Flight Formation
Tech chosen to lead FAA test site for unmanned flight

Mining for Neutrinos
Particle physics in a lab deep underground

Operatic Debut
Alumna's high notes grace the Metropolitan Opera

VIRGINIA TECH magazine

spring 2014

Training Ground

The perfect combination of professional experiences has prepared Timothy D. Sands to be the next president of Virginia Tech

contents

features

departments

On the cover: Timothy D. Sands, soon to be the 16th president of Virginia Tech, stopped by the Holtzman Alumni Center library during his first orientation visit in January. Photo by Jim Stroup.

At right: Limestone isn't the only material being extracted from the working limestone mine (pictured here) underneath Giles County, Va. In a laboratory 1,400 feet down, researchers are studying subatomic particles away from the background radiation that saturates the earth's surface. Learn more in the How Tech Ticks section on page 16. Photo by Jim Stroup.

Melding arts and technology

by CHARLES W. STEGER '69

As I pass the reins of leadership to Tim Sands later this year, reflecting on the many accomplishments we laid out in our 2001 strategic plan will be gratifying.

While there is much to feel good about across the university landscape [Editor's note: See the campus growth outlined in the fall 2013 edition of Virginia Tech Magazine], I am particularly satisfied to see new directions for the arts, arts education, and arts in research. Far from being peripheral, the arts are infused throughout the curriculum and campus experiences. Here, the nexus of art and technology imparts a flavor unique to our institutional character.

The new high-tech Moss Arts Center and its living labs devoted to the Institute for Creativity, Arts, and Technology are but the most visible physical symbols. Beneath the surface, the campus teems with unusual collaborations among the science, engineering, arts, and design (SEAD) disciplines. Indeed, we're 'SEADing' the future here.

Tech made national headlines several years ago when our Linux "Laptop" orchestra, L2Ork, conducted a unique orchestral performance with only computers on the stage. Using computer game controllers, musicians played their digital instruments, integrating technology for teaching and learning in ways not seen before.

Working under the direction of our music educators, K-12 students wrote, built sets for, and performed an entire virtual opera using Minecraft, an online game. The final performance was synched to live singers—real Virginia Tech students—and presented the opera to fascinated audiences not only in the Moss Arts Center's Cube, but also around the world through live streaming that went viral.

Along the musical scale, few technology applications resonate louder than the Tweet-Seat Master Classes, an experiment by the Center for the Arts at Virginia Tech's professional presenting program. At the risk of breaching performance hall etiquette, we actually invited a group of educators and students to engage in spirited 140-character conversations during recent concerts.

The educators reviewed the repertoire beforehand, identifying important aspects of the performance and conducting lessons via Twitter throughout the concerts. "For their part, the students contributed interesting comments and questions of their own," one of the professors observed in her blog, "about different string techniques, how a conductor-less ensemble puts pieces together, the process of rehearsing, and reasons behind various ways of positioning the musicians on stage. Their enthusiasm for the ensemble, the repertoire, and the composers was tangible."

While I suspect—ahem—that we will not tweet each concert, the fact that our educators have found a way to incorporate Twitter into a performance's educational experience highlights the melding of art and technology.

Elsewhere, a professor in the School of Visual Arts is using his expertise in 3-D scanning to gather canine skeletal data. He's working with Tech veterinary professors to understand socialization and physical capabilities in order to identify the best working animals and to detect injuries in dogs.

Another art professor adapted his digital sculpting and computer animation tools to help researchers study the ultrasonic structure and behavior of bats. Yet another art professor is building a kinetic sculpture out of 256 Raspberry Pi mini computers to demonstrate the complexities of parallel computing, and to make otherwise hidden processes visible.

From my own experiences, I know that the arts help us "see" new relationships, whether they be between physical objects, spatial or aural experiences, or abstract ideas. In a world where visual information is increasingly important, such "sense" data help us to sort the world around us.

Frankly, all of this work is much more fun when you see it. Go online at www.vt.edu/arts for a digital look into our world of art and technology.

One never knows how this blend of art and technology will manifest. During the recent Super Bowl advertising extravaganza, Doritos aired the finalists of a national amateur ad competition promoting its product. The winner? A Virginia Tech computer science graduate.

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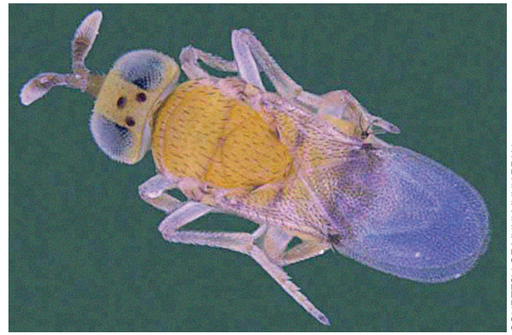
Letter to the editor

Having just finished reading the most recent edition of Virginia Tech Magazine, I am compelled to communicate that this was the best edition I have ever read. Having graduated more than 50 years ago, I have a good perspective by which to make that judgment. Great job!

Seth P. Oginz (distributive education '62), Roanoke, Va.

Corrections

In the winter edition's "on the cover" caption, Christopher Cummins' first name was misspelled. Also, the date of birth for Jonathan A. Clifton's (communication '08) son was incorrect; Jackson was born on Dec. 20, 2012. Virginia Tech Magazine regrets the errors.



COURTESY OF MUNI MUNIAPPAN

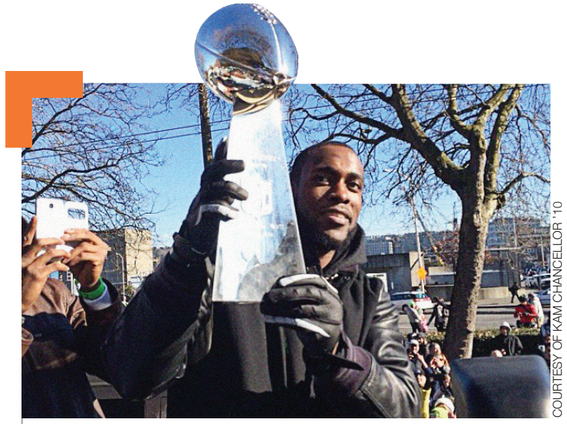
Halting crop destruction in India

Virginia Tech researchers who first discovered a devastating pest in India and devised a natural way to combat it have now assigned an economic value to their counter-attack: up to more than $1 billion over five years. Those figures represent the amount of damage that the papaya mealybug would have wreaked on farmers and consumers in India without scientists' intervention.

The papaya mealybug had ripped through crops, including papaya, eggplant, and tomato, in southern India—causing mold and stunted growth—before Rangaswamy "Muni" Muniappan of Virginia Tech identified the pest and spearheaded the natural control program. The intervention, which cost a relatively modest $200,000 in its first year, prevented a total of between $524 million and $1.34 billion in crop damage over five years, reported Muniappan and other scientists in the February issue of the journal Crop Protection.

Editor's note:

Exactly two years ago, we rolled out a redesigned magazine with a markedly different look on the cover and inside pages. Since that time, we've conducted readership surveys in which you've told us that the publication accurately represents the university's brand. We've also made subtle adjustments throughout the magazine as we familiarized ourselves with the new template. However, in order to keep the design fresh, we decided to revisit the cover—and we're already seeing how its configuration will give us more flexibility as we tell the Hokie Nation's stories. As always, thank you for reading Virginia Tech Magazine!



COURTESY OF KAM CHANCELLOR '10

Seattle Seahawks strong safety Kam Chancellor '10 was one of three Hokies in the Super Bowl.

Super Hokies in the Super Bowl

With 111.5 million viewers, Super Bowl XLVIII became the most-watched telecast in U.S. tele-vision history—but three Hokies experienced the game on the field instead of in front of a TV.

Kam Chancellor (human development '10), the strong safety for a brutal Seattle Seahawks secondary known as the "Legion of Boom," continued to capitalize on a playing style developed at Virginia Tech. "I think a lot of my game became more elite in college," he said. "I think that's pretty much how I got my craft."

On media day before the game, Chancellor, among the tallest, heaviest safeties in the league, said, "All the hard hits show how much I love this game and how you're supposed to play the game. It's just a matter of proper tackling. Then you can get your feet set and explode through anybody."

Explode he did, racking up 10 tackles, two defended passes, and a key interception. In fact, Chancellor played such a crucial role in Seattle's domination of Denver's vaunted offense that many proclaimed the safety should have been named the game's most valuable player.

Joining Chancellor on the Seahawks sidelines was Nick Sorensen (business and marketing management '00), a Hokie quarterback and defensive back who played several seasons in the NFL before going on to become Seattle's assistant special teams coach. Sorensen praised Chancellor's performance and the work ethic he built at Virginia Tech. "He's still a hardworking, Hokie-type guy," Sorensen said of Chancellor. "He brings his lunch pail to work every day, just like he did at Virginia Tech."

The big game was Sorensen's third shot at a championship. He played on the 1999 Virginia Tech team that lost the national title to Florida State in the 2000 Sugar Bowl. Then, in his rookie season in the NFL, he was a member of the St. Louis Rams team that lost to the New England Patriots in Super Bowl XXXVI.

"The joke in my family was the third time is a charm," said Sorensen, who points to Virginia Tech Coach Frank Beamer's emphasis on special teams as a driving force in his pro career. "I owe Coach Beamer a lot of credit because I understood the importance of special teams," said Sorensen, who saw action on several NFL teams. "That's how I made it every year."

On the other sideline, Vinston Painter (apparel, housing, and resource management '13) wore the Denver Broncos' orange and blue. Although he didn't play in the game, the rookie tackle is proud to be on the Bronco's roster.

"It was a fun ride. I'd never been to the national championship in college, so this was that big game," Painter said. "It was a great atmosphere to be in, a great experience. I never would have thought I'd go the Super Bowl my rookie year. This past season has been a dream come true. Just making it to the NFL and getting drafted was satisfaction enough, but going to the Super Bowl just topped off an amazing year. A lot of things you dream about as a kid happened to me this past year."

Research overturns assumption about mercury in the Arctic

For years, scientists have assumed that if mercury is high and increasing in fish in the North American and European Arctic, the same is true of fish elsewhere in the Arctic. But a team of scientists from the U.S., Russia, and Canada has discovered that assumption is wrong in much of the continental Arctic.

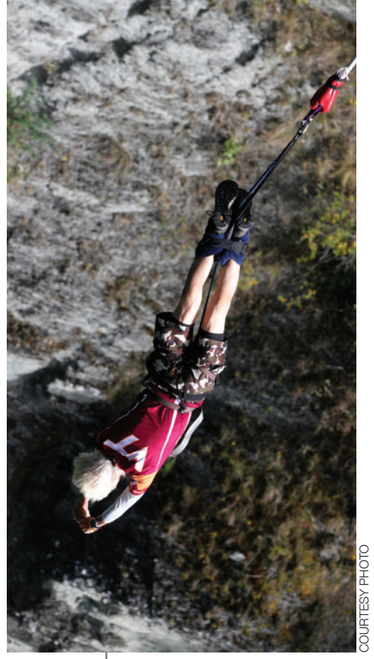
In addition to differences in mercury processes as a result of diverse atmospheric, geological, and biological conditions, "it turns out that the economic decline of the former Soviet Union, which collapsed in 1991, appears to have been good for the Arctic environment in that part of the world," said Leandro Castello, assistant professor of fish and wildlife conservation in the College of Natural Resources and Environment and the first author of a paper about the finding.

Castello's paper was published by Environmental Science & Technology, a journal of the American Chemical Society.

Feng honored with outstanding faculty award

Wu Feng, professor and Elizabeth and James Turner Fellow in the Department of Computer Science in the College of Engineering, was named a 2014 Outstanding Faculty Award winner by the State Council of Higher Education for Virginia. The award, sponsored by the Dominion Foundation, a philanthropic unit of the energy company based in Richmond, Va., is the commonwealth's highest honor for university faculty, acknowledging commitment to excellence in teaching, research, knowledge integration, and public service.

Feng, who also holds professorships with the Virginia Tech Bradley Department of Electrical and Computer Engineering and the Virginia Tech Faculty of Health Sciences, is internationally recognized for his research in energy-efficient parallel computing.



COURTESY PHOTO

Air Hokie

While on a 17-day bicycling tour of New Zealand with his wife, Pat O'Bryan, and 10 international couples, Terry Whitehead (biology '79), of Peoria, Ill., wore his Virginia Tech jersey for a bungee jump off the Kawarau Bridge, some 141 feet above the Kawarau River, in Queenstown.

High-speed Internet for rural areas

Wireless@Virginia Tech is testing new technologies that will make it possible for high-speed Internet to reach more Virginia homes and businesses through a project called the "Spectrum Management Research Testbed—Self-Sustaining Broadband Network."

Traditional broadband access by wireless Internet service providers relies on increasing the number of end users to recover infrastructure costs and realize a profit.

Because rural areas have a lower population density, however, there is little incentive for service providers to build there. As a result, the absence of broadband limits business and education growth for the region.

Over the past several years, the government has made additional radio frequency spectrum available for sharing among government, commercial, and public wireless systems. One of the benefits will be the availability of new spectrum for providers to improve access in rural areas.

Wireless@Virginia Tech has developed technologies that will permit service providers to generate additional revenue by providing mobile spectrum-sharing testbed services to government and industry members. The revenue created through research and development activities will effectively provide more end users for the infrastructure and lower service costs needed to make "last mile" broadband more viable.

DAVE KNACHEL

New men's basketball coach announced

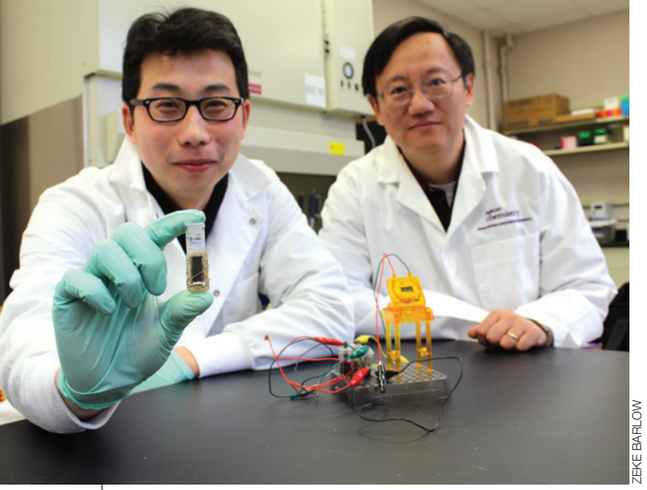
Marquette University's Buzz Williams is the Hokies' new men's basketball coach.

"I am extremely excited about welcoming Buzz Williams to the Hokie Nation," said Virginia Tech Athletic Director Whit Babcock. "Buzz is a proven winner who has earned his way up through the ranks with a strong track record of success. I am confident he will energize our fan base and help make Virginia Tech basketball competitive in the Atlantic Coast Conference. I know he will recruit at the highest level."

"It's never easy to leave a great school like Marquette, where I spent seven wonderful years, six as the head coach," Williams said. "But this is a special situation to work at a place like Virginia Tech. I've heard tremendous things about this terrific institution and this is an outstanding opportunity to build a program. My family and I look forward to becoming a part of this great university and community, and taking on the challenges associated in succeeding in the ACC."

Williams comes to the Hokies following six seasons as the head coach of the Marquette Golden Eagles. At Marquette, Williams had a record of 139-69 and led the team to five NCAA appearances, including a trip to the regional finals in the 2012-13 season, the same season the team won the Big East Conference regular-season title.

His coaching career has included stints as an assistant, associate head, and head coach. He has been at the NCAA D-I level for 19 seasons, and the 2013-14 season was his seventh campaign as a head coach. Williams succeeds James Johnson, who was relieved of his duties on March 17.



ZEKE BARLOW

Sugar power

Imagine refilling a dead battery with sugar to rejuvenate it, setting off a reaction akin to our metabolism. In as soon as three years, according to Y.H. Percival Zhang (above right), associate professor of biological systems engineering in the College of Agriculture and Life Sciences and the College of Engineering, conventional lithium-ion batteries could be replaced by bio-batteries that run on sugar—and are cheaper, refillable, and biodegradable.

"Sugar is a perfect energy storage compound in nature," Zhang said. "So it's only logical that we try to harness this natural power in an environmentally friendly way to produce a battery." While other sugar batteries have been developed, Zhang's has an energy density an order of magnitude higher, allowing it to run longer before needing to be refueled.

The findings, which Zhiguang Zhu (M.S. biological systems engineering '09, Ph.D. '13) (above left) published in the journal Nature Communications, could help keep hundreds of thousands of tons of toxic batteries from ending up in landfills. And our world of battery-powered devices would be that much sweeter.

