

VIRGINIA TECH

magazine

spring 2015



RESTAURANTS of YESTERYEAR

Caring Community
Responding to sexual
violence and harassment

The Firefighter
Humanoid robot earns
its sea legs

Golden Oldies
How donated class rings
are reborn



contents features

Golden Oldies: How donated class rings are reborn

In the Alumni Association's Hokie Gold Legacy Program, decades-old class rings donated by alumni are liquefied at a foundry on campus, melted down so that the gold can reappear in new class rings crafted for today's Hokies. Follow the process in this edition's installment of How Tech Ticks.

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Caring for the Community: Responding to sexual violence on campus

Protecting Hokies from sexual misconduct in all its forms is the charge of a multidisciplinary campus team—and indeed the entire community. And while Virginia Tech's practices are commendable, work remains to be done in educating students and reshaping cultural perspectives.

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The Firefighter: Humanoid robot earns its sea legs

Virginia Tech's Shipboard Autonomous Fire-fighting Robot (SAFFiR) passed a tension-filled test in Mobile, Alabama, in November 2014. With millions of dollars of research funding on the line, the robot successfully located and doused a small fire on a decommissioned U.S. Navy ship used to train firefighters.

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Restaurants of Yesteryear: Nostalgia feeds memories of Blacksburg's eateries

The burger joint where you met your spouse. The bar and grill where you and your buddies deposited the Lane Stadium goalposts. The pizza place where you studied your entire senior year. To trigger more memories, feast your eyes on our cover story.

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On the cover: In Joe's Diner in downtown Blacksburg, (from left) Zoya Mahajan, a sophomore biochemistry major, couldn't help but snap a selfie with 1920s-era Liam Bates, a junior accounting and finance major, and Camille Bouvet, a senior financial planning major in attire from the late 1950s and early 1960s. Photo by Jim Stroup.

Above: Some of Blacksburg's earliest eateries were hotels, which often offered hot meals. An 1885 photograph shows two hotels on either side of Main Street. For a look back at Blacksburg restaurants of yesteryear, see page 32. Photo courtesy of Historical Photograph Collection, Special Collections, University Libraries, Virginia Tech.

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Financing Educational Excellence

by TIMOTHY D. SANDS



Like most of you, I was fortunate to study and earn my degrees at an excellent public university. In this state, we take pride in our top-ranked public universities. Indeed, check any ranking and, usually, only California, with almost five times the population of Virginia, will have more public universities identified for excellence.

However, Virginia's excellence is not derived from greater levels of investment in higher education. Virginia's funding of public colleges and universities has dropped significantly below the national average. On a per-student basis, Virginia ranks No. 41 in funding for its public research universities. Students and families pay the major share of the costs, which are continuing to shift from the state to the student. Although state policy calls for the commonwealth to pay 67 percent of a Virginian's educational cost, the commonwealth funds only 35 percent at Virginia Tech. Although every analysis shows that the return on investment to the state for higher education is extraordinary, there is nothing on the horizon to suggest the downward trend in public support will be slowed or reversed.

I know firsthand that our representatives understand the value of public higher education, but they consider it a discretionary investment. With the state's costs for "mandatory" programs increasing, any glitch in tax revenues is borne disproportionately by higher education. Yet we are to our core a public university driven by the land-grant university ethos of educating all who are qualified regardless of background, helping communities, supporting business competitiveness, and addressing society's basic needs. That will never change. What we must change is how we pay the bills. The declining state contribution forces a reconsideration of revenue sources, a realignment of stakeholders, a focus on efficiency and productivity, and innovation in the way we engage students, faculty, and staff in the educational mission. As we tackle this challenge on all levels, philanthropy will play a vital role in Virginia Tech's future. During our last campaign, the Hokie alumni community invested in the university like never before. Even so, our endowment does not yet provide the support necessary to maintain adequate levels of affordability, nor does it allow Virginia Tech to compete in a global marketplace for faculty talent in order to sustain our momentum as a rising research powerhouse.

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Virginia Tech's endowment ranks 127th nationally. To put that in perspective, the University of Virginia's endowment, on a per-student basis, is about 10 times that of Virginia Tech's. Although we are a relative newcomer to the business of philanthropy, we cannot use that as an excuse to be complacent.

The immediate future of Virginia Tech has never been brighter. Fall 2015 undergraduate applications set a record at 22,400, an 8 percent increase over last year. As of December 2014, more than 83 percent of the Class of 2014 was employed or continuing studies, and class members reported a median starting salary of \$53,000. Research expenditures surpassed \$500 million for the first time as Virginia Tech moved up to No. 38 out of all public and private institutions. Our motto, *Ut Prosim* (That I May Serve), has never been more relevant.

There is an opportunity now for the generosity of our friends and alumni to ensure that our momentum can be sustained well into the future. If we act now, by the time of our sesquicentennial in 2022, Virginia Tech will be both affordable to Virginia students and globally recognized as a top research and engagement university. On behalf of the university, our students, and our faculty, let me thank you in advance for what you will do to sustain and grow this gem of an institution. Your financial support, your mentorship of our students, and your engagement in our programs represent the difference between what we are today and what we could become tomorrow. □

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

Plant-based diets

In reading the “Sowing the Future” article in the fall 2014 edition, I was surprised to see no mention of any efforts made by Virginia Tech to shift toward plant-based diets. As your article states, with the ever-increasing number of people, dramatic changes will be needed in the future in order to provide clean water and food. Many global and national organizations, including the U.N., have posted studies about the impact of current practices on the human population, food sustainability, and water availability (i.e., www.un.org/waterforlifedecade/food_security.shtml).

While I do not expect everyone at my alma mater to be aware of the current situation, practices, and impact, I was very surprised to not see any mention of this in your article. I hope in future issues you can address this topic and any efforts our great university is making to tackle this very large and important issue, one that most of the country has yet to discover.

Nathan Reynolds (business information technology '05, M.B.A. '07), Raleigh, North Carolina

The virtual water chart in the article “Sowing the Future” says it all: 2,400 liters of water for one hamburger, as opposed to 70 liters for an apple or 25 liters for a potato! I’ve cut out the chart and put it on my refrigerator, and everyone who comes into my kitchen gets a lecture.

Sara Hutchinson, New Castle, Delaware

A family says thanks

On behalf of the entire Owens family, we would like to thank members of the 1965 football team—Mike Saunders, Ken Barefoot, Bill Edwards, Gene Fisher, Jim Richards, and Tom Stafford—for their letter in the winter 2014-15 issue regarding

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

the first Virginia Tech touchdown in Lane Stadium, scored by Bobby Owens (civil engineering '66), as reported in the summer 2014 edition. We sincerely appreciate their gracious response in memory of Bobby, our father, father-in-law, husband, brother, and brother-in-law.

Rob Owens, Ric Owens, Susan Owens Call (civil and environmental engineering '95), Michael “Hutch” Call (sports medicine '95), Carole C. Owens Diehr, Bonnie Owens Warren, and Charles Warren (civil engineering '65)

A lost ring

In 2002, a friend of mine, Jay Flaherty, visited his daughter, Maureen, who was attending Tech. They played handball and then, while walking from the gym to the dining hall, he lost his class ring. The Class of 1971 ring was from Park College in Parkville, Missouri, with the initials “J.F.” inscribed inside. I have run out of sources in trying to locate this ring for Jay. As a last resort, I decided to try this letter in the hope that someone might remember the ring being found and where it might be today. Anyone with information may contact me through this publication (by emailing vtmag@vt.edu).

E. Adger Smyth (health and physical education '71), Raleigh, North Carolina

Corrections from the winter 2014-15 edition

The wedding announcement for Stacy C. Whipple Daley and J. Charles Daley did not include Charles’ 2009 finance degree.

In the cover story, several words were inadvertently removed from page 25. The phrase should have indicated that 1.6 billion people currently live in water-scarce regions.

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Paul E. Torgersen

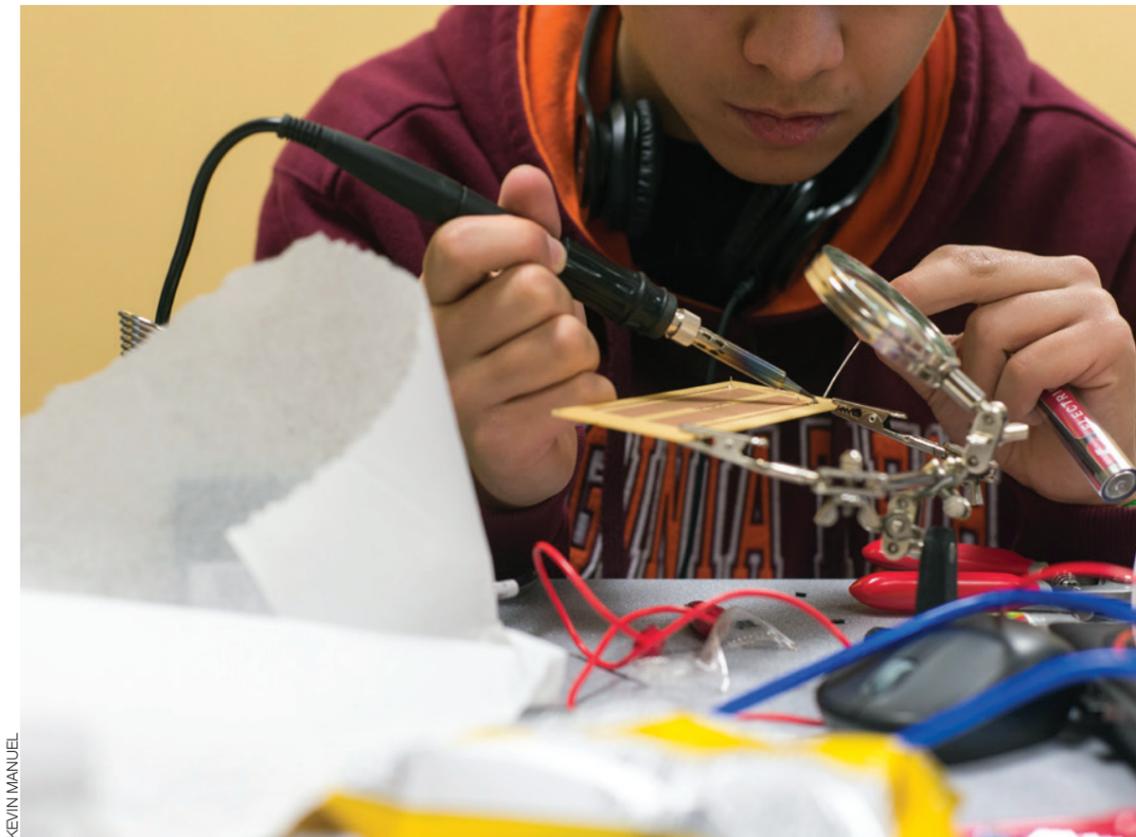
University's 14th president dies

As we went to press, we learned that Paul E. Torgersen, Virginia Tech's president from 1994 to 2000, died in late March. To read more about Torgersen, see the Virginia Tech website and the summer edition of Virginia Tech Magazine.

VTHacks' 36-hour coding marathon

Some 450 high school and college-age computer programmers, builders, and enthusiasts from across the East Coast gathered in Virginia Tech's Torgersen Hall in early February for VTHacks, a 36-hour coding marathon organized by students in the university's Department of Computer Science.

VTHacks founder and event organizer Ben Johnston, a senior majoring in computer science in the College of Engineering, said that such events, sometimes called “hackathons,” are dedicated to “reclaiming the



KEVIN MANUEL

Coding prowess: An attendee at the Department of Computer Science's second annual VTHacks—a coding marathon that drew students from across the East Coast—works on a project in Torgersen Hall.

name” of hacking, a term that has come to denote the illegal practice of circumventing computer security for criminal purposes.

In reality, the term “hacking” was originally used in the 1960s and 1970s by technology enthusiasts who would form groups and build their own computers from kits. “If the general public or media became aware of hackathon expos and came to see the projects,” Johnston said, “a lot of the negative perception around the word ‘hack’ would begin to disappear.”

During the course of the marathon, some student teams

took on challenges created by VTHacks sponsors, which included Bloomberg, Capital One, Ford, Microsoft, RackSpace, and Techpad. Other teams worked on their own projects: a virtual reality boxing game; a robotic hand built from cardboard, drinking straws, fishing wire, and electronic components; and a prototype low-cost telescope that its creators hope to market in the form of a model for hobbyists and children.

Generating the most buzz was a project created by three Georgia Tech students: a software application for smart watches that can detect intoxication

by measuring whether wearers stumble or sway while walking. In response, the app sends an automatic alert to a pre-chosen emergency contact to request a ride. The group plans to refine the application and make it available on Web-based app stores for free download.

Because of its various sponsors, VTHacks not only paid participants' travel expenses, but also offered free registration and required no proof of skill. “The attitude of our community and our culture is [that] we are able to afford it far more than they are,” Johnston said of event attendees. “We wanted to be inclusive.”



COURTESY OF KATIE GEHRT

Kitchen of the future debuts in Las Vegas

In mid-January, the Virginia Tech Center for Design Research, part of the College of Architecture and Urban Studies (CAUS), unveiled the future of kitchen design and construction at the Kitchen and Bath Industry Show in Las Vegas. The show is North America's premier annual event dedicated to the kitchen and bath industry.

The innovative kitchen is part of a research project that explores manufacturing strategies and the greater integration of technology with architecture, or the industrial production of smart homes. CAUS researcher Joseph Wheeler, professor of architecture and co-director of the Center for Design Research, was a lead for the LumenHAUS project that won the International Solar Decathlon competition in Madrid and received a 2012 American Institute of Architects Honor Award for Excellence in Architecture.

As the first phase of a three-year plan to construct a two-story FutureHAUS, the kitchen incorporates technology to enhance user experience. For example, an oven camera allows users to monitor their confections from anywhere in the house. A refrigerator detects when staples such as milk are running low or are out-of-date. High-definition displays mounted in the backsplash can serve as a virtual window or a handy place to pull up recipes. A glass countertop provides an uninterrupted work surface, but mounted beneath it are convection burners that allow it to serve

as a cooktop. The team also considered accessibility and aging issues, incorporating touch-and-gesture devices that open cabinets and appliances.

Similarly, technology guided the construction. The kitchen, and eventually the entire FutureHAUS, highlights how assembly-line technology might be used to build the kitchen as a complete modular "cartridge" that could be delivered fully assembled—just as the intact kitchen was transported from Virginia to Nevada for the industry show.

Although modular construction leads to economies of scale for production, the focus is not on creating cheap products. Much like the customizable production of luxury cars, these cartridges could contain high-end finishes, appliances, and technology, while increasing quality-control standards and precision in the production process.

"We're not changing the final product. We are just changing the process to get there," Wheeler said. "We can deliver the kitchen of the future through a process that's really construction of the future."

The next phase of the FutureHAUS design process is the addition of a living room, alongside the kitchen, that will debut at the American Institute of Architects national convention in mid-May in Atlanta.



Side dish:

To tour the kitchen, see the video and photo gallery at www.vtmag.vt.edu.



LOGAN WALLACE

X.J. Meng

Meng elected to the National Academy of Inventors

Dr. X.J. Meng, University Distinguished Professor of Molecular Virology in the Virginia-Maryland College of Veterinary Medicine, has been named a Fellow of the National Academy of Inventors (NAI).

Said Virginia Tech President Timothy D. Sands, the only other member of the university community who is an NAI Fellow, "I am very pleased to welcome Dr. Meng to the academy. The honor is well deserved, and his work exemplifies Virginia Tech's spirit of research and discovery in service to humanity."

Widely considered one of the world's leading scientists in hepatitis E virus, porcine circovirus type 2, and porcine reproductive and respiratory syndrome virus, Meng is an inventor of 20 awarded and 17 pending U.S. patents, as well as 40 awarded foreign patents on vaccines and diagnostics of several important virus diseases. His accomplishments include the discovery of new viruses and the development of licensed commercial vaccines against important animal virus diseases.



I.J. "Jack" Good (right), in a photo courtesy of Special Collections, Virginia Tech

Late Tech professor portrayed in popular film

Although advanced math as a concept rarely plays a major role in Hollywood movies, "The Imitation Game," which tells the story of Alan Turing, a British mathematician and logician who broke the Ger-

man military's Enigma code and helped the Allies to victory in World War II, has garnered considerable praise—and has ties to a late Virginia Tech professor.

A prominent member of Turing's cryptanalytic team at Bletchley Park was I.J. "Jack" Good, a British mathematician

who, after the war, held positions at Trinity College, Oxford; and the Atlas Computer Laboratory before coming to the U.S.

In 1967, Good was appointed a research professor of statistics at Tech, where the numbers, he believed, added up: "I arrived in Blacksburg in the seventh hour of the seventh day of the seventh month of year seven in the seventh decade, and I was put in apartment seven of block seven ... all by chance."

Good, who was later named a University Distinguished Professor and, in 1994, received emeritus status, died in 2009.



LOGAN WALLACE

Lane Hall receives historic status

The traditional home of the Virginia Tech Corps of Cadets on the Upper Quad, Lane Hall has been added to the National Register of Historic Places by the National Park Service.

Constructed in 1888 from five unconnected townhouses, Lane Hall originally served as the corps' Barracks No. 1, housing 130 students; it was converted into academic offices in 1967. Hundreds of signatures of former cadets, some dating back more than a century, are scratched into the building's bricks and mortar.

Lane Hall is the second Virginia Tech building to achieve the historical designation; Solitude, the oldest building on campus, was added in 1989. Both are on the Virginia Landmarks Register.

Virginia Tech's hand in hatching the modern turkey industry

In 1922, when A.L. Dean was head of the Department of Poultry Science at Virginia Agricultural and Mechanical College and Polytechnic Institute—today's Virginia Tech—he received a letter from a young Virginia Cooperative Extension agent, Charles Wampler, who served Rockingham County, Virginia.

Wampler had written to land-grant universities across the country about the prospect of artificially raising turkeys in a manner similar to how chickens were being raised—in houses and without hens. Dean, the only recipient to respond to the agent's query, encouraged Wampler to try at least 100 eggs.

Before long, poults were being hatched in a 12-by-14-foot barn heated by a kerosene brooder stove, a new farming technique that would forever change the turkey industry, which now raises more than 240 million turkeys each year and provides jobs around the world.

Although Wampler left Extension in 1927, when his new business, Wampler's Feed and Seed, began to take off, he remained a staunch supporter of using the cooperative to share the knowledge he had gained from his operations.

"Without a doubt, this early partnership is why we have the turkey industry we have today," said Paul Siegel, University Distinguished Professor Emeritus of Animal and Poultry Sciences, who knew both men. "A.L. would throw 15 or 20 ideas out to Charles, and Charles knew which ideas to run with."

In turn, to ensure that the turkey industry flourished both in Virginia and around the country, Extension published bulletins with the new knowledge, a model that continues today in the productive collaboration between Virginia Tech and the Virginia Cooperative Extension.

Over the years, Wampler routinely introduced trailblazing models that became industry standards: raising turkeys year-round by using artificial indoor lighting; incorporating the force-draft incubator, which increased production; using contract growers; and pioneering vertical integration.

Along with raising turkeys, Wampler became an enthusiastic spokesman for the industry, founding the National Turkey Federation and serving as its president for five years. He was



Charles Wampler, at far left, presented then-Vice President Richard Nixon with a Thanksgiving turkey.

