P. "Ed" Kinney Jr. (CHE), Roanoke, Va., 3/27/15.
Troy A. Law (AGE '59), Cascade, Va., 3/10/15.
Robert M. Phillips (ME), Ballwin, Mo., 3/14/15.

'59 **Harold W. Greene** (EE), Pawleys Island, S.C., 2/1/15.
James "Roger" R. Warrick (IAED), Fieldale, Va., 2/15/15.
'60 **Edwin G. Burch** (GSC), Staunton, Va., 4/1/15.
William R. Dean (AGED), Wytheville, Va., 2/23/15.
Sam Garretson (GAG), Atlanta, Ga., 4/12/14.
Richard S. Gray (ME), North Topsail Beach, N.C., 2/23/15.
James C. Hutton Jr. (EE), Richmond, Va., 1/9/14.

Joseph F. Judkins Jr. (CE, CE, CE '67), Auburn, Ala., 3/18/15.
Ray W. Lotts (AGED), Midlothian, Texas, 4/28/14.
Robert J. Rice Jr. (BIOL '61), Oden-ton, Md., 3/4/15.
William C. Scruggs (CE '61), Arlington, Va., 2/14/15.
Major J. Sheffield (ME), Richmond, Va., 12/5/14.
William "Ben" B. Stadler (BAD), Lynchburg, Va., 1/9/15.
William L. Whitehead Jr. (HORT), Courtland, Va., 3/17/15.

Hindsight

"At the start of my career, I had not fully comprehended the importance of developing meaningful and mutually beneficial relationships. Now, I mentor young professionals. My advice is simple: Network and be visible, inside and outside of your industry and comfort zone. I'm an engineer with an M.B.A., but my involvement in the arts community has paid huge dividends. Set out to contribute and make a difference in your community."

—**Antonio Muñoz-Olán** (electrical engineering '91), Orlando, Fla., founded Muñoz & Associates, a consulting firm helping business owners understand health care access and affordability. The entrepreneur was named by the Hispanic Chamber of Commerce of Metro Orlando as one of the 25 Influential Hispanics of Central Florida.



COURTESY PHOTO

"Come on down!"

So you want to be on a game show and chase the prospect of winning a boatload of cash or some other spectacular prize?

Chosen to "come on down" during the March 30 episode of "The Price Is Right," Sandy Bass (marketing management '12, theatre arts and cinema '12) offered a few pointers.

Because you'll have to complete paperwork and answer screening questions, Bass, a creative account coordinator at a social media studio in Los Angeles, suggested that you "go with a group, be yourself, and have fun. ... I'm sure that the brief screening has something to do with who's selected."

Ever the Hokie, Bass, who ended up winning a designer jewelry set, added: "Oh, and if you have the opportunity to ... be on TV, smile, enjoy the moment, and throw the 'VT' sign to the camera to show off your Hokie pride."

'61 **Thomas D. Bunker** (DE), Lancaster, Pa., 1/7/15.
David L. Bushnell (PHYS), Mineral Point, Wis., 12/8/14.
J. French Chapman (DE), Fairfax, Va., 1/18/15.
E. Kyle "Gene" Fox (ME '62), Fairfax Station, Va., 2/25/15.
David P. Kavanaugh (BAD), Charlottesville, Va., 12/31/14.
John W. Kirby Jr. (ME), Blacksburg, Va., 3/21/15.
Fairfax "Fax" H. Settle (FW '63, FW '70), Tappahannock, Va., 3/24/15.

'62 **Ronald "Little John" S. Bednarick** (FW '63), West Point, Va., 3/22/15.
Douglas R. Blount (BC '63), Salem, Va., 3/12/15.
Frank T. Davis (AGED), Floyd, Va., 4/8/15.
W. Jefferson Stroud (EM, EM '67), Harrisonburg, Va., 2/25/15.
John W. Wine (AGED), Marshall, Va., 9/6/14.
Jack F. Wright Jr. (ACCT), Roanoke, Va., 3/11/15.

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'63 Albert Y. Chang (EE), Tainan, Taiwan, 12/13/14.
Stanley S. Lin (EM), Taiwan, 3/13/15.
James E. Schleeper (BAD '64), Chesapeake, Va., 3/11/15.

'64 Randolph V. Carter Jr. (IE), New Bern, N.C., 1/31/15.
George M. Fairer (GEOL), Boulder, Colo., 9/30/14.
Paul R. Henderlong (AGRN), Plain City, Ohio, 3/22/15.
Charles S. Swinney (ASE '65), Clinton, Tenn., 1/4/15.