New assistant editor on board

Mason Adams, a native of Virginia's Alleghany Highlands, started work on Feb. 10 as assistant editor for Virginia Tech Magazine, where he succeeds Denise Young. Adams graduated in 1999 from the University of Rhode Island with a bachelor of science in wildlife biology. He spent 10 years as a Roanoke Times reporter, in addition to working for other newspapers and various wildlife and agricultural groups and agencies around the U.S. He refereed roller derby for four years and now spends his spare time running, writing, and farming with his family in Check, Va.

Virginia Tech Daily

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

Business growth in the New River Valley attracts Virginia Tech alumni

Rural by most standards, Virginia's New River Valley—which comprises the counties of Floyd, Giles, Montgomery, and Pulaski and the city of Radford—has become a hotbed of opportunity. In the past two years, the area has been ranked among the best places in the country for job growth by CNBC, Forbes, 24/7 Wall St., and NewGeography.com.

Since 2010, employment in Montgomery County, Va., including Blacksburg and Christiansburg, has jumped 6 percent, and wages have risen 5.3 percent. The unemployment rate has fallen to 5.6 percent, retail sales are up 11 percent, and the area's population continues to climb at a steady pace.

Not surprisingly, Virginia Tech alumni are greatly impacting economic growth in Montgomery County. Since 2010, at least 12 alumni have founded or led companies that have created nearly 500 new jobs and sparked $13 million in economic growth. Several companies, including Comprehensive Computer Solutions, Harmonia, Modea, and UXB International, have been named to Inc. Magazine's prestigious list of the nation's fastest-growing companies.

Montgomery County has a supportive entrepreneurial culture that is cultivated by the Roanoke-Blacksburg Technology Council and is home to several successful corporate parks, including the Virginia Tech Corporate Research Center and Falling Branch Corporate Park in Christiansburg. Learn more at www.impact.unirel.vt.edu.

The tech-sector

A recent Virginia Tech Magazine series highlighted a range of tech-sector businesses that are thriving in the New River and Roanoke valleys. To read more, visit www.vtmag.vt.edu.

Steger to continue service to Virginia

Charles W. Steger, who will step down as Virginia Tech's president on June 1, will begin service on the Virginia Commission on Higher Education Board Appointments, which evaluates and recommends candidates for university boards of visitors. Steger is one of Gov. Terry McAuliffe's five appointments to the commission.

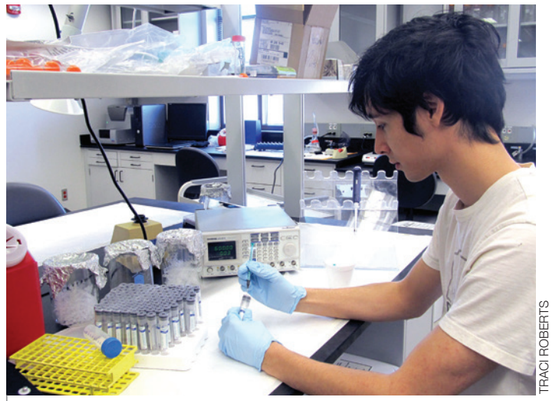
New athletic director named

Virginia native Whit Babcock, athletic director at the University of Cincinnati since 2011, was announced as Virginia Tech's new athletic director at a Jan. 24 press conference. His five-year appointment was effective March 1.

Babcock, who played baseball at James Madison University, previously served as executive associate athletic director at the University of Missouri and in various athletic fundraising and marketing leadership roles at West Virginia University, Auburn University, and James Madison University. "I am anxious to get started in Blacksburg and help build on Virginia Tech's success and upward trajectory," he said at the press conference.

DAVE KNACHEL

Whit Babcock, the new athletic director



TRACI ROBERTS

Gareth Highnam, who recently finished his Ph.D. in genetics, bioinformatics, and computational biology, conducts wet-lab validation of genome sequencing results.

Human genome sequencing benchmark set

Led by biomedical engineer Justin Zook of the National Institute of Standards and Technology, a team of bioinformaticians from Harvard University and the Virginia Bioinformatics Institute at Virginia Tech has presented new methods to integrate data from different sequencing platforms, thus producing a highly reliable set of genotypes that will serve as a benchmark for human genome sequencing.

"Understanding the human genome is an immensely complex task, and we need great methods to guide this research," Zook said. "By establishing reference materials and gold-standard data sets, scientists are one step closer to bringing genome sequencing into clinical practice."

The methods put forth by the researchers make it increasingly possible to use an individual's genetic profile to guide medical decisions to prevent, diagnose, and treat diseases—a priority of the National Institutes of Health. The team's research was published in the Feb. 16 issue of Nature Biotechnology.

Preparing for their senior design project, mechanical engineering students Garret Burks and Ashley Taylor (top left) traveled to Malawi in summer 2013 to learn more about the country, its people, and its hospital resources. The team is designing and building an infant respirator that can be used without electricity. Photos courtesy of Ashley Taylor.

Student team aims to help newborns breathe

Virginia Tech mechanical engineering students Garret Burks, of Harrisonburg, Va.; Jamie Cabaleiro, of Cary, N.C.; Megan Cash, of Felton, Del.; Lisa Gonzalez, of Fairfax, Va.; and Ashley Taylor, of Fort Chiswell, Va., wanted to work together on a senior design project that could have an immediate impact.

The team's mentors, Al Wicks, associate professor in the Department of Mechanical Engineering, and Dr. Andre A. Muelenaer Jr. (biological sciences '75, M.S. zoology '79), associate professor of pediatrics at the Virginia Tech Carilion School of Medicine and adjunct professor at Virginia Tech-Wake Forest University School of Biomedical Engineering and Sciences, pointed the students toward the need for an infant resuscitator that could function without electricity, which can be unreliable in underdeveloped countries.

And the Global AIR (Assistance of Infant Resuscitation) team was born.

In order to see such need firsthand and to assess local resources that could be used to develop a sustainable neonatal resuscitator, two of the team's members traveled to Malawi. Drawing from information gathered during the month-long stay, the students elected to use parts available in Malawian hardware stores so that the resuscitator "can be fixed there and sustained," Burks said. They also aim to keep the total cost under $100.

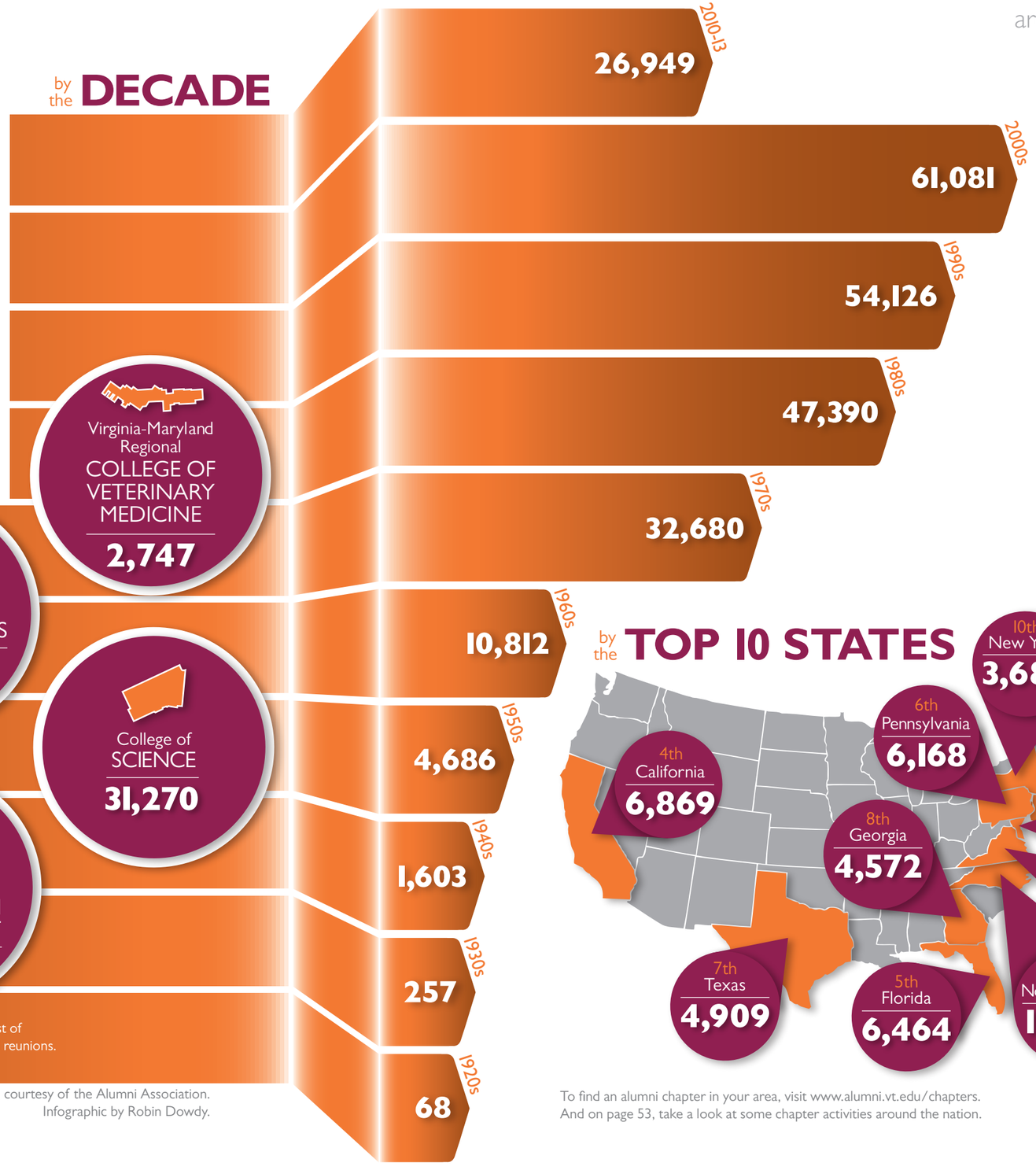
Global AIR carries on the legacy of livesaving work initiated by former Virginia Tech professor Leon Arp, who mentored Muelenaer and whose infant respirator was profiled in the fall 2012 edition of Virginia Tech Magazine.

the HOKIE NATION | LIVING ALUMNI

232,210

Allegiance: The university's upward trajectory is best illustrated by the Hokie Nation's steady growth—and its loyalty. In our fall 2012 magazine readership survey, 39 percent reported recommending the university to a family member or potential student, besting the national average. And in a nationwide study by Alumni Factor, Virginia Tech was ranked No. 1 among alumni who said they would personally choose the university again.

by the DECADE



by the COLLEGE

- College of AGRICULTURE and LIFE SCIENCES — 20,063
- College of ENGINEERING — 62,162
- College of ARCHITECTURE and URBAN STUDIES — 14,701
- College of LIBERAL ARTS and HUMAN SCIENCES — 56,290
- PAMPLIN College of BUSINESS — 44,163
- College of NATURAL RESOURCES and ENVIRONMENT — 7,129
- College of SCIENCE — 31,270
- Virginia-Maryland Regional COLLEGE OF VETERINARY MEDICINE — 2,747

On pages 48-49, you'll find a list of the fall 2014 homecomings and reunions.

*October 2013 data, courtesy of the Alumni Association.
Infographic by Robin Dowdy.

by the TOP 10 STATES

To find an alumni chapter in your area, visit www.alumni.vt.edu/chapters.
And on page 53, take a look at some chapter activities around the nation.

Going the distance, **judging for speed**

by AMY LOEFFLER

LOGAN WALLACE

Virginia Tech's dairy-judging team has claimed four out of the last eight national titles.

To the untrained eye, a herd of spotted black-and-white Holstein dairy cows may seem like perfect copies of each other, save for the varied Rorschach-like patterns that dot their hides.

But Mackenzie Moore, a senior sociology major from Cobleskill, N.Y., and her three dairy-judging teammates know better.

When Moore judges cows, she quickly scans the four immense animals before her, notebook at the ready. First, she looks for large udders that ride high and full and tuck neatly underneath a cow's haunches. Then it's on to the feet and legs. She's looking for a square angle from the rump to the feet. The spacing of the ribs is also key. Award-winning dairy cows display a visible rib cage and very little fat, indicators that most of their energy is going into the task of producing milk.

Moore has just 15 minutes to consider these factors and to take copious notes in order to verbally defend her choice hours later in front of an individual judge.

"You have to think critically and evaluate the cows in a short amount of time," said Moore, who plans to graduate in May and hopes to return to her home state of New York as an Extension specialist.

These detail-intensive tasks are second-nature by the time the Virginia Tech dairy judging team takes center ring to competitively judge cattle on the national stage. Moore and her teammates, including Elizabeth Davis, a sophomore pre-med and dairy science major from Union Bridge, Md.; Mandi Ramsburg, a senior dairy science major from Walkersville, Md.; and Lyndsey Royek, a senior agricultural and applied economics major from Corry, Pa., swept the awards at the World Dairy Expo in Madison, Wis., last year. It was the fourth national contest victory in eight years for a Virginia Tech team, with past wins coming in 2006, 2008, and 2009.

Judging, however, is more than a bovine beauty pageant.

The training to judge a dairy cow takes uncommon commitment. Every weekend from August to October, mandatory practices are conducted at dairy producer sites across eight states, where students learn how to evaluate cows quickly, weigh judging criteria, defend their decisions, and handle criticism. The learning process is so rigorous and focused that cell phones are banned when the team trains.

"These students learn not just to evaluate the cows, but also to make decisions and accept and respond to criticism," said Katharine Knowlton, a professor of dairy science in the College of Agriculture and Life Sciences who co-coaches the team with professor emeritus of dairy science Mike Barnes. The process is rigorous, to say the least. "An alumnus once told me that practicing judging was like chewing glass," Knowlton said.

Davis said the critical-thinking skills she gained from judging will help her in medical school. "These skills will also give me confidence to defend my decisions as a medical professional," she said.

Over the years, the team has welcomed members who were not dairy science majors and had no previous dairy experience. In addition, dairy judging has helped recruit students to Virginia Tech. Three-quarters of dairy science students come from out of state, a testament to the department's excellence.

"Dairy judging teaches important professional skills," said Knowlton. "The cows are just the bait to attract students to learn these skills."

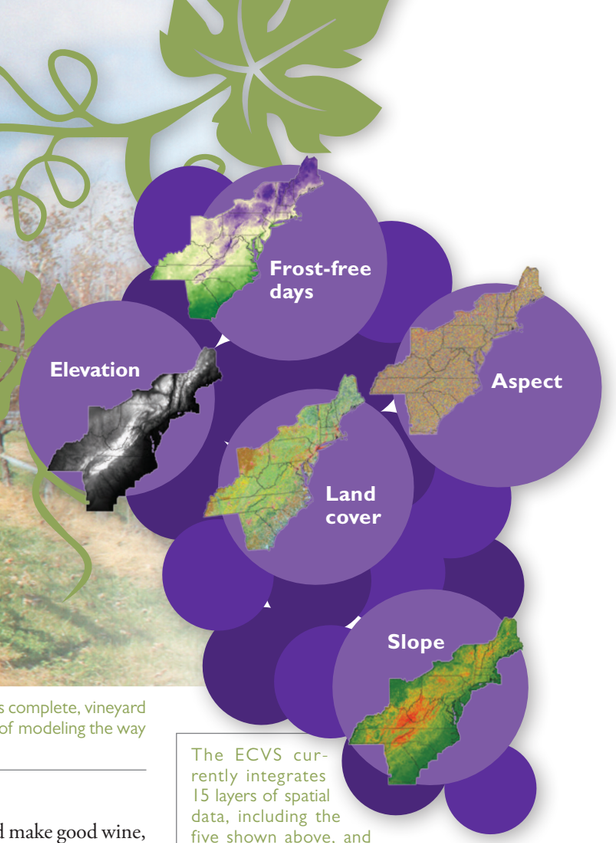
Amy Loeffler is a science writer and marketing communications specialist with the College of Agriculture and Life Sciences.

Virginia Tech's national titles in dairy judging

2006 · 2007 · 2008 · 2009 · 2010 · 2011 · 2012 · 2013

MELANIE HUGHES

During a visit to Rappahannock Cellars in Huntly, Va., after the 2013 harvest was complete, vineyard manager Tom Kelly and Virginia Tech's Erica Adams discuss the potential value of modeling the way that colder air pools along rivers, streams, and valleys.



The ECVS currently integrates 15 layers of spatial data, including the five shown above, and covers the eastern U.S. from Georgia to Maine, going as far west as Memphis, Tenn. "Aspect" is the direction a slope faces.

High-Tech Harvest

How the **Center for Geospatial Information Technology** is helping **eastern U.S. wineries** find their niche

by ANGELA CORREA

The wine industry in the eastern U.S. is poised to become a world-class producer of notable wines, but the climb hasn't been an easy one. The climate of the mid-Atlantic states is almost always too wet, too unpredictable, and too frost-prone for many of the more delicate grape cultivars (a grape variety resulting from selective breeding). On the East Coast, success depends on the experience and audacity of growers who must balance a host of viticultural and climatological factors with tight harvest and bottling schedules, as well as the variable expectations of consumers.