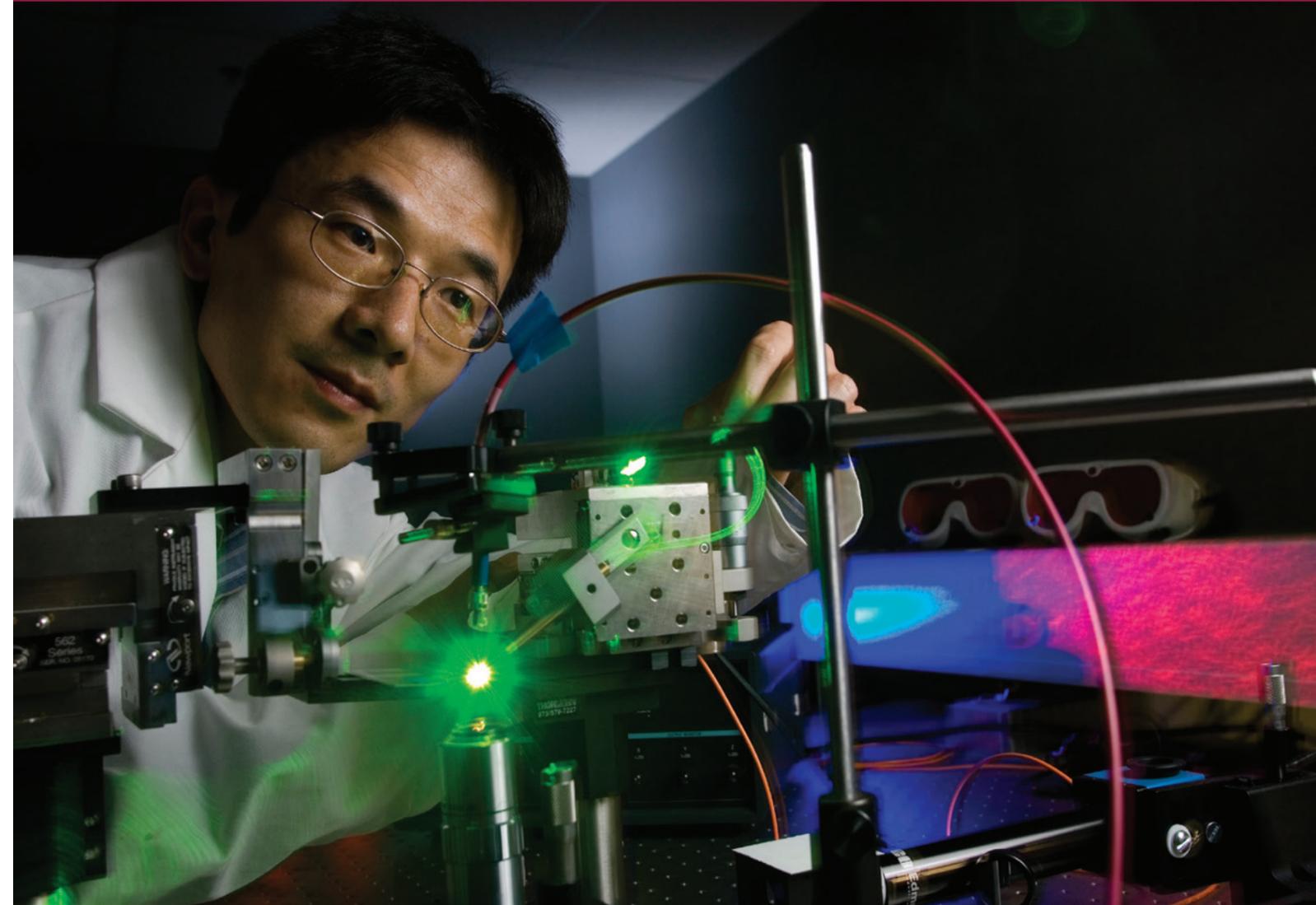
COURTESY OF ANIMAL AND POULTRY SCIENCES DEPARTMENT

instrumental in encouraging the National School Lunch Program to begin buying turkeys, and he was photographed as part of the industry delegation presenting then-Vice President Richard Nixon with President Dwight D. Eisenhower's official Thanksgiving turkey circa 1955.

The Wampler family also continued to serve Virginia Tech and the Department of Animal and Poultry Sciences. Wampler and his son, Charles Wampler Jr., served on the Board of Visitors and were members of the Ut Prosim Society, which recognizes donors who are leaders within the community of philanthropy that sustains Virginia Tech. On campus, several rooms bear the family's name, including Litton-Reaves Hall's Wampler Conference Room, where black-and-white photos depict the roots of the turkey industry and the Wampplers' growing company.

After the elder Wampler's death in 1976, his family ably carried on his legacy of innovation in the turkey industry. Wampler Jr. assumed leadership of the business, and upon his retirement in 1998, the company was the seventh-largest poultry producer in the U.S. He was followed by William "Bill" Wampler, who, before his death in 2014, was named to the College of Agriculture and Life Sciences Hall of Fame.

"It's not only Virginia Tech that owes a great deal of gratitude to Dean [who died in 1964, after a long career at Virginia Tech] and the Wampler family," said Professor David E. Gerrard, the head of the Department of Animal and Poultry Sciences. "Anyone who enjoys a turkey [during the] holiday season has these people to thank for it."



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50 and counting:

For a video and photo gallery of the opening reception, go to www.vtmag.vt.edu. For more information about the anniversary activities, visit www.50years.pamplin.vt.edu.



The Pamplin College of Business is celebrating its 50th anniversary.

Pamplin College of Business at 50

Celebrating its 50th anniversary this year, Virginia Tech's Pamplin College of Business kicked off a yearlong series of events, displays, and publications with a Jan. 30 reception in the atrium of Pamplin Hall.

"Pamplin has made great progress in these 50 years," said Pamplin Dean Robert Sumichrast. "We invite everyone to join us in celebrating our rich heritage of accomplishments in advancing the state of business knowledge, giving generations of students an excellent education that helps them become more productive citizens, and

promoting economic development through service to the business community."

Other activities during the year will include a panel discussion by several recent Pamplin alumni addressing their successful transition from college to career; an anniversary-themed effort by faculty, staff, and students at The Big Event; and activities during summer orientation for freshmen, the Business Horizons career fair in September, and Pamplin's tailgate in October.

The spring edition of the college's magazine, Virginia Tech Business, will feature profiles of alumni from each of the five

decades, along with faculty perspectives on significant developments during the past 50 years in such areas as accounting, technology, finance, hospitality, management, and marketing that have changed consumer quality of life, as well as business and management practice.

Anniversary commemorations will conclude in December with a faculty and staff luncheon and a black-tie gala that will bring together Pamplin alumni and friends, students, faculty, and staff, and various state and local dignitaries to celebrate the college's history and future.

Transitions occur in Tech's senior leadership

Virginia Tech has announced several transitions in the ranks of its senior leadership, each of which will occur this year.

Senior Vice President and Provost Mark G. McNamee, the university's chief academic officer since 2001, announced he will step down once his replacement has taken office.

Robert W. Walters, vice president for research, will retire Sept. 1, as reported in the winter edition of Virginia Tech Magazine.

Elizabeth A. "Betsy" Flanagan, vice president for development and university relations since 2000, will step down to become senior fellow for advancement, effective June 30.

Associate Vice President for University Relations Lawrence "Larry" Hincker '72, who has served as university spokesperson and senior communications officer under four Tech presidents, will retire once his replacement begins work.

Lu Merritt '68, the longtime leader of the Virginia Tech Athletic Fund, popularly known as the "Hokie Club," will retire in July. Merritt, whose official title is senior director of development for intercollegiate athletics, began his tenure at Tech in 1994.

With a view toward strengthening the university's advancement program, President Timothy D. Sands asked Tom Tillar '69, vice president for

P Buckley Moss Galleries

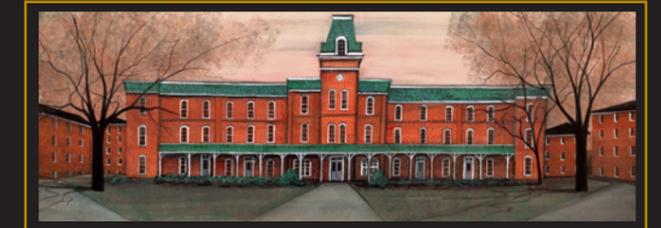
Offering the most extensive collection of original watercolors, giclées, etchings and offset lithographs by P. Buckley Moss, America's most celebrated living artist and Virginia Tech's own Outreach Fellow for the Arts.



Hokiiland \$125



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A Cadet Tradition, Barracks #1 - Lane Hall Available in three sizes starting at \$95

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alumni relations, to assume the role of interim senior vice president for advancement. In this capacity, Tillar will begin to implement a traditional advancement model that will bring together all University Relations, University Development, and Alumni Relations staffs under specific strategies that will ultimately move the university closer to its next major campaign effort.

"While high turnover can be an all-too-common problem in higher education, Virginia Tech is blessed to have had stable, long-term leadership

in its senior management positions," said Sands. "The exemplary leadership of our outgoing executives has afforded the university an era of unprecedented growth marked by sustained excellence in academics, alumni relations, external relations, fundraising, and research."

Added Sands: "As these senior leaders have approached traditional retirement age, many of them have delayed their plans to retire because they wanted to ensure a smooth presidential transition. For that, I am most grateful."



Virginia Tech Daily

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Firsts in Virginia Tech history

When the Hokie Nation gained more than 2,500 new alumni at Virginia Tech's two commencement ceremonies on Dec. 19, 2014, Archer Ruffin III (agricultural technology '14) received the first diploma handed out by President Timothy D. Sands as the university's 16th president.

Ironclad

by JULIET CRICHTON
photo by LOGAN WALLACE

In 2014, Atlantic Coast Conference (ACC) Freshman of the Year **Joey Dance** became Tech wrestling's first true freshman to earn All-American honors after going into the NCAA championships in Oklahoma City as the No. 16 seed and scrapping to take fourth.

On the mat, Dance is a **fierce blur of speed and force**: focused, methodical, dominant.

This season, ranked **fourth in the nation at 125 pounds**, Dance compiled a **24-2 record**—including three ACC wins in the Anne and Ellen Fife Theatre in the Moss Arts Center's Street and Davis Performance Hall. In early March, Dance captured his first ACC title and entered the NCAA championships as the No. 3 seed.

“

It's over. Now I can go back and eat a little bit more. That's why I'm so mean out on the mat—because I'm so hungry and thirsty.

“During the summer, I weighed 150. I wrestle at 125. When we do our workouts, we lose at least 3 pounds. ... Live wrestling, you can lose so much weight doing that, too. You're using every single muscle in your body to do whatever you're trying to do to embarrass your opponent.”

—Joey Dance



Body of work:

For a video of the Hokies' victory over the University of Virginia in the first-ever wrestling match at the Moss Arts Center, along with multimedia of Dance discussing the sport, go to www.vtmag.vt.edu.



After eclipsing the \$500 million mark in funding, Tech plots the future of university research

by MASON ADAMS

Virginia Tech continues to build its reputation as one of the top research universities in the United States, climbing two positions to reach No. 38 in the National Science Foundation's (NSF) annual survey of higher education research expenditures.

The ranking is based on Virginia Tech's expenditures of \$496 million on research projects in fiscal year 2013, a figure that's up from \$454 million in fiscal year 2012.

In fiscal year 2014, Tech spent even more on research, \$513 million, an all-time high for the university and a 3.42 percent increase from fiscal year 2013. The NSF rankings for 2014 won't be released until early 2016.

The figures show substantial growth from the turn of the millennium. The university's research portfolio sat at \$192.7 million in fiscal year 2000, around the time former President Charles W. Steger took office and helped jumpstart the investment in research.

The statistics are compiled from the NSF's Higher Education Research and Development Survey, the primary source of information on research and development expenditures at academic institutions. The survey ranks 891 degree-granting institutions that spend at least \$150,000 in research and development.

"Our ranking as a research institution is just one of the ways to measure Virginia Tech's impact and momentum, and it is a signal to talented people everywhere that we are a university in action," Virginia Tech President Timothy D. Sands said. "Virginia Tech's steady growth in research expenditures reflects our commitment to impactful scholarship across the continuum, from curiosity-driven research that leads to unexpected opportunities, to problem-inspired research that results in solutions that benefit humanity today. Our strength is in collaboration across the disciplines, especially in emerging societal-scale challenges in sustainability, resilience, health, and security."

The advance in rankings comes at a crucial time for Virginia Tech: Robert W. Walters, who has served as vice president for research for eight years, announced he will retire Sept. 1. Dennis Dean, director of the Fralin Life Science Institute, is serving as interim vice president for research as the university searches for a permanent replacement.

Over the years, Tech's R&D spending has increased annually with continued reinvestment in infrastructure and faculty, better positioning the university in primary areas of sponsored research, including agriculture, engineering, health sciences, and physical and natural sciences.



As funding sources for research shift, Virginia Tech remains focused on tackling societal-scale challenges.

Nearly 80 percent of Virginia Tech's research portfolio is funded by competitive awards from the federal government and funding agencies such as the NSF and the departments of Defense, Health and Human Services, Transportation, Agriculture, and Energy. About 10 percent of funding is from commercial sources and industry partnerships. The rest comes from the state, the Virginia Tech Foundation, and a variety of other sources.

The percentage from commercial and industry sources may grow, given Sands' thoughts on research and its connection with the university motto, *Ut Prosim* (That I May Serve). The motto, Sands said in his installation speech last year, is "why our research programs do not stop with new knowledge, but are shaped by the potential impact they can have on humanity."

In the same speech, Sands cited increasingly unreliable government funding for research as a daunting challenge facing Virginia Tech. "The funding of research is increasingly unreliable in the current climate in the state and federal government; institutions such as Virginia Tech cannot continue to be viewed as deep pockets that should co-fund sponsored programs," Sands said. "If the funding model does not change, we will be relying to a greater degree on limited gift and foundation funds to propel our research in partnership with government and corporate sponsors."

Sands called for Virginia Tech to break into the NSF's top 30 and to become a top-100 global research institution by 2022. Along the same lines, he set a goal of giving every undergraduate the opportunity to participate in an internship or in a "meaningful undergraduate research experience," or both.

Virginia Tech's upward climb through the NSF rankings, along with increased spending for research in 2014, seems to indicate that the university is already making progress toward those goals.



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Randolph Wynne Remote Sensing

by SU CLAUSON-WICKER
photo by CHELSEY ALLDER

Randolph Wynne, professor of forestry and remote sensing in the College of Natural Resources and Environment, is a member of the national Landsat Science Team, a group of scientists and engineers that provides technical and scientific input on issues critical to the success of Landsat, a series of U.S. scientific satellites that has been compiling images of the Earth's surface for 40 years. He also coordinates the Department of Forest Resources and Environmental Conservation's new major in environmental informatics, which applies information science to the management of natural resources—using such tools as computer science, geographic information systems, remote sensing, database management, and data visualization and modeling—in order to instill environmental problem-solving skills in students.

How is forestry related to a group of satellites orbiting the Earth?

Pictures from space provide a supplemental, bird's-eye view of the landscape that, when used with data collected on the ground, helps us figure out what is happening to our forests and why.

How is remote sensing changing forestry?

The additional information we get from remote sensing is now integrated into forest management decisions made by almost every organization charged with managing forests. In one example, trees killed by insect outbreaks, like the mountain pine beetle, can be identified to better understand the fire risk in suburban neighborhoods.

How might remote sensing improve the rate of carbon sequestration, or removing carbon from the atmosphere?

The main thing that we can now know is where we are losing forests and where we are gaining them. We can find out where parks and other protected areas are really working to preserve forests and where they are not. In addition, if the forest is intensively managed, we can use information we get from remote sensing to help the trees grow better and therefore absorb more carbon from the atmosphere. For example, if our satellite pictures show us there are fewer leaves on the trees than there should be, we can fertilize to reduce nutrient limitations.

Why is it important to offer a major in environmental informatics?

Big-data analytics is one of the fastest-growing careers worldwide—and the many organizations charged with environmental and natural-resource management will be hiring.

You're the new advisor to the Virginia Tech Sailing Club. How is the club looking as it goes forward into competition this year?

The club leadership in the past couple of years has focused on building a more competitive intercollegiate presence while also providing a program for members of the university community who want to be exposed to the joy of sailing without competing. I am excited to be part of a growing program that builds on the legacy of many prior student leaders and former advisor Shep Zedaker. □

Su Clauson-Wicker is a writer for the College of Natural Resources and Environment.

Count on Virginia Tech Sailing Club advisor Randolph Wynne to have a compass.



Mark Embree Degrees of Data

by ROSAIRE BUSHEY
photo by LOGAN WALLACE

Mark Embree (mathematics, computer science '96), a professor of mathematics in the College of Science, is one of only two Virginia Tech alumni—along with William Lewis (physics '63)—who can call themselves Rhodes Scholars. When Embree left Rice University and returned to Blacksburg in 2014, his reason wasn't for the Hokie Stone—it was to help start a brand-new program that he's sure will make its mark on the university and the lives of students: computational modeling and data analytics.

What was the draw to come back and help build the computational modeling and data analytics (CMDA) program?

There is a buzz among students, particularly younger students, when they hear about this. And, quite honestly, there has been a buzz among industry executives we've spoken to. They often say, "Can I hire your first 10 graduates?" That reaction confirms our intuition: There is a need for graduates with interdisciplinary skills in mathematics, statistics, and computer science. Virginia Tech has a great team of faculty members that believes in this mission and is collaborating to make it happen.

What is CMDA really all about?

It's essentially about algorithms, mathematical modeling, and big data. Our society creates an enormous amount of data. The new Goodwin Hall is an excellent example: It houses 241 sensors that record about four gigabytes of data every hour. But what do you do with it all? How do you make sense of such vast information? The CMDA program will prepare students to use mathematical analysis, statistics, and high-performance computing to determine the appropriate data for the problem that's being solved and then to collect the data, clean it, and create a computational model that provides useful, actionable information to the client.

Are there other dimensions to the program?

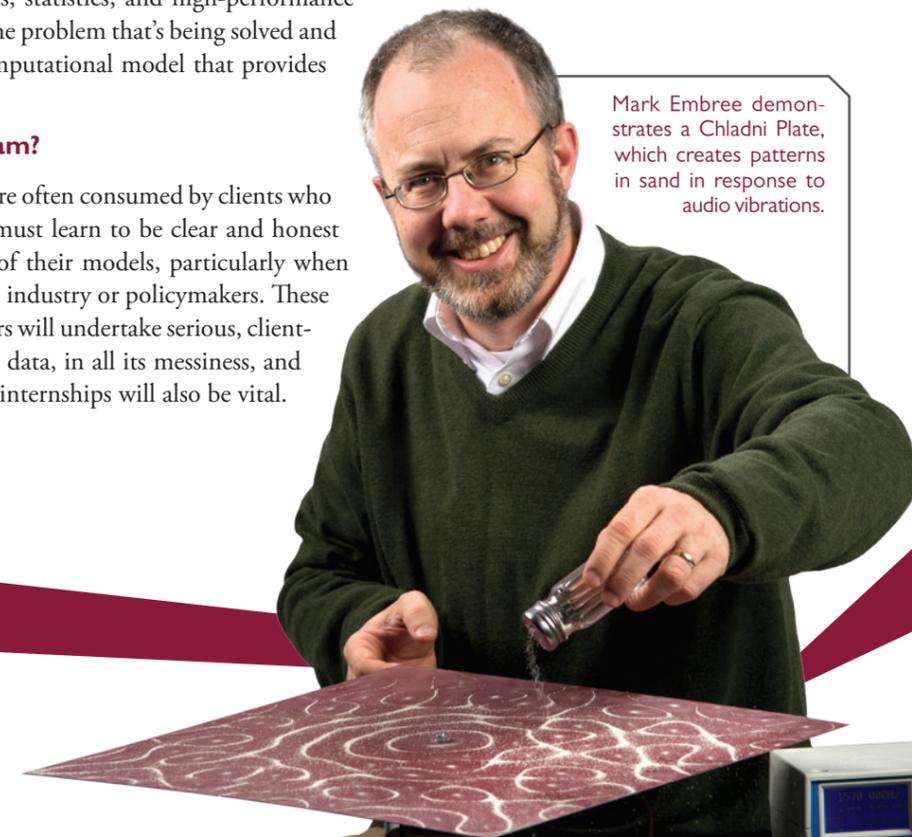
We must emphasize ethics. Mathematical models are often consumed by clients who are unable to question the details. Our students must learn to be clear and honest about assumptions, uncertainties, and the limits of their models, particularly when these models recommend some course of action to industry or policymakers. These lessons are best learned in context, so CMDA majors will undertake serious, client-driven capstone projects. They will work with real data, in all its messiness, and present a final model to the project's client. Good internships will also be vital.

What can a graduate do with a CMDA degree?

The list of potential jobs that could use the skills we will teach through the CMDA program is exhaustive. Many exciting startups in Silicon Valley are starving for this talent. They are interested in the best algorithms, and they need employees who understand the cutting edge, not button-pushers using canned software. Anyone who hires engineers needs the skills our students will have, and employers won't find many undergraduates in the country who have them. One industry member told me, "We need these people; we write job descriptions for this and can't hire anyone." Our team is eager to address this issue. □

Rosaire Bushey was the College of Science communications director.