'65 William “Dan” Carter (IE, IE '68), Enfield, Conn., 3/23/15.
Edward L. Duke (IE), Mulberry, Fla., 12/5/14.
Harvey J. Scherr (EE), Baltimore, Md., 1/30/15.
Pin P. Tee (MATH), Charleston, S.C., 2/12/15.

'66 Charles W. Totten (GSC '67), Saltville, Va., 1/11/15.
'67 Preston D. Bain (ANSC), Dinwiddie, Va., 3/24/15.

'68 Carl “Bucky” O. Belt Jr. (BC), Cumberland, Md., received the Pinnacle Award from the Frostburg State University Foundation Board of Directors.
Donald H. Wood (MGT '69), Portland, Ore., published his third book, “70 Actions for Success.”

'69 William Mason (ASE '71, '72, '75), Blacksburg, Va., professor emeritus in the Department of Aerospace and Ocean Engineering, co-authored a textbook, “Applied Computational Aerodynamics.”
Robert N. Robinette (PSCI), Pembroke, Va., 1/8/15.
John S. Wright Jr. (ASE), Fallston, Md., 3/18/15.

'70 T. “Tim” Baylor (PSYC), Kingsport, Tenn., 11/17/13.
Martha Russell Metius (ELED), Charlotte, N.C., 10/4/13.
G.H. Rusty Roller (PSCI), Virginia Beach, Va., 12/15/13.

'71 John R. Warren (ASE), Leonardtown, Md., received the part-time faculty excellence award from the College of Southern Maryland.

Edwin F. McGrath Jr. (PSYC), Roanoke, Va., 2/4/15.

'72 Walter F. Bailey Jr. (CE), Alexandria, Va., was listed as one of the top 25 newsmakers by the Engineering News-Record for making a difference for the industry and the public.
John Cooper (PSYC), Paris, Texas, published a novel, “From Woodstock to Eternity.”

Alan N. Boswell (MKTG '73), Cherry Hill, N.J., 5/17/14.
James H. Cooper (TA '73), Lake Worth, Fla., 1/15/15.

Penny McKee Ireland (HIST, EDCI '79), Christiansburg, Va., 1/23/15.
William L. Kimmey (MGT), Richmond, Va., 12/1/14.
Gary W. Wunderlich (BIOL '74), Westminster, Md., 2/28/15.

'73 Emily Sharpe Johnston (HPE), Richmond, Va., 1/29/15.
Philip R. Scanlon (CS), Richmond, Va., 1/7/15.

'74 Thomas O. Bohon (CS), Roanoke, Va., 2/13/15.
Michael E. Conefrey (GEOL), Doha, Qatar, 12/22/14.

Steven M. Gilbert (PSCI), Chesapeake, Va., 2/15/15.

'75 Robert S. Mills (HORT, ARCH '79), Richmond, Va., was named to the American Institute of Architects' prestigious College of Fellows.
David E. Steffen (FW, FIW '78), Roanoke, Va., was elected to honorary membership in the Wildlife Society in recognition of his outstanding contributions to the wildlife profession.
John V. Thompson (HPE '76), Salisbury, N.C., was selected as the Professional Tennis Registry International Pro of the Year for 2015.

Teresa “Terry” Ward Barkley (ELED), Chesapeake, Va., 12/25/14.
John W. Greene Jr. (ENET), Pittsboro, N.C., 1/4/15.
Philip M. Sadler Jr. (GBUS '76), Arlington, Va.
Melba Steele Stephens (EDCI '76), Vansant, Va., 2/8/15.
Ted A. Trout (ARCH '76), Houston, Texas, 2/12/15.

'76 Walter Dicks Jr. (TA), Abingdon, Va., 1/5/15.
Victor I. Dzikiewicz (ENSY '77), Chicago, Ill., 3/1/15.
Judith Allen Scharle (EDVT '77), Norfolk, Va., 3/12/15.
Valerie Reed Schild (ELED), Apex, N.C., 3/23/15.
Sylvia “Casey” White (EDCI '77), Camarillo, Calif., 1/18/15.
Steve K. Yates (AGE), Scotland, Pa., 1/19/15.

'77 Walter T. Galliford Jr. (EDAD), Naples, Fla., 1/4/15.
George B. Markert (CE), Uniontown, Ohio, 2/19/15.