Unlike wine regions in France and California, which have been in production for centuries, the eastern U.S. offers interactions among geography, geology, climate, and vine genetics that growers still are teasing out. The knowledge of these interactions, known as terroir, is extremely important to the success of a vineyard. Through understanding terroir, vintners can select the types of grapes and rootstocks that will grow best in that precise location. Historically, this knowledge was accumulated through generations of trial and error, but in the eastern U.S., the East Coast Viticulture Suitability tool (ECVS) is giving wineries an advantage.

The tool was developed by Virginia Tech's Center for Geospatial Information Technology under the leadership of director Peter Sforza and project manager Erica Adams (environmental policy and planning '09, M.S. geography '11). The team collaborated with commercial growers and viticulturists from Virginia Tech, Cornell, Ohio State, North Carolina State, and the University of Maryland to develop the tool as part of a project funded by the U.S. Department of Agriculture's (USDA) National Institute of Food and Agriculture specialty crops research initiative.

ECVS allows growers to select a potential site and then use the tool to merge the best available climate, soil, and topography data from the USDA, the National Oceanic and Atmospheric Administration, the U.S. Geological Survey, and NASA to produce a complete assessment of the site. The ability to evaluate suitability and match a cultivar to a specific location is the cornerstone of a high-quality vintage.

"The ECVS tool shows how geospatial technology can take multiple layers of complex information and use them to place answers directly in the hands of people in the field," said Adams, a geospatial analyst.

Tom Kelly, the vineyard manager of Rappahannock Cellars in Huntly, Va., and president of the Virginia Vineyards Association, understands the complexities of viticulture better than most. "Everything starts in the vineyard. You can make bad wine from good grapes, but you will never make good wine from bad grapes."

MELANIE HUGHES

To grow good grapes and make good wine, one must know as much as possible about the environment the grapes are rooted in. Kelly uses ECVS to evaluate grapes brought in under contract from other vineyards. He can effectively evaluate growing conditions even at vineyards he has never visited, helping to identify crops with the potential to balance the character of grapes harvested at Rappahannock Cellars. More importantly, he can rule out grapes grown in unfavorable conditions. "I have seen growers who have planted the very worst varieties for their soil types. ... A few mistakes like that can turn someone's dream of owning a vineyard into a nightmare," Kelly said. "The tool is helping these growers to understand their land better and make fewer of these costly mistakes. Every successful vineyard in the mid-Atlantic helps the whole industry."

Brent Sams (M.S. geography '12) is a research viticulturist with E. & J. Gallo Winery in Modesto, Calif. "Unlike in California, where the biggest concern is negotiating water rights, growers in the East face a completely different set of challenges," he said. Regarding the ECVS tool, he added, "Growers have really never had access to a tool that brings it all together. The tool multiplies and magnifies the services traditionally delivered by Extension agents and private vineyard consultants and puts the best information available into a user-friendly app for growers all over the mid-Atlantic."

As use of ECVS increases across the region, patterns in varietal selections will emerge that will help the East Coast develop its terroir and lay claim to its own niche in the global market.

Angela Correa is the communications manager for Virginia Tech's Division of Information Technology.

Mining for Neutrinos

by MASON ADAMS
photo by JIM STROUP

Thirty minutes up U.S. 460 from the Virginia Tech campus and another 20 minutes down a rocky underground road, researchers around the country conduct physics experiments to boost national security and help explain the nature of the universe.

Operated by the Virginia Tech Department of Physics, Kimballton Underground Research Facility (KURF) sits in a cavern near the bottom of a working limestone mine in Giles County. Most experiments there focus on particle physics involving neutrinos and other subatomic particles. The roughly 1,750 feet of rock between the lab and the mountain's surface help filter cosmic rays that bombard the Earth's surface and obscure subatomic interactions. KURF's relatively low levels of background radiation provide a clearer picture of subatomic particle interaction.

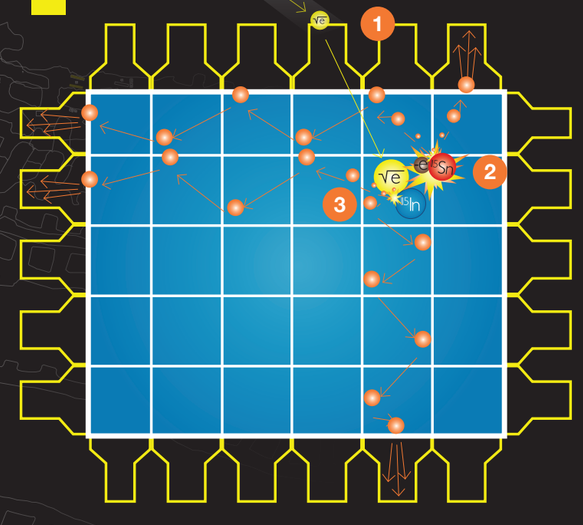
The experiments at KURF include a pair of attempts to detect the presence of dark matter—the subject of much debate and disagreement in the physics world—by observing how particles behave when colliding in liquid argon and crystal germanium. Another project seeks to analyze background radiation to develop sensors that can detect from an offshore location whether rogue states are manufacturing nuclear weapons.

A Virginia Tech team uses KURF as a test site for its Low Energy Neutrino Spectroscopy (LENS) project (described at right), which will measure the sun's low-energy neutrino spectrum. The project—currently in a demonstration test phase—may ultimately help answer questions about the sun's energy production.

A working limestone mine operated by Lhoist North America near Ripplemead, Va., hosts the Kimballton Underground Research Facility (not pictured). Thirteen institutions use the facility to study subatomic particles away from the background radiation that saturates the earth's surface.

A cross-section of the Kimballton mine shows tunnels on each level and the relative location of the underground laboratory.

How LENS works



Currently Virginia Tech researchers are testing a model LENS matrix in a prototype setup that uses an organic liquid scintillator. The full setup, when complete, will use an organic liquid scintillator doped with the chemical element indium and work as follows:

1. A neutrino (ν_e) emitted by the sun reaches the earth and passes though the rock to eventually enter the LENS matrix.
2. A neutrino is captured by an indium atom (^{115}In), resulting in an "excited" tin atom and a negatively charged electron (e^-) that creates a small flash of light.
3. The light flash sends photons (γ) along the matrix's X, Y, and Z channels. The photons strike plates on photomultiplier tubes, generating electrons. The electrons collide with a series of plates, amplifying these small signals and allowing physicists to pinpoint the location of the interactions within the matrix.
4. The excited tin atom (Sn^*) then emits a pair of delayed gamma rays within a distinct time frame, confirming to researchers that the first flash came from a neutrino collision and not another source.

Researchers estimate LENS will observe roughly 600 neutrino captures per year and will operate for five-plus years. Tracking these interactions will allow researchers to map the solar neutrino energy spectrum, which will help them to understand how the sun produces energy and answer questions such as whether the sun is getting hotter.

Stephen Edwards

Computing Creativity

by STEVEN MACKAY
photo by AMANDA LOMAN

Stephen Edwards, associate professor of computer science with the College of Engineering, loves to create. Some paint with a brush or write poetry with a pen. Edwards builds with a computer. Not buildings or animated films, but educational tools for students. Edwards' most prominent project is called the Web-based Center for Automated Testing, or Web-CAT, a flexible, tailorable, Web-based automated grading system that has been adopted by 75 institutions nationwide and is the most widely used open-source grading tool of its kind in the world. For his efforts, Edwards was named an Outstanding Faculty Award winner by the State Council of Higher Education for Virginia.

How is computing a tool for creativity?
Computing is about creating new solutions or new ways of doing things that transform how we work and live. Many of us love expressing our creative side in different ways, but computing is one area where what you can create is limited only by your imagination and how you envision what you are creating, rather than by the physical skills of your hands or your senses. This aspect of computing can speak to the "builder" or "maker" in all of us. … The thrill of creating something new, using just the power of your mind, and seeing it work for the first time—that is the cool part of computing that grabbed me from the very start.

Talk about the success of Web-CAT.
When I talk to people outside of computing about Web-CAT, I describe it in terms of students self-checking their own work. That's something all educators believe in; but prior to Web-CAT, there was no readily available way for computing educators to reinforce this practice or to give students feedback on how well they were checking their own work. Few computing educators talked about how to introduce more systematic self-checking into their courses. Since the introduction of Web-CAT, these ideas have moved from the fringe into the mainstream. Most major educational conferences in computing regularly include papers or presentations where people share their experiences using this approach or even share their research results on how requiring students to self-check their own software affects learning. I am very proud to have played some small role in encouraging this change.

What inspires you?
I get a lot of my inspiration from the creativity and enthusiasm of other people. One of the great things about working at a university is the number of students and colleagues you run into who are passionate about their own projects or ideas. The volume of new ideas or innovative solutions is amazing. There's never a shortage of inspiration for great new directions to explore.

What's your dream job?
It would be really fun to spend some time working as a Lego Master Model Builder. I played with them constantly as a child. My son and daughter have played repeatedly with a classic set I still have from my childhood. More recently, once my children were in elementary school, I started coaching for the First Lego League, a program to engage students with science and technology by having them build and program robots made from Legos. I coached elementary and middle school teams in Blacksburg for six years.

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

Stephen Edwards bought his first computer, pictured here, 35 years ago for $800.

X.J. Meng

Viral Smarts

by SHERRIE WHALEY
photo by AMANDA LOMAN

Explaining his pig collection, Dr. X.J. Meng said he's not the only one to hold pigs in high regard. "Sir Winston Churchill once said, 'I am fond of pigs. Dogs look up to us. Cats look down on us. Pigs treat us as equals.'"

Dr. X.J. Meng is trained in both human medicine and veterinary science and is a professor of molecular virology at the Virginia-Maryland Regional College of Veterinary Medicine. The Qingdao, China native was named a University Distinguished Professor in 2013, the first from the veterinary college to hold the prestigious title. In addition to his teaching duties, he researches antiviral vaccines and the molecular biology of viruses.

What drew you to this field?
I completed medical school in China with intentions of becoming a surgeon. I briefly practiced medicine part-time, then enrolled in a microbiology graduate program where I worked in a virus research institute. I became totally fascinated by viruses, the smallest and simplest form of life on earth.

Why should we care about emerging and zoonotic virus diseases?
Many animal virus diseases are zoonotic, which means they not only infect animals, but can transfer from animals to people as well. In fact, the majority of human emerging virus diseases can be traced back to an animal origin. For example, the deadly SARS virus came from the horseshoe bats, and the current pandemic H1N1 influenza virus is of swine and chicken origin.

What classes do you teach?
I teach emerging infectious diseases, as well as molecular virology classes. I also help team-teach a veterinary virology class, which I really like because of the incredible veterinary students we have in the college. They are very mature, their questions are right on point, and they are scary smart. It really keeps me on my toes.

Any regrets that you never pursued your surgical dreams?
No, there are major risks associated with surgery as a profession. If you mess up, you can lose a life. If I mess up in the lab, I can just do it again. My mother, however, has never been truly impressed with my decision to forego becoming a surgeon to work with animal diseases. When I see her, sometimes she asks me, "I sent you to medical school, right? Are you still working with pigs and chickens?"

Your lab is considered one of the world's leading hepatitis E virus research centers, and you discovered two new viruses.
Yes, we serendipitously discovered the swine hepatitis E virus from pigs, then two years later discovered avian hepatitis E virus from chickens. Both were very important because they infect across the species barrier, and the swine virus also infects humans. We also study several other emerging viruses that cause economically important diseases in pigs. Indeed, the vaccine we developed against the porcine circovirus has probably saved the global swine industry hundreds of millions of dollars as the vaccine is currently on the global market in more than 50 countries.

You're a fan of author Robin Cook, which makes perfect sense since he blends medical writing with the thriller genre.
Yes, in fact, I wrote a short novel while in medical school, but it was rejected by the publisher. That pretty much ended my writing career. Who knows, I could have been another Robin Cook.

Sherrie Whaley is the Virginia-Maryland Regional College of Veterinary Medicine's director of communications.

John Boyer, the Plaid Avenger

by JESSE TUEL
photos by LOGAN WALLACE

Semester at Sea:
Visit www.vtmag.vt.edu to watch Boyer's Semester at Sea video lectures, his recent TEDxVirginiaTech presentation, and more.

To call John Boyer (geography '96, M.S. '98) colorful would be an understatement. The senior instructor of geography in the College of Natural Resources and Environment teaches a World Regions class that sometimes approaches an enrollment of 3,000, and he has a knack for landing guests who are household names—including a video message from the king of Jordan and a visit from Martin Sheen and Emilio Estevez. His alter ego, the "Plaid Avenger," fights ignorance of global issues from the pages of a comic book.

You spent fall 2013 traversing the globe and teaching in the Semester at Sea program. Why take to a boat?

Because they asked me! I'm also passionate about bringing the world into the classroom. I'm convinced that's the future of the classroom. I took students to the European Commission in Brussels, to Normandy Beach. The real experiment for me was that I still taught a couple thousand students at Virginia Tech. For the first time ever, the World Regions class was entirely online, and I peppered it with live reports from the field.

What's the Plaid Avenger avenging?

Global ignorance. Any philosopher will tell you that if you sit down and check out the world, what you will quickly realize is that people are the same everywhere. They want to provide a better future for their children. That's the human condition. The rest—the differences—are petty. If we want humanity to survive the problems of the next 100 to 1,000 years, we're going to have to do a lot better at bringing people together. All the people. Everywhere.

Why plaid?

Most politicians and pundits want to crystallize the world into black and white. "You're with us, or you're against us." But there are many threads—social, religious, geographical, political, historical, cultural. That's the weaving together, the plaid, of any place. What I try to do is tease out those threads. That's how I try to teach people. It's a way of understanding the world.

The average student-faculty ratio at Virginia Tech is 16:1. Your World Regions class is a bit above average. Why?

For the same reasons that movie theaters will never go away. A comedy is always funnier if there are 500 people laughing with you. There's something to be said for communal experience—to laugh together, ask questions together, get confused together, work together. I like the scale of it, I like the power of it. … I believe the future iteration of what I'm going for is a hybrid model—an online course with a couple thousand people. I'll do podcasts from around the world, country, and commonwealth, and pull in speakers by going to their offices. And then we'll maintain that physical sense of community by getting together in Burruss [Hall auditorium] for some play or class or movie every couple of weeks.

Your class Skyped with Nobel Peace Prize winner Aung San Suu Kyi.

She's an awesome human being, and she can even convey that through Skype. I still remember students walking out of class teary-eyed, saying their lives had just changed. That's what we're here for. That's what the university's about: opening eyes and changing lives. Teaching is a seriously undervalued profession. I'll debate it with anyone. If you want your society to be the greatest and have the most success, then invest everything in education.

Characterize your style of performing … er, teaching.

I'm totally fearless in the classroom, inventing new ways to connect with students. I fail a lot. I do stuff some people don't like. But I refuse to stop trying. We're in an age that's all about change in education. We have real-time access to every corner of the planet, to every human being, and we're not doing nearly enough to harness that to bring it into the classroom.

TRAINING GROUND

The education of **Timothy D. Sands**, Virginia Tech's **next president**

by JESSE TUEL

Timothy D. Sands in the Torgersen Bridge

JIM STROUP

PATRICK WHALEN

A portion of a land-grant mural at Purdue University depicts a figure, representing education, leading society into the future.

From within an expansive mural entitled "The Spirit of the Land-Grant College," Abraham Lincoln presides over the stream of students who pass through Purdue University's Stewart Center.

In Lincoln's hands is a document whose significance anchors the expansive piece: the Morrill Land-Grant Act. The mural's scenes tell the story of the establishment of land-grant colleges and the impact of higher education on American society.

Like Virginia Tech, Purdue University evolved as the premier land-grant institution in its state, historically specializing in disciplines such as engineering. The parallels between the peer institutions are many, and in many instances—from enrollment and rankings to research funding and endowment market value—Virginia Tech may well want to look to Purdue's lofty numbers for inspiration and motivation.

Ask around at Purdue, and you'll begin to uncover those parallels. Ask around some more, and you'll begin to understand why Purdue Provost Timothy D. Sands, after a dozen years at an ideal training ground, was tapped to become the 16th president of Virginia Tech.

"When [Tim] told me he was looking at Virginia Tech, I thought, 'Well, that's a great fit,'" said Vic Lechtenberg, special assistant to the Purdue president and former vice provost for engagement, whom Sands regards as a mentor and credits with instilling in him the values of a land-grant institution. "It's an institution that's a lot like Purdue."

As the presidential search unfolded in Blacksburg, the search committee and Virginia Tech Board of Visitors (BOV) felt the same. "Dr. Sands impressed many from the start and garnered even more support after our personal interviews," said Mike Quillen (civil engineering '70, M.S. '71), BOV rector, in a statement released at the Dec. 6 press conference announcing the selection. "He has stellar academic credentials and administrative experience from some of the nation's outstanding land-grant and public research universities. We were particularly impressed with Tim's sense of the modern research university's role in advancing American society and its economy."