Mark Embree demonstrates a Chladni Plate, which creates patterns in sand in response to audio vibrations.



Eric Standley Rock, Paper, Lasers

by KATIE GEHRT '97, '02
photo by LOGAN WALLACE

School of Visual Arts Associate Professor Eric Standley has gained international acclaim for his artwork: “drawings” composed of hundreds of intricate layers of laser-cut colored paper, stacked together to create pieces that, at first glance, resemble stained glass, but reveal hidden details with each new viewing. Standley, who teaches classes on laser cutting, engraving, and the principles of art and design, has been invited to participate in the prestigious CODA Paper Art Biennial and has an upcoming solo show at the Virginia Museum of Contemporary Art in Virginia Beach, Virginia.

How did you get started creating your layered artwork?

In 2005, I had this brilliant idea that I would cut Cheerios boxes to sort of elevate the banal. So I began to intricately cut these things, and it was going pretty well for a somewhat sarcastic project; and then one day when I was leaving, I stacked a bunch of these cuts on top of each other and was blown away by the complexities that all the layers created. I began wondering if I could consciously think about these layers as they receive depth. And that question hung on my shoulder for a year or two until I started working it through.

Cereal boxes?

Yep. Cereal boxes. Nutrition facts, specifically.

Tell us about your design process.

I can be conscious of 10 layers at one time and work my drawing around that. I don't even think of this as layers so much anymore as I am drawing; I think about the negative space I'm creating as I go. The process takes months. Last year, I did one work that took me 10 months to draw. I was averaging 50 hours a week on that. It was an obsessive work.

How do you teach your students to express themselves?

I try to create a learning environment where I guide them through thinking about themselves and about why they would do something. In my mind, you have to know yourself first before you can express yourself, or you are just illustrating stuff.

How does technology, such as the laser you use, influence art?

I love introducing the laser to the students. It's an answer waiting for a problem. Technology is built to solve problems we already have. Like, how can I cut cardboard boxes better? A laser. As artists, it is our responsibility to creatively look at these tools and figure out how we can use them in ways that are completely new.

Laser-cutting:

For a video on Eric Standley's laser-cutting, visit www.vtmag.vt.edu.

What are your favorite activities outside of the studio?

I am in a band called Train Fare Home. We play rock 'n' roll and a lot of blues with a bit of Allman Brothers style—we call it Appalachian voodoo. I find myself getting geeky and techy, but for the most part, I try not to analyze the music like I do my art, so it's a recreation for me. I also coach my 8-year-old son's soccer team, the Orange Unicorns. □

Katie Gehrt (psychology '97, visual communication design '02) is the College of Architecture and Urban Studies' communications director.



Cadet Cory Mitchell (center) led the squad that won the Jaffe Eager Squad trophy named after 1942 alumnus Jeff Jaffe (right). Mitchell is pictured with Maj. Gen. Randal D. Fullhart, Corps of Cadets commandant, and U.S. Army 2nd Lt. Jordan Disney '14.

CARRIE COX



COURTESY OF THE BUGLE

Drill Down

Corps' competition reinforces fundamentals

by CARRIE COX '99

Months of practice precede one of the Virginia Tech Corps of Cadets' most intense competitions of the year.

The annual Jaffe Eager Squad and Eager Individual drill competitions are held each spring to determine the best-drilled squad and individual in the corps.

Each of the 12 cadet companies field a squad of a junior cadet commander, two sophomores serving as squad leaders, and eight freshman squad members. Each cadet's uniform and rifle are inspected, and then the team conducts the marching portion of the competition.

Each company is also represented by a freshman cadet and a sophomore cadet in the Eager Individual competition. This event determines the most knowledgeable and best-drilled freshman and sophomore in the corps.

In spring 2014, the Jaffe Eager Squad trophy was awarded to Delta Company and the winning squad was led by Cory Mitchell, a cadet from Catawba, Virginia. Delta Company began training in January 2014 and took what Mitchell called a “football-practice-like” approach to the challenge. “We focused on the pure fundamentals of drill—marching without rifles and stationary drill—so that we could perfect the little things that are important to mastering this necessary skill set,” he said.

Of course, the effort wasn't without a little humor. “Rather than focusing so much on the importance of the competition and living up to expectations, [we filled] our practices with jokes and games to break up the monotony of drill practice,” Mitchell said. “I believe that helped us both gel together as a team and gain the confidence we needed to perform.”

The Jaffe Eager Squad trophy is named in honor of Jeff Jaffe, a 1942 alumnus. In his freshman year, Jaffe was chosen to be a member of his company's rifle drill team, which won the corps' drill competition that year.

Between 1945 and 1990, Jaffe served as the president, chairman, and CEO of multiple candy companies, including the Chunky Corp. and the Schrafft Candy Co.

In his memoir, “How Sweet It Is,” Jaffe wrote, “At Virginia Tech, the leadership training I received in the Corps of Cadets provided a most solid base for what was so important in all of my future activities.”

Jaffe, who died in July 2014, created a trust to sponsor the Jaffe Eager Squad competition and to award cash prizes to each of the 11 cadets on the winning company's drill team, helping ensure that the strong tradition of the competition thrives.

“I believe that my squad mastered what Mr. Jaffe intended for this competition: to have fun, to represent your company well, and, above all, to gain confidence in high-pressure environments,” Mitchell said. “Eager Squad is more than just a drill competition. It is a training environment to help prepare you for those high-pressure situations in life. The Delta Company drill squad is extremely fortunate to have been able to learn that lesson in our Eager Squad experience.” □

Maj. Carrie Cox (M.S. civil engineering '99) is the Corps of Cadets' executive officer.

Golden Oldies

How donated class rings are reborn

by MASON ADAMS
photos courtesy of LAURA WEDIN and LEEANN ELLIS

Virginia Tech class rings are forged in flame and memory, bonding alumni to the university and their graduating class.

Rings in the Alumni Association's Hokie Gold Legacy Program, however, are even richer in history. Decades-old rings are liquefied at temperatures reaching nearly 2,000 degrees and then blended into new rings, creating a molten connection between today's students and Hokies from decades ago. Beginning with the Class of 2014, alumni who have ordered gold class rings wear Hokie gold, a sliver of history on their fingers.

The legacy program allows alumni or their families to bequeath or donate class rings to be melted down and incorporated into the class rings of the next junior class. (To donate a ring, contact Laura Wedin at lwedin@vt.edu.)

Melts take place, typically in the fall, at the Kroehling Advanced Materials Foundry, home to VT-FIRE (Virginia Tech Foundry Institute for Research and Education).

Golden:
For more about the Hokie gold program, initiated by members from the Corps of Cadets' 1964 M Company, visit www.alumni.vt.edu/classrings/hokiegold. For multimedia on Hokie gold, visit www.vt-mag.vt.edu.

1 Old class ring:
68° F
100% of gold



2 Jewels are removed from the older rings.



3 A crucible made of graphite carbon is heated to 400 degrees to remove any moisture, and then the rings are placed inside.



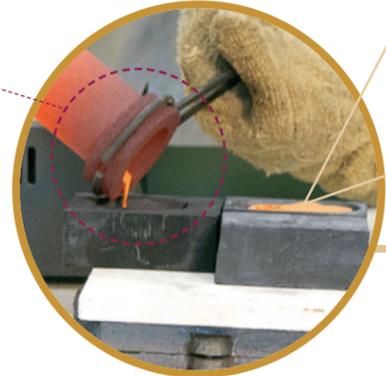
4 The crucible is inserted into a small resistance furnace, which passes an electric current into a heating element made of tungsten. The element heats the air, which in turn heats the crucible and melts the gold. The resistance furnace takes about 30 minutes to fully melt the gold.



5 Clad in steel-toed boots, flame-retardant wool or cotton underclothes, a helmet with a face shield, and leggings and a coat that are both aluminized (meaning that layers of metal are incorporated into the fabric), a student removes the crucible.



Melted gold:
1,900° F



6 The student pours the molten gold into an ingot, forming a molded shape that will be re-melted at a later date.



7 The ingot of gold is then sent to Balfour, the company that makes Hokie rings, for refining and inclusion in future class rings. Balfour refines the gold into small pellets the size of a BB.



8 Each pellet of Hokie gold is combined with standard gold and placed in the cast of a "tree" that holds as many as 20 rings. The leftover parts of the tree are re-melted and reused for future rings.



9 New class ring:
68° F
0.33% old gold





Caring for the Community

The complexities of responding to sexual violence and harassment on a college campus

by JESSE TUEL

photo by JIM STROUP

Set aside, for a moment, the peripheral issues surrounding sexual violence and sexual harassment—the reporting requirements and investigations and laws and university policies and sanctions and scars for life.

Set all that aside, and ask a person to recall, through each of the five senses, a recent sexual encounter. Even retelling a consensual event aloud would be uncomfortable. If the encounter were traumatic, however, sharing the details would become an act of “reliving it,” said Montgomery County Commonwealth’s Attorney Mary Pettitt, whose office prosecutes sexual violence cases that originate on the Virginia Tech campus.

A victim also might not want parents or friends to know or might not even want to name a fellow student whose life would be seriously affected by an accusation. The victim has to feel convinced that opening up is worth it. “You have to acknowledge that something really bad happened to you rather than pushing it aside,” Pettitt said. “And that’s a really hard thing to do.”

A victim’s choice to come forward sets in motion a long process beset by complexity, from the notion of applying legal principles to intimacy to the sometimes conflicting laws that govern a university’s response. At Virginia Tech, helping victims and the accused navigate such an emotionally wrenching minefield is the charge of the multidisciplinary Title IX Advisory Committee, a team operating in the broad landscape of sexual violence and harassment prevention, education, and adjudication. In recent months, that landscape has come under scrutiny at colleges and universities across America.

The frontline

One of the campus venues on the frontline of Virginia Tech’s response is the Women’s Center. Situated in a yellow house on Washington Street northeast of campus, the center offers advocacy and counseling services to victims. Christine Dennis Smith, the center’s co-director, likened her case-management role to an air-traffic

controller’s. Victims are presented with an intimidating list of options: investigations by the Title IX office on campus and the Virginia Tech Police Department; an Office of Student Conduct hearing; prosecution through the criminal justice system; interim measures, such as changing a class schedule to avoid the alleged offender; and

“

Sexual assault and harassment have no place in higher education, and we are determined to use this moment to focus increased attention on awareness, prevention, enforcement, and support of survivors and those who report sexual misconduct of any kind. Our greatest priority must always be a safe learning and working environment for undergraduate, graduate, and professional students; faculty; staff; and visitors.”

—President Timothy D. Sands, in a mid-December message to the campus community

more. “The complexity is daunting for students, notwithstanding the fact that the student has experienced a traumatic event,” Smith said.

Three entities on campus—the Women’s Center, Cook Counseling Center, and Schiffert Health Center—are considered confidential resources. All others on campus are required to report knowledge of an incident to the university’s Title IX or deputy Title IX coordinator. However, if the report suggests an ongoing threat—for instance, the report is similar to an earlier incident in the same student organization and thus represents an emerging pattern—those with rights of confidentiality immediately share the information with the Title IX office.

The myriad laws guiding the university's approach to sexual violence and harassment are shifting. "Right now, our biggest challenge is finding a way to prepare for the potential changes coming out of the state legislature," said Pamela White, executive director for equity and access and the university's Title IX coordinator.

For instance, the potential for additional mandatory reporting, as proposed in the Virginia General Assembly's notification bill (see the sidebar below), raised a red flag for campus advocates and others. Mandated reporting will "drive more people underground," said Virginia Tech Police Department Chief Kevin Foust. "We will see less reporting. We will see victims who will again feel re-victimized by the system, and they will not report to anybody."

Laws governing the university's response

On the **federal level**, **Title IX** states that "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance." (Under Title IX, sexual violence—rape, sexual assault, sexual battery, and the like—is considered a severe form of sexual harassment that impedes a student's education.)

In Washington, D.C., a proposed bipartisan bill called the **Campus Accountability and Safety Act** would, among other things, fine institutions for Title IX violations.

In 2011, a "**dear colleague**" letter from the U.S. Department of Education's Office of Civil Rights, based on Title IX language, stipulated that in addition to the law enforcement and the student conduct processes, universities must investigate whether an alleged incident amounted to a violation of a student's civil rights.

The **Clery Act** requires timely reporting of about a dozen types of crimes to the campus police. The **Violence Against Women Act** amended the Clery Act, adding dating, domestic violence, and stalking to the list of reportable crimes.

Ahead of the curve

When Ellen Plummer, now the assistant provost who oversees the Women's Center, was hired at the center in 2000, she orchestrated a series of grants through the U.S. Department of Justice to address campus sexual violence by building relationships among Women's Center, Office of Student Conduct, and Virginia Tech Police Department personnel. The three

State laws are in flux. In the 2015 session, the Virginia General Assembly dealt with about 25 different bills related to campus sexual violence. In the end, three bills emerged and were approved. As of press time, the bills were awaiting the governor's signature or modification.

- The **transcript bill** would require that schools include a "prominent notation" on academic transcripts of any student who is suspended, dismissed, or withdraws while under investigation for any student conduct violation. Students who serve out their suspensions may have the notation removed when they are deemed to be back in good standing.
- The **mutual aid agreement bill** would require that colleges and universities add to existing mutual aid agreements with local law enforcement or the Virginia State Police (which Virginia Tech has had for many years) a process to notify the local commonwealth's attorney within 48 hours of the launch by campus police or the external law enforcement agency of an investigation of felony criminal sexual assault on campus or on nearby property, as defined by reporting requirements under the federal Clery law. Institutions that do not have campus police departments will be required to enter memoranda of understanding with local police or the Virginia State Police to carry out this notification.
- The **notification bill** would require campus employees, with some exclusions, to report allegations of sexual violence to the Title IX coordinator "as soon as practical." The coordinator must report the allegation, including personally identifiable information, to an internal review team that would meet within 72 hours. The review team would determine if the reporting of information about the allegations to law enforcement is necessary to protect the health or safety of the campus community, notwithstanding the wishes of the victim to not involve law enforcement. This bill will also require a higher education institution to enter a memorandum of understanding with an external victim-advocacy and support organization.

groups underwent education and training together, presented at national conferences, and developed a reservoir of trust. "The leadership has changed, and yet [these relationships have] moved forward," Plummer said. "It may be imperfect, but I do believe our students receive the very best care."

This cooperation is paramount, in part because a police department's criminal investigation and a Title IX inquiry have different standards of evidence. Criminal charges rely on "beyond a reasonable doubt" while Title IX inquiries rely on a "preponderance of evidence"—that is, 50.1 percent of the evidence suggests, more likely than not, that the allegation occurred. As such, in the event of a criminal complaint, Title IX investigators will delay the fact-finding part of their process so that the police can collect evidence.

"We all want to do the same thing," Foust said. "That's protecting our community, making Blacksburg and Virginia Tech as safe as it can possibly be for the students who reside on campus, the students who reside off campus, and everybody else in our community."

The sharing of information is "one of the things that makes us a model for the rest of Virginia," Foust said. "I think that's one of our strengths. We do not want to sit back and wait for Richmond or Washington to tell us how to [respond to reports]. Instead, we want to be on the front edge ... [as] one of the leaders in this field."

"While we're always making improvements, we have been doing this well for a long time," said Frank Shushok Jr., the university's deputy Title IX coordinator and senior associate vice president for student affairs.

A delicate balance

Foremost in the minds of those who respond to sexual violence are the victim's rights. A young woman or man might not want to share details or pursue criminal charges.

Said Shushok, "I can think of two or three cases where the incident occurred between two very good friends who had close family relationships, and the complexity of their decision-making is something I don't envy. As much as we possibly can, we want to keep the victim in the driver's seat."

"There's still some negative social stigmas attached to this particular heinous crime," added Foust. "That's why I know it's a difficult personal decision for a victim to say, 'I want to come forward to law enforcement.'"

Some argue that response should be the purview of the criminal justice system; others argue that any disruption of the living and learning community is the responsibility of the university, which must protect its constituents and identify potential patterns. "Balancing the tension between the individual's right and the community's rights takes wisdom and finesse and is incredibly sensitive," Plummer said.

Discovery

Shushok coordinates the response to reports of student-on-student incidents, while White coordinates the response to incidents between a student and, say, a staff member.

"Virginia Tech takes every complaint of sexual violence seriously," said White, "and we provide a holistic approach to addressing each allegation within a case-management framework. We work very hard to protect the rights of all students and hold offenders accountable."

Amid the shifting legislation, the **Governor's Task Force on Combating Campus Sexual Violence** will deliver a final report to the governor by June 1. Three members of the Virginia Tech community are serving:

- **Kay Heidbreder**, university legal counsel, advises the prevention subcommittee.
- **Ellen Plummer**, assistant provost, chairs the response subcommittee.
- **Frank Shushok Jr.**, senior associate vice president for student affairs, is a member of the prevention subcommittee.

The **Title IX Advisory Committee** meets regularly to shepherd cases through the university system. Membership includes:

- **Pam White**, executive director, Office of Equity and Access, and the university's Title IX coordinator
- **Frank Shushok Jr.**, senior associate vice president for student affairs and the university's deputy Title IX coordinator
- **Tom Brown**, dean of students
- **Christine Dennis Smith**, co-director, Women's Center
- **Lt. Tony Haga**, Virginia Tech Police Department
- **Nanette Jimenez Gordon**, associate director for student conduct
- **Frances Keene**, chief of operations and deputy to the associate vice president for student affairs



JIM STROUP

Assistant Provost Ellen Plummer spoke at a sexual assault summit organized by the Virginia Tech Police Department on Feb. 20. Attendees representing Title IX, student conduct, the Women's Center, local law enforcement agencies, and prosecutors gathered to deepen their understanding of how their various roles intersect.

Sands' address
 To read President Sands' message about sexual assault sent to the campus community in mid-December, visit www.vtmag.vt.edu.

and fraternities and sororities; and training employees on reporting requirements and encouraging increased reporting.

"We must continuously find effective ways to educate our community," White said. "And we must continue to encourage our students to trust our system. The more students trust the system, the more they will come forward and the more we can hold offenders accountable."

In Virginia Tech's fraternity and sorority community, which numbers around 4,300, members have stepped forward to lead the discussion, both before and after the nation's attention turned toward Greek culture following the unflattering depiction of the University of Virginia in a Rolling Stone magazine article, portions of which have since been discredited.

"When I hear about things like this, it makes my blood boil. I have a sister, so I'm a brother," said Thomas Sefcik, a senior agricultural and applied economics major, member of Farmhouse fraternity, and president of the Interfraternity Council (IFC), one of four governing bodies in the Greek community. "I think that the general reaction has been for people to get heated because our community doesn't agree with sexual violence, sexual misconduct, or anything of that sort."

Sefcik cited a number of efforts in the Greek community, such as No Hokies Left Behind, an initiative he and others launched to encourage Hokies to care for

those around them. "The goal was to create a culture here on the Virginia Tech campus where we don't stand for these kinds of actions, and we're going to all be Hokies together and make sure everybody gets home safe," Sefcik said.

At the early-February forum the Greek community held with President Sands, "a lot of men spoke up and gave their opinion or gave their suggestions on how things can be prevented," said Jamaica Sykes, a senior biochemistry major, vice president of Delta Sigma Theta, and president of the National Pan-Hellenic Council, which oversees Tech's nine historically black fraternities and sororities. "I definitely see that they have concern, they care about the issue." Sykes believes that the Greek community was already sensitive to sexual violence and harassment, but the national conversation put the issue "under our microscope" even more.

Leaders hope that students are more apt to act courageously and serve others because of Hokie Spirit. "That simple word of being a Hokie gives you a common ground where you can relate, and it makes you close, in a way," Sykes said.

Said Hughes, "I think we all have to own that sexual [violence] is a community problem. It's our problem. It's our issue that we all need to take ownership of."

"We're probably ahead of the curve, but we still have a lot of work to do," Shushok said. "Virginia Tech doesn't exist in a vacuum; we're part of a larger culture, and there's a significant consensus that our culture needs to change in the way we think about sexual violence. And if we're going to make a difference in the world, [there is] no better place to start than our colleges and university students and the way that they understand this issue." □

The numbers

Clery Act statistics are gathered and reported by the Virginia Tech Police Department, a fully accredited state agency that exists apart from the university. In calendar years 2011, 2012, and 2013, 36 incidents were reported, the vast majority by third parties. Of the seven victims who asked for a criminal investigation, all seven investigations resulted in arrests. Six were successfully prosecuted, while the seventh alleged offender is a fugitive. Calendar year 2014 statistics will be released later in 2015.