'78 William W. Dey (PHIL), Norfolk, Va., 3/15/15.
David A. Miles (HORT), Round Hill, Va., 1/14/15.
Paul D. Rothrock (EDAD), North Las Vegas, N.V., 12/21/14.
Tom W. Westing (ANSC), Fort Collins, Colo., 11/30/14.

'79 Edwin J. Jones (FIW, FIW '83), Blacksburg, Va., received the 2015 Land-Grant University Award from the Virginia Agribusiness Council for his outstanding service to the agribusiness industry.
Edward G. Tezak (ESM), Wellsville, N.Y., is a charter member of the Phi Kappa Phi honor society chapter at Alfred State College.

Earl W. Boyd (VIED), Roanoke, Va., 12/23/14.
Fred M. Burgess (ENGL '81), Lancaster, Pa., 12/12/14.

Charles F. Clark Jr. (AGEC), Amelia Court House, Va., 12/28/14.
Patricia M. Fuller Montgomery (EDCI), Suffolk, Va., 2/24/15.

'80 J.G. Reed (CE), Salem, Va., 10/24/14.
Imogene “Jean” Turner Yongue (EDSU), Charlotte, N.C., 12/22/14.
Robert H. Young (ETE), Fredericksburg, Va., 1/14/15.

'81 Scott A. Armiger (FIN), Hockessin, Del., 3/4/15.
Norma J. Gaskill Travis (EDVT, EDVT '90), Independence, Mo.

'82 Victor L. Ford (FOR), Hope, Ark., was named a Fellow by the Society of American Foresters.

Thomas C. Gruenther (EE), Winchester, Va., 2/25/15.
Sandra Mains Phillips (EDAD, EDAD '85), Vilas, N.C., 7/25/14.
Katherine “Kitty” Lucas Reynolds (EDCI), Bland, Va., 12/28/14.
Karen Raines Waldo (EDAD '80, EDAD), Martinsburg, W.Va., 2/28/15.

'83 Newton Lee (CSA, CSA '84), Tujunga, Calif., published a book, “Counterterrorism and Cybersecurity: Total Information Awareness.”

Roy A. Broussard (IEOR), Rockville, Md., 6/4/14.
Richard H. Davis (COMM), North Chesterfield, Va., 1/5/15.
Ned Sayre (ANSC), Churchville, Md., 2/21/15.

'84 John R. McCraw Jr. (EDAD, EDAD '87), Martinsville, Va., was appointed to the Patrick Henry Community College board by the Martinsville City Council.

Theresa “Terri” A. Haduk-Murphy (IEOR '85) and John Murphy Newtown, Conn., 10/5/14.

Kenneth R. Allen (ACCT), Virginia Beach, Va., 1/26/14.
Isaac T. Jackson (EDAD), Chatham, Va., 12/11/14.
Arthur D. Neustel (BFIN), Rockledge, Fla., 3/4/15.
Hoy B. Wood Jr. (CS), Mechanicsville, Md., 3/6/15.

'85 Jonathan Kays (FOR), Fairplay, Md., was named a Fellow by the Society of American Foresters.
Charles K. Robertson (COMM), Glen Ridge, N.J., who published a book, “Barnabas vs. Paul,” and a study guide with a DVD, “Hazardous Saints,” will be the keynote speaker for an Educational Opportunities “Footsteps of Paul” Mediterranean cruise in October.

Grade: A

“While starting a non-profit was a lot of work and stressful, it has been incredibly rewarding. Garnering support from the community and watching the puppies grow and learn provides motivation to continue working every day to place them with their future children, whose lives they will forever change.”

—Laura Sanders O’Kane (clothing and textiles '00), Narberth, Pa., is executive director of Paws and Affection, a nonprofit organization she founded with her husband, Chad O’Kane (M.A. communication '11), to train service dogs for kids with mobility-related disabilities. She gave the organization's first year high marks.



"Our wedding day was all about family, friends, love, and the beautiful Blue Ridge Mountains, where I grew up."
— Brittney Frick

RACHEL COUCH / A MUSE PHOTOGRAPHY

"Emily is a name we fell in love with, and Rose is her great-great-grandmother's middle name. We all have Rose as our middle names."
— Victoria Fraenkel



Richard Fraenkel '09 and Victoria Fraenkel '09, Saratoga Springs, N.Y., a daughter, Emily Rose, 6/28/14.
RICK FRAENKEL

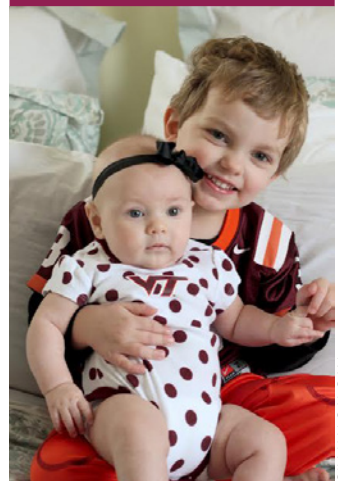
Brittney Papke '10 and Brian Frick '13, Madison, Va., 9/27/14.