The transition

On an unseasonably warm mid-March day, in West Lafayette, Ind., Laura Sands paused in front of the academic building where her husband spent his early years on Purdue's campus. Gesturing toward the Engineering Fountain, a 38-foot monument in front of Hovde Hall, the main administration building, she explained that Purdue students run through the fountain before graduation.

From his office window in Hovde Hall, Timothy Sands—who will become the third consecutive Purdue provost to "graduate" into a university presidency—has an iconic view of the fountain and the Engineering Mall, a view that will soon be replaced by Burruss Hall windows framing the Drillfield. The transition is now in full swing. In mid-March, the incoming president had recently returned from Virginia Tech's National Capitol Region on his third orientation visit (a total of seven or eight are planned before he takes office on June 1).

The Sandses' first orientation visit was in late January. They thought they had flown away from Indiana's brutal winter, only to spend their first day in a Blacksburg snow storm. In a jam-packed, five-day schedule, Timothy Sands was shuttled across campus for briefings that ranged from information-technology initiatives and research computing to development efforts and enrollment management. Meanwhile, Laura Sands, the Katherine Birck Professor of Nursing at Purdue, met with faculty members in Virginia Tech's Department of Human Development, of which she'll be a part, and interacted with a number of others.

Timothy Sands said the orientation sessions were more about getting to know the people and the issues than remembering specific facts. By the time he takes office,

MARK SIMONS / PURDUE UNIVERSITY

Timothy D. Sands, with Purdue University's Engineering Fountain behind him, will soon have a new office view.

LOGAN WALLACE

Sands expects to have an understanding of where Virginia Tech wishes to go. And the sessions, spaced out over the weeks and month, allow the Sandses time to digest an onslaught of new information.

Amid the beginning of a new chapter at Virginia Tech, the end of Sands' time at Purdue coincides with the usual hectic schedule for the provost: a busy spring semester, 25 direct reports, a speaking engagement per day, a search for a new provost—and packing. "I'm starting to be panicked about packing. Have I started? No, I haven't," Sands said with a laugh as he looked around his office.

Two office mementos are certainly on his packing list: pictures of his grandfather, a researcher at International Nickel. One depicts him looking into a metallurgical furnace, and the other shows him in front of his lab. "It's the 1915 or 1920 version of what I do today," said Sands, who applies physical metallurgy principles to research in electronic materials. "Looking back on that history is something I like to do."

The Californians

Born in San Francisco, Sands grew up in East Bay and Hayward, Calif., nestled between San Jose and Oakland. His parents still live in the same house, and his younger siblings—a brother and a sister—both live in the Bay Area. As a youngster interested in art and science, Sands considered himself a "budding naturalist." "I spent most of my free time outdoors," he said. "If I had a chance to hop on my bike and ride 15 miles to the local marsh, I'd get up at a ridiculous hour and do that."

As he approached his college years, his knack for building things pushed him toward engineering. Enrolling at the University of California, Berkeley, Sands soon found that he truly enjoyed his math and science courses, and he pursued a bachelor's degree in engineering physics.

By way of a combination of scholarships and jobs, Sands paid his way through college. One of those jobs was as a house boy at a sorority, handling maintenance, repairs, and the like. As Laura Sands tells it, he was comfortable taking the job because he knew the women in the sorority and felt they weren't on his radar for anything beyond friendships. "And then I moved in," she said with a grin. "That wasn't part of his plan." Sharing similar interests, from jogging on the same trails around Berkeley to playing on the same intramural softball team, they found that their paths continued to cross, and they were married in the fall of 1981.

By then, Timothy Sands was studying materials science and engineering on the graduate level, motivated by a driving interest in photovoltaics and inspired by an undergraduate summer internship at the Solar Energy Research Institute in Golden, Colo., now known as the National Renewable Energy Lab. He finished a master's degree and Ph.D. at Berkeley.

training ground

COURTESY OF PURDUE UNIVERSITY

Sands directed Purdue's Birck Nanotechnology Center from 2006 to 2010.

An industrious start

Following several years as a fellow at the Lawrence Berkeley Laboratory, Sands joined Bell Communications Research Inc. (Bellcore) in Red Bank, N.J., as a member of the technical staff and later as a research group director. There, one of his earliest and most influential mentors was Vassilis Keramidas, a division manager who oversaw about 50 scientists. The team had a service role toward other Bellcore groups, and Keramidas asked his team to balance that service with leadership. "[That] balance between leading and supporting is something that I will always remember, and I always apply it," Sands said. "If you have that balance, everyone's on the same level."

Sands recognized a common denominator among his mentors over the years. "I think they're all true to themselves and honest. That has certainly shaped the way I approach problems and the way I approach people."

Honesty and approachability are characteristics Sands possesses that will translate well to a presidency—those and overriding calmness, said David J. Williams, president of the Purdue University Senate and a professor of medical illustration. For decades, and to no avail, the faculty at Purdue had sought to place a faculty member on the university's governing body, the Board of Trustees. In February, the board voted to add a faculty member to its academic affairs committee as a non-voting, ex-officio member, thanks in part to Sands' "low-key, quiet" work behind the scenes, Williams said. "He was always so calm. 'Don't worry. I'm talking with [the board].' He would just say, 'This is going to happen.'"

Sands has been drawn to the leadership styles of various university presidents he's observed, beginning with Chang-Lin Tien, the Berkeley chancellor from 1990-97 (Sands returned to Berkeley as a professor in the Department of Materials Science and Engineering in 1993). Ever present at university events, Tien maintained his research group and was an energetic fundraiser, Sands said. "The one thing I've learned is there's no one style that works. You have to be yourself. You can't try to be like someone else. But you do pick up from each of those individuals traits and approaches that work."

Sands values three leadership traits. "One of the most important things is being efficient at what you put energy into. There are 100 things that come across your desk as a provost or a president, and you just can't do them all."

"Communicating more than you think you have to communicate" is the second key trait Sands has adopted, and "staying healthy and not pushing yourself to the brink all the time" is the third. At Virginia Tech, Sands plans to continue his regimen of early-morning pick-up basketball, and he and Laura—both raised around the California mountains—are thrilled to begin exploring the natural beauty of Southwest Virginia.

East to West Lafayette

Five Ph.D. students gathered in Birck Nanotechnology Center on a Tuesday afternoon in March, awaiting Timothy Sands, their faculty advisor. Home to one of the largest academic clean-room nanotechnology facilities in the world, Birck is the largest of 10 centers in Discovery Park, a hub that houses Purdue's large-scale interdisciplinary research efforts.

About 12 years ago, Purdue came knocking as the university sought to bolster its nanotechnology capabilities, and the Sandses left California. In 2006, Sands was named director of Birck, which opened in July 2005. He was charged with transforming it into a smoothly operating research institute, defining and guiding its strategic vision, and building a community of researchers. Today, approximately 150 affiliated faculty members and 200 graduate students call Birck home.

Whether or not Sands' students fully understood the role that their mentor had played in the creation of the center in which they sat, they laughed out loud to hear him described as an "administrator." To them, he's their reference point, their sounding board, for all things nano-tech.

As a listener, Sands tends to lean back in his chair, relaxed, shifting his weight onto his left elbow and armrest. He clasps his hands and maintains eye contact, offering the speaker frequent "mm-hmm" affirmations. "He's a phenomenal listener. He has probably the best active listening skills that I've ever seen," said Morgan Burke, the long-time Purdue athletic director who has worked alongside Sands in the president's cabinet and under Sands when the provost served as acting president. "Even if he's not really enthused about the conversation, you won't know it. I think that's a beautiful trait."

Opening the research group discussion, Bivas Saha, a Ph.D. student in materials engineering examining the growth, characterization, and plasmonic and thermoelectric applications of nitride metal/semiconductor superlattices, presented his most recent findings to Sands. As Saha spoke, Sands teased out the significance of an unexpected spike in the data and referred back to literature on the topic, grounding the students in what was known and how to prioritize the next steps. Sands encouraged Saha, saying that the student's findings likely represented a significant addition to the field's base of knowledge.

Sands clearly cherishes his time with students, a feeling reinforced when he reentered the academic world after Bellcore. "It's great to be on the frontlines of discovery. It's great to build things that people can use. But in the end, the main reason you're doing this is to bring the next generation along. And that cannot be replaced. That's something that's very special," he said.

Initially, Sands thought he would have give up a research group to take on a presidency, but his early conversations with Virginia Tech's nanotechnology experts have him reconsidering. "I still think it'll be a challenge, but I am going to try to stay in touch with my field."

The "ignition point"

Sands brought an industrial mentality to his role as director of Birck. At the time he left Bellcore, the CEO there emphasized that he wanted the researchers to be "market-savvy technologists," and it's a descriptor Sands has embraced: When discoveries have practical applications, pursue those applications. "A lot of institutions do … either problem-inspired research or curiosity-driven research. What I see at Virginia Tech is a great blend of the two," he said.

Sands' experience with Birck reinforced the human element of research and how to create an environment for interaction among disciplines. "One of the successes of Discovery Park was getting faculty and students from 12 different disciplines together in the same building," he said. "You see them create new ideas, new research directions, just by bouncing into each other."

JIM STROUP

"I've always viewed [Tim] as a very graceful, presidential-type person."

—David J. Williams, University Senate president at Purdue.

Timothy Sands: Credentials

1980: B.S., highest honors, in engineering physics, University of California, Berkeley

1981: M.S. in materials science, University of California, Berkeley

1984: Ph.D. in materials science, University of California, Berkeley

1984-86: Industry fellow and postdoctoral fellow, Lawrence Berkeley Laboratory

1984-93: Bell Communications Research (Bellcore), Red Bank, N.J.: director, Nonvolatile Memory Research Group, 1992-93; director, Thin Films and Interface Science Research Group, 1990-91; member of technical staff, 1984-90

Sands also found that graduate students, eyes wide open, are more willing to cross disciplines, whereas faculty members may worry about treading on another person's area. "Usually [the student interaction] was the ignition point for something new," Sands said.

Mixing disciplines is at the forefront of the incoming president's mind. Said Sands, "I typically find myself reading books about science and entrepreneurship and connecting them to other fields in the humanities and the arts—which actually is interesting because that's the way I see Virginia Tech. It's very well connected between the disciplines."

The Sands children

- Amanda, 28, is finishing her dissertation in nutritional epidemiology at Harvard's School of Public Health. Her undergraduate degree from Purdue is in nutrition science.
- KC, 25, graduated from Purdue's School of Management. He is now working for Goldman Sachs and taking M.B.A. classes at the University of Chicago.
- Kathryn, 23, earned her nutrition science degree from Purdue and will soon finish the accelerated nursing program to earn her second bachelor's degree.
- Haley, 20, is a junior at Purdue, studying political science with minors in psychology and forensics.

Sands' ability to unite people has lived on in the Birck center, said Al Rebar, the senior associate vice president for research and executive director of Discovery Park, who hired Sands into the director's role. "I think his greatest contribution to Birck without a doubt was not so much a tangible research focus as creating a community of researchers who were able to work together unselfishly," Rebar said. "And he's a consensus builder. He brings people together; he's able to lead discussions rather than arguments. I think he's very good at diffusing emotions with good common sense."

When problems arose at Birck, whether in research direction or personnel, Sands relied on an analytic approach. "The first thing he'll do is take a step back rather than react," said Rebar. "He'll analyze and redirect. He won't shoot from the hip. And at the same time, he's not overly careful. His legacy is that he builds confidence—you have confidence that this is a person you can follow."

The interdisciplinary collaboration, similar to the path pursued by Virginia Tech, has yielded tremendous growth in research dollars for Purdue. Rebar and Sands have been a part of a paradigm shift from single-investigator to multiple-investigator research grants. "Honestly, I think he'd tell you if you asked him why he came to Purdue, he saw that that was in the cards," Rebar said of Sands.

The provost

Sands' performance at Birck paid dividends. "That's really what gave him, frankly, the visibility and the credentials to be considered as a provost," said Lechtenberg, the special assistant to the president who reported to Sands as vice provost for engagement.

Sands can sit atop an organization and see all of its inflection points. "He has the ability to conceptualize what appear to be different issues, different concepts, and all of a sudden say, 'Wait a minute, those four things in different quadrants of the university all connect; there's a synergy there. Does anybody notice that?' He'll do that a lot," said Burke, the athletic director.

Dale Whittaker, Purdue's vice provost for undergraduate academic affairs, noticed certain qualities in Sands' questioning and feedback. He has a "driving curiosity, and he's totally unpoliticized," Whittaker said. "When he asks a question, there is no second agenda behind it. It's a scientific question."

Added Laurel Weldon, Purdue's interim vice provost for faculty affairs, "You don't feel like he's driving his agenda, even when he is driving his agenda. When you work with some people, you feel like they have a lot of ego invested, and it's hard to communicate with them. You can't critique their idea. I just never even think about that at all [with Sands]."

Weldon said Sands offers "constructive and empowering feedback without squelching your idea. He never says just 'no.'"

"He also almost never says 'yes,'" Whittaker added. "And what I mean by that is you always get a balanced view from him. He'll always support what he sees as the positives and bring up the what-ifs or the risks, and it's in a very diagnostic way."

JIM STROUP

JIM STROUP

Meeting of the minds: (directly above) In late January during the Sandses' first orientation visit at Virginia Tech, they toured the Virginia Tech Carilion School of Medicine and Research Institute with (from left) James Keith, the school's chief of staff; Provost Mark McNamee (second from right); and Dr. Cynda Johnson, dean of the school.

(Right and above) In mid-March in Purdue's Birck Nanotechnology Center, Sands met with his research group of Ph.D. students, including (from left) Amr Mohammed (leaning back), Amirkoushyar Ziabari (leaning forward), Bivas Saha, Meng Long Hao, and Yuefeng Wang.

JIM STROUP

Credentials, continued

- **1993-2002:** Professor, Department of Materials Science and Engineering, University of California, Berkeley
- **1997-99:** Chair, executive committee, Applied Science and Technology Graduate Group, University of California, Berkeley
- **2002:** Director, Integrated Materials Laboratory, University of California, Berkeley
- **2002 to present:** Basil S. Turner Professor of Engineering in the School of Materials Engineering and School of Electrical and Computer Engineering, Purdue University
- **2006-10:** Director, Birck Nanotechnology Center, Purdue University
- **2009:** Fellow of the Materials Research Society

JIM STROUP

Sands' favorite invention

Working with a colleague and student at Berkeley, Sands developed a process to use powerful excimer lasers to separate thin films of a material called gallium nitride from a sapphire substrate, and the process turned out to be a key step in making white LEDs, or solid-state lighting. "The reason I like that one was even though I had bigger contributions on the scientific side, I was able to go out and buy a TV that had a piece in it that I helped make. As an engineer, that's the ultimate—to feel like you had an impact on a lot of people, even if they don't know it."

Describing Sands as "fact-driven," Burke said he always shared data with the acting president ahead of their regular meetings. "Particularly if there were spreadsheets, he'd remember the direction of the numbers and what it meant, and that [condensed] what might be a 20-minute conversation [into five minutes]. ... I didn't have to repeat things. A month went by, and I came back to a topic and," Burke said, snapping his fingers, "he'd remember what we talked about."

In his time as provost, Sands led efforts to elevate student success that enhanced retention and graduation rates, initiated a move toward year-round use of facilities, led development of the university's first comprehensive assessment of all degree-granting programs, and launched an online teaching and learning platform that emphasizes interactive, computation- and simulation-rich learning environments. True to form, Sands' demeanor made politically sensitive topics—such as year-round teaching and the assessment program—manageable. "Whenever you embark on something like that," Rebar said of the assessment program, "obviously that's controversial. To be able to do that without causing a lot of friction within the university I think was a major accomplishment."

JIM STROUP

He's a phenomenal listener. He has probably the best active listening skills that I've ever seen."

—Morgan Burke, long-time Purdue athletic director

Presidential

Sands had been the provost for a couple of years when the search began for former Purdue president France Cordova's replacement, and for the first time it occurred to the Sandses that a presidency was a possible next step. Then the Board of Trustees asked him to serve as acting president from July 2012 to early January 2013, until President Mitchell E. Daniels Jr. finished his term as Indiana governor. In the role, the Sandses "realized that we could have impact beyond our regular jobs in a role that was really rewarding," Sands said.

Whereas the provost dealt more with internal audiences, they found the president's role to be outward-facing—and they really enjoyed it. Said Lechtenberg, "Both Tim and Laura are both very focused on others [and] what they can do to help the institution. He was very good at working with alumni, meeting with people, meeting with political leaders, and working with the external elements of the university."

JIM STROUP

You don't feel like he's driving his agenda, even when he is driving his agenda."