In fall 2014, based on Clery requirements, the police department issued three timely warnings to the campus community.

Office of Student Conduct hearings

2012-13:

- 30 reports • 15 hearings • 10 were found to be responsible for violating the Student Code of Conduct • 5 were not responsible

2013-14:

- 35 reports • 9 hearings • 5 were found responsible • 4 were not

Fall 2014:

- 43 reports • 6 hearings • 4 were found responsible • 2 were not
- *The increase in fall 2014 reports is due to greater awareness and campus-wide Title IX training. The number of hearings hasn't kept pace with increased reporting because reports often come from third parties, meaning that investigators may not know the identities of victims and offenders.*



JIM STROUP

Firefighter Earns Sea Legs

A humanoid robot developed by College of Engineering students could one day fight fires aboard U.S. Navy ships

by STEVEN MACKAY
photos by LOGAN WALLACE

“Have you ever been on a ship that’s on fire?” asked U.S. Navy veteran Dominique Pineiro as he stood in a narrow hallway on the decommissioned USS Shadwell. “It’s terrifying. ... That’s a fact.”

The dangers are many: Weapons, ammunition, and ordnance are on board. Spaces are tight and crowded. And unlike in a building fire, occupants cannot go down to escape. They must go up, which is problematic because heat rises, too.

Mere feet away from where Pineiro stood, a group of Virginia Tech College of Engineering students quietly prepped a prototype humanoid robot.

Developed by Tech for the Office of Naval Research, SAFFiR—short for Shipboard Autonomous Firefighting Robot—was about to make history aboard the Shadwell, now used to test new shipboard-firefighting techniques in Mobile Bay, Alabama.

In November 2014—during a five-minute demo that was four years and \$4.5 million in Navy funding in the making—the robot, standing 5 feet, 10 inches tall and weighing about 140 pounds, walked down a hallway, grasped a hose in one claw-like hand, and turned and used thermal imaging to locate a burning fire. As the robot squeezed its claw, water blasted the flames.

“And that is that. Nicely done,” said John Seminatore, a master’s degree student in mechanical engineering, at the demo’s conclusion. His teammates cheered, as did their hosts from the Office of Naval Research and the U.S. Navy.

The Navy foresees a future—decades off, but tangible—in which every ship has a robot as one of several high-tech firefighting tools for its sailors. At the same time that SAFFiR was being tested, students from Carnegie Mellon University were testing a quad-copter drone that would serve as a damage scout for sailor firefighters. A future version of the copter would share fire and damage data with not only sailor firefighters, but SAFFiR also.



STEVEN MACKAY

“These robots can work closely with human firefighters without firefighters being directly exposed to steam or heat, fire, and smoke,” said Thomas McKenna, a program manager with the Office of Naval Research, adding that future incarnations of SAFFiR may provide a “constant watch” against dangers.

“The students at Virginia Tech put forth a superb effort in developing the SAFFiR robot,” said John Farley, director of fire-test operations for the U.S. Navy Research Lab on the Shadwell and co-investigator for the SAFFiR program. “I have been truly amazed with their demonstrated drive, determination, and wherewithal to conceptualize solutions for the technological hurdles that they had to overcome.”

The effort also took great patience and improvisation. Real-world robots aren’t Hollywood robots. Even getting a robot to

walk upright on a straight and level floor is challenging, and the Shadwell presented maddening obstacles because heat from test fires have buckled the ship’s floors. SAFFiR’s short path slanted away from the robot at a steep decline, making balance retention a constant battle.

The robot was loosely attached to a gimbal in these demonstrations, so that a misstep wouldn’t become a full crash to the floor. As well, the robot did not have armoring or protective covering. Those materials are under development. Instead, SAFFiR wore body-length, store-bought rain gear to protect it from damage. Over its hands, the robot wore makeshift, flexible gloves fashioned by students. After all, water, soot, and smoke do not mix with electronics.

“Manipulating an empty hose or walking down a hallway is very different from

operating in a heat-warped, soot-filled corridor, dragging a hose filled with water,” said Seminatore, a U.S. Air Force veteran.

The robot’s “eyesight” comes from a combination of three things: a stereo camera, stereo thermal imaging to see through smoke and detect heat, and a laser rangefinder for accurate mapping. SAFFiR walks on two feet and has two arms. The robot is made mostly of aluminum, much of which was cut and shaped by the students at Goodwin Hall. Intelligence also is a major factor: SAFFiR is “learning” to stay upright on uneven terrain even when shoved from behind—which the students did, during the hundreds of hours they spent fine-tuning the robot’s balance. The chest cavity is a box of wires, comptrollers, and motherboards, all in a protective metal shell.



Balancing act: SAFFiR is able to stand because of the work of Mike Hopkins (above), who recently graduated with a doctoral degree in mechanical engineering. Hopkins' work allows the robot to automatically recover after being pushed, balance on moving platforms to simulate the motion of a ship, and walk on slopes and such terrain as rock or gravel. A store-bought track suit protected the robot from water damage.

Teamwork: (At right) Aboard the ex-USS Shadwell in November 2014, the SAFFiR team includes (front row, left to right) Chris Nogales, John Peterson, Jason Ziglar, Jack Newton, Joseph Starr, Associate Professor Brian Lattimer, Joshua McNeil, Yoonchang Sung, Mike Rouleau, and James Burton; and (back row, left to right) Robert Griffin, Mike Hopkins, Viktor Orekhov, and John Seminatore. Not pictured at right is Coleman Knabe, who appears on the opposite page, holding the fire hose. Hopkins and Orkhev have since graduated with doctoral degrees in mechanical engineering.



"It's not going to replace Navy firefighters—it's going to assist Navy firefighters," said Viktor Orekhov, who finished a mechanical engineering doctorate at Tech in December 2014.

Orekhov was one of more than a dozen students from two Department of Mechanical Engineering labs, the Terrestrial Robotics Engineering and Controls Lab (TREC) and the Extreme Environments, Robotics, and Materials Laboratory (ExtReMe), who built SAFFiR. TREC handled the robot's construction, while ExtReMe

handled all visioning systems. Both teams included students from across the College of Engineering.

The project was led at Virginia Tech by Brian Lattimer, an associate professor of mechanical engineering, with support from the University of Pennsylvania and the University of California, Los Angeles, where Dennis Hong—a robotics professor formerly with Virginia Tech—now works.

"I have so much pride and respect for these students, whose passion, hard work, and

intellect produced an awesome robot that is like something out of science fiction," said Lattimer, who founded the ExtReMe lab. "I know it's an achievement they'll never forget, and I'm thrilled I could share it with them."

"The month or so leading up to the final SAFFiR demo was probably the roughest part of the project," said Joseph Starr, a doctoral student in mechanical engineering who worked on the robot's thermal infrared visuals. "Most of us were working long days and weekends to try to help ensure the SAFFiR demo turned out great."



firefighter

Ready, aim, fire: Once SAFFiR located the fire, its claw-like hand directed the water toward the blaze.



Had the demo failed, with the robot unable to walk or find its mark, "there was no future in the project," said Seminatore. "The demo required [us] to develop new techniques and technologies in areas that weren't our traditional strengths. The integration challenge alone on such a complicated system is more than most laboratories deal with."

SAFFiR is, of course, a prototype. It is user-operated now—students sat near where the robot walked, punching in orders to a keyboard and watching what

SAFFiR was "seeing"—but long-range plans call for the robot to operate autonomously, with its own onboard power systems and computing power. Mobility and automation also will be improved. "We want the robot to go up stairs and over knee-knockers [the barriers in ship doorways] without falling. We also want to automate tasks, such as detecting and grabbing the fire hose," said Seminatore.

Even when able to operate on its own, SAFFiR will take remote instruction from sailors.

Onboard fires may well be terrifying, as Piniero said, but thanks to the vision of Virginia Tech's students and faculty and the Navy—not to mention SAFFiR's—the threat of future flames may be dampened. □

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

Fireproof:

For a video and photo gallery of SAFFiR in action, visit www.vtmag.vt.edu.



Technology Research That's Going Whole Hog

by ERICA STACY

When you visit the meat counter, technology and research probably do not come to mind. Yet every package of bacon and every pork chop on display is the product of an industry focused on complex, advanced technologies.

Food producers and processors rely on research to meet the needs of a growing population in the most cost-effective, responsible manner possible. Some of that research is taking place at Virginia Tech.

A recent \$1.4 million gift from Smithfield Foods Inc. supports studies in the College of Agriculture and Life Sciences and the Virginia-Maryland College of Veterinary Medicine that aim to enhance animal well-being and production efficiency in the pork industry.

"Agriculture is a technology-driven business," said Terry Coffey, chief science and technology officer for the Smithfield Foods hog production division. "We are experiencing change at the global level. Projected population growth, human health, and antibiotic use are among the challenges facing growers. We have a responsibility to support research that is likely to result in solutions for these complex issues."

Dennis Treacy (forestry and wildlife '78) serves as Smithfield's chief sustainability officer and oversees the Smithfield Foundation. "Through our contributions to universities like Virginia Tech," he said, "we are directly engaging the academic experts who can drive

industry innovations for issues that have not even been thought of yet—finding solutions that are proactive, not reactive."

According to Cyril R. Clarke, dean of the veterinary college, the Smithfield funds will advance swine health via three research projects. "Such partnerships between industry and research universities are essential to control infectious diseases and secure a safe and wholesome food supply," he said.

Led by William S. "Terry" Swecker Jr., a professor in the Department of Large Animal Clinical Sciences at the veterinary college, the first of the three projects is developing transmission models to identify how and when pigs are most likely to contract swine influenza virus. Such knowledge may aid prevention planning and assessment.

A second research initiative will explore the use of recombinant universal vaccines against porcine reproductive and respiratory syndrome, which hinders reproduction. According to lead researcher Mike Zhang, a professor of biological systems engineering in the College of Agriculture and Life Sciences, the vaccine will be designed to stimulate the immune system without risking the health of the pigs.

"In two years we should know the viability of the vaccine," Zhang said. "Once we have established its effectiveness, we can explore better delivery methods that may result in more efficient swine-health management."

Nammalwar "Nathan" Sriranganathan, a professor of biomedical sciences and pathobiology at the veterinary college, leads the third project: a study to determine

Dennis Treacy '78 (directly below), Smithfield Foods Inc.'s chief sustainability officer, sees the value of investing in basic research through the efforts of Virginia Tech's Mike Zhang (below) and Nammalwar "Nathan" Sriranganathan (left).



ANNE WERNIKOFF



JIM STROUP



Learn more:

Visit www.cfr.givingto.vt.edu for additional examples of how corporate giving advances research, teaching, and outreach at Virginia Tech.

A sustainable collaboration

A recent gift from Smithfield Foods Inc. illustrates how corporate philanthropy advances research at Virginia Tech.

Terry Coffey, chief science and technology officer for the Smithfield Foods hog production division, explained the philosophy behind the corporate support. "We want to find the spaces where experts in academic research and experts in private agricultural research can intersect, merging pure scientific study with practical application," he said.

For Dennis Treacy, chief sustainability officer at Smithfield Foods and a member of the Virginia Tech Board of Visitors, the relationship is a way to bring together the expertise necessary to shape the future of food production. "The scientists at Virginia Tech are impressive," he said. "Their proposals and ideas are top-notch. Our staff recognizes the potential in their ideas, and our company has a responsibility to support the development of the technologies that will make a difference in the future."

Nammalwar "Nathan" Sriranganathan, a professor at Virginia Tech, said he appreciates the support a great deal. "As a scientist at a public university, I feel compelled to do meaningful research that pays back the citizens who have enabled me to pursue my ideas," he said. "The Smithfield gift opens the door to the type of study that will generate an impact for consumers. It is inspiring to be a part of something with such potential."

the viability of developing a recombinant vaccine to control boar taint, an offensive taste and odor that can be found in products derived from uncastrated male pigs.

Sriranganathan aims to develop a modified contraceptive vaccine that, inhibiting the hormones that cause the taint, will be more effective and safer to administer than castration.

"These projects and others like them help Virginia Tech invent the future," said Alan Grant, dean of the College of Agriculture and Life Sciences. "We appreciate Smithfield Foods' support for research that brings the promise of a healthy planet, healthy food, and healthy people." □

Erica Stacy is the publications editor with University Development.

RESTAURANTS OF YESTERYEAR

Nostalgia feeds memories of Blacksburg's eateries

by MASON ADAMS



Four views from College Avenue and Main Street—including one taken between 1900 and 1919—capture a downtown vibe anchored by Blacksburg's restaurants.

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Virginia Tech alumni, whether they attended in the '50s, '70s, or '90s, still hold Blacksburg restaurants near and dear.

Why? To paraphrase a folk dictum, it's because the way to a Hokie's heart is through his or her stomach.

That's not just conventional wisdom—it's science. The parts of the brain that process smell and taste sit near the part that processes episodic memory, so smell, taste, and memory are linked physically and through neural connections, meaning that we tend to remember meals and their surrounding social experiences, said Rachel Diana, assistant professor in the Department of Psychology.

Sensory inputs combine with the presence of good friends and pleasant circumstances to create vivid memories, especially those shared over food, said Susan Duncan, a professor in the Department of Food Science and Technology.

"College is a lot of work, but you don't remember all that work—you remember the fun," Duncan said. "The studies and details of the projects you worked on, those are going to fade."

The venues hosting all that fun—Blacksburg's restaurants—share a rich and varied history, due largely to their connection with the Virginia Tech community. As the university has grown and changed over the decades, so have nearby restaurants.

Early records indicate the presence of a tavern when Blacksburg was formally established in 1798. The records probably refers to the **Amiss Tavern**, built on the north corner of Main and Roanoke streets before 1818, according to a 1984 study by Daniel Pezzoni (architecture '84, M.Arch. '87).

By the time Virginia Agricultural and Mechanical College (today's Virginia Tech) opened in 1872, a series of hotels also served food. Before the college's first dining facility was built, cadets ate meals at the **Blacksburg Hotel**.

In the early 1920s, Greek immigrant Nick Kappas opened his restaurant's doors at the corner of College Avenue and Main Street. A resident of Salem, Virginia, Kappas had regularly attended the annual Thanksgiving Day football game between Virginia Tech and Virginia Military Institute.

"The VPI cadets talked him into coming to Blacksburg and opening a restaurant in 1921," said Chris Kappas, his son. "It was a typical southern menu—meatloaf and three vegetables, sandwiches and chili."

The Kappas eatery eventually obtained a license to sell off-premises beer. For many years, as the only source of alcohol near campus, the restaurant attracted a steady stream of customers, which despite a Virginia Tech policy against the practice included faculty and even the occasional dean.



It was the **Busy Bee Restaurant**. Nobody called it the Busy Bee Restaurant. They called it 'the restaurant owned by the Greek.' Around the time Prohibition was over, his friend Louis Karanikas joined him, and they changed the name to **L&N Lunch**. Nobody called it the L&N Lunch. It was 'the restaurant that the Greeks own.' Louis died, and my father changed the name to the **Blue Ribbon**. Nobody called it the Blue Ribbon. It was still 'the Greek.' That's how the name Greek's came about."

— Chris Kappas, downtown Blacksburg businessman

When my husband and I got married, he still had a year left of school. We used to go to **Meredith's** to eat. Good food, inexpensive."

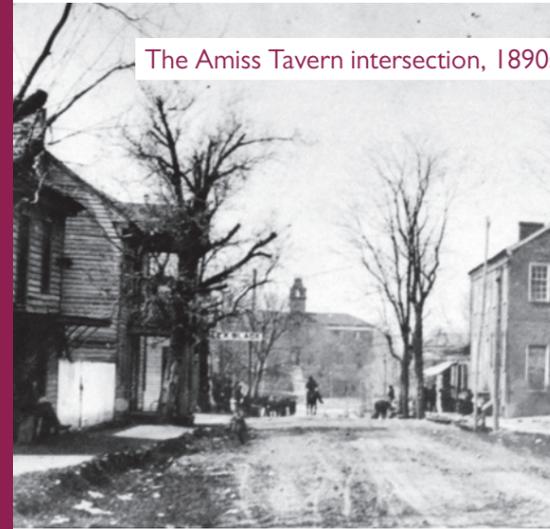
— Kay Moody, a former student who married John Moody (business administration '58)

"The cutoff time was 11 p.m., and people would be lined up down the street. People would give their money to the guy up front, and he'd go in and buy all he could," said Charles Johnson, owner of New Image Barber/Stylist.

Nick Kappas and the Havelos family eventually opened **Greek's Cellar** and **Greek's II**. Today the first restaurant is still open and doing business as **The Cellar**. Other notable restaurants from the era include **Meredith's**, a street-car cafe that was located off the corner of College Avenue and Draper Street, and several drugstores with dining areas, including **Center Drug** and **Corner Drug**.



L&N Lunch, 1936



The Amiss Tavern intersection, 1890s



Meredith's



Ellett's Drug Store in the early 1900s, where Sharkey's stands today

1890s–1940s



Main Street, circa 1950

1940s—1960s

In the '40s and '50s, veterans arriving in Blacksburg to study on the G.I. Bill often moved into trailer camps with their young families. For entertainment, Tech students often left campus, both for the beer and the female students at Radford University.

The '50s weren't a time of drinking and dancing for everyone, though. Blacksburg's restaurants still were segregated. Charles Johnson grew up in the nearby Wake Forest community that was founded by descendants of slaves on Kentland Plantation, now Kentland Farm. Johnson trained to be a barber at Christiansburg Institute, but three weeks after graduation, he was drafted and sent to fight in the Korean War. Upon his return to Blacksburg, he stopped at a restaurant near campus. He said that restaurant cooks, many of whom were black, would let black customers come in through the back doors and order food.

"I went in the back door to get a hot chocolate and some donuts. I noticed they were having a conference in the kitchen. They were trying to determine if I was black or an international student. Those international students could go to restaurants around here, and the blacks couldn't," Johnson said. "They came out and poured my hot chocolate into a paper cup, put my donut in a bag, and told me I had to leave. ... The problem was, there were a lot of cadets in there. They knew I'd come back from Korea. They wanted to talk to me, and they told me they'd protect me, so I just stayed as long as I wanted."

Attitudes began to shift during the civil rights movement in the 1960s. Johnson, who cut hair in the Tech Barbershop from 1956 to 1973, was one of a number of businessmen, clergymen, and other influential community members who observed the riots in such states as Alabama and, determined to prevent violence from overtaking their town, worked to peacefully integrate Blacksburg in 1962.

Two years later, in 1964, Virginia Tech made participation in the Corps of Cadets voluntary, forever changing the atmosphere on campus. The number of female students increased, as did the number of non-white students. As in years past, restaurants played a central role in the community's social life.



The College Inn

I lived in trailer park No. 3. Some of the guys and gals and our wives used to go to a movie and go downtown, then go to the **Bloody Bucket** after the movie and have a beer there. They had a jukebox. There was some dancing, but it wasn't primarily a dancehall."

— Jim Del Papa (mechanical engineering '52)

We used to go over to **Riddle's Grill** in Dublin. We went over there, ate sandwiches, drank beer, and then danced."

— George Stiff (general business '56)

Bryce's Tavern was nothing but a beer joint. We'd sneak out on weekends or after hours. I remember one time some upperclassmen came in. We all beat it out of there and knocked the screen out of the back window to get out."

— Maj. Randall "Wade" Everett III (public administration '56)

The College Inn was always a great place to get a great home-cooked meal. It was where Joe's Diner is now. It was one of those little dives that served great food."

— Brian MacInnis, Blacksburg resident

The Farmhouse [which recently closed] probably for 30 years was the preeminent place that students would go before things like Ring Dance, the formal dances, or any kind of significant social event. It was the place that alumni always made a point to come back to when they came here. It's also the place where the football team was fed the day before home games."

— Raymond Smoot (English '69, M.S. education administration '71), a long-time Tech administrator

1960s–1970s

The late '60s and early '70s also saw the arrival of fast-food franchises—national names, such as **Hardee's**, but also regional franchises, such as **Lendy's** and **Ray's**.