"Hokie football made our wedding day extra-special with a big win over Cincinnati in the Military Bowl!"
— Tyler Rivenbark

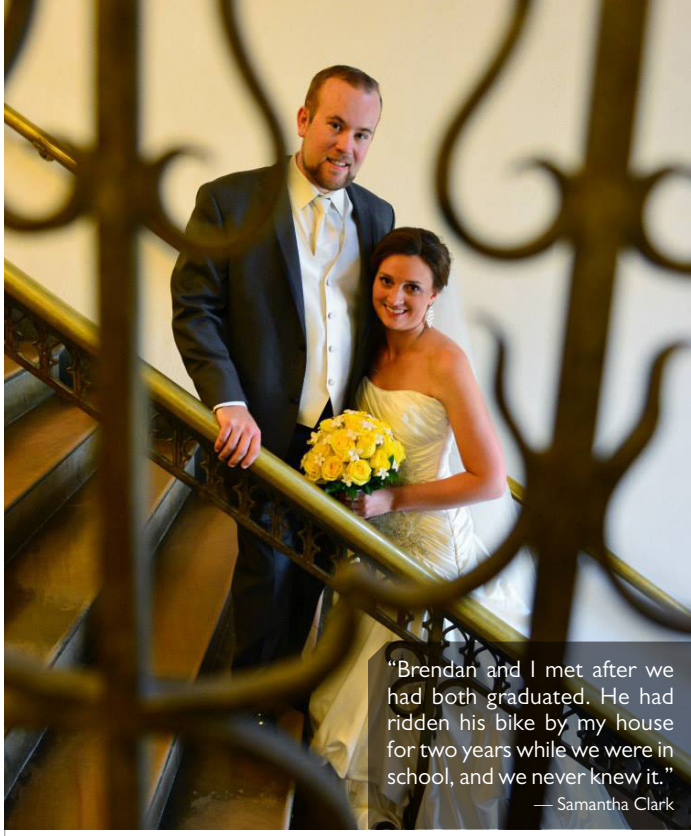


Andrew Shepard Rivenbark '08 and Virginia Tyler Dougherty '11, Richmond, Va., 12/27/2014.
MIKE TOPHAM PHOTOGRAPHY

"We wanted a timeless name for our little girl. It means 'wished for,' 'life,' and 'pure,' which suits her perfectly."
— Gillian Galgan



Jonathan Galgan '06 and Gillian James Galgan '07, Yorktown, Va., a daughter, Evelyn Kate, 11/1/14.
GILLIAN GALGAN



"Brendan and I met after we had both graduated. He had ridden his bike by my house for two years while we were in school, and we never knew it."
— Samantha Clark

Brendan Clark '11 and Samantha Clark '11, Blacksburg, Va., 6/21/14.
MICHAEL KEYES / PHOTOGRAPHIC DREAMS



COURTESY PHOTO

Kitchen and bath pros

Six alumni in three years have been named to the National Kitchen and Bath Association's (NKBA) "30 Under 30" list.

How does a program generate such positive results?

"From day one, our students are learning and working in the world of kitchen and bath design," said Professor Kathleen Parrott (second from left), the career advisor for the residential environments and design major. "Academic studies include projects for real clients, study tours, internships, design competitions, field trips, and hands-on exposure to products and materials in our Center for Real Life Kitchen Design. Regular interaction with industry professionals, including alumni, sets the standard for professional development and career goals."

Tech's kitchen and bath design program in the Department of Apparel, Housing, and Resource Management (AHRM) has been accredited by NKBA since 2008. Five of the alumni earned AHRM degrees, while Stephenson's degree was in public and urban affairs.