—Laurel Weldon, Purdue's interim vice provost for faculty affairs

The introduction:

For more on the next president, including a video of the press conference, visit www.vtmag.vt.edu.

Timothy Sands was introduced to the Virginia Tech community at an early December 2013 press conference and reception (left), where he took the stage with Board of Visitors Rector Mike Quillen '70, '71 (far left) and chatted with his son, KC (top middle). In early January, he and Laura visited the Holtzman Alumni Center's Grand Hall (above). Photos by Jim Stroup (above) and Logan Wallace (four at left).

Choosing Tech

Meanwhile, serving as acting president rounded out Sands' professional credentials, giving him broader experience in the areas in which he had not had as much exposure—namely, fundraising, alumni relations, and athletics. Lechtenberg said Sands "became much more stump-comfortable" as a provost and then acting president, able to relate to all sorts of audiences.

On the athletics front, Sands was fully engaged, from thriving in the pace of a home football weekend to working with Burke to replace a football coach. Burke noted that Virginia Tech and Purdue have similar attitudes toward the academic side of "student-athlete." "We take [academics] pretty seriously, and he likes that," Burke said.

After returning to the provost's role, Sands led a study to develop a 10-year funding forecast for the university, allowing him to scrutinize the institution in its financial totality. "I think what it did is it showed him the overall blueprint," Burke said. "The 10-year plan exposed him to different aspects of the university from a cost-benefit ratio and then acting [as] president kind of rounded him out with these external functions.

"If you were to draw up a training plan … it wasn't done by design, but it turned out to be pretty effective," Burke said.

Sands' stint as acting president gave him an extra measure of visibility. "People warned me," Sands said. "They said, 'Now that you've done this, search firms are going to come after you.' It happened a few months after I came back to the provost's position. … I remember getting a call from someone representing Virginia Tech, and that's where things started clicking."

When he was introduced to the Virginia Tech community and members of the media at a press conference on Dec. 6, Sands got a laugh when he said the driving tour of campus during the secretive interview process—hiding him in a "tinted-window vehicle"—obscured how beautiful the campus was.

Credentials, continued

2010: Fellow of IEEE

2012: Charter Fellow of the National Academy of Inventors

July 2012-January 2013: Acting president, Purdue University

2010 to present: Provost and executive vice president for academic affairs, Purdue University

Chaired or co-chaired the advisory committees for 25 Ph.D. students (with two more in progress) and 22 master's degree students.

Published more than 250 papers and granted 16 patents in the areas of metal/semiconductor contacts, heteroepitaxy, thermoelectric materials, ferroelectric and piezoelectric materials and devices, semiconductor nanostructures, laser processing, and heterogeneous integration

For someone so new to campus, Timothy Sands was remarkably in tune with Virginia Tech when he was introduced at a press conference—so much so, in fact, that he spoke eloquently with only the briefest of outlines. Photos by Logan Wallace.

From the heart

When Sands stepped up to the podium at the Dec. 6 press conference, he pulled out a napkin onto which he'd scribbled his notes. Cliché, right? He thought so. Still, his impressions of Virginia Tech were spot on. To watch the press conference, go to www.vtmag.edu.

"I had quite a bit of time over a couple of months before Dec. 6 to get to know the institution, so [the speech] really was from the heart. I didn't feel like I had to do a lot of preparation. What happened is I had jotted out some notes. It might've been a page of notes. Right before we left [for the press conference's room], I had 10 or 15 minutes by myself, and I thought, 'You know, I don't want to take a big piece of paper up on the podium.' The closest thing to me was a napkin. I thought, 'Well, this is kind of ridiculous; that's cliché.' But I just grabbed it, and wrote a few things down. I don't remember if I looked at it."

"That was how I used to study when I was a student. I would write detailed notes, and then I would condense them and condense them and eventually I would have three words on a page or three lines—and then I wouldn't use it."

"When I've been in a role like this before, starting an administrative position with a new organization, it's taken a while to get the pulse of the organization. The thing that was different this time was that I felt so connected to the institution. Even without having spent time on campus, I just felt like I knew what it was to be a Hokie, based on all the interactions I'd had with the search committee and what I'd read, so it was a natural process of saying what I thought was important."

Sands' intuition and insight into Virginia Tech was by no means obscured, however. At the press conference, he said that as he consulted with close friends and family members in order to make a decision, he found that the university's aims were resonant with his values and experiences.

Sands was drawn to the purpose of the land-grant institution as first expressed in the 1862 Morrill Act: to prepare citizens from all classes of society to be active participants in our democracy and to prepare students to perform research and engage the community in order to advance economic prosperity. "Nothing's really changed," Sands said. "It's as relevant today as it was back in the 1860s."

In championing those aims, Sands said, Virginia Tech took an unusual track. "Matter of fact, I only count six or seven institutions that went this route—and that was to maintain the strength of the engineering and science disciplines but to carefully balance them with the arts, the social sciences, and the humanities. If you really think back to the Morrill Act, you've got to achieve that balance. A lot of institutions really strayed along the way, at least in my view, maybe going one way or the other. Virginia Tech maintained that balance, and we're very well positioned.

"If you look at what is needed in the community, what's needed in the commonwealth, what's needed in the nation, and also what the world needs, Virginia Tech is the kind of institution that you would create today for the 21st century. And I don't say that lightly. … When I look at Virginia Tech, I see the image of an institution that is exactly what is needed now."

The Virginia Tech community may say the same thing about its new president.

JIM STROUP

Laura Sands in Purdue's student union

Laura Sands:

- Katherine Birck Professor of Nursing and director of research, School of Nursing, Purdue University
- Fellow, Gerontological Society of America
- B.A. psychology, University of California, Berkeley, 1981
- M.A. biostatistics, University of California, Berkeley, 1985
- Ph.D. quantitative psychology, University of California, Berkeley, 1986

A collector of stories

Laura Sands' lifelong dedication to optimizing the health and wellbeing of older adults has roots in her family's Sunday suppers in a little California town called Healdsburg.

Her aunt Hazel lived there, and Sands remembers her for her stories. So too with another aunt in Oakland and her grandmother. All were fascinating, progressive women who told "tremendous stories that really intrigued me," Sands said. "I haven't stopped listening."

Born in Salem, Ore., Sands was raised in Santa Rosa, Calif., about 60 miles north of San Francisco. When selecting her dissertation topic at the University of California, Berkeley, she was interested in how health affects older adults' cognitive functioning. She was able to study a unique data set in which people were interviewed throughout their lives. "I could understand how their health at age 40 affected their cognitive functioning at age 64," she said.

Sands' work continues today, and she'll bring two National Institutes of Health grants to Virginia Tech. One looks at the post-operative outcome of delirium, an acute state of confusion in surgical patients age 65 and older that leads to longer hospital stays, declines in functioning, and a higher risk of nursing home placement.

Sands' latest set of papers examines self-reported unmet needs, which are prognostic of future healthcare needs, hospitalization, and onset of mortality. "An ounce of prevention is like a pound of cure because we find that these people with unmet needs have very expensive outcomes," she said.

Walking around the Purdue campus, Sands delighted in telling stories about the campus, its buildings, and its history. In a library, she described the concept of active-learning centers—and demonstrated her quick wit while passing a student who sat upright in a lounge chair and slept soundly in the early afternoon. "Sleeping is a very important part of the study process—renews the brain, allows for more-efficient learning," Sands said, without skipping a beat.

At Virginia Tech, Sands will have a half-time appointment as a researcher in the Center for Gerontology. Because her schedule as first lady will likely discourage a regular classroom commitment, she plans to lecture when needed and mentor students in an informal teaching role.

In her role as first lady, Sands looks forward to hearing campus lore. "I want to hear people's stories about Virginia Tech. It goes back to why I was interested in gerontology. I want to hear stories because that helps me understand how we promote the [university] at large."

Drones: Also known as remotely piloted vehicles, unmanned aerial vehicles, models, and radio-control aircraft

FLIGHT FORMATION

As **unmanned aircraft** begin to elevate commerce and transportation, **Virginia Tech's experts are leading the way**

by JOHN PASTOR

KEVIN KOCHERSBERGER

Kenneth Kroeger (left) and Gordon Christie, mechanical engineering students associated with the Virginia Tech Center for Autonomous Systems, use an unmanned aerial vehicle to gather agricultural data. Although the helicopter flies autonomously, it is remotely launched and ground personnel can take over guidance of the craft at any time.

Humans made their first forays into the sky with kites. Gliders, hot-air balloons, and airships were followed by the Wright brothers' flight of 1903, the mass production of helicopters in the 1950s, and then the first jet airplanes.

Today, a new type of craft is taking to the air. Known by many names—drones, remotely piloted vehicles, unmanned aerial vehicles, and radio-control aircraft—these new machines can be smaller than a model airplane or have a wingspan as large as a Boeing 737's.

Only six elite test sites in the U.S. are sorting out the issues to integrate unmanned aircraft into the airspace—and Virginia Tech is leading one of them.

First in flight

Like most test pilots, Kevin Kochersberger expects the unexpected.

A research associate professor in the College of Engineering, Kochersberger was chosen by the First Flight Centennial Commission for a 2003 re-enactment of the Wright brothers' historic adventure at Kitty Hawk, N.C.

His task was to fly a replica 1903 Wright Flyer and land it in front 35,000 attendees, including then-President George W. Bush and actor and pilot John Travolta.

"I had mentally made that flight a thousand times," Kochersberger said. "I thought it would be routine. It wasn't until I got in the plane, looked up, and saw thousands of people surrounding me in a circle that was about 800 feet in diameter [that] I thought, 'What other pilot ever had to get off the ground and land again in 600 feet?'"

Fast-forward more than 10 years, and Kochersberger again found himself pouring over the last-second details of a test flight.

The setting was a remote section along the Roanoke River. No packed grandstands here. No noise, no power. Just Kochersberger's flight team from the Virginia Center for Autonomous Systems, which is a research arm of the Institute for Critical Technology and Applied Science and the College of Engineering.

As with the First Flight Centennial, the aircraft was rare, but it was no replica of a treasured antique. It was an unmanned 250-pound helicopter.

Equipped with cameras—provided by industry partner American Aerospace Advisors Inc.—that detect ultraviolet, visible, and infrared wavelengths, the autonomous aircraft was charged with helping its flight crew of mechanical engineering students learn whether useful visual data from five acres of tobacco could be acquired.

Agriculture is fertile ground for the unmanned aerial vehicles industry, and the flight was Virginia Tech's first under the auspices of the Mid-Atlantic Aviation Partnership, a collaboration led by the university and academic and industry partners with a goal to safely develop unmanned aircraft systems.

The chopper rose, and the autopilot was activated. Infrared, long-wave infrared, and ultraviolet cameras whirred to life.

"I don't always sleep well the night before a flight operation, especially one in a remote location with no power, but absolutely nothing went wrong," Kochersberger said. "The helicopter started, the flight control system worked, we didn't have wind issues, the images were all taken, [and] the exposures were all correct. All of the systems we rely on, every one, worked perfectly. That's because our students are as good at unmanned flight operations as any team from any large corporation out there."

Chosen one

Unmanned aircraft operations come naturally to Virginia Tech's cadre of experts. Their crowning moment arrived in December 2013 when the Federal Aviation Administration (FAA) selected Virginia Tech to operate one of six unmanned aircraft systems research and test sites across the country.

CHASE MARTINEZ

Air time: Kevin Kochersberger, a research associate professor in the College of Engineering, is among the Virginia Tech experts shaping the future of autonomous flight.

The proposal, spearheaded by Jon Greene, interim director of the Mid-Atlantic Aviation Partnership and an associate director of the university's Institute for Critical Technologies and Applied Science, was picked after a rigorous 10-month selection process involving 25 proposals from 24 states.

With plans for the University of Maryland to join the effort, university leaders in Blacksburg, along with partners at Rutgers University in New Jersey, welcomed the FAA's decision.

"Integrating unmanned aircraft into the national airspace is a great responsibility, one that our faculty members and government, university, and industry partners take very seriously. We are ready to meet this challenge," said Virginia Tech President Charles W. Steger. "We are convinced that Virginia, teamed with New Jersey and Maryland, is poised to make the mid-Atlantic region the leader in unmanned aircraft system research, development, testing and evaluation, and manufacturing. I'm proud of our faculty … for providing vital expertise in autonomous systems."

Sending unmanned aircraft into the national airspace is a painstaking process. The congressionally mandated test sites will help pioneer rules to safely introduce unmanned aircraft to the skies. The FAA has until 2015 to develop regulations aimed at ameliorating safety and privacy concerns.

Economic heights

Much is at stake. Although Virginia Tech receives no federal funding for the effort, introducing unmanned aerial vehicles to U.S. skies could add more than $13.6 billion to the national economy by the end of the decade, with totals reaching as high as $82.1 billion by 2025, according to the Association for Unmanned Vehicle Systems International.

Moreover, the association ranks Virginia eighth among states with the most to gain from unmanned aircraft systems. By 2017, unmanned aircraft systems-related work is expected to inject $463 million into the commonwealth's economy, produce $4.47 million in additional tax revenue, and add more than 2,300 jobs.

In a recent economic study, the Virginia Department of Aviation, the Virginia Economic Development Partnership, the Center for Innovative Technology, and Virginia Tech concluded that Virginia is well positioned to meet the needs of unmanned aircraft manufacturers because of the commonwealth's manufacturing capacity and because 300,000 people already work in related fields.

"Virginia already has a ready-made workforce for technology development in unmanned vehicles systems," said Jennifer Shand, senior economic development specialist with the Office of Economic Development, part of Virginia Tech's Outreach and International Affairs.

JIM STROUP

In control: David Schmale in the College of Agriculture and Life Sciences uses drones to analyze microbes in raindrops.

In addition to workforce expertise, the mid-Atlantic region contains both uncongested and restricted airspace, land and water terrain, and access to both sea-level and high altitudes.

Even before Virginia Tech received the nod from the FAA, the commonwealth was determined to capitalize on the unmanned aerial systems industry, pledging more than $2.6 million over three years in Federal Action Contingency Trust (FACT) funds to Virginia Tech to operate a test site. The fund was created by the Virginia General Assembly in 2012 to soften the blow of federal budget cuts due to sequestration. Many of the partnership team members are concentrated in areas that were stunned by mandatory cuts to the Department of Defense.

Wireless:
For a video and additional reading on drones at Virginia Tech, visit www.vtmag.vt.edu.

"We are creating technologies that could transform transportation, agriculture, emergency response—a wide variety of activities," said Craig Woolsey, an associate professor of aerospace and ocean engineering with the College of Engineering and the director of the Virginia Center for Autonomous Systems. "When people realize what they will gain through autonomous technology, we are going to see a drastic paradigm shift in the way we approach these activities. As happened with cellular devices, new industries will crop up, [and] new infrastructure needs will evolve. The economic impact will be enormous."

Flight plan

As for the technology itself, partnership members expect that unmanned aircraft will be useful for pipeline inspections, search-and-rescue missions, disaster response, and wildlife management. Creativity will no doubt lead to more novel applications.

For example, College of Agriculture and Life Sciences researchers David Schmale, an associate professor of plant pathology, physiology, and weed science, and Boris Vinatzer, an associate professor and geneticist, are part of an international team running DNA analyses on millions of microbes in raindrops, many of them captured by unmanned aerial vehicles from the clouds themselves.

Meanwhile, the news is filled with stories about businesses that want to find ways to capitalize on the technology, whether to ship merchandise or even deliver pizzas. If commerce ever comes to those uses, safety hurdles must be overcome.

"With our partners, we firmly believe we can introduce this new technology the right way," Greene said. "Separately, the team members have flown unmanned aircraft systems for thousands of hours, and now we have joined together to conduct unmanned aircraft systems research, development, and test and evaluation activities."

The partnership is crafting its next set of operations and has plans to continue with simple, low-risk testing until there is confidence in its procedures and processes, Greene said.

"Once the partnership and the FAA are convinced it is time to move to more-complex operations with larger, faster, and higher-flying aircraft, we will move forward," Greene said. "Our mantra will be that whatever happens, we want to make sure that it is at least as safe as the manned aircraft operations that are already occurring in the National Airspace System.

"By February 2017, we expect that the small UAVs rules will be on the books and will permit some use of small UAVs—probably limited to 55 pounds or less—for commercial purposes," Greene said. "There could be hundreds, even thousands, of UAVs in the skies at that point."

Drones may be unmanned, but it's safe to say that even the Wright brothers would be intrigued by this next frontier in flight.

John Pastor is the director of research communications in the Office of the Vice President for Research. Portions of this story first appeared in the Virginia Tech Research Magazine.

Corps' Center Focuses on Leadership

by COL. DAVE MILLER

DAVE MILLER

Leading: At a recent change-of-command ceremony for VPI Battalion, new leaders prepared to serve as part of the more than 220 cadets in the citizen-leader track.