Two key downtown restaurants, **Gillie's** and **Mr. Fooz**, opened in 1974. Gillie's started out selling ice cream, soups, and sandwiches, but it quickly became a hippie hangout before eventually starting a slow transition in the '80s and '90s into the full-service restaurant it is today. Located around the corner on Main Street, Mr. Fooz was known for beer, sandwiches, and games.

"You never quite knew what some of the staff would wear," said Ranae Gillie, co-owner of Gillie's. "We had employees who always wore sunglasses, or they'd wear short skirts with big holes in their stockings. I remember when the health department wanted the girls to wear hairnets and shave their armpits, a few just put hairnets over their armpits."

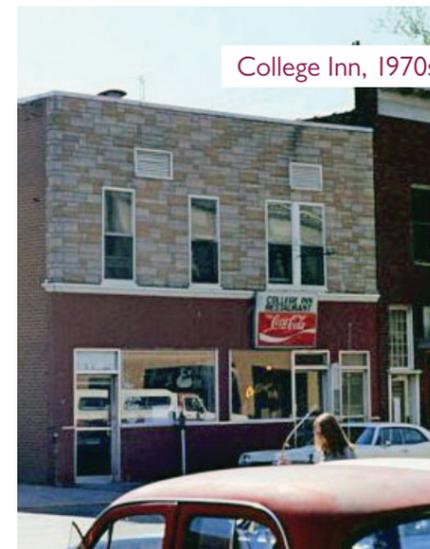
Across the street was **Dave's Hot Dogs**, which sold food, but also attracted students with a 24-square-foot television that was especially popular during Monday Night Football.

The social setting of restaurants led to a variety of connections, from best friends bonding to husbands meeting wives.



"My husband and I met at the **Hokie House** my first day as a freshman in September 1974. My friend Sue introduced us. We started seeing each other on campus and in the dining hall, and a couple of months later started dating. ... My daughter went to Tech, too, and met her husband at **Top of the Stairs**."

— Cindy Meredith Hawkins (clothing, textiles, and related arts '79), who married Gregory Hawkins (marketing management '78)



College Inn, 1970s



Hardee's, 1970s



Mr. Fooz



Lendy's



Ah, the famous watering hole, the **Golden Gobbler**. It was fantastic. On Friday evening, they offered beer-boiled shrimp—they'd boil shrimp in beer rather than water. It was a popular menu item, along with their homemade fries."

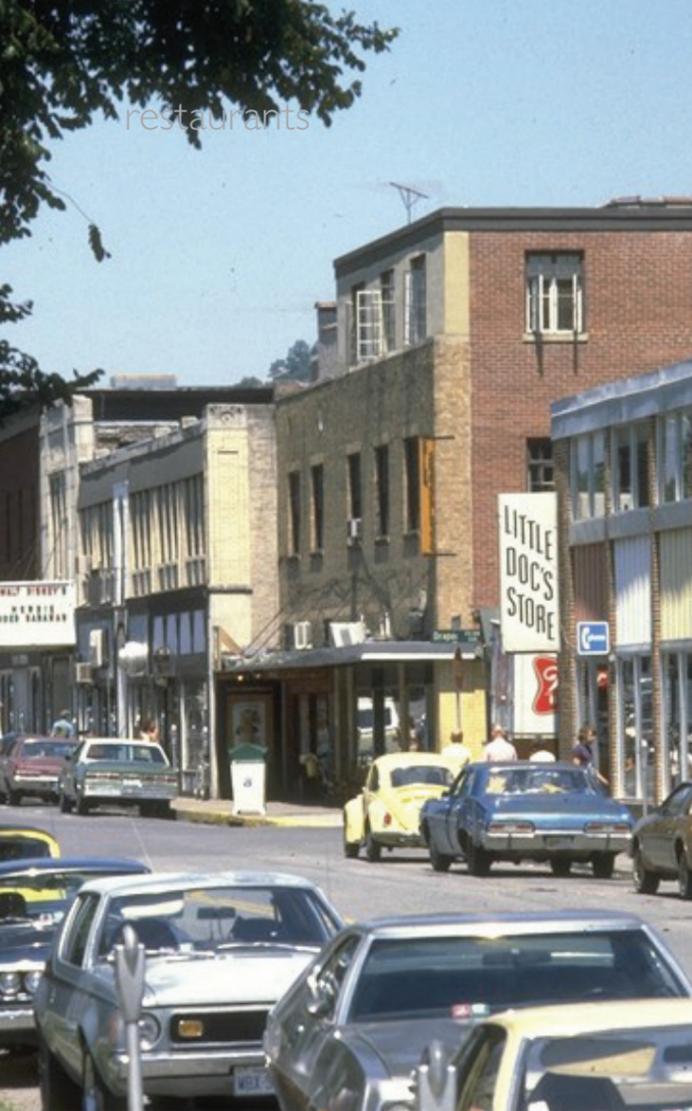
— Ray Smoot '69, '71

Mr. Fooz was named after popular foosball games. There were a bunch in the back, as well as pinball machines and pool tables. Its main claim to fame was submarine sandwiches. Every Wednesday night, there was a happy hour, and, man, was that place jam-packed."

— Dennis Smith (psychology '75), who waxes nostalgic at the "That 70's Blacksburg" blog

Oh, **Mr. Fooz**. I went there every single Wednesday night my senior year, even if I had a test the next day. There was After Sundown, when disco was big. It was where the Tech bookstore is now. Some pretty big bands used to come to 117 South Main: the Nighthawks, Bob Margolin. One time I remember they were having an Elvin Bishop concert over at the coliseum. He came in with his manager at 117 afterward and wanted to play. They didn't believe him at first, but he finally played."

— Nancyne Willoughby (art '78)



College Avenue in the 1980s (left) and today (below)



LOGAN WALLACE

1970s–1990s

Mike's Grill opened in 1976, in the space that was formerly home to the Sports Center.

“Every year, at commencement, they always mention, when you come back as an alumni, there are two things you must always do: Come to Mike's Grill and go to Carol Lee Donuts. Every year, someone texts me in the middle of graduation and says, ‘Hey, you just got mentioned,’” said Nick Varelos, the second-generation owner of Mike's Grill.

The '70s saw emergence of ethnic food options. **Charlie's Chinese Restaurant** opened on Main Street before it eventually moved to Christiansburg. By 1975, the **Lotus Garden Restaurant** was open in the University Mall in a spot now home to **Hunan King**. **The China Inn**, on Draper Road across from the library, opened around the same time, recently breaking its own record for deliveries in a day with more than 300 one Saturday.

Chris Kappas opened **Souvlaki** in the early 1980s, at a time when customers weren't sure what a pita wrap or shish kabob was, he said. Mike Buchanan (sociology '89) went to work there, and one day when his future wife walked by the window, a mutual friend introduced them. Buchanan bought the restaurant in 2001.

Mexican food took a little longer to establish a presence. In 1992, **El Rodeo** opened near the intersection of Main Street and Price's Fork Road, where it remains today.

“The original El Rodeo is on Williamson Road in Roanoke,” said Edgar Arellano, whose family owns El Rodeo. “My father, Ramon Arellano, and his brother, Rigoberto Arellano, came from California and opened up a location in Blacksburg. We knew the college was going to be growing. That's always a good thing to invest in, and that's what brought him here. In 2000, everything took off.”

Dessert:

For a spring 2011 story about on-campus dining—from its not-so-delicious roots to its modern-day awards—visit www.vtmag.vt.edu.



Top of the Stairs, circa 1980s



Carol Lee Donuts in the 1970s



There have been two times when Tech has won a football game that they've torn down the goalposts. Both times, don't ask me how, the goalposts ended up at **Top of the Stairs.**

— Al Brauns, co-founder of Top of the Stairs

Middle Earth:

You felt like you were in a cavern, way down, enveloped by a dark, dank cave shaft. ... The walls were sprayed with a liquid foam that was allowed to dry into lumps and blobs that resembled stalactites and stalagmites. The final effect was an eerie, puffy, cozy atmosphere. Top it off with soft, multicolored floodlights and Crosby, Stills, Nash, and Young oozing through the built-in speakers, and you had it all.”

— John Cooper (psychology '72), taken from a description in his novel, “From Woodstock to Eternity”

That Steak Place:

The waiter would bring around a cart of raw meat. He'd put his knife on one position, and you could have it adjusted. And if you could prove it was your birthday, you got a free meal.”

— Dennis Smith '75

For decades, students who lived on campus were required to buy 21 meals a week. That changed in the mid-'80s, when Tech altered its meal plans to offer more flexibility, creating a substantially larger market for local restaurants.

“[The policy change] happened in concert with what was going on in the food industry and broader society: the growth of all these fast-food places and the broadening of restaurants to offer things other than hamburgers,” said Ray Smoot, the long-time and recently retired Tech administrator.

The '80s also saw the rise in popularity of **Top of the Stairs**. Opened in 1978 by Al Brauns and Allen Riffle, the restaurant and bar known as T.O.T.S. is a prime destination.

By the '90s, other restaurateurs noted the upward trajectory of Tech's student population and opened new businesses, often struggling their first few years.

“We opened **Sharkey's** in 1992, and it was horrible. It took four years to make it work. Everyone went to Arnold's, but the bathrooms [there] were horrible. So people would cross the street and come in [Sharkey's] just for the bathrooms. ... Finally, in 1997, we started selling ‘super mugs,’ which were beers in a huge mug at an inexpensive price. We did it all summer, and we started picking up more business,” said Stephanie Rogol, co-owner of Sharkey's Wing and Rib Joint.

The good news for alumni is that returning to old haunts—whether the Cellar, Gillie's, Mike's Grill, China Inn, Top of the Stairs, or anywhere else—can bring back memories, even if the building's name and ownership have changed.

“If you encounter a smell you experienced in a previous part of your life, it calls to mind a really specific memory, as if you were in that previous part of your life again,” said Diana, the assistant professor in the psychology department. “If you walk into a restaurant you went to when you were in college and the place is the same and the smells are the same ... those sensory inputs all serve as cues for retrieving the event. It's mental time travel. It can feel like you're experiencing it.” □



PHOTOS COURTESY OF BRENT BURGER

Classroom Experience

How an unexpected lesson instilled integrity in a business-minded alumnus

by MASON ADAMS

Brent Burger's first management job came early in life. He was still in grade school when he started a lawn-mowing business with his older brother and his fraternal twin.

"Brent put the business together," said his uncle, Jim Burger, the recently retired Garland Gray Professor of Forestry in Virginia Tech's forest resources and environmental conservation department. "He did the sales and accounting and marketing. The other two boys pushed the lawnmowers."

Eventually, Brent Burger (English '92) found his way to Blacksburg, where he received his degree, along with a lengthy education in running a business as an employee, manager, and eventual owner of a TCBY frozen yogurt shop.

Today, Burger owns six True Value hardware stores in Maine and serves as chairman of the True Value Board of Directors.

"Brent is an entrepreneur," said Jonathan Bruce (building construction '93), one of Burger's friends. "He's one of those guys who can figure things out, whether it's remodeling a bathroom or running a

business. He's a person with a great business mind."

Burger's friends and family said he was practically born an entrepreneur. After the lawn-mowing business with his brothers in Indiana, Burger used an empty building on the old family farm to start raising rabbits. He was 14 years old.

"At its height, I had 40 or so rabbits producing offspring," Burger said. "I would raise them and slaughter them and sell them. As I earned money in my business, it would help me grow that business. I moved from having to go water those

rabbits every single day to being able to put in an automated watering system that went past each cage."

By the time he graduated from high school, his talents and smarts were recognized by his uncle. Jim Burger talked Brent into moving from Indiana to Blacksburg, and the student spent the next few years living in a finished room in his uncle and aunt's house.

Despite the support, Brent Burger still nearly blew his opportunity at Tech.



Values: Brent Burger's business acumen, evident well before his undergraduate days in Blacksburg, has positioned him atop a national chain of hardware stores.



Brent Burger '92

"I cheated on a test, and I got caught, and I got kicked out of school" for a trimester, he said. Burger landed in an academic misconduct hearing for copying someone else's theme paper for a final exam. "That was 25 or 30 years ago. It is crystal clear for me. I can remember sitting in that room—that little room in a trial of my peers. I don't remember a whole lot of stuff from 25 or 30 years ago, but that—I just remember the impact it had on my life.

"That was a turning point for me in my life," Burger said. "Certainly, at the time, it was not comfortable, but when I look back on that, the impact that consequence had on me at the time shaped me. It pointed me in an entirely different direction. I knew I was not a cheater or thief. I made a bad decision because I was up against the wall. There was a consequence for it. That's when I learned this huge lesson about integrity."

Burger learned a series of other lessons in Blacksburg—he cites the discipline involved in obtaining a degree—but many of them came through his job, which turned into a career.

"I got a job probably six months [after starting classes] at the TCBY yogurt store, really to pay for school," Burger said. "I loved the work."

The experience invigorated Burger, who quickly moved up to manager and then pursued the opportunity to buy the franchise. He walked into First National Bank to apply for a loan, but he had little to offer as collateral. "A typewriter and a bicycle were the two biggest assets I had," he said.

Jim Burger said that the late Grover Jones, the bank executive who spoke to Brent about the loan, was at first unimpressed.

"Here's this kid, 19 or 20 years old," said Jim Burger. "[Jones] thought he was totally crazy and discounted him. But Brent can present himself and charm you very quickly, so you at least hear him out. Then Brent laid out an extensive business plan in front of him. Grover was really impressed by that."

The increased responsibility at TCBY elevated Burger's confidence. "That's really when I lit up," he said. "The ordering process, the marketing component, hiring staff, payroll—all of those elements required to run a business—it came natural to me. It was a terrific start."

That enthusiasm bled over into his personal life and classes at Virginia Tech, too.

Carol Burger—Jim's wife and Brent's aunt—said one of Brent's girlfriends described how he had arrived to pick her up on a date, then noticed that her refrigerator door was mounted on the wrong side respective to the wall.

"He said, 'Instead of going out tonight, let's just switch that door around.' So that's what they did," Carol said.

Burger was learning so much by owning and running his own store that he eventually

lost interest in his business classes. Instead, he enrolled in English and literature electives that he found more interesting.

He also helped his cousin, John Burger (communications '90), in John's successful campaign for Homecoming king. Brent and John visited classes wearing paper Burger King crowns and handing out TCBY coupons.

Eventually, Brent Burger secured his degree and bought more TCBY stores, including three in Boca Raton, Florida. TCBY ultimately bought back the stores and hired Burger as a consultant. He was promoted to vice president of TCBY's West Coast operations and moved to San Francisco, where he was then recruited by Starbucks.

By 1999, Burger's father-in-law, who owned a hardware store and lumber yard in Maine, decided to slow down. Burger wanted to apply the lessons he'd learned in the corporate world to a family-owned business, so he moved to Maine in 1999.

In 2007, Burger was selected as a member of the True Value Board of Directors. During the next five years, he worked on a variety of committees, and in 2012, he was elected to a six-year term as chairman of the board.

Today, Burger looks back at his time in Blacksburg as formative. He found a supportive business community that allowed him, even as a young man, to participate and succeed. Tech played a pivotal role, too, teaching lessons about discipline, persistence, and integrity.

"I credit that time in my life and being at Virginia Tech for shifting my perspective," Burger said. □



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Book Notes



FACULTY/STAFF

nonfiction

Eric Austin (M.P.A. '93, Ph.D. public administration and public affairs '03) and Sandra Parkes Pershing, "Organization Theory and Governance for the 21st Century," textbook, CQ Press.

Mark Bartkoski (mining engineering '81, M.S. '83), "Building Integrity: A Story of Business, Life, and the Journey," motivational, business, self-published.

Susan Coleman (elementary education '83, M.A. curriculum and instruction '90, Ed.D. '94), "Design and Development of Training Games: Practical Guidelines from a Multidisciplinary Perspective," education, Cambridge University Press.

Melinda Emerson (communication '94), "Become Your Own Boss in 12 Months," business, Adams Media.

Alireza Haghghat, professor, Department of Mechanical Engineering, "Monte Carlo Methods for Particle Transport," textbook, CRC Press.

Sonia Hirt, associate professor and associate dean of academic affairs, College of Architecture and Urban Studies, "Zoned In the U.S.A.: The Origins and Implications of American Land-Use Regulation," regulatory policy, Cornell Paperbacks.

Hsien-Lu Huang (M.S. electrical engineering '68, Ph.D. '70) and Hui-Lien Peng Huang, "The Favor of Our God of Trinity," religion, Xlibris.

Newton Lee (computer science and application '83, M.S. '84), "Digital Da Vinci: Computers in the Arts and Sciences" and "Facebook Nation: Total Information Awareness," computers, Springer.

Laine Mears (mechanical engineering '93), et al., "Electrically Assisted Forming," textbook, Springer.

Mary Anne Richey (clothing, textiles, and related arts '69, M.A. educational supervision '70) and James

Forgan, "Raising Girls With ADHD: Secrets for Parenting Healthy, Happy Daughters," parenting, Prufrock Press.

Joel Shelton (history, political science '05, Ph.D. planning, governance, and globalization '12), "Conditionality and the Ambitions of Governance: Social Transformation in Southeastern Europe," politics, Palgrave Macmillan.

William Bryan Steverson Jr. (metallurgical engineering '64), "Baseball: A Special Gift from God," baseball, religion, WestBow Press.

Mac Stone (international policy, Spanish, environmental affairs '06), "Everglades: America's Wetland," photography, University Press of Florida.

Cecilia "Celie" Brown Thomas (elementary education '75), "You Can't Hide a Dead Fish," education, 1st World Publishing.

Budd Titlow (M.S. fisheries and wildlife '73), "Bird Brains: Inside the Strange Minds of Our Fine Feathered Friends," wildlife, Lyons Press.

John Wiley Jr., (communication '80), editor, "The Scarlet Letters: The Making of the Film 'Gone with the Wind,'" film, Rowman & Littlefield.

fiction

Ellen Butler (political science '94, M.P.A. '95), "Poplar Place," novel, Turquoise Morning Press; and "Heart of Design" and "Planning For Love," romance, Crimson Romance.

Douglas Ewan Cameron (Ph.D. mathematics '70), "The Body Beneath the Bridge," mystery, W&B Publishers.

Sam Draper (mechanical engineering '97), "The 4th Option," thriller, self-published.

Aaron Denius Garcia (theater '01), "Gene. Sys.," science fiction, self-published.

Robert Moore (chemical engineering '60), "The Foundation," religious, family, Tate Publishing.

Kevin Patrick (political science '74), "Threatened Waters," political thriller, River Walk Publishers.

Richard Perkins (architecture '77), "Bones of the Emperor: A Theology of Humanity in the Universe," science fiction, Trafford Publishing.

Carl Pfeiffer, professor, Department of Biomedical Sciences and Pathobiology, "The Aggressor Gene," marine science thriller, AuthorHouse.

featured author

Michael S. Smith (sociology '01) is a decorated Iraq War combat veteran who served in the U.S. Marine Corps. Requests from his fellow platoon mates to tell their stories and depict the intimate nature of a Marine's personal experiences while fighting inspired him to write "Redcon I: Memoirs of a Fallujah Marine," a self-published memoir. Smith currently works in law enforcement in Northern Virginia.

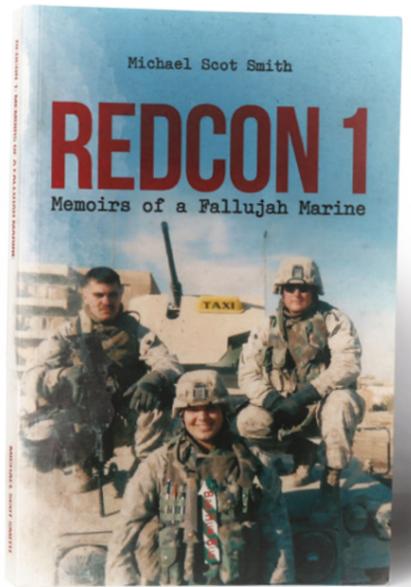
"There, there, baby, it's OK... Daddy will make it all better! Does it hurt? I'll fix you all up and never let the bad men hurt you again. Shhhhh... shhhhhh... shhhhhhhhhhhhh," coos the Goat to our truck, taping the small patch of gauze over the bullet hole left by the armor piercing round in the truck's frontal armor plating.