2015 winners: A Tyl Glover Thomas '07, kitchen and bath designer, Kitchen and Bath Expo, Virginia Beach, Virginia; and B Alexandra Van Nuys '11, design consultant, Lane Homes and Remodeling, Richmond, Virginia

2014: C Jessica Whitbeck Altman '07, Hatchett Design/Remodel, Newport News, Virginia; and Ebony Stephenson '07, Criner Remodeling, Newport News, Virginia

2013: Meagan Sutton Fox '07, Fox Design Studios, Leesburg, Virginia; and Richard Anuskiewicz '10, kitchen and bath designer, Alt Breeding Schwartz Architects, Annapolis, Maryland

E. Harold Rotenberry (MGT) and Karen L. Downs, Centreville, Va., 11/12/14.

Jeffrey F. Skolnick (CE, CE '90), Virginia Beach, Va., 3/7/15.
Robert D. Thietje (PAD), Plano, Texas, 12/20/14.

L. Anthony Hardmon (COMM), Brooklyn, N.Y., was cinematographer for "Crisis Hotline: Veterans Press 1," the 2015 Academy Award winner for Best Documentary Short Subject.

Patrick T. Tyree (COMM), Fairfax, Va., 3/5/15.

Timothy E. Long (CHEM), Blacksburg, Va., was selected as one of three 2015 Virginia Outstanding Scientists by the State Council of Higher Education for Virginia.

Daniel F. Mahony Jr. (ACCT), Stow, Ohio, is president of Winthrop University.

R. Kendall Slusher (BIOL), Altavista, Va., 2/14/15.

Glenn E. Carlisle (BIOC, BIOL '91), Gurnee, Ill., 2/1/15.

Scott "Gene" K. Lindsay (ACCT), Ashburn, Va., 1/5/15.

'90 Scott A. Leonard (MUS), King George, Va., is the satellite operations branch chief at the National Oceanic and Atmospheric Administration.

Brian T. Schools (FIN), Virginia Beach, Va., is president of Chartway Federal Credit Union and its division of Heritage West and SouthWest Community Credit Unions.

Ashok Vaseashta (MESC), Manassas, Va., co-authored a textbook, "Advanced Sensors for Safety and Security," and a book, "Cyber Security and Resiliency Policy Framework."

'91 Christopher L. Bennett (FIN, ACCT), Vienna, Va., is an attorney for the Eckert Seamans Cherin & Mellott LLC law firm.

Timothy L. Beres (HIST), Falls Church, Va., is president of the Institute for Public Research at the Center for Naval Analyses Corp.

Antonio Muñoz-Olán (EE), Loveland, Ohio, was selected by the Hispanic Chamber of Commerce of Metro Orlando as one of the 25 Influential Hispanics of Central Florida.

Janet E. Beehler (EDCI), Mc Kenney, Va., 2/11/15.

'92 Joel Peterson (MBA), Fullerton, Calif., published a book, "Dreams of My Mothers: A Story of Love Transcendent."

Robert L. Gunter Jr. (SYSE), Virginia Beach, Va., 3/19/15.

'93 Robert E. Goodson Jr. (GER), Annandale, Va., has authored a book, "Lead with Mercy: The Business Case for Compassion."

Harry A. Jaeger (HIST), Chesapeake, Va., a son, 2/6/15.

Barbara S. Framer (PAPA '91, PAPA), Saint Louis, Mo., 3/27/15.

Allison F. Moskowite (PSYC), Fayetteville, N.C., 3/15/15.

Jennifer S. Payne (ART), Richmond, Va., 3/11/15.

'94 James I. Chong (OE, AE), Lorton, Va., is CEO of VidSys, a leading global provider of enterprise physical security information management software.

Melinda F. Emerson (COMM), Drexel Hill, Pa., joined forces with Sam's Club for a series of book-signings and presentations designed to educate entrepreneurs on the management of vital day-to-day small business needs.

Russell J. Parrish (ARCH), Smithfield, Va., opened Pagan River Architects.

'95 John "Christopher" C. Bunin (HIST, GEOG '98, GEOG '01), Afton, Va., was awarded the 2015 Geographic Excellence in Media Award from the Nation Council for Geographic Education.

Lori A. Cunningham (CT), New York, N.Y., founder and creative director at Jane Summers, has launched a line of women's clothing in selected Neiman Marcus stores.

Victor J. MacLaughlin III (US) and Ashley N. MacLaughlin (FIN '97), Richmond, Va., a son, 10/29/14.

'96 Eric D. Beans (PSYC), Fairfax, Va., is co-founder and CEO of Texting Base Inc.

Bethany J. Bodo (PSYC), Blacksburg, Va., is associate director of Virginia Tech's Office of Assessment and Evaluation.