The Corps of Cadets is more than the repository of the university's origins and values; it is the largest living-learning community on campus. Its mission of developing leaders of character benefits not only students who are pursuing careers as military officers, but, increasingly, students who desire to hone their leadership skills for use in the public and private sectors. More than 200 cadets are pursuing this citizen-leader track, and many of the corps' graduates have gone on to significant leadership roles in companies that are household names.

Education and experiential learning are at the heart of this effort. The Rice Center for Leader Development was created in 1996 through a generous gift from a Corps of Cadets alumnus, Maj. Gen. W. Thomas Rice (civil engineering '34). Named for Rice and housed in the Pamplin College of Business, the center directly supports the Corps of Cadets' mission. The center's specific mission is to "educate and graduate global, ethical leaders who are prepared to succeed in roles of responsibility in their chosen career and who are dedicated to the university's motto of *Ut Prosim* (That I May Serve)." Charged with managing the academic component of the corps' leader development program, the Rice Center offers 16 accredited courses through the Department of Management. A combination of these classes and those offered to the military-track cadets by the respective ROTC detachments provides an opportunity for all cadets to earn a minor in leadership studies, also managed by the center.

In 2013, the center began to create a board of advisors to support the mission of developing leadership capacity in cadets. Over the course of the summer and fall, executives from business, industry, and government organizations were briefed on the center's mission and capabilities. Invitations to join the board were offered, and I am pleased to report that joining our team are 14 highly capable people from such organizations as Deloitte, DuPont, Disney, Advance Auto, the Prince William Sheriff's Department, Transamerica, IBM, and Wells Fargo. The board will review the center's curriculum to ensure our graduates are prepared to succeed.

An equally important task for the board is to help identify opportunities for cadets to gain experience within and outside of the university construct. This concept might take the form of an "employment pipeline," where a company offers scholarships and internships and helps shape a cadet's college experience on campus. This initiative would help cadets develop a relationship with a prospective employer, ensuring that the graduate is fully prepared to begin work as a knowledgeable, contributing employee. Those same skills will be of value to cadets pursuing a military career that spans the globe and involves both government and private-sector relationships.

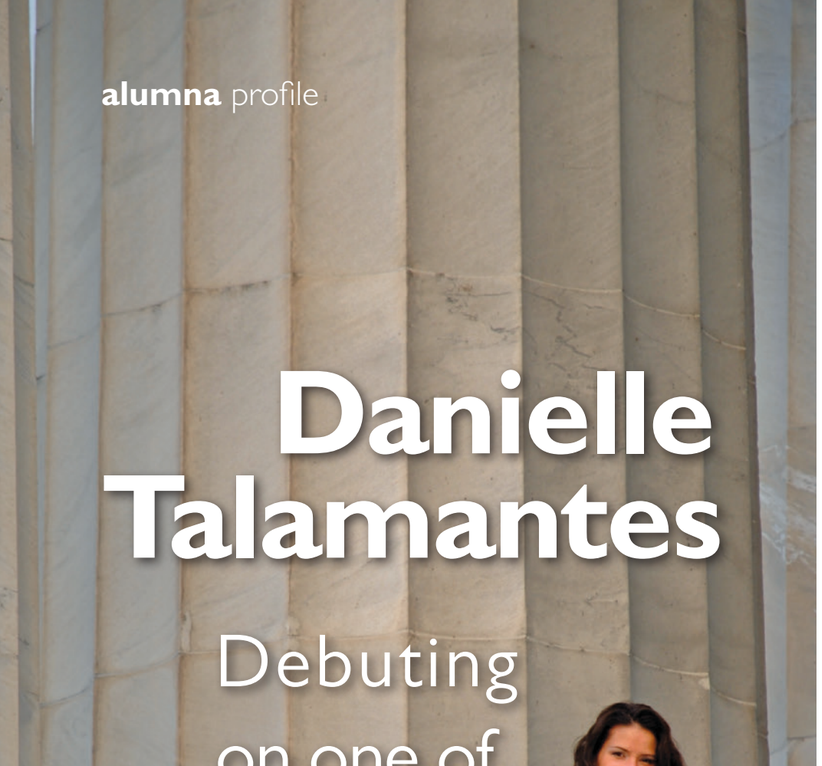
One measure of the important work that the Rice Center is doing is the academic success of our cadets. The corps' average GPA in the fall 2013 semester was 3.09. The advice, support, and dedication of the new board of advisors will help us continue that success and meet the ever-increasing demands for global, ethical leaders.

Col. Dave Miller, U.S. Army (retired), is deputy commandant for leader development and director of the Maj. Gen. W. Thomas Rice Center for Leader Development.

Danielle Talamantes

Debuting on one of opera's biggest stages

by RACHEL CLINE



TRACY MEADOWS

Performing with the Metropolitan Opera in New York City is one of the highest goals that a singer can set, and one that is rarely achieved. So when Danielle Talamantes (vocal performance, music education '98) received a phone call from the opera company, her initial reaction was skeptical.

"When I got the phone call for the audition, I thought maybe it was a joke," Talamantes said. "The Met doesn't generally call you, but they did."

A native of Vienna, Va., Talamantes spent her first two seasons on the Met roster as a covering artist, essentially an understudy; but in her third season, she debuted in a small role in Strauss' opera "Die Frau ohne Schatten," which ran for six performances in November 2013. In February, she was offered the role of Frasquita in Bizet's "Carmen" for the 2014-15 season. Entailing a good amount of stage and singing time, the role is "a huge break for my performance career, and I'm still floating from the news," she said.

Opening her voice

Performing at the Met is quite a leap for someone who chose to attend a state university over a traditional conservatory route. Although she grew up around music, Talamantes was hesitant to pursue music for a living—and was certain that she wanted to experience a university.

"I ended up going to Virginia Tech, and I loved it," Talamantes said. "It was the perfect blend of a big school and football games, and then this small music department that was like a family and very nurturing."

Although Talamantes pursued double majors at Tech in vocal performance and music education, she realized that the front of the classroom was not for her, deciding that there were others better suited to teach. Indeed, she found several such people in the Tech music department who helped shape her vocal performance skills.

Dave McKee, director of the Marching Virginians, was Talamantes' freshman aural skills professor and recognized her talent early on.

"With a kid like that, you take a deep breath and say, 'Wow, I'm in the presence of somebody who's really got a lot of talent and a great work ethic, and we'll see where she goes,'" McKee said. "And in her case, she's certainly gone to the moon, hasn't she?"

Talamantes also had private lessons with Nancy McDuffie, who taught at Tech for close to 30 years before stepping down as an assistant professor of voice. Like she did with all students, McDuffie started out slow to diagnose Talamante's voice, but she quickly saw her potential.

"With Danielle, it was just obvious from the start that this voice of hers just had easy production with very few problems," said McDuffie. "She was a fun voice to work with because whatever I asked her to do, she would just do it."

While training with McDuffie, Talamantes began her foray into the operatic style. "You begin to bring operatic arias into the student's repertoire as soon as you think the voice is strong and stable enough to handle it," McDuffie said. "[Danielle's] voice was just so capable from the start, it was just a matter of opening up her voice and allowing it to be free and get stronger."

> "When I got the phone call for the audition, I thought maybe it was a joke. The Met doesn't generally call you, but they did."
>
> —Danielle Talamantes '98

Hitting the high notes

After leaving Virginia Tech, Talamantes attended graduate school at Westminster Choir College, then returned to her hometown and opened a private voice studio. She also began auditioning and performing in regional operas and competitions, which ultimately led to her position at the Met.

Although the Met keeps her busy, Talamantes has found time to take on other performances, including the lead role in the debut of "The Lost Childhood," an opera based on the memoirs of an 11-year-old Polish Jew at the time of the Nazi takeover in Warsaw. The show's world premier was in Washington, D.C., the same week as Talamantes' debut at the Met, which she laughingly refers to as the busiest week of her career.

"The fact that these two things were happening at the same time was totally dizzying," Talamantes said. "Really, really exciting, but kind of stressful because I was going back and forth."

Talamantes also has a debut album, "Canciones Españolas," which will be released soon.

JAMES TRENT

Danielle Talamantes '98 with pianist Henry Dehlinger

BILL LARSON, CLARKSVILLE ONLINE

Produced with friend and pianist Henry Dehlinger, the album features a range of classical Spanish music, touching on their shared Latin roots.

The album's production was funded via a website called Kickstarter that finances individual creative projects through online donations. The pair began with a goal of $8,800, but raised more than $12,000 between June and July 2013. The album is currently in production and is slated to appear soon in Amazon and iTunes stores.

Performing at Tech

As part of the inaugural season of Virginia Tech's new Moss Arts Center, Talamantes will return to campus in May as the soprano soloist in Mendelssohn's "Elijah" oratorio, featuring the Blacksburg Master Chorale, the university choirs, and the Roanoke Symphony Orchestra.

Branch Fields (liberal arts '92), the bass soloist for the performance, is looking forward to sharing the stage with Talamantes again. Fields, a successful opera performer in his own right, said that the fact they have done so well post-graduation is a testament to their alma mater. "We both had teachers that directed us in the right way at Tech, which says a lot for [the school] because music is not a big department," Fields said.

> "[Danielle's] voice was just so capable from the start, it was just a matter of opening up her voice and allowing it to be free and get stronger."
>
> —Nancy McDuffie, former assistant professor of voice

According to McDuffie, boasting graduates like Talamantes and Fields may help grow the music program at Tech even further. "It works somewhat like a sports program," McDuffie said. "If you have a star player or a winning team for a season or two, it automatically brings attention to the program."

Singing for one:
For a selection of audio and video performances by Talamantes, visit www.vtmag.vt.edu.

Looking Ahead

A career in music is never a certain path, and although Talamantes has debuted with one of the world's most respected opera companies, she is still unsure of what the future holds. However, McKee insists that with the combination of work ethic and talent that Talamantes possesses, her next steps in music will be even bigger.

"I would say the best is still yet to come," McKee said. "I think she's just made it, and people are going to discover what we've known for years."

Said Talamantes, "I can't believe that I get to do what I love ... and I know it's what I'm supposed to be doing, It's absolutely the best thing in the world." ▢

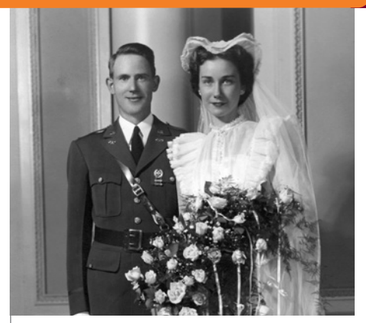
Rachel Cline, a senior majoring in communication and sociology, was an intern with Virginia Tech Magazine.

COURTESY PHOTO

Danielle Talamantes '98 in front of the Metropolitan Opera

For Generations to Come

1941



Clinton and Lucille Baber on their wedding day in 1941

by ERICA STACY

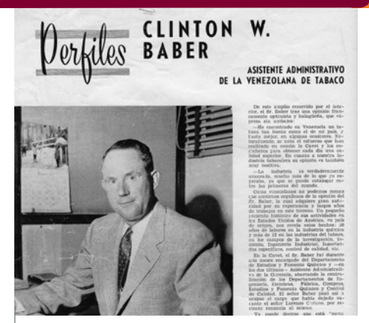
When Clinton W. Baber graduated from Virginia Tech, the United States was in the grips of the Great Depression, and the international community was marching toward World War II. The average car cost $625. Monopoly was the newest board-game sensation.

Seventy-nine years later, the world has certainly changed, but in 2014, the Virginia Tech tradition that Baber (chemical engineering '35) held dear continues to encourage success and inspire innovation, reinforced through a generous scholarship.

"They loved young people," attorney W. Scott Street said of Clinton and Lucille Baber, his longtime friends and clients. "It was no surprise when they contacted me to seek legal assistance for their plans to establish a scholarship at Virginia Tech through their estate."

A native of Fluvanna County, Va., Clinton Baber was elected to multiple honor societies at Virginia Tech. Following an impressive U.S. Army career, during

1957



Clinton W. Baber, who was featured in a company publication in March 1957, spent seven years working in the tobacco industry in Venezuela.

which he attained the rank of colonel, he held leadership roles in both the tobacco and the paper industries before shifting to real estate.

Lucille Baber passed away in 2001, and her husband in 2003. The Clinton Wiley Baber Scholarship they established covers full tuition and is awarded annually to an in-state student who has been enrolled at least a year, maintained academic excellence, and demonstrated financial need.

For Andrea Burcham (English '12), the scholarship served as a launching pad for a career in law. "I didn't have to worry about the financial pressures of school, so I was able get involved with different projects; I did an internship with the Montgomery County commonwealth's attorney," said Burcham, who is now attending the Charlotte School of Law.

David Vasquez, a junior biology major from Virginia Beach, Va., who received the scholarship this academic year, is the first in his family to attend college.

2012

COURTESY PHOTOS

The scholarship support helped Andrea Burcham '12 earn her English degree.

"Last year, I had to work to help cover my expenses," he said. "This year, I have been able to participate in a research project that is related to my future goals."

Street said that Baber "attributed his personal and professional successes to what he learned as a student at Tech. … He wanted to provide that opportunity to younger generations, with the hope that they, too, would be inspired to give back."

Judging from comments by Megan Sirbaugh, a senior majoring in meteorology and geography who also holds the scholarship, Street's philanthropic legacy has influenced others, just as he hoped.

"I can't begin to express how much this scholarship means," said Sirbaugh, of Winchester, Va. "I only hope that I will have the opportunity to help someone else someday the way this has helped me." ▢

Erica Stacy is the publications editor with University Development.

Tools of the Trade

by ERICA STACY

COURTESY PHOTOS

George B. Clarke IV '82 helped establish the Yvan Beliveau Endowment for Excellence, which funded recent renovations to the Build Lab in Bishop Favrao Hall.

Preston White '63 and Catharine White

While hard hats and high tech may seem like unusual partners, the building professionals of tomorrow will be just as likely to count laptops, smart phones, tablets, and 3-D printers among their tools as they do hammers and nails.

At Virginia Tech's Myers-Lawson School of Construction, the new Bishop Favrao Build Lab opened in 2013 to prepare students for a more technologically driven industry.

"The construction industry is, in effect, experiencing its own renovation and remodel," said David Goldsmith, a visiting assistant professor who coordinates the lab. "Applying new technologies to gold-standard building practices results in improved efficiency, seamless communication, and increased opportunities for innovation and customization."

JIM STROUP

(From left) Students Matt Harrington, Suduck Kim, and Sam Savoia use the ShopBot, a CNC (computer-controlled) router, to complete a project in the Bishop Favrao Build Lab.

Support for the Build Lab was provided by the Yvan Beliveau Endowed Fund for Excellence, established in 2011 by donors Preston (building construction '63) and Catharine White, as well as George B. Clarke IV (civil engineering '82).

"Today's graduates need to be ready to adapt to a changing work environment," said Preston White, who founded Century Concrete. "The confidence to apply new technologies, which are moving very quickly, is essential. I think the most important things a university can teach a student today are flexibility and self-worth. Give me someone with that, and I can teach them the rest."

Yvan Beliveau, the former building construction department head for whom the endowment that funded the lab was named, said the generosity of the Whites and Clarke "enables us to enrich and enhance opportunities for our faculty and students by supporting initiatives such as the Build Lab."

"We established the endowment," said Clarke, president of MEB General Contractors, "to provide the financial support to take innovative ideas and put them to work, making a difference for the students at Virginia Tech and, ultimately, the building and construction industry."

While numerous students benefit from the lab, several also participated in its construction this past summer. "We were responsible for everything except the electrical aspects," said Matt Harrington, who expects to graduate in 2015 with a dual degree in building construction and real estate. "I hope to find a position as a project manager. This hands-on experience gave me an appreciation for the type of work I may be in charge of."

Now that the lab is operational, Harrington continues to benefit from it. "I have been able to take the concepts from my classes and apply them to projects in the Build Lab," he said. "I have built furniture and used lasers for cutting and engraving different materials. Right now, I am working on developing a new style of nail gun."

Access to high-tech equipment is one benefit of the lab, but the facility also provides an environment for collaboration, allowing students to learn from each other, Goldsmith said. "If someone asks you about your project or a piece of equipment, we require that you stop what you are doing and explain it to them," he said. "The connections that our students create in the classroom, in the lab, and with their teachers and peers are the most important elements of their education."

Erica Stacy is the publications editor with University Development.

Points of pride are reasons to return

Whether you were last on campus as a student or as a visiting alum, Virginia Tech has more to see than ever.

This year is a perfect time to visit campus and take in some rather spectacular additions and visitor attractions. The coming football season offers seven home games and quite a few events specifically for alumni to reconnect with each other and see the campus. Separate homecomings for each of our eight academic colleges; reunions for six anniversary classes; a young alumni reunion; and homecomings for the Corps of Cadets, Highty-Tighties, Marching Virginians, graduate degree alumni, Student Alumni Associates alumni, former Student Government Association officers, and Order of the Gavel members are spread out across the football schedule. Event schedules are on page 48-49, along with a website address for details and registration information.