"He's insane!" Jeans says to me as we watch Daniel "fix" his baby. I just laugh and shake my head, continuing to resituate my personal gear and top off my magazines.

I look around and notice that my guys are nasty and dirty from a few days of combat. I notice that they are also no longer shiny. But the

presence of all the dirt on us is not the lack of "shiny" that I'm seeing.

I'm talking about how my boys aren't all shiny and new anymore. My guys seem a bit older. The lines on their faces seem just a bit deeper and dirtier. They somehow seem to have a bit of that edge and swagger that I was noticing about the Scouts that we relieved a few months ago. They are developing their combat muscles and losing the "greenness" of an untested unit. We are slowly becoming more and more of what's known as "salty."



Submission guidelines are available online at www.vtmag.vt.edu/bookreview.html. To submit a book, mail it to Book Notes, Virginia Tech Magazine, 205A Media Building, Virginia Tech, 101 Draper Rd. NW, Blacksburg, VA 24061. You can also email your name, the name of the publisher, the genre, and a brief description of the book to booknotes@vt.edu. We must receive the book within one year of its publication date. Photos by Shelby Lum.

Alumni Association Virginia Tech for Life Merchandise



Men's and Women's Polos



Men's and Women's Caps



Visors



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alumni association

Advancing a new model

There is a term increasingly used on campuses across the country that refers to advancing an institution through its alumni engagement activities, communications programs, and fundraising. This term, advancement, is descriptive of a model in which these important areas collaborate more closely to help an institution grow its image, human capital, and needed resources.

I am pleased that Virginia Tech, under President Timothy D. Sands' leadership, is adopting such an advancement model. The president has asked me to serve as the first advancement leader on an interim basis to begin to shape the new model at Virginia Tech. I am honored to do so in my 40th year in this profession. My early work in the Alumni Association led to a University Development role with corporations and later with Alumni Association annual giving. During the past 20 years, I have been privileged to lead alumni relations programs.

Our Alumni Association, University Development, and University Relations programs already work closely together toward many shared goals. We could not be more perfectly poised for this new model. Betsy Flanagan and Larry Hincker provide outstanding leadership in University Development and University Relations, respectively. We are also fortunate to have a single university foundation, the Virginia Tech Foundation, that is capably staffed to receive, manage, and distribute resources to strengthen the university. Furthermore, all athletic fundraising efforts are led by staff and volunteers of the Hokie Club. Because all of the essential components of a comprehensive advancement program are firmly in place, the advancement model allows us to align the elements even more closely in order to generate expanded awareness of, engagement with, and support for the university.

The familiar names—the Alumni Association, University Development, and University Relations—will continue to be essential arms of the advancement model. Our work remains focused on helping alumni and friends stay involved with the university, sharing with them the university's direction and aspirations, and engaging them in order to attain those aspirations. We are fortunate to have a supportive base of alumni and friends who believe in Virginia Tech and understand the important part they play in advancing our future.



Tom Tillar '69

Interim Senior Vice President for Advancement



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contributors

Tom Tillar '69	Interim Senior Vice President for Advancement
Dave Hunt	Communications Director
Shirley Fleet	Class Notes Editor

Columbarium

A few niches remain available in the first section of the Virginia Tech columbarium located near the Holtzman Alumni Center, and reservations are now being accepted for the second section. For more information, call Jay Whitlow at 540-231-6285 or visit www.alumni.vt.edu/columbarium.



MICHAEL KIERNAN

Sigma Kappa's Jenna Zschaebitz and Alpha Epsilon Pi's Nate Weiner are crowned the 2014 homecoming queen and king, while (opposite page) Professor Jack Lesko and family celebrate in the president's box at the 2014 football game versus Western Michigan University.



2015 homecomings

CHELSEY ALLDER

2015 homecomings

Multiple homecomings are hosted on home game days throughout the football season. The Alumni Association hosts homecomings for the academic colleges, along with other special homecomings for graduate degree alumni and Corps of Cadets alumni. Open to all alumni of the host groups regardless of graduation year, homecomings feature a game-day gathering, plentiful pregame tailgate food, and the opportunity to reunite with friends, faculty, and staff. Lodging and game tickets (if needed) are available to registrants on a first-come, first-served basis, so it's best to register early.

Sept. 7 – Ohio State
Virginia-Maryland College of Veterinary Medicine
College of Agriculture and Life Sciences

Sept. 12 – Furman
Corps of Cadets
College of Natural Resources and Environment

Oct. 3 – Pittsburgh
College of Architecture and Urban Studies
Pamplin College of Business
Marching Virginians alumni

Oct. 9 – North Carolina State (Friday night game)
Graduate School alumni

Oct. 24 – Duke (traditional parade)
Holtzman Alumni Center open house and tailgate
College of Engineering
Highly-Tighty alumni

Nov. 21 – North Carolina
College of Liberal Arts and Human Sciences
College of Science

2015 class reunions

Reunions are held at five-year intervals for classes celebrating their 25th through 50th anniversaries. Each reunion includes an optional campus tour, an afternoon presentation by current students, a reunion banquet, and plenty of time for reminiscing and dancing. Game days feature a morning brunch and pregame festivities. Special seating is arranged for reunion registrants at Lane Stadium games. Guest rooms are set aside at The Inn at Virginia Tech for reservation by reunion registrants.

Sept. 7 – Ohio State
Class of 1990 – 25th Reunion

Oct. 3 – Pittsburgh
Class of 1975 – 40th Reunion

Oct. 9 – North Carolina State (Friday night game)
Class of 1980 – 35th Reunion
Class of 1970 – 45th Reunion

Oct. 24 – Duke (traditional parade)
Class of 1965 – 50th Reunion
Young Alumni Reunion

Nov. 21 – North Carolina
Class of 1985 – 30th Reunion

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



JIM STROUP

2015 reunions

Chapters exemplify *Ut Prosim* throughout the year

Year-round, Hokies [throughout the country] connect with their local alumni chapters to serve their communities in the spirit of the Virginia Tech motto, *Ut Prosim* (That I May Serve).

For Hokies involved in local community service, April is the busiest month of the year. The Big Event, is Tech's largest community service project and the second largest of its kind in the nation. The Big Event began as a way for students to thank the people of Blacksburg, Montgomery County, and the New River Valley, and the event has now spread nationwide, with 18 alumni chapters from Seattle to Tampa Bay, Florida, participating in 2014.

In addition to 3.2-mile walks/runs, tree plantings, and other events held to recognize the Day of Remembrance, many chapters host a wide range of community service events in April as part of the Hokie

Nation Serves alumni initiative. More than 1,000 participants in 20 chapters attended events that included Virginia Tech for Life blood drives, HokieBird Fights Hunger food drives, Adopt-a-Road cleanups, Relay for Life events, and Habitat for Humanity building projects.

While alumni service is most obvious in April, chapters have demonstrated that the "Hokie Nation Serves" throughout the year. During the summer months, a growing number of chapters have started to participate in Adopt-a-Road programs. When the weather turns cold, the spirit of *Ut Prosim* complements the generous spirit of the holiday season as chapters carry out service projects.

Your chapter:
To get involved with your local alumni chapter and its programs, visit www.alumni.vt.edu/chapters.

Chapters have partnered with Toys for Tots, the Salvation Army's Red Kettle Campaign, and Habitat for Humanity to serve their communities. To support the HokieBird Fights Hunger campaign, chapters have participated in canned-food drives to benefit food banks and community kitchens. Chapters also have placed wreaths at Arlington National Cemetery, sorted clothes for stores that serve needy families, provided toys, gifts, and food to "adopted" families around the holidays, and more.

At the root of these efforts is an ongoing commitment by alumni to live out the *Ut Prosim*, regardless of where they venture after graduating from Virginia Tech.

Clockwise from upper left: National Capital Region Hokies participate in the Wreaths Across American program at the Arlington National Cemetery; Palmetto (South Carolina) chapter members serve concessions to raise money for their chapter scholarship fund; Chattanooga (Tennessee) Hokies release balloons at their VirginiaTech for Life blood drive service event; and Jacksonville (Florida) Hokies serve their community at a Habitat for Humanity job site.



COURTESY PHOTOS

Nominate fellow Hokies for boards, service awards

The Alumni Association is seeking nominations for the following awards and board appointments. Find more information, deadlines, and directions on how to submit your nominations at www.alumni.vt.edu/nominations.

The **Alumni Humanitarian Award** is presented to an alumnus or alumna who has performed exceptional service outside his or her profession or career.

The **Multicultural Alumni Advisory Board** represents the interests of multicultural alumni constituencies and works closely with the Alumni Association and the Office for Diversity and Inclusion to assist with diversity initiatives and to strengthen alumni programs, admissions programs, and general networking among constituents.

The **Outstanding Recent Alumni Awards** recognize professional achievement and leadership by alumni who have graduated since 2005.

The **Alumni Association Board of Directors** is seeking nominations for members to serve three-year terms beginning in 2016. Nominations are due by June 1.

The **Outstanding Alumni Entrepreneur Award** was created to recognize Virginia Tech alumni who have distinguished themselves through the successful creation of or significant involvement in the formation of a successful enterprise.

Pamplin College of Business alumni events

Hokies on Wall Street
New York City – April 29

National Capitol Region Reception
Ritz-Carlton, Tysons Corner, McLean, Virginia – May 7

Networking for Virginia Tech Alumnae
New York City – Oct. 20

For additional information, email pcobevents@vt.edu or call 540-231-9551.

Hokie Day 2015

Approximately 160 Virginia Tech alumni, students and staff attended the 17th annual Hokie Day at the General Assembly in Richmond, Virginia, on Feb. 5. The day began with breakfast and presentations by Virginia Tech President Timothy D. Sands, Interim Senior Vice President for Advancement Tom Tillar, Vice President for Finance Dwight Shelton, and Director of State Relations Elizabeth Hooper. After a briefing on university priorities for state appropriations, participants headed to the Capitol to visit their legislators—and then posed with Virginia Attorney General Mark Herring on the Capitol steps.



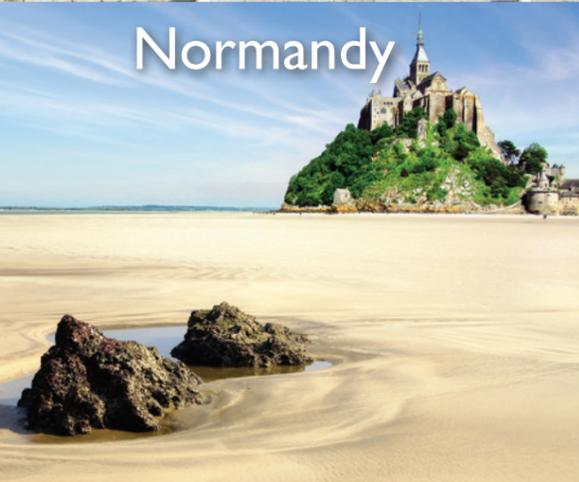
OFFICE OF ATTORNEY GENERAL MARK HERRING

2015 travel tours

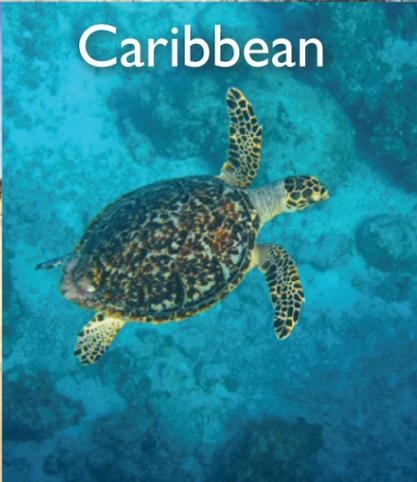
www.alumni.vt.edu/travel



Tuscany



Normandy



Caribbean



Country Music

2015*

Normandy - Alumni Campus Abroad
June 24-July 2 • \$2,895

Coastal Alaska
Hosted by Dwight Shelton, vice president for finance and chief financial officer
July 7-14 • \$2,299 (air included)

Passage of Lewis and Clark Expedition
July 18-26 • \$3,795

Baltic Marvels
Aug. 19-27 • \$2,999 (air included)

Coastal Maine and New Brunswick
AHI
Aug. 26-Sept. 2 • \$3,895

Tuscany - Alumni Campus Abroad
Sept. 16-24 • \$2,795

Jewels of the Aegean and Holy Lands
Sept. 16-27 • \$4,299 (air included)

Hokie Cruise 2015 - A seven-night tail-gating cruise in the Western Caribbean
Hosted by Tom Tillar, interim senior vice president for advancement, and Terry Bolt, director of development for special gifts and the athletic annual fund
Oct. 10-17 • \$1,142.50

Iberian Princes and Palaces
Oct. 23-Nov. 3 • \$3,799 (air included)

Country Music
Oct. 24-Nov. 1 • \$2,699

Mediterranean Artistic Discoveries
Nov. 6-18 • \$3,999 (air included)

2016*

Expedition to Antarctica
Jan. 11-25, 2016

Island Paradise
Jan. 23-Feb. 2, 2016

Jewels of Central America
Jan. 22-31, 2016

Tasman Treasures
Feb. 21-March 9, 2016

Costa Rica and the Panama Canal
Feb. 26-March 4, 2016

Atolls and Islands
March 25-April 4, 2016

ACA Waterways of Holland and Belgium
April-May 2016

Stepping Stones of Western Civilization: Bordeaux, Brittany, Normandy, and Britain
April 23-May 1, 2016

Palms in Paradise
April 24-May 10, 2016

Portraits of the Past
May 9-20, 2016

Essence of the Atlantic
May 14-28, 2016

Spring Serenade Riviera
May 20-June 2, 2016

Virginia Tech Grad Trip
May 21-June 8, 2016

Celtic Lands
May 23-June 1, 2016

In the Wake of the Vikings
May 24-June 1, 2016

Southern Culture and Civil War (TSP)
June 4-13, 2016

Regal Routes of Northern Europe
June 13-24, 2016

Mediterranean Crossroads
June 25-July 3, 2016

Baltic and Scandinavian Treasures
July 11-22, 2016

Alaska Passages
July 25-Aug. 4, 2016

Town and Country: Oxford (Downton Abbey)
July/August 2016

The Magnificent Great Lakes
Aug. 22-31, 2016

Great Pacific Northwest (TSP)
Sept. 17-25, 2016

Grecian Delight
Oct. 1-9, 2016

Captivating Mediterranean
Oct. 8-16, 2016

Symphony on the Blue Danube
Oct. 2-11, 2016

Empires and Artistry
Oct. 14-22, 2016

Country and Blues
Oct. 23-31, 2016

Cuban Discovery
November/December 2016

Adriatic Gems
Nov. 1-9, 2016

Holiday Markets
November/December 2016

Additional trips, dates TBD

Ecuador

Italy - Sorrento

Spain - Barcelona and San Sebastian
International Explorations, Art of Living,
in Provence Aix-En-Provence

London Immersion

Croatia's Adriatic Coast

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. Free air is based from select North American gateway cities. The Alumni Association encourages all alumni to consider purchasing travel insurance.

Say hello to the future.



With a double-major in psychology and human development and a minor in leadership and social change, Emily Neer understands that achieving the extraordinary can begin with something as simple as a change of perspective. That's why she has embraced experiences that challenge her views and encourage a broader understanding of the world around her.

With the financial assistance of scholarships, Emily, a junior from New Philadelphia, Ohio, is able to fully engage in opportunities on and off campus. Participating in projects in the Dominican Republic, Kenya, and here at home, she is living and learning through service, inspiring others in Blacksburg and beyond.

To learn more about how philanthropy provides opportunities for students like Emily, or to make your own gift to Virginia Tech, visit www.givingto.vt.edu.

To read more about how Emily is making a difference, visit <http://bit.ly/vtimpact-neer>.

Office of University Development (0336) | Virginia Tech
902 Prices Fork Road | Blacksburg, VA 24061
540-231-2801 or 800-533-1144 | www.givingto.vt.edu



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

'35  **William Freeman** (CE), Pompano, Fla., 10/17/14.

'38  **M.C. "Cal" Conner** (AGEC), Villa Hills, Ky., 9/29/14.
Andrew "Mike" Harvey Jr. (CERE), Roanoke, Va., 11/17/14.

Winfred P. Minter (BAD, BAD '39), Davidson, N.C., 11/5/14.
Charles W. Reeves (IE), Laurel, Md., 11/6/14.

'40  **L. Lee Givens** (CHE), Chattanooga, Tenn., 10/3/14.
Robert T. Priddy (ACCT), Wichita Falls, Texas, 1/6/15.

Arthur B. Sneed (EE), Roanoke, Va., 8/3/14.

'41  **Frank W. Billmyer Jr.** (CHEM '43, CHEM '43), Portsmouth, Va., 11/6/14.

'42  **Thomas J. Fitzgerald** (BIOL), South Hill, Va., 10/30/14.
J.H. "Jeff" Jaffe (ARE '43), Palm Beach Gardens, Fla., 7/27/14.

'43  **Hunt W. Archer** (CERE '47), Johnson City, Tenn., 12/7/13.
Joseph B. Graham Sr. (ANSC), Moneta, Va., 12/11/14.
Guy E. McSheffrey (ME), Lutz, Fla., 1/7/14.

W.S. "Bill" Patterson (ASE), Vestavia, Ala., 11/26/14.

'44  **Charles M. Price** (EE), Summerland Key, Fla., 8/29/14.

'45  **Melvin S. Barr** (BAD), Virginia Beach, Va., 11/12/14.
William N. Cardella (ME), Burlington, N.C., 10/22/14.

Richard H. Cardwell III (ARE), Richmond, Va., 10/3/14.
Emily Wilson Clark (ME), Pasadena, Md., 10/29/14.

Louise Gregory Davidson (GHEC), Rogersville, Tenn., 10/12/14.

A. Claude Griffin Jr. (CE '47), Hot Springs Village, Ark., 10/30/14.
Jack W. Mayo (IE '48), Kingsport, Tenn., 11/24/11.

Maurice B. Rowe III (AGED '48), Richmond, Va., 11/26/14.
Willard M. Smith Jr. (ME), Roanoke, Va., 9/26/14.

Joseph "Toke" J. Tokarz (BIOL), Henrico, Va., 11/4/14.
John P. Waller (BAD), Winchester, Va., 7/6/14.

'46  **H. Clarence Davis** (EE), Woodlawn, Va., 9/26/14.
ED. "Dave" Finch Jr. (BAD), Portland, Ore., 10/15/14.
W.B. "Bill" Hatcher (EDBS), Radford, Va., 9/13/14.
Aubrey S. Lee (DASC), Colonial Beach, Va., 4/3/14.

William A. Potts Sr. (ME '50), Lutherville, Md., 10/25/14.
John W. Rosenberger (ME '49), New Market, Va., 8/27/14.
Robert D. Winquist (CHE), Florham Park, N.J., 10/9/14.

'47  **Frank R. Nissel** (CHEM), Blue Bell, Pa., 8/28/14.
Arthur R. Rifkin (EE), Boulder, Colo., 10/7/14.

Richard H. Smith Jr. (BIOL '49), Bridgewater, Va., 11/6/14.

'48  **Marian Jane Spearman Bengel** (ARE '49), Duluth, Ga., 12/3/14.
John Grado Jr. (IEOR '51), Marco Island, Fla., 11/27/14.

George C. Lowry (IE '49), Glen Allen, Va., 9/25/14.
Henry E. Peterson (ME '49), Beaumont, Texas, 9/15/14.

'49  **Thomas J. Alton** (ME), Owego, N.Y., 10/5/14.
Byrd H. Barksdale Jr. (ARE), Pensacola, Fla., 11/26/14.

Melvin C. Hamner (ME), Harrison, Ohio, 8/27/14.
Virgil D. Hylton (CHE), Aurora, Colo., 8/8/14.

Garland H. Sharp Jr. (BION '50), Richmond, Va., 11/3/14.
James Max Watson (CERE, CERE), Farmville, Va., 10/31/14.

'50  **Peter L. Akers Jr.** (MINE), Florence, Ala., 9/29/14.
Roderick B. Beale (CE), Novelty, Ohio, 10/31/14.

Peter H. Broome (CE '49), Stuart, Fla., 12/2/14.
R.L. "Wussy" Gilmore Jr. (GBUS), Culpeper, Va., 11/18/14.

'51  **Robert P. Adams** (PHYS), Lynchburg, Va., 10/5/14.
George W. Bryant Jr. (BAD), Richmond, Va., 8/15/14.