William P. Robinson (ECAS, IS), Charlotte, N.C., received the Volunteer of the Year Award from CoreNet Global.

Caroline Sayegh Setliffe (FR), Alexandria, Va., is a tax attorney for Buchanan Ingersoll & Rooney.

'98 Brian T. Watson (FIW), Forest, Va., was honored with an American Fisheries Society award.

'99 Daniel J. Connolly (HTM), Littleton, Colo., was appointed dean of the School of Business at Portland State University.

David P. Rutkowski (ENGL, ENGL '05), Arlington, Va., is the manager for training and development in the Dewberry human resources department.

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Bryan D. Catlett (ME), Myrtle Beach, S.C., 10/20/14.

'00 Charles C. Bonds (FIW), Waelder, Texas, is the Texas Parks and Wildlife Department's division director for inland fisheries.

John H. King (COMM, EDPE '09), North Charleston, S.C., was inducted into Virginia Tech's Legacy Society.

Laura Sanders O'Kane (CT), Narberth, Pa., co-founded a nonprofit organization, Paws & Affection, that trains service dogs for kids with mobility-related disabilities.

Bonnie Williams DeMay (ACCT) and **Christopher B. DeMay** (SYSE '02), Chantilly, Va., a son, 1/31/15.

Andrew D. Lessner (CE) and **Erin M. Lessner** (BIT '02), Powhatan, Va., a daughter, 3/11/15.

'01 Rebecca Fezie Meneja (ME), La Plata, Md., a daughter, 9/12/14.

Sarah Davis Ohlhorst (HNFE, HNFE '04) and **Craig P. Ohlhorst** (ACIS '03), Oakton, Va., a son, 12/2/14.

Robert A. Weaver (CE) and **Angela M. Weaver** (ACIS '02), Hanover, Pa., a daughter, 4/1/14.

'02 Katherine L. Andersen (FIN), Winchester, Mass., was named to a Wells Fargo technology banking post dedicated to the life sciences sector in New England.

Christine "Kiely" K. O'Hara Wilkerson (BIT), Alexandria, Va., president and chief operating officer of Strategic Engineering Solutions, received the Defense Advanced Research Projects Agency 2014 Contractor of the Year award.

Stacy Bongrazio Arrington (ME), Morrisville, N.C., a daughter, 10/21/14.

Brian D. Koch (AE), Jacksonville, Fla., a son, 2/5/15.

Michael R. Moon (ARCH '03), Roanoke, Va., a son, 10/26/14.

Samer Abdel-Wahab (ME, ME '03), Jupiter, Fla., 1/30/15.

'03 Mirjhana A. Boggs Buck (MKTG) and **Patrick W. Buck** (BIT), Cumberland, Md., a son, 11/14/14.
Emily Bezek Peterson (COMM), Chicago, Ill., a son, 2/18/15.

'04 Juan P. Espinoza (PUA), Blacksburg, Va., was appointed by Virginia Tech President Timothy D. Sands as a coordinator for InclusiveVT.

Kathleen A. Jamison (EDCI), Riner, Va., was conferred the title of professor emerita by the Virginia Tech Board of Visitors.

Christina Kull Martens (ENSC '03, ESEN '05, MUS '06), Redondo Beach, Calif., published a book, "Bring your D.O.G. to Work: A (Green) Person's Best Friend."

Jeffrey S. Ransbottom (CPE), Dublin, Va., is chief of staff and deputy chief information officer for Virginia Tech's information technology division.

Kathryn E. Schumaker Boriack (MKTG) and **Paul C. Boriack** (CE), Dayton, Ohio, a son, 4/2/15.

'05 Jennifer M. McCammon (PSCI), Woodbridge, Va., an associate with the Bean, Kinney, & Korman law firm, was recognized among the 2015 Virginia Super Lawyers and Rising Stars.
Michelle C. Pautz (MPA, PAPA '08), Dayton, Ohio, co-authored a book, "U.S. Environmental Policy in Action: Practice and Implementation."
Benjamin Sovacool (STS '06), Blacksburg, Va., instructor in the Department of History, co-authored two books, "Energy Security, Equality, and Justice" and "Global Energy Justice: Problems, Principles and Practices," and co-edited a third, "Energy Poverty: Global Challenges and Local Solutions."

Terrell Strayhorn (ELPS '05), Columbus, Ohio, published a book, "Black Male Collegians: Increasing Access, Retention & Persistence in Higher Education."

Dorothy Pendleton Heimlich (PSYC), Mechanicsville, Va., a daughter, 11/20/14.