While on campus, stay at the beautiful Inn at Virginia Tech and enjoy the connected Holtzman Alumni Center. Check out the new Visitor and Undergraduate Admissions Center near the inn.

Among the must-visit sights are the new Moss Arts Center, the Signature Engineering Building, Theatre 101, and Turner Place Dining Hall at Lavery Hall. With its distinctive presence where Shultz Dining Hall once stood, the Moss Arts Center has dramatically changed the appearance of the Alumni Mall entry off Main Street (Shultz is incorporated into the new facility). The Signature Engineering Building faces Prices Fork Road in the parking lot behind Derring, Cowgill, Whittemore, and Durham halls. Like the arts center, the engineering building is an impressive addition, complete with a Rolls Royce jet aircraft engine suspended four stories high in the central lobby.

Theatre 101 is a black box theatre with flexible performance space. It sits on a recently renovated College Avenue streetscape that includes more pedestrian walkways and outdoor dining space for restaurants. With eight separate restaurants and a main dining room, Turner Place is the latest award-winning dining facility on campus.

Several exhibition spaces have been created in recent years to display historical and athletic memorabilia. The Holtzman Alumni Center's museum houses various items showcasing the university's 142-year history. As corps housing is modernized and expanded on the Upper Quad with ongoing construction, a Corps of Cadets display has been assembled in Newman Library. Athletic exhibits are showcased in Lane Stadium, the Merryman Center, and the recently dedicated Hahn-Hurst Basketball Practice Facility. All four offer professionally designed exhibits open on weekdays and some weekends.

There is plenty to see when you return to campus. Why not make that visit in 2014?

Tom Tillar '69

Vice President for Alumni Relations

JIM STROUP

LOGAN WALLACE

MICHAEL KERNAN

So much to see: (clockwise from upper left) Theatre 101, Turner Place, The Inn at Virginia Tech, Signature Engineering Building

MICHAEL KERNAN

contents

contributors

Tom Tillar '69	Vice President for Alumni Relations
Dave Hunt	Communications Director
Shirley Fleet	Class Notes Editor

2014 reunions

LOGAN WALLACE

Hokie football games add flavor to class reunions and homecomings

2014 class reunions

Class reunions from the 25th through the 50th anniversaries are held at five-year intervals. Each reunion includes optional campus tours, an afternoon presentation by current students, a Friday evening meal, and plenty of time for reminiscing and dancing. Saturdays feature a morning brunch and pregame festivities. The exception to the typical Friday/Saturday reunion agenda is for a Thursday evening game, when the banquet follows on Friday. Special seating is arranged for the reunion registrants at Tech's sold-out games, and rooms are set aside at The Inn at Virginia Tech.

Sept. 20 – Georgia Tech
Class of 1974 – 40th Reunion
Class of 1979 – 35th Reunion

Sept. 27 – Western Michigan
Class of 1964 – 50th Reunion

Oct. 23 – Miami
Class of 1984 – 30th Reunion
Class of 1989 – 25th Reunion

Nov. 1 – Boston College
Class of 1969 – 45th Reunion

Nov. 28 – Virginia
Young Alumni Reunion

2014 homecomings

LOGAN WALLACE

2014 homecomings

Homecomings are hosted throughout the football season. Programs for the eight academic colleges are spread across the home schedule, along with other special homecomings for graduate-degree alumni and Corps of Cadets alumni. Homecomings are open to all alumni of the host groups, regardless of graduation year. In each case, there is a game-day gathering, 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.

Come home:
For more information on the 2014 homecomings and reunions, visit www.alumni.vt.edu/reunion/index.html.

Aug. 30 – William & Mary
Veterinary Medicine
Graduate School

Sept. 13 – East Carolina
Corps of Cadets
College of Natural Resources and Environment
College of Liberal Arts and Human Sciences

Sept. 20 – Georgia Tech
College of Agriculture and Life Sciences

Sept. 27 – Western Michigan (Homecoming Parade)
Alumni Center Open House and Tailgate
College of Engineering
Student Affairs: SGA and Order of the Gavel
Highty-Tighties
Marching Virginians

Oct. 23 – Miami
College of Science

Nov. 1 – Boston College
Pamplin College of Business

Nov. 28 – Virginia
College of Architecture and Urban Studies
Student Alumni Associates 45th Reunion

Hokie Day 2014

One hundred and eighty Virginia Tech alumni and students attended the 16th annual Hokie Day at the General Assembly. The day began with breakfast and presentations by Virginia Tech President Charles W. Steger, Vice President for Alumni Relations Tom Tillar, and others. After being briefed on university priorities, participants headed for the Capitol to visit legislators. The delegation posed with Virginia Gov. Terry McAuliffe on the Capitol steps.

MICHAELE WHITE

Seeking nominations

Board of Directors: The Alumni Association is seeking nominations for its board of directors for the next three-year term, beginning in 2015. Nominations are due by June 1.

Multicultural Alumni Advisory Board: Nominations are invited for the board that represents the interests of multicultural alumni constituencies. The board works closely with the Alumni Association and the Office for Diversity and Inclusion.

Outstanding Recent Alumni Award: The Alumni Association invites nominations for the 2014-15 Outstanding Recent Alumni Awards, which recognize professional achievement and leadership by alumni who have graduated since 2004. Nominations are due by Aug. 15.

For both boards and the recent alumni award, please include the nominee's full name, class year, address, and specific qualifications for the nomination. Self-nominations are welcome. Mail nominations to: Virginia Tech Alumni Association, Holtzman Alumni Center (0102), 901 Prices Fork Rd., Blacksburg, VA 24061.

Alumni Humanitarian Award: Nominations are invited for the Humanitarian Award, which is presented to an alum who has performed exceptional service outside his or her profession or career. The scope of service should have significant regional, national, or international impact.

The nomination form is at www.alumni.vt.edu/humanitarian.

2014 DRILLFIELD SERIES

The Drillfield Series continues in 2014 with weekends devoted to photography, student legacies, and healthy pets, along with special opportunities to connect with fellow alumni over a round of golf, a glass or pint of your favorite adult beverage, and activities at a scenic mountain retreat. Make plans now to attend these events designed for alumni and their families and friends, and take advantage of the specially discounted accommodations available at The Inn at Virginia Tech.

May 30-31

Focus on Photography

The fourth year of this popular program features sessions on sports photography, taking better portraits, an introduction to HDR photography, and more. The weekend starts with a photographer's boot camp and ends with a critique session in which presenters help you identify ways to improve your images. In addition to instruction and an information packet, participants will have time to take pictures. The registration includes dinner on Friday and breakfast and lunch on Saturday, with the program concluding late that afternoon. Accommodations are available at The Inn at Virginia Tech.

- *$195 per person*

June 6-7

Top of the Mountain at Mountain Lake

Experience the new Mountain Lake Lodge at Mountain Lake and enjoy a getaway adventure this summer. Registration includes a Friday dinner, Saturday breakfast and lunch, and Sunday breakfast. Learn about the history of one of only two naturally formed lakes in Virginia, and about the lake restoration project from the lake naturalist. There is a new aerial adventure course to enjoy, plus guided hikes, mountain biking, archery lessons, treasure hunts, naturalist programs, and other family-friendly activities.

- *$125 per adult; $99 for children 12 and under*

June 16

Hokie Classic Golf Tournament

Join fellow alumni, guests, and friends for a captain's choice golf tournament at the award-winning Pete Dye River Course at Virginia Tech. Registration includes greens fees, cart, scoring and door prizes, a commemorative polo shirt, adult beverages, lunch, and a post-tournament dinner in the beautiful clubhouse overlooking the New River. Enjoyable for golfers of every skill level, the tournament offers prizes for all teams and will feature several varsity coaches and former varsity players from the university.

- *$135 per person; $500 per foursome*

June 28

Summer Beer Festival at Virginia Tech

Virginia is for craft beer lovers. Experience a unique Saturday beer festival at the Holtzman Alumni Center with live entertainment, special guest appearances, and more than 40 local, regional, and national breweries pouring their best brews. Relax and join friends in Blacksburg for frosty tastings and food favorites from local restaurants. Those arriving on Friday, June 27, may opt for a beer-pairing dinner provided by The Inn at Virginia Tech for an additional fee and reservation.

- *$25 per person; VIP tent $50 per person*

July 10-11

A Day in the Life of College Admissions

The popular annual "Day in the Life of College Admissions" is a program designed especially to assist prospective 2015 and 2016 high school graduates and their parents in navigating the college application process. Program highlights include pointers for conducting an effective college search, a behind-the-scenes look at college admissions, and application preparation tips from admissions professionals.

- *$120 per adult; $95 per student*

August 8-9

Happy and Healthy Pet Weekend

Join us for an interactive and informative program focused on companion animals. Learn about pet care, diets, vaccines, and toxins, plus state-of-the-art research in cancer and translational medicine at the Virginia-Maryland Regional College of Veterinary Medicine. Receive a tour of the animal hospital, and hear from faculty members and the dean in a special panel. Registration includes a dean's reception and other meals on Friday and Saturday.

- *$125 per adult; $99 for children 12 and under*

Drillfield Series:
For more information on the events, visit www.alumni.vt.edu/drillfieldseries/.

MICHAEL KIERNAN

Columbarium

A fourth of the niches in the first section of the Virginia Tech columbarium near the Holtzman Alumni Center are still open for reservation. Call Jay Whitlow at 540-231-6285 or visit www.alumni.vt.edu/columbarium.

2014 travel tours

Wales

Mediterranean Marvels
Go Next, Oceania Cruises' Insignia
May 7-15 | $2,499* (air included)

Greek Isles Odyssey
Go Next, Oceania Cruises' Riviera
May 14-22 | $2,499* (air included)

Graduate and Young Alumni Trip
Alumni World Travel
May 27-June 14 | $3,675*

Discover Wales and Yorkshire
AHI
May 31-June 11 | $3,890*

Alumni Campus Abroad - Tuscany
AHI
June 11-19 | $2,795*

Alpine Lakes and Scenic Trains
Collette
June 13-22 | $2,999*

Provence - International Lifestyles
Explorations
AHI
July 12-Aug. 3 | $4,995*

Alaskan Frontiers and Glaciers
Go Next, Oceania Cruises' Regatta
July 14-24 | $2,999* (air included)

Canadian Rockies Family Discovery
Collette
July 20-26 | $2,199 per adult, $1,149 per child*

The Wild West and Yellowstone Family
Adventure
Collette
July 26-Aug. 1 | $1,699 per adult, $1,099 per child*

Great Pacific Northwest
Go Next, American Express
July 26-Aug. 3 | $3,795*

Cruise The Waterways of Russia
AHI, River Victoria
Aug. 7-20 | $4,445*

Baltic Treasures
Go Next, Oceania Cruises' Nautica
Aug. 21-Sept. 1 | $4,299* (air included)

Ireland - Kilkenny, Killarney, and Dublin
Go Next
Sept. 19-27 | $2,599*

Spanish Serenade
Go Next, Oceania Cruises' Marina
Sept. 23-Oct. 4 | $3,999* (air included)

Accent On The Rivieras
Go Next, Oceania Cruises' Marina
Oct. 3-11 | from $2,499* (air included)

Treasures of Southern Africa
AHI
Oct. 8-22 | $6,995*

Cruise The Panama Canal
AHI, Crystal Cruises
Nov. 19-30 | $3,290*

Old Fashioned Holidays in The South
Go Next, American Queen
Dec. 5-13 | $2,549*

Caribbean Getaway
Vacations To Go, Celebrity Reflection
Dec. 6-13 | $764*

* Dates and prices are subject to change. Pricing is based per person on double occupancy without air, except as noted. Free air is based on departure from select North American gateway cities. The Alumni Association encourages all alumni to consider purchasing travel insurance. Learn more at www.alumni.vt.edu/travel/insurance.

www.alumni.vt.edu/travel

Something for everyone at alumni chapter events

Local alumni chapters provide opportunities for Hokies to network, socialize, and promote their alma mater. Last year, more than 115 chapters held more than 1,000 events in their local communities, with 600 alumni volunteers giving back in the spirit of *Ut Prosim* (That I May Serve).

Chapter events include
- Visiting speakers from Virginia Tech
- Wine tastings
- Professional networking events
- Student send-offs
- Strong Together events
- Game-watching gatherings
- Holiday celebrations

"With the volume of events being hosted throughout the Hokie Nation, there always is something of interest for everyone," said Debbie Day, associate vice president for alumni relations. To find a chapter where you live, visit www.alumni.vt.edu/chapters and click on "Find Your Chapter."

Sports and activities

Cheering on the Hokies is as popular among chapters throughout the country as on campus. Chapters sometimes take an active approach to sports by forming local leagues. For instance, in 2013, the Chicago chapter won its first beach volleyball championship. The Manhattan Hokies gather in the summer for softball; last year they celebrated their fifth season and defeated U.Va.'s New York City alumni chapter. "It's always better to win," said Casey Lee (finance '04), "but we celebrate together after each game." The Kentucky chapter combined serious physical challenges and service last October when alumni competed in their first Tough Mudder. The globally recognized race with military-style obstacles, adapted for civilian participation, raises donations that support the Wounded Warrior Project. "We could not think of a better way to live *Ut Prosim* and put our Hokie Spirit to the test," said Jordan McCauley (sociology '12).

Community service

Many chapters coordinate service projects, including efforts connected with Virginia Tech bowl games. Last December, alumni in El Paso, Texas, joined members of the current Corps of Cadets Color Guard to refurbish planting beds at the Old Fort Bliss Replica. "We're excited to see Virginia Tech here coupling football and service—two things that make us very proud," said Blythe Hogeboom (international studies '95), who was participating with her husband, Patrick (civil engineering '94), and three sons.

COURTESY PHOTO

Community service in El Paso, Texas, before the Sun Bowl

COURTESY PHOTOS

A Tough Mudder race in Kentucky

Beach volleyball in Chicago

Community events

Many chapters hold special events unique to their own communities. For example, the Eastern Shore chapter sponsors an annual oyster roast, which averages 200 attendees. The roast features a silent auction, and an admissions representative attends to meet with prospective students. Such events usually benefit scholarships for local students entering Virginia Tech.

Book Notes

BOOKS BY ALUMNI

nonfiction

Cynthia D. Bertelsen (M.S. human nutrition and foods '78), "Mushroom: A Global History," history, food, Reaktion Books.

Roderic Brame (Ph.D. geology '03) and Rachel Brame, "Mighty Titans," educational, biography, R2B2 Publishing.

Chekitan S. Dev (hospitality and tourism management '88), "Hospitality Branding," marketing, Cornell University Press.

James T. Maughan (M.S. biology '74), "Environmental Impact Analysis: Process and Methods," reference, CRC Press/Taylor & Francis Group.

Patrick J. O'Connor (Ed.D. vocational-technical education '82), "Meet Me at Ray's: A Celebration of Ray's Place in Kent, Ohio," history, restaurant/tavern, Black Squirrel Books/Kent State University Press.

Frances Park (psychology '77) and Ginger Park, "Allergies Away! Creative Eats and Mouthwatering Treats for Kids Allergic to Nuts, Dairy & Eggs," cookbook, St. Martin's Press/Thomas Dunne.

Sally Phillips (marketing management '84), "50 Revelations from the Heart: 50 Lessons on Living and Loving Fully," self-help, self-published.

Janice Saunders (Ph.D. sociology '81), "Old and Cold: Orientation 101," humor, aging, Hamilton Books.

Rosemary Tran Lauer and **Scott Beller** (communication '91), "Beggars or Angels: How a Single Mother Triumphed Over War, Welfare and Cancer to Become a Successful Philanthropist," memoir, Oaklight Publishing.

children's

Frank Miller (psychology '72), "Newtown's Trees," novel, allegory, tragedy, Tate Publishing/Children's Division.

Submission guidelines are available online at www.vtmag.vt.edu/bookreview.html. To submit a book, mail it to Book Notes, Virginia Tech Magazine (MC0109), 205B 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 Logan Wallace.

featured author

Ginny Zapar Cohen (hospitality and tourism management '96) is a blogger, entrepreneur, freelance graphic designer, mother, and chronic overachiever fueled by life, family losses, and her coffee addiction. An activist for children with disabilities, Cohen co-directs Surfers Healing Virginia Beach, which takes kids with autism surfing, and is a runner for Team Hoyt VB, which pushes children with disabilities in road races. In her debut novel, "Talabarske," a historical fiction about World War II she wrote with her father, Lubomyr Zapar (business administration '62), she strives to capture her family's escape from communism to find their own American dream. Below is an excerpt from the book, reprinted with Cohen's permission.