Joseph H. Hall (ME), Jupiter, Fla., 10/28/14.
John "Jack" A. Lundberg (ME), Tucson, Ariz., 11/25/14.

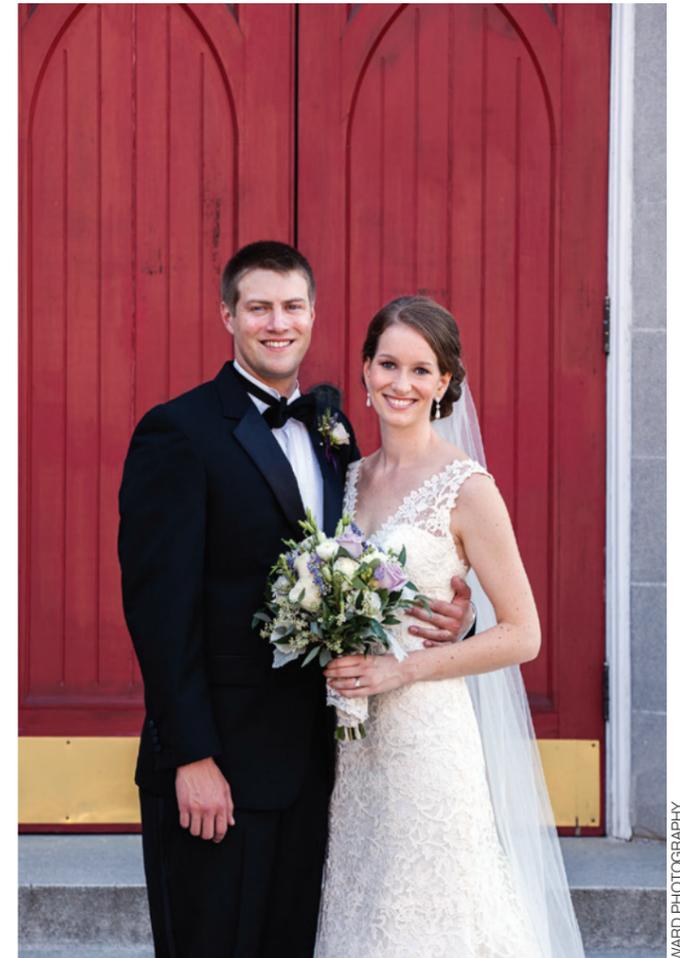
Ross Orr Jr. (biological sciences '49), a retired vascular surgeon and All-American football player on the first Virginia Tech team to go to a bowl, died Jan. 30. In 1959, Orr opened his practice in general and vascular surgery in Bethlehem, Pennsylvania, and practiced there until 1998. He started the St. Luke's Hospital vascular lab, enjoyed flying his own plane, and co-authored eight books with his wife, Sandra.

Arlene Reynolds Grimaud (CHEM '51), Lancaster, Pa., 11/13/14.
Frank Thompson Grove (DASC), Richmond, Va., 11/18/14.

Edward J. Haycox III (EE '51), Norfolk, Va., 10/2/14.
John "Jake" K. Jolliff (IE), Raleigh, N.C., 12/1/14.

C. Ray Lancaster (IAED), Staunton, Va., 11/17/14.
Joseph V. Piland (ME '49), Hendersonville, N.C., 8/30/14.

William T. Reames (CE), Glade Spring, Va., 9/8/14.
John A. Zunes (EE), Chapel Hill, N.C., 10/25/14.



Andrew Charles Rogers '11 and Hannah Mallalieu Rogers '11, Luray, Va., 8/16/14.

'51  **Robert P. Adams** (PHYS), Lynchburg, Va., 10/5/14.
George W. Bryant Jr. (BAD), Richmond, Va., 8/15/14.
Joseph H. Hall (ME), Jupiter, Fla., 10/28/14.
John "Jack" A. Lundberg (ME), Tucson, Ariz., 11/25/14.

'50  **Peter L. Akers Jr.** (MINE), Florence, Ala., 9/29/14.
Roderick B. Beale (CE), Novelty, Ohio, 10/31/14.
Peter H. Broome (CE '49), Stuart, Fla., 12/2/14.
R.L. "Wussy" Gilmore Jr. (GBUS), Culpeper, Va., 11/18/14.

WARD PHOTOGRAPHY



KEVIN MARABILE

Lavar James '05 and Witney Thaxton '08, Nokesville, Va., a son, Miles, 4/7/14.



DIMPLES AND CURLS PHOTOGRAPHY

Jennifer Lynn Cottle '04 and Patrick Charles Sliter '00, York, S.C., a daughter, Kaitlyn Ruby, 9/8/14.



REBECCA GILLIARD

Eric Preisendanz '12 and Brandy Wyatt '12, Ashburn, Va., 9/13/14.



CHELSEA ANDERSON PHOTOGRAPHY

Josh Morris '11, '13 and Farah-Dale Siodmok '12, Richmond, Va., 7/19/14.

James I. Miller Jr. (BAD), West Jefferson, N.C., 9/12/14.
James H. Strickler (AGE), Fairfax, Va., 5/2/14.
Frederick A. Terrell Jr. (EE), Lynchburg, Va., 10/15/14.
John A. Umlauf Jr. (ME), Henrico, Va., 9/1/14.

'52 **A. Wray Britton** (ME), Wilmington, Del., 12/8/14.
Douglas V. Hundley (GSC '53), Perry, Maine, 10/15/14.
C. Ki Luczak (BED '53), Roanoke, Va., 11/1/14.
Lester E. Siems Jr. (ARCH '53), East Islip, N.Y., 11/16/14.
William T. Sutton (MINE '53), Fayetteville, Ga., 9/5/14.
Sara Carter Vogel (BAD), Wynnewood, Pa., 9/18/14.

'53 **Thomas H. Bruguiera** (GEOL), Roseland, Va., 9/30/14.
Kristian J. Larsen Sr. (ARCH, ARCH '58), Springfield, Va., 11/20/14.
James H. Petty (IE), Midlothian, Va., 10/16/14.

'54 **Marvin "Shep" S. Crow** (BAD), Lorton, Va., 10/10/14.

James B. Johnson (ARCH), Clearwater, Fla., 9/11/14.
Perry R. Mason Jr. (EE), Topping, Va., 8/14/14.
James E. Powell (BAD), Danville, Va., 10/18/14.
Aubrey E. Sadler II (ARE, ARE '62), Virginia Beach, Va., 8/21/14.

'55 **Kennerly H. Digges** (ME), Charlottesville, Va., for her essential groundwork on BMW's intelligent emergency call system, was awarded the BMW Vehicle Safety Lifetime Achievement Award.

'56 **William A. Johnson** (EE '57), Silver Spring, Md., graduated magna cum laude with a bachelor's degree in history from the University of Maryland University College.

Hugh G. Cooper (CE, CE), Bristol, Va., 11/15/14.
Paul A. Cox Sr. (DASC), Ruther Glen, Va., 11/17/14.
Norman V. Sprung (MINE), York, Pa., 9/24/14.

'57 **Alfred "Ted" E. Garratt** (STAT '58), Tucson, Ariz., 11/19/14.
Andrew J. Gordon (BAD, BAD), Roanoke, Va., 10/29/14.
Charles J. Hair (BAD), Allentown, Pa., 11/29/14.

Joe W. Himes (BAD), Roanoke, Va., 10/25/14.
Richard D. Katstra (CHEM, CHEM '58), Warwick, N.Y., 10/11/14.

Dan A. Rosen (CE), Vienna, Va., 8/9/14.
Jean G. Swartz (BIOL), Salem, Va., 11/22/14.

'58 **E. Harry Creasey Jr.** (BAD), Hot Springs Village, Ark., 8/27/14.
Frank H. Grace Jr. (PAD), New Bern, N.C., 12/1/14.
Charles "Jash" J. Randall (ME '61), Roanoke, Va., 10/12/14.

Richard K. Robinson (BAD), League City, Texas, 9/24/14.
John L. Self Jr. (EE), Lakeland, Fla., 8/30/14.
Donald D. Slauson Jr. (ME '60), Woodbridge, Va., 10/15/14.
Robert L. Spruell (BAD), New Port Richey, Fla., 11/5/13.

'59 **Cody O. Horne** (IE), Ocala, Fla., 9/15/14.
Louis A. Voigt Jr. (BED), Gastonia, N.C., 8/17/14.

'60 **William R. Bass** (EE), Cumberland, Md., 11/23/14.
David S. Scott (AGEC '61), Culpeper, Va., 12/7/14.
George D. Witt (BAD), Richmond, Va., 9/20/14.

'61 **Forrest "Mac" Kincaid** (DE '64), Portsmouth, Va., retired after 32-plus years as a property manager supervisor with VIP Management Inc.

Dennis A. Clark (BIOL '62), Vienna, Va., 9/13/14.

Dudley "Buzz" J. Emick Jr. (BAD), Daleville, Va., 10/25/14.
Carter W. Kellas (BAD), Winchester, Va., 8/18/14.
John A. Watkins (DE '62), Fredericksburg, Va., 12/6/14.
James M. Williams (BAD), West Columbia, S.C., 11/11/14.

'62 **James "Tom" Roberts Jr.** (BAD), Savannah, Ga., received the 2014 Roy Bordes Council Award of Excellence from the American Society for Industrial Security International.

Frank G. Goldenberg (BC '63), Lynchburg, Va., 10/28/14.
John W. Gouldin III (IAED), Annandale, Va., 11/15/14.
Gary L. Poff (ME), Savannah, Ga., 9/1/14.

'63 **Frank G. Creger Jr.** (EE '64), Glen Allen, Va., 10/17/14.
Benjamin A. Logerquist (ME), Baileys Harbor, Wis., 11/29/14.
Robert C. Martin (ME), Carrollton, Va., 8/29/14.
Thomas W. Witter (ANSC), Winter Springs, Fla., 9/2/14.

'64 **William E. Thomas** (DASC, EDAC '81), Culpeper, Va., was reappointed to the Germanna Community College board.

R. David Dickerson (ME '65), Richmond, Va., 11/7/14.
Dieter J. Knollman (EE), Arvada, Colo., 8/30/14.

'65 **J. David Hurley** (ME), West Point, Va., 8/30/14.
William J. Minchin (PAD), Stafford, Va., 10/22/14.

'66 **Paul B. Daunheimer** (ARCH '67), Cocoa Beach, Fla., 1/19/14.
John E. Davis III (CE '71), Leesburg, Va., 9/23/14.

John C. Fedors (EE '67), Bena, Va., 11/22/14.
Jon W. Yowell (AGED), Rixeyville, Va., 8/20/14.

'68 **Charles E. Anderson Jr.** (PHYS), San Antonio, Texas, was

- career accomplishments
- weddings
- births and adoptions
- deceased

named a Ballistics Science Fellow by the International Ballistics Society.
Cecil G. Doyle (ME, BAD '93), Roanoke, Va., was appointed to Virginia Tech's Pamplin College of Business Advisory Council.

Thomas J. Grizzard Jr. (CE, SAEN '72, CE '77), Manassas, Va., retired from Virginia Tech after 40 years as a faculty member in civil and environmental engineering, and was named professor emeritus by the Virginia Tech Board of Visitors.
Victor E. Sower (CHEM), Huntsville, Texas, authored a book, "Statistical Process Control for Managers."
R.L. "Bob" Swenson (PHYS, SYSE '75), Vienna, Va., celebrated 45 years at MITRE Corp. and was elected president of the Ships Watch resort community's board of directors.

Charles O. Brown Jr. (EE '69), Silver Spring, Md., 10/6/14.
R. Stewart Gibb (PSCI), Bethany Beach, Del., 4/11/14.
Davidson "Dan" J. Gill (POUL, POUL '73), Urbanna, Va., 10/9/14.
Larry A. Miller (ME), Christiansburg, Va., 10/2/14.
Richard "Scotty" Spence (BC '69), Destin, Fla., 10/29/14.
William S. Wilkins (ENGL '69, IE '69), Morristown, Tenn., 9/12/14.

'69 **Robert P. Britts** (CHE '70), Lexington, S.C., retired from the Southeast Rural Community Assistance Program and is pursuing a master's degree in public administration at the University of South Carolina.
Joe W. Meredith (ASE, ISE '97), Blacksburg, Va., received the Association of University Research Parks' 2014 Career Achievement Award.

Charles W. Steger (ARCH '70, ARCH '71, ESEN '78), Blacksburg, Va., was conferred the title of president emeritus by the Virginia Tech Board of Visitors.
David M. Swisher (BIOL), Fredericksburg, Va., retired after 39 years in his private dentistry practice.

Miriam Kaufman Trimble (GHEC), Arlington, Va., 10/8/14.

'71 **Jeremiah Gaines Jr.** (SPAN), Portsmouth, Va., was named coach of the year and teacher of the year by the Chesapeake (Virginia) Public Schools system.

Charles F. Blount Jr. (IE), Christiansburg, Va., 10/9/14.
Karen Murphy McClevey (ENGL), Falls Church, Va., 9/3/14.

'72 **Thomas K. Morris** (PSCI '77), Charleston, W.Va., 11/12/14.
Robert L. Turner (ARCH), Blacksburg, Va., 10/12/14.

'73 **Robbin E. Peach** (HORT), Mattapoisett, Mass., is the Massachusetts Port Authority's program manager for resiliency.
F. Budd Titlow (FIW), Tallahassee, Fla., authored his third book, "Bird Brains: Inside the Strange Minds of Our Fine Feathered Friends."

Barbara F. Mann (HNF '74), Richmond, Va., 11/24/14.

'74 **A. Jack Davis** (ARCH, ARCH '76), Blacksburg, Va., was ranked among the 30 most-admired educators by DesignIntelligence.
Kay L. Jackson (CTRA), Arlington, Va., has an exhibition of her latest artwork, "Malthusian Paintings, Twenty-five Years and Counting," appearing at Addison/Ripley Fine Art in Washington, D.C., through May 2.
Robert C. Lam (GBUS '75, BAD '77), Oakton, Va., was appointed to Virginia Tech's Pamplin College of Business Advisory Council.

Susan Fogel Baber (MHFD), Charlottesville, Va., 10/13/14.
Mark J. Manno (DASC), Newark, Del., 9/13/14.
Debra L. Tubbs (ENGL), Radford, Va., 7/18/14.

'75 **Jack P. Boggess** (EDBS), Winchester, Va., 11/16/14.
John E. Booth (HIST), Fiskdale, Mass., 8/2/14.
Richard H. Bowling (MGT), Chesterfield, Va., 11/4/14.
David L. Garrett (PSYC), Farmville, Va., 7/29/14.
Johannes "John" I. Olsen (EDSU), Williamsville, N.Y., 9/1/14.
William "Jack" Singletary (EDVT), Columbia, S.C., 7/25/14.
Charles R. Walker (FW), Roanoke, Va., 10/28/14.

'76 **Marni E. Byrum** (PSCI), Alexandria, Va., was inducted into Virginia Tech's College of Science Hall of Distinction.
Katherine Sears Cennamo (ELED '77), Blacksburg, Va., received the 2014 Scholarship of Teaching and Learning Award from Virginia Tech's College of Liberal Arts and Human Sciences.

Bruce A. Hammett (URPL '79), Tempe, Ariz., 9/9/14.
Richard F. Robinson (SYSE), Cincinnati, Ohio, 11/22/14.

'77 **Bobby J. Ferrell Jr.** (BC), Gladstone, Queensland, Australia, is the site manager for the Gladstone LNG project on Curtis Island, Australia.

Gregory B. Jones (ACCT, BAD '79), Milton, Ga., is director of regulatory compliance services for Porter Keadle Moore.

Thomas W. Klima (ESM, ISE '93), Alexandria, Va., is director of the installations and equipment office at the Naval Sea Systems Command.
Richard K. Perkins (ARCH '78), Richmond, Va., published his first novel, "Bones of the Emperor, a Theology of Humanity in the Universe."



CAREY WINGERT

Adnan Barqawi '09

An ambassadorship of an educational kind

Back when he was excelling at Virginia Tech as the first foreign national to command one of the nation's senior military corps, Adnan Barqawi (business management '09), driven by a desire to serve others, decided he would eventually be a U.S. ambassador.

Six years later, as he takes over as the Nashville region executive director of Teach For America (TFA) in Tennessee, Barqawi is still guided by his alma mater's motto, but life outside the university setting has led to a different path than the one he had envisioned.

"I've committed my life to improving and to enhancing access to quality public education for all students," said Barqawi, who cited his time at Tech and in the Corps of Cadets as "instrumental in defining my role in the world."

Born and raised in Kuwait, Barqawi grew up without access to public education because his grandfather was from Palestine, so he came to the U.S. and Tech to fulfill his educational aspirations. During his senior year at Tech, he was struck by how many American children have no access to a quality education in the country where he sought refuge for that very opportunity. So he applied and was accepted into TFA, teaching fifth-grade math and science in rural Arkansas while earning a master's in education.

After a brief stint as special assistant to the Virginia secretary of education, Barqawi tried the private sector as global product manager at Asurion, a technology company based in Nashville. Still drawn to public education, he founded a partnership between Asurion and TFA that provides thousands of employees the opportunity to volunteer in high-need classrooms around the city. Buoyed by the success of that effort, Asurion's philanthropic arm, Compassion Forward, contributed more than \$1 million to help TFA expand in Nashville.

While completing his M.B.A. from Vanderbilt's Owen Graduate School of Management, Barqawi returned to TFA, where he will partner with the community to improve education for all Nashville children and lead a staff of 25 to recruit and train hundreds of teachers.

Shortly before he graduated from Virginia Tech, Barqawi took the big step of becoming a U.S. citizen. He's come a long way from days in Kuwait, where he felt rootless. "I take a lot of pride in being a man with a country such as the United States," Barqawi said.

William Buz P. Caldwell Jr. (ACCT), Houston, Texas, 11/24/14.
Sidney G. Oaksmith (FW '78), Annapolis, Md., 10/9/14.
Virginia H. Reid (EDAC), Charlottesville, Va., 9/12/14.

78 **Patricia Moore Davis** (MHFD), Blacksburg, Va., 10/19/14.
Thomas H. Kilgore (EDCI), Richlands, Va., 11/10/14.
Catherine Reith Murphy (EDPE, EDPE '80), Mechanicsburg, Pa., 12/1/14.
Hope Jordan Ridge (EDCI), Hillsville, Va., 9/30/14.
Cynthia Brodie Stadler (MHFD), Midlothian, Va., 12/6/14.

79 **Allen M. Earman** (EE), Santa Clara, Calif., was named a Fellow of the International Society for Optics and Photonics.

80 **Patricia Martin Dove** (AGRN, GEOL '84), Blacksburg, Va., was inducted into the Virginia Tech College of Science Hall of Distinction.

Milton D. Dowdy (EDCI), Vinton, Va., 10/13/14.
Robin M. Lewis (ANSC), Saltville, Va., 8/25/14.
Donna T. Paleen (EDSP), Columbia, S.C., 9/15/14.
Timothy A. Walters (AOE), Huntsville, Ala., 11/29/14.

81 **Barrie E. Skoda Foster** (FIN), Atoka, Tenn., is director of the Tipton County Museum Veterans Memorial and Nature Center.
N. Peter Reutt (AOE), Merritt Island, Fla., was part of the recovery team for NASA's recent spacecraft, Orion.

George "Bill" W. Armfield III (EDVT), Lenoir, N.C., 9/21/14.
Gracie Reburn Mabry (EDCI), Buchanan, Va., 9/27/14.

82 **Kevin T. Crofton** (AOE), Fincastle, Va., established a faculty chair in the Virginia Tech College of Engineering's Department of Aerospace and Ocean Engineering.

Robert "Rusty" N. Davis Jr. (MATE), Richmond, Va., 8/31/14.
James B. Horner (FCD), Richmond, Va., 11/18/14.
James E. Mooney II (FW), Palmyra, Va., 10/27/14.

83 **William H. Ayers** (BIOL), Glen Carbon, Ill., was elected to the Mississippi Lime Co. Board of Directors.

Paul W. Carroll (MGT), Hayes, Va., 12/11/14.
David W. Richard (HIST), Nashville, Tenn., 12/2/14.

84 **Susan Piedmont Piedmont-Palladino** (ARCH), Washington, D.C., was awarded the 2014 Wieb Award for Architecture in the Public Interest by the Washington Chapter of the American Institute of Architects.