Seth W. Pesek (ACIS), Arnold, Md., a daughter, 12/23/14.

'06 Zaid F. Arafat (FIN), New York, N.Y., developed a podcast, "progress-not-perfection," that is featured in iTunes.

Dannette G. Beane (EDCO), New Castle, Va., was appointed by Virginia Tech President Timothy D. Sands as a coordinator for InclusiveVT.

Ellen W. Plummer (ELPS), Blacksburg, Va., was appointed by Virginia Tech President Timothy D. Sands as a coordinator of InclusiveVT.

Eric F. Detweiler (ISE) and **Katherine O. Detweiler** (COMM '09), Forest, Va., a son, 11/28/14.

Jonathan Galgan (ISE) and **Gillian J. Galgan** (BIOL '07), Yorktown, Va., a daughter, 11/1/14.

'07 Ryan S. Muller (AHRM), Washington, D.C., 12/24/14.

'08 Alicain S. Carlson (BIOL), Raleigh, N.C., earned a doctorate in horticultural science at North Carolina State University.

Jacob R. Grohs (ESM, EM '09, EDCE '12), Christiansburg, Va., received the 2015 K. Patricia Cross Future Leaders Award from the American Association of Colleges and Universities.

Brent T. Foltz (CSES) and **Marina Beth C. Foltz** (WSCI '11), Aiken, S.C., 10/18/14.

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COURTESY PHOTO

Leap of faith

"I took a leap of faith. I thought: What do I really love? Mountaineering and conservation. This is what I'm most passionate about. The world needs it. I went for it and never looked back."

Ginna Kelly (environmental policy and planning, political science '03) left her secure job as a lawyer to found Climb for Conservation, a nonprofit organization that uses mountain-climbs to raise money for conservation of some of the world's most-endangered animals. Kelly (pictured above, at far right) held her first climb in 2012, inviting 14 women to climb Tanzania's Mount Kilimanjaro to raise more than \$32,000 to support the critically endangered African black rhinoceros. Since then, Kelly has organized climbs of Machu Picchu in Peru, Gran Paradiso in Italy, and Chimborazo in Ecuador, as well as another trek up Mount Kilimanjaro. Still ahead in 2015 are scheduled climbs up Machu Picchu, Aconcagua, and Kilimanjaro.

Virginia Tech
in hand

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55 years ago, construction began on Cassell Coliseum. Although the coliseum did not open until 1964, it was first used for a men's basketball game versus the University of Alabama in 1962.

80 years ago, the "Quadrangle," now known as the Upper Quad, had tennis courts—and bonfires during pep rallies.

90 years ago, female students created their own yearbook, The Tin Horn, because male students refused to allow females in The Bugle. The 1925 and 1929 issues of The Tin Horn were published by hand.

By Kim Bassler, communications coordinator for University Libraries. Images are courtesy of the libraries' Special Collections; many more can be found at imagebase.lib.vt.edu.

Kristen Nichols Matiz (NRC) and **Diego H. Matiz**, Richmond, Va., 8/16/14.

Andrew S. Rivenbark (FIN) and **Virginia D. Rivenbark** (BIOL '11), Portsmouth, Va., 12/27/14.

Amelia E. Davis (ART), Oakton, Va., 12/15/14.

'09 Sharrika D. Adams (ELPS, GSCR), Blacksburg, Va., is associate dean of students and director of student advocacy at Virginia Tech.

Monica Motley (EDPE, PH '14), Danville, Va., is a member of the Edward A. Bouchet Graduate Honor Society's Virginia Tech chapter.

John P. Brigman Jr. (FORS) and **Heidi Eberly Brigman** (VM '10), Spearfish, S.D., 6/14/14.

Holly Honeycutt South (ARTF) and **Matthew D. South** (ME), Carrollton, Va., 10/4/14.

Holly F. White (MINE) and **Daniel White**, Abingdon, Va., 3/29/14.

Richard A. Fraenkel (STAT) and **Victoria G. Fraenkel** (GEOG), Ballston Lake, N.Y., a daughter, 6/28/14.

Ryan A. Muller (FIN), Henrico, Va., 3/9/14.

Sara I. Musick (ENGL, GSCR '11, HD '11), Bristol, Va., 3/6/15.

Frank P. Penn III (HIST), Roanoke, Va., 12/30/14.

'10 Ryan J. Minter (MGT), Christiansburg, Va., was named an annual giving officer for Virginia Tech's Office of University Development.