It was white as far as the eye could see. The five wives and their children sat in the tattered covered wagons, held hostage by their own fear and silence. They had already waited nearly two hours—the snowdrifts rose to the top of the wagon wheels. The horses were restless, shifting from side to side in anxious anticipation of their continuing journey westward. But nothing moved. The air had that steely smell of snowfall and even through the bitter cold the wives felt nothing but crushing fear. Time stood still.

They could see dim candlelight coming from inside the cabin and a small plume of smoke rising from the chimney. The caravan sat idle in front of the makeshift border patrol about a quarter of a mile away—just far enough for the ladies to be able to remain fixated on the movements inside, yet too far to hear or see anything that was going on within the stone walls.

One hour in, they could take it no more. They decided to trudge through the drifts, children on their hips, and beg the guard to let their husbands go.

Cautiously, Daria opened the door to find her beloved husband, Iwan, and his brother, Petro, lined up against the back wall with three other husbands from their caravan. It was an ominous sight—perhaps the prelude to their execution. Daria couldn't help but remember Iwan's final plea before they had chosen this risky path for their young family: One way or another they would all die or survive together—but they would not give up. They would do everything in their power to claim this life that was theirs.

They belonged to no one.

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

'42 **Hilda Frances Broyles Cassell** (GHEC), Blackstone, Va., 11/12/13.
Morris W. Clements (AGED), Henrico, Va., 10/31/13.
H.J. "Jack" Peake (EE), Alexandria, Va., 10/12/13.
Bernard Silverman (EE), Hanover, N.H., 10/29/13.

'43 **Walter G. Andrews Jr.** (BAD), Matthews, N.C.,10/26/13.
William P. Keeton Jr. (AGEC), Raleigh, N.C., 10/28/13.
H. Selwyn Smith (DASC), Manassas, Va., 8/24/13.

'44 **Floyd S. Childress Jr.** (AGE), Christiansburg, Va., 12/13/13.
J.J. "Joe" Johnson (IE '44, ME '47), Fort Myers, Fla., 9/20/13.
John H. Norton (ME), Mount Pleasant, S.C., 11/12/13.
Henry H. Schmoele Jr. (FW), Virginia Beach, Va., 4/8/13.

'45 **Edwin B. Old** (AGE), Crewe, Va., 10/9/13.
Herman H. Zwinger, Portland, Ore., 6/7/13.

'46 **Howard W. Hawks Jr.** (AGEC '49), Lambsburg, Va., 1/29/13.
Floyd "Sonny" W. Merryman Jr. (ANSC '42), Rustburg, Va., 12/7/13.

'47 **Sylvan H. Chasen** (CHE), Atlanta, Ga., 11/14/13.
Emma L. Gough (GHEC '47, GHEC '56), Rustburg, Va., 11/13/13.
Carl O. Shifflett Jr. (CHE), Waycross, Ga., 8/7/13.

'48 **Robert L. Brehm** (ME '54), Summit, N.J., 11/5/13.

'49 **James Pete R. Austin** (AGEC '49, AGEC '49), Shelbyville, Tenn., 11/20/13.
James W. Jones Jr. (IE), Lebanon, Va., 11/19/13.

'50 **George K. Ames** (EE), Cleveland, Tenn., 12/17/13.
William Brewster (EE), Johnson City, Tenn., 10/14/13.
Carl I. Carden Jr. (ME), Richmond, Va., 11/26/13.
Leonard L. Casey (ANSC), Richmond, Va., 10/15/13.
Harold D. Decker Jr. (CHE), Dearborn, Mich., 10/5/13.
John M. Dunnavant Jr. (AGED), Richmond, Va., 8/23/13.
Glenn E. Gurganus (FW), Virginia Beach, Va., 10/29/13.
Robert J. Hotchkiss (ME), Savannah, Ga., 11/13/13.
Ray A. Jackson (CE), Richmond, Va., 11/4/13.
Thomas Kent K. Loving (AGEC), Columbia, Va., 10/10/13.
Charles Bill W. Nye (IAED), Dublin, Va., 12/12/13.

'51 **Walter H. Baucom** (EE), Troy, N.Y., 10/11/13.
R.D. "Randy" Brenckman Sr. (EE), Southern Shores, N.C., 11/17/13.
Nicholas G. Economy, Roanoke, Va., 10/21/13.

'52 **Samuel T. Adams Jr.** (FW), Dry Fork, Va., 10/1/13.
Robert "Hack" D. Hackworthy (ARE), New Richmond, Wis., 11/30/13.
J. Philip Miller (ANSC), Shelbyville, Ky., 8/25/13.

'53 **Jack K. Eggleston** (IE), Petersburg, Va., 10/30/13.
Larry N. McLenagan (ACCT), Beaufort, S.C., 12/16/13.
Raymond A. Payne (SAEN '54, CE '54), Hurricane, W.Va., 11/1/13.
William H. Winston (BAD), Asheboro, N.C., 12/24/13.

'55 **William H. Starnes Jr.** (CHEM), Williamsburg, Va., was inducted into the Virginia Tech College of Science Hall of Distinction.

H.G. Guthrie Allen (BAD), Harrisonburg, Va., 11/15/13.
Jimmy L. Countiss (ME), Abingdon, Va., 11/23/13.
W. Robert Bob Jebson Jr. (METE '56), Culpeper, Va., 11/6/13.

KATIE NESBITT PHOTOGRAPHY

Ryan A. Knicely '09 and Ann Carlisle Strole '09, Charlottesville, Va., 10/5/13.

'56 **Gardner B. Granger** (BAD), Winston-Salem, N.C., 11/22/13.
Herbert H. Thompson (IE), Daleville, Va., 10/21/13.
Arnold E. Trope (BED '56, BED '58), Riner, Va., 12/3/13.
Thomas E. West (AGE), Palmyra, Va., 12/16/13.

'57 **W. Thompson "Tom" Baker** (BC), Charlotte, N.C., 10/18/13.
William F. Collins (IE), Ventnor City, N.J., 11/14/13.
Warren B. Luttrell (BAD), Annandale, Va., 12/7/13.
Garah L. Webster (BAD), Lawrenceville, Ga., 6/23/13.

'58 **Ronald D. Carr** (CE), Nashville, Tenn., 11/28/13.
Harry L. Conti Jr. (ME), Dublin, Ireland, 9/7/13.
Glenn A. Cosby (CE), Winchester, Va., 10/28/13.
James W. Jones Jr. (BAD), Riner, Va., 11/20/13.
T. Cooper Via (BAD), Blacksburg, Va., 12/3/13.

JUSTIN NATION

Craig Edward Arthur '06 and Nikeshia Twana Womack '07, Christiansburg, Va., 12/21/13.

MEGAN KORVING

Stephen Joseph Korving '00, a son, Mason Boyce Korving, 8/1/13.

SETH ROBERTS PHOTOGRAPHY

Tyler E. Williams '11 and Katherine Anne Hall Williams '13, Norfolk, Va., 10/26/13.

'59 **J.W. "Joe" Person** (BAD), Midlothian, Va., 12/3/13.

'60 **J. Hunter Chiles III** (EE), Fernandina Beach, Fla., 11/1/13.
Charles "Ike" P. Eichelberger Jr. (ME), Newport News, Va., 10/31/13.
Richard E. Lane (ME '61), Williamsburg, Va., 12/21/13.

'61 **W. Andrew Beckstoffer** (BC), Rutherford, Calif., was named by his peers as one of "The 20 Most Admired People in the North American Wine Industry."

Dewey E. Goode (BAD), Daleville, Va., 10/25/13.
Allen W. Wright (DE), Williamsburg, Va., 12/21/13.

'62 **Jean Dickinson Fielden** (STAT), Vero Beach, Fla., was inducted into the Virginia Tech College of Science Hall of Distinction.
Herbert H. Hash Jr. (FW), Boone, N.C., received the Outstanding Part-Time Teacher of the Year award from Appalachian State University.
G. Robert Quisenberry (STAT), Richmond, Va., was inducted into the Virginia Tech College of Science Hall of Distinction.

Julian B. Bell Jr. (CE), Signal Mountain, Tenn., 1/4/14.
John West Dick (FW), Harrison, Ark., 9/13/13.
Alvin M. Dixon (CE '69), Califon, N.J., 11/15/13.

'63 **Mark A. Childers** (CE '64, CE '66), Naples, Fla., was inducted into the Hall of Fame of the Offshore Energy Center.
William W. Lewis Jr. (PHYS), Washington, D.C., was inducted into the Virginia Tech College of Science Hall of Distinction.

David Bright (IE), Leawood, Kan., 11/19/13.
Eldridge N. Busic (GAG), Honaker, Va., 1/29/13.
Jane Martha Saunders Harb (CTRA, EDAD '80, EDAD '80), Charlotte, N.C., 11/8/13.
Leslie C. Vaughan (EE '64), Orlando, Fla., 10/26/13.

'64 **Michel C. Ashe** (ARCH), Virginia Beach, Va., received the 2013 William C. Noland Medal from the Virginia Society of the American Institute of Architects.

R.E. "Bob" Peak (RS '67, VOED '76), Floyd, Va., 11/21/13.

'65 **James L. Bland** (CE), Richmond, Va., was inducted into the Virginia Aviation Hall of Fame by the Virginia Aeronautical Historical Society.
Jaan Holt (ARCH), Alexandria, Va., received the American Institute of Architects Northern Virginia Chapter Award.

Michael F. Card (EM '65, EM '70), Williamsburg, Va., 11/8/13.
Erkan Esmer (CE '65, CE '69), Charlton Heights, W.Va., 11/8/13.
Rudell R. Frazier (ACCT), Pulaski, Va., 11/27/13.

'66 **Dwight L. Dean** (BAD), Goldsboro, N.C., 11/6/13.

'67 **R.A. "Bob" Boynton** (ARCH), Richmond, Va., was appointed to the National Ethics Council of the American Institute of Architects and named the chairman of the architects section of the Virginia Board of Architects, Professional Engineers, Land Surveyors, Certified Interior Designers, and Landscape Architects.

Glenn E. Giles Jr. (CE), Hampton, Va., 12/14/13.
Andrew "AJ" J. Powell Jr. (AGRN), Lexington, Ky., 10/30/13.
Bill O. Williford (STAT), Newark, Del., 11/3/13.

'68 **Kimbley L. Muller** (GSC), Houston, Texas, was inducted into the Virginia Tech College of Science Hall of Distinction.

Archie D. Brock (STAT), Commerce, Texas, 11/20/13.
S. Dickey Davis (ANSC '70), Wytheville, Va., 11/15/13.
M.H. Fariss (BC '70), Roanoke, Va., 12/10/13.
John F. Farley (BAD), North Myrtle Beach, S.C., 12/15/13.
Carl R. Herschel (PHYS), Chester, Vt., 10/15/13.
Robert E. Layman Jr. (DASC), Fincastle, Va., 11/21/13.

'69 **Wolfgang F. Preiser** (ARCH), Scottsdale, Ariz., co-authored a book, "Enhancing Building Performance."

Joseph P. Monoski Jr. (HIST), Blacksburg, Va., 10/1/13.

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

'71 **Patricia A. Caldwell** (MATH), New York, N.Y., was inducted into the Virginia Tech College of Science Hall of Distinction.
Mark S. Londner (ARCH), Hillsboro, Va., was reappointed to the American Society of Home Inspectors' national board of directors.

Michael W. Carico (MGT), Asheboro, N.C., 10/6/13.
Ballard O. Grubb (IAED), Pilot, Va., 10/26/13.
Daniel B. McCallum (STAT '72), Little Rock, Ark., 10/13/13.
Charles C. Pleasants (MKTG '72), Ashland, Va., 11/5/13.

'72 **Scott D. Corbin** (ARCH), Overland Park, Kan., is director of the healthcare design group for AMAI Architecture in Kansas City, Mo.

Steven Gorman (ACCT) and Anne Hodge, The Woodlands, Texas, 11/23/12.

'73 **Mary Nolen Blackwood** (PSYC), Midlothian, Va., was inducted into the Virginia Tech College of Science Hall of Distinction.
Marc W. Sheffler (ASE), Bear, Del., is chairman of the American Helicopter Museum and Education Center's board of trustees in West Chester, Pa.
David R. Henderson (GEOP), Spicewood, Texas, was inducted into the Virginia Tech College of Science Hall of Distinction.
John Thompson (MATH '73, MATH '75), Alexandria, Va., was inducted into the Virginia Tech College of Science Hall of Distinction.

Everett P. Shockley (FIN), Pulaski, Va., adopted a son, 8/21/13.

Gregory R. Brown (ME), Juneau, Alaska, 9/1/13.
Edward L. Janney (CE), Blue Ridge, Va., 11/18/13.
Armen M. Showalter (ARCH), Indian Valley, Va., 10/22/13.

'74 **J. Paul Waymack** (BIOC), Washington, D.C., is chairman of the Kitov Pharmaceutical Corp. board of directors.
Robert M. Werth (PSCI '74, BAD '81), Alexandria, Va., is president of the Taxicab, Limousine, and Paratransit Association.

Gary W. Lane (FW), Charleston, W.Va., 11/6/13.
Hugh M. Rooney, Mechanicsville, Va., 10/12/13.
Jean Burroughs Rose Snowa (ART), Richmond, Va., 6/6/13.
Emily Kay Alexander Sterrett (SOC), Staunton, Va., 10/16/13.

'75 **Frederick C. Alverson** (CHE), Katy, Texas, received the American Society for Testing and Materials' International Award of Merit for his contributions to the Committee D15 on Engine Coolants and Related Fluids.
Marcia Irene Burgett Buchanan (ACCT), Springfield, Va., received the American Institute of Certified Public Accountants' Outstanding CPA in Government Career Contribution award.

H. Virginia Kennedy (EDBS '75, ELED '75), Newbury, N.H., 11/11/13.
John C. Sedlack (FW), San Diego, Calif., 10/19/13.

'76 **Susan Athey** (STAT), Fort Collins, Colo., spent a semester on sabbatical teaching at Royal Thimphu College in Thimphe, Bhutan.
John Hasiuk Jr. (GBUS), Ellicott City, Md., retired after two years with the U.S. Army Signal Corps and 35 years with Westinghouse/Northrop Grumman's electronics systems division.
Jonathan B. Haufler (MICR '77), Seeley Lake, Mont., was elected to the Sustainable Forestry Initiative's Board of Directors.
Carol N. Sykes (BIOL '76, HRIM '80), Kitty Hawk, N.C., received the Dare Education Foundation's 2013 Excellence in Education Award.

Thomas V. Cooney (SYSE), McLean, Va., 11/2/13.
James D. Fletcher (EDCI '77), Honaker, Va., 10/18/13.
Debbie Wiley Hazelette (HNF), Lebanon, N.J., 10/23/13.

'77 **John A. Wiecjorek** (BIOL), Flushing, Mich., earned the designation of certified emergency manager from the International Association of Emergency Managers.

Dana R. Spencer (HRIM), Blacksburg, Va., 10/28/13.

'79 **Fern M. Brooks True** (EDCI), Glen Allen, Va., 4/8/13.

'80 **Patricia M. Dove** (AGRN, GEOL '84), Blacksburg, Va., received the Dana Medal from the Mineralogical Society of America.
Eleanor T. Jones (TA '81), Raleigh N.C., starred in a film, "Big Stone Gap."
David E. Tuggle (ACCT), Radford, Va., is executive vice president of Resource Realty Inc.

James V. Lasecki (IEOR) and Eva Li, Sunnyvale, Calif., 11/16/13.

William M. Dechant (MKTG '79), Asheville, N.C., 8/24/13.
Robert E. Morris (HORT), Orange Park, Fla., 10/4/13.

'81 **David H. Brakhage** (FW), Columbia, Mo., is the director of operations for Ducks Unlimited's Great Lakes and Atlantic region.
Theresa M. Koehler (BIOL), Houston, Texas, was inducted into the Virginia Tech College of Science Hall of Distinction.

'82 **Eric D. Terry** (HNF), Magnolia, Texas, is president of the Virginia Hospitality and Travel Association.

'83 **Darren R. Conner** (CE), Callands, Va., was appointed by Virginia Gov. Bob McDonnell to the State Board for Community Colleges.

Raymond A. Muller (CHE), Wheeling, W.Va., 10/28/13.

'84 **Robert D. Cryer** (ME), Erie, Pa., is director of internal combustion engines for MPR Associates in Alexandria, Va.
Polly E. Trammell (LAR), Ashburn, Va., is a senior business analyst for Time Warner Cable.

'85 **John F. DeVille** (BC), Manassas, Va., 2/21/13.
Dexter K. Payne (POUL), Blackstone, Va., 10/12/13.

'87 **Matthew J. Eick** (AGRN), Blacksburg, Va., received the Award for Excellence in Career Advising from Virginia Tech Career Services.
Van J. Ingram (BAD '87, BAD '89), Lexington, Ky., is vice president for franchise development at Taco John's International Inc.
Joan Breslin Sechrist (HRIM), Chesapeake, Va., earned a doctorate in education from Old