Kathryn A. Simmons (VM), Washington, D.C., is a leading voice for animal care and health regulatory issues in her role as chief veterinarian for the National Cattlemen's Beef Association.

Paula Hickman Lindsay (ANSC), Mechanicsville, Va., 9/16/14.

85 **John P. Grotzinger** (GEOL), San Marino, Calif., was inducted into the Virginia Tech College of Science Hall of Distinction.

Darwin K. Carr (EE), Kingshill, Virgin Islands, 10/13/14.
Stephen E. Price (PHYS), Palm Harbor, Fla., 10/29/14.

86 **Michael P. Brady** (MATE, MATE '90), Oak Ridge, Tenn., was selected to receive the Minerals, Metals, and Materials Society's 2015 Brimacombe Medalist Award.

87 **Barry D. Fulcher** (FW), Bassett, Va., is vice president of Lester Development Corp.
Timothy E. Long (CHEM), Blacksburg, Va., was named director of Virginia Tech's Macromolecules and Interfaces Institute.

John F. Dietrich (EDSP, EDSP), Cocoa, Fla., 9/3/14.

88 **Richard J. Goddard** (CHE), Fogelsville, Pa., a daughter, 7/3/14.

89 **Waldemar E. Heinzelmann** (STAT), Shawsville, Va., 11/4/14.

90 **Joseph M. DeSimone** (CHEM), Chapel Hill, N.C., was inducted into the Virginia Tech College of Science Hall of Distinction.

Richard J. Edinger Jr. (CE), Lawrenceville, Ga., is principal with the architectural and engineering firm of Clark Patterson Lee.

Robert K. Griffin (BAD, HNF '94), Hadley, Mass., is the deputy under secretary for the Department of Homeland Security's Science and Technology Directorate.

Kurt A. Zuch (MSCI), Atlanta, Ga., is a principal/partner with Ernst & Young, is an entrepreneur who has sold three

of his firms and was recently appointed to the Pamplin College of Business Advisory Council.

91 **Jennifer Poff Cooper** (MKTG), Christiansburg, Va., is a writer for the New River Valley Magazine and Social Scene Magazine.

Christopher J. Ireland (PSCI), a U.S. Air Force colonel, was the Hokie Hero for the football game versus Boston College.

James A. Kannan (MGT), Franklin, Va., is vice president of business transformation at Coastal Federal Credit Union.

Gerard F. Lawson (FCD), Richmond, Va., received the 2014 Scholarship of Teaching and Learning Award from Virginia Tech's College of Liberal Arts and Human Sciences.

Sarah E. Cole (EE), Reston, Va., a daughter, 10/22/14.

Paul R. Parker (EDCI), Virginia Beach, Va., 9/16/14.

92 **David C. Bertolacci** (GEOL), Riverside, Calif., authored a book, "Grand Slam Theory of the Omniverse."

Melissa Byrne Nelson (FIN), Richmond, Va., received the 2015 Outstanding Women Award for health and science from the YWCA (World Young Women's Christian Association) of Richmond.

Geoffrey T. Stewart (PSCI), Pinehurst, N.C., was the Hokie Hero for the football game versus Duke University.

Frank B. Layman III (PSCI), Farmington, Del., 10/3/14.

Dave Zier (FIN), Potomac, Md., 10/15/14.

93 **Timothy D. Ludwig** (PSYC), Blowing Rock, N.C., was appointed to serve a three-year term on the Cambridge Center for Behavioral Studies' board of directors.

94 **Steven A. Buchner** (HIST), Radford, Va., was nominated for the 2014 statewide Governor's Award program in the customer service category.

Melinda F. Emerson (COMM), Drexel Hill, Pa., known as the "Small-BizLady," partnered with Sam's Club to visit seven store locations across the country and help educate aspiring entrepreneurs on how to better manage their businesses.

Todd W. Rowley (BAD), Fairfax, Va., was appointed to the Pamplin College of Business Advisory Council at Virginia Tech.

Judy I. McClanahan (EDCI), Grundy, Va., 10/21/14.

-  career accomplishments
-  weddings
-  births and adoptions
-  deceased

Jeffrey E. Bempong (BION), Amarillo, Texas, 9/30/14.
Janis M. Brown (MESC), Arlington, Texas, 9/22/14.

Turner M. Taylor (ISE), Craddockville, Va., 9/14/14.

95 **Andrew W. Levan** (EE), Moorestown, N.J., is the controls department manager of Advent Design Corp.'s automation division.

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

Kenneth P. Kramp (ME, ME '98), Virginia Beach, Va., is development manager at InMotion Hosting.

Joseph B. Warren II (PSCI), Puyallup, Wash., was the Hokie Hero for the football game versus the University of Pittsburgh.

Shannon M. Jarvis (ANSC, VM '98, DVM '02) and Eric N. Jarvis, Rural Hall, N.C., 10/11/14.

Jennifer L. Burt Kibler (ISE, ISE '99) and **Kemper S. Kibler Jr.** (EE '01), Poquoson, Va., a son, 7/1/14.

William I. Morton (AT), Christiansburg, Va., 10/6/14.
Emanuel L. Shaw III (FIN), Vienna, Va., 12/20/14.

97 **James L. Moore III** (EDSP, EDCO '00), Alexandria, Va., the Education and Human Ecology Distinguished Professor of Urban Education at Ohio State University, was recently profiled in the Journal of Blacks in Higher Education.

Peggy Phillips Quesenberry (VIED, EDVT '01, EDCT '07, AHRM '14), Christiansburg, Va., has earned four degrees during 27 years of employment at Virginia Tech.

Kurt J. Rathgeb (HIST '98), Linden, N.C., was the Hokie Hero for the football game versus the University of Miami.

Scott H. Renneckar (FW, FPR '04), Blacksburg, Va., is an associate professor in wood science at the University of British Columbia.

Pamela B. Teaster (PAPA), Blacksburg, Va., joined Virginia Tech's Center for Gerontology as a professor in the College of Liberal Arts and Human Sciences' Department of Human Development.

98 **Kenneth J. Anand** (COMM), Chappaqua, N.Y., is a partner at Ropers Majeski Kohn & Bentley P.C.

Rohsaan C. Settle (EDSP), Christiansburg, Va., is director for student conduct at Virginia Tech.

Megan G. Barnes (EDPE, EDPE '99), Lawrenceville, Ga., a son, 4/28/14.

Tracy Skidmore Woodhead (IS, FR), Woodbridge, Va., a son, 6/10/14.

James W. Lanham III (ELPS), Sanford, Fla., 11/12/14.

99 **Aron Boggs-Johnson** (HTM), Wilmington, N.C., a daughter, 10/24/14.

David A. Stanley (ME) and **Summer H. Huff Stanley** (COMM '00), Reston, Va., a son, 3/24/14.

100 **William D. Stafford** (BIOL), Narrows, Va., 10/24/14.

101 **William G. Abplanalp** (MSCI, BAD '05), Blacksburg, Va., was named audit manager in Virginia Tech's Department of Internal Audit.

Caroline M. Leeth (VM), Blacksburg, Va., is an assistant professor of animal and poultry sciences at Virginia Tech.

Erika W. Greer (MATH) and **Thomas R. Greer III** (FIN, HIST, BAD '13), Ashburn, Va., a daughter, 7/16/14.

Orlander B. Harrison Jr. (SOC), Washington, D.C., a daughter, 9/4/14.

Gregg R. Doule (CHE), Atlanta, Ga., 9/17/14.

102 **Jason M. Hamel** (NRR), Germantown, Md., a son, 5/8/14.
Lauren Duvall Heisey (MKTG), Arlington, Va., a son, 9/30/14.

Laura Torgersen McGarry (MKTG) and **Matthew R. McGarry** (BIT '03), Herndon, Va., a daughter, 10/16/14.

Kristin Parrish Sroka (CHE) and **David P. Sroka** (BIT '03), Durham, N.C., a daughter, 11/6/14.
Erik D. Unger (MGT), Jamestown, N.C., a son, 9/28/14.

George H. Hazelrigg (LAR), Saint Louis, Mo., 9/15/14.

Mark E. Lee (COMM), Washington, D.C., 11/29/14.

103 **Scott W. Hotop** (ACIS) and **Laura A. Wainwright**, Raleigh, N.C., 11/22/14.

John A. Majeski (HIST) and **Meagan Schroeder Majeski** (HNFE), Red Bank, N.J., a son, 8/1/14.

Michelle Spiers Schmeissing (HNFE), Greenville, S.C., a daughter, 1/10/14.

104 **Boyd L. Chapman** (ARCH), Washington, D.C., is an associate and construction administrator with WDG Architecture.

Kristy M. Daniels (DASC, ANSD '08), Blacksburg, Va., is an assistant professor in the Virginia Tech College of Agriculture and Life Sciences' Department of Dairy Science.

Clifford F. Haynes (ELPS), Gainesville, Fla., earned a Ph.D. in higher education administration from the University of Florida and is an academic initiatives specialist for the university's housing and residence education office.

Blair Barbieri Holloway (COMM) and **Brian A. Holloway**, Norfolk, Va., 5/30/14.

David W. Litchfield (CHE, CHE '07, CHE '08) and **Lindsey Saufley**

Litchfield (HNFE '04), Midlothian, Va., a son, 5/7/14.

Christine R. Shearer Moser (ITDS), Annandale, Va., a daughter, 5/7/14.

105 **Calandra A. Lake** (FORS), Williamsburg, Va., is director of sustainability at the College of William & Mary.

Muthulakshmi Narasimhan (ART), Vienna, Va., authored a children's book, "The Little Parrot and the Angel's Tears."

Steven T. Jones (HORT) and **Ann Marie Rice Jones** (ENGL '09, EDCI '10), Poquoson, Va., 6/21/14.

Lindsey Hurst Childress (PSCI, AHRM '06), Bristow, Va., a daughter, 11/1/14.

Lavar James (COMM), Nokesville, Va., a son, 4/7/14.

Kathryn Hall McGee (PSCI), Hurlburt Field, Fla., a daughter, 5/21/14.

Alicia M. Williams (ME, ME '07, ME '08) and **Amanda Strickhouser Williams** (CE '06, ENE '07, MATH '08), Dublin, Calif., a son, 10/1/14.



2015 DRILLFIELD SERIES

The Rich Heritage of Southwest Virginia, June 5-6

Enjoy lectures and tours of regional homes in this historical look at the pioneers who settled the area in the 18th and 19 centuries, a development that led to the founding of Virginia Agricultural and Mechanical College (today's Virginia Tech).

Alumni and Legacy Weekend, July 10-11

The "Day in the Life of College Admissions" program assists 2016 and 2017 high school graduates and their parents in navigating the application process.

Other 2015 events

3rd Annual Hokie Classic Golf Tournament, Pete Dye River Course, June 15

Join fellow alumni, guests, and friends for a captain's choice golf tournament, enjoyable for golfers of all skill levels, at the award-winning Pete Dye River Course.

2nd Annual Summer Beer Festival at Virginia Tech, June 27

Experience a unique beer festival with live entertainment, guest appearances, and more than 40 local, regional, and national breweries pouring their best brews.

Accommodations at The Inn at Virginia Tech are available for all events. For more information, visit www.alumni.vt.edu/drillfieldseries.



Women's Weekend, July 17-18

Connect and celebrate with women who love Virginia Tech. Join us for an enjoyable weekend of fun, relaxation, networking, and enlightenment with alumnae, friends, families, and fans, as well as faculty, staff, and students.



Daniel Mross '00 and his wife, Eliza (Humphrey) Mross '00, posed on the red carpet at the Tribeca Film Festival, where Daniel Mross spoke about his documentary on bitcoin.



ELIZA MROSS

NICK MROSS

Alum puts stock in bitcoin

When Daniel Mross (computer science '00) read about bitcoin, the cybercurrency experiment, he realized the movement could radically change the way the world's financial system functions. Mross, a software developer, narrated "The Rise and Rise of Bitcoin," a documentary directed by his brother, Nicholas Mross.

What is bitcoin and why is it a breakthrough?

Bitcoin is an online payment system invented by Satoshi Nakamoto in 2009 that is the first decentralized digital currency, functioning somewhat like digital gold or a bearer bond. Similar proposals had been suggested before, but bitcoin is the first to succeed in solving the fundamental problems of digital currency without the need to trust third parties.

How can bitcoins be used?

Sending money person-to-person internationally; purchasing goods and services from a growing number of merchants that accept bitcoin, such as NewEgg, Dell, Microsoft; high-risk investment; and wealth preservation during a financial crisis.

What about the negatives of bitcoins?

The wildly fluctuating value of bitcoins has evened out recently. If the device (e.g., computer) containing the electronic key to your bitcoins is hacked and the key stolen, or if the owner loses the key, there is no reimbursement. Regulators have discussed ways to insure losses, but doing so without destroying the independence of the system is difficult. Bad actors will attempt to game any system, but that happens regularly with our current financial system.

Will bitcoins become widely accepted?

Some form of digital currency—though maybe not bitcoins—could eventually replace or become the backbone of the current monetary systems. The average person might not ever buy their morning coffee with bitcoin, but the system he or she use for the purchase might rely on bitcoin or something similar. This is more likely to happen once paying for products by smartphones or electronic devices becomes more common.



On the money:

To learn more about bitcoin, go to bitcoin.org or reddit.com/r/bitcoin. Companies that operate bitcoin "wallets" can be found at coinbase.com and circle.com.

Lindsay B. Kosyjana (HD, EDCI '07), Alexandria, Va., 8/30/14.

'06 Christopher M. Blumberg (MKTG), New York, N.Y., is a sales associate at Vandelay Industries.

Valisa E. Hedrick (HNFE, HNFE '11, GSCR '11), Christiansburg, Va., is an assistant professor of human nutrition, foods, and exercise for Virginia Tech.

Stacy C. Whipple Daley (FIN) and **J. Charles Daley** (FIN '09), Fairfax, Va., 4/26/14.

Adam H. Haywood (MINE) and **Kathryn Mann Haywood** (PSYC '07), Colonial Heights, Va., a daughter, 3/16/14.

'07 Ebony J. Stephenson (PUA), Newport News, Va., was named a rising star in Professional Remodeler's "40 Under 40" class.

Tyl Glover Thomas (AHRM), Portsmouth, Va., was named to the National Kitchen and Bath Association's 2015 "30 Under 30" list.

Bryan R. Orellana (ESM) and **Brooke S. Clements** (MKTG '09), Fort Wayne, Ind., 10/18/14.

Jennifer Jordan (MKTG, MGT) and **Geoffrey B. Jordan** (EE '08), Midlothian, Va., a daughter, 11/5/14.

'08 Daniel G. Stout (MGT), Senoia, Ga., was named among

Progressive Railroading magazine's "Top 20 Under 40 Rising Stars of the Railroad Industry."

Kyle A. Terry (ME), Sterling, Va., was promoted to the U.S. Department of Veterans Affairs' Office of Construction and Facilities Management, where he works in the cost-estimating service, and he received project management professional credentials from the Project Management Institute.

Witney L. Thaxton (COMM), Nokesville, Va., a son, 4/7/14.

Meredith Woods Wilson (ACIS, ACIS '09) and **Ryan T. Beethoven-Wilson** (ACIS, ACIS '09), Moseley, Va., a daughter, 11/29/14.

'09 Emmanuel A. Frimpong (STAT), Blacksburg, Va., an associate professor of fisheries science in Virginia Tech's College of Natural Resources and Environment, was named a Carnegie African Diaspora Fellow.

Bradley W. Miller (FOR, GSCR), Highlands Ranch, Colo., received the Junior Employee of the Year Award from the U.S. Environmental Protection Agency's Office of Enforcement and Compliance Assurance.

Parker G. Trasborg (FIN) and **Rebekka L. Rucinski**, Arlington, Va., 6/28/14.

Rebecca A. Snider Buck (FPR), Rock, W.Va., a son, 1/1/15.

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obituaries

faculty/staff

James R. Nichols, dean emeritus of Virginia Tech's College of Agriculture and Life Sciences and former head of the college's Department of Dairy Science, died Jan. 6. In the late 1980s, Nichols oversaw the development of Kentland Farm, now an important research facility and home to gardens that grow some of the food for Virginia Tech dining halls. He brought Virginia Cooperative Extension back into the fold of the college and helped create the popular agricultural technology program.

Bruce Wallace, University Distinguished Professor Emeritus of Biological Sciences at Virginia Tech and Professor Emeritus of Genetics at Cornell University, died Jan. 12. Wallace, who joined Tech's biology department in 1981, became a University Distinguished Professor in 1983 and remained active until he retired in 1994. The author of more than 100 research articles and more than 15 books, he was a world-renowned pioneer in the study of the genetics of natural populations.

Professor Emeritus Otis F. Hall died Jan. 23. Hall served as head of Virginia Tech's Department of Forestry and Wood Products from 1974 to 1984 and taught in what is now the College of Natural Resources and Environment until his retirement in 1991. He specialized in forest management and was among the nation's first to apply computer technology to enhance forest inventory and management decisions. He held the Thomas H. Jones Professorship of Forestry from 1984 to 1989 and the Garland Gray Professorship of Forestry from 1989 to 1991.

students

Colin Campbell Moore, of Midlothian, Virginia, a junior majoring in agricultural and applied economics, died Jan. 26.

Cameron Smook, a senior mining and minerals engineering major from Glen Allen, Virginia, is presumed dead after falling off of a cruise ship on March 8.

'10 **Brittany Worrell Boyce** (PSCI), Suffolk, Va., a daughter, 9/16/14.

Gary M. Fetter (BMSC), Middleville, Mich., 10/16/14.

'11 **Joshua P. Morris** (MINE, MINE '13) and **Farah-Dale S. Siodmok** (APSC '12), Richmond, Va., 7/19/14.

Andrew C. Rogers (ME) and **Hannah Mallalieu Rogers** (CHEM), Blacksburg, Va., 8/16/14.

'12 **Samantha M. Harden** (HNFE), Blacksburg, Va., is an assistant professor of human nutrition, foods, and exercise at Virginia Tech.

David J. Jacobs (CS), Roanoke, Va., was the Hokie Hero for the Military Bowl game versus the University of Cincinnati.

Jessica Bohrer Hippert (GEOG) and **Philip M. Hippert** (ACIS '13), Alexandria, Va., 10/25/14.

Eric C. Preisendanz (CE) and **Brandy Wyatt Preisendanz** (CE), Hamilton, Va., 9/13/14.

Kristie J. Pichler (BAD), Falls Church, Va., a son, 9/18/14.

'13 **Christopher M. Cromer** (ARCH), Colonial Heights, Va., is an architect who designed and constructed a 30-vendor farmers' market for Guernsey Tingle Architects.

Andrew P. Kress (SOC), Oak Ridge, N.C., was the Hokie Hero for the football game versus the University of Virginia.

Kimberly Sokolik Clyde (COMM) and **Wayne Clyde**, Roanoke, Va., 7/18/14.

hokie business showcase

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Golden: The Virginia Tech Foundry Institute for Research and Education—aptly named VT-FIRE, for short—is where gold from donated class rings is melted down for use in future class rings. To read more about this “gold standard” of Hokie Spirit, see page 18.



JIM STROUP

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reunions & homecomings

Reunions

Sept. 7 – Ohio State
Class of 1990 – 25th Reunion

Oct. 3 – Pittsburgh
Class of 1975 – 40th Reunion

Oct. 9 – North Carolina State
(Friday night game)
Class of 1980 – 35th Reunion
Class of 1970 – 45th Reunion

Oct. 24 – Duke (traditional parade)
Class of 1965 – 50th Reunion
Young Alumni Reunion

Nov. 21 – North Carolina
Class of 1985 – 30th Reunion

Homecomings

Sept. 7 – Ohio State
Virginia-Maryland College of Veterinary Medicine
College of Agriculture and Life Sciences

Sept. 12 – Furman
Corps of Cadets
College of Natural Resources and Environment

Oct. 3 – Pittsburgh
College of Architecture and Urban Studies
Pamplin College of Business
Marching Virginians alumni

Oct. 9 – North Carolina State (Friday night game)
Graduate School alumni

Oct. 24 – Duke (traditional parade)
Holtzman Alumni Center open house
and tailgate
College of Engineering
Highty-Tighty alumni

Nov. 21 – North Carolina
College of Liberal Arts and Human
Sciences
College of Science

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