Brittney Papke Frick (BAD) and **Brian R. Frick** (IT '13), Madison, Va., 9/27/14.

Meredith Hawkins Shuman (MGT, EDCT '11) and **Ryan Shuman**, Fort Lewis, Va., 7/11/14.

Andrea K. Hamre (AAEC), Alexandria, Va., received Virginia Tech's Citizen Scholar award for her data-driven and evidence-based decision-making related to transportation.

Glynn M. Harden (SYSE, ISE), Chesapeake, Va., received a master of divinity degree from the Regent University School of Divinity.

DeAnthony L. Heart (AE), Chester, Va., received the Modern-Day Technology Leader award at the 2015 Black Engineer of the Year Awards Science, Technology, Engineering, and Math Global Competitiveness Conference.

Sheldon V. Masters (CE), Blacksburg, Va., was named Virginia Tech's 2015 Graduate Student of the Year.

Joshua M. Milas (BIOL), Forest, Va., co-founded a software engineering company, Mindsense, that creates refined software experiences to solve everyday problems.

Charles O'Kane Jr. (COMM), Narberth, Pa., co-founded a nonprofit organization, Paws & Affection, that trains service dogs for kids with mobility-related disabilities.

Patricia S. Smith (BAD), Christiansburg, Va., was appointed by Virginia Tech President Timothy D. Sands as a coordinator of InclusiveVT.

Berk Uslu (CE, GSCR '14), Blacksburg, Va., received the Citizen Scholar award from Virginia Tech for a sustainable water-infrastructure management project.

Brendan P. Clark (HTM) and **Samantha Holdren Clark** (PSYC), Okatie, S.C., 6/21/14.

Keighley Clark Johnson (ENGL) and **Peter C. Johnson** (EE), Hope Valley, R.I., a son, 12/9/14.

Kelsey N. Cooper (COMM), Collinsville, Va., 10/28/14.

'12 Jack B. DuFour (ME), co-founder of Taaluma Totes, presented the socially responsible company to a panel of investors on ABC's "Shark Tank" television program.

Alexander Jarmusz (BSISE), Franklin Park, Ill., wrote and illustrated a children's book, "Chester Becomes President."

Alexander D. Obenauer (CS), Blacksburg, Va., co-founded a software engineering company, Mindsense, that creates refined software experiences to solve everyday problems.

'13 Kenneth A. Black (ARCH, GSCR '14, ARCH '14), Blacksburg, Va., received Virginia Tech's Citizen Scholar award for using the tactile process of sketching to help students understand and analyze concepts and projects.

Alexandra K. Heffern (CE), co-founder of Taaluma Totes, presented the socially responsible company to a panel of investors on ABC's "Shark Tank" television program.

Nikhil Jain (GSCR, EE), Blacksburg, Va., has become a member of the Edward A. Bouchet Graduate Honor Society's Virginia Tech chapter.

William W. Perlik (AGRB) and **Eliza A. Bystrzycki Perlik**, Charlotte, N.C., 11/1/14.

'14 Siddhartha Roy (GSCR), Blacksburg, Va., received Virginia Tech's Citizen Scholar award for working with undergraduates and the Virginia Tech chapter of Engineers without Borders.

Kaitlin Spak (ME), Redwood City, Calif., will compete in "King of the Nerds," a TBS reality-show competition.

obituaries

faculty/staff

John K. Costain, professor emeritus of geophysics in the College of Science, died March 24. A professor at Tech for 29 years, Costain was a pioneer in using computers to analyze large amounts of seismic data. He is the namesake of a faculty chair position and a scholarship within the geophysics department.

Paul Torgersen, Virginia Tech's president from 1994-2000 and a member of the faculty since 1967, died March 29. (See page 20 for more on Torgersen.)

David A. West, associate professor emeritus of biological sciences in the College of Science, died April 2. Born in Beirut, West came to Virginia Tech in 1962; he taught biology and genetics until his retirement in 1998.

students

Haydn Michael Woodall, of Glen Allen, Va., a sophomore biochemistry major, died April 11.

Bryant "Wes" Cochran, of Blacksburg, Va., a junior biological sciences major, died April 11.

Pedal power: In late April at the Moss Arts Center, Cirque Mechanics put on two performances of "Pedal Punk," a circus on wheels. Inspired by steampunk culture, "Pedal Punk" is set in a post-apocalyptic world of machines powered by the acrobatic strength of the performers. For more information on the arts at Virginia Tech, visit www.artscenter.vt.edu.



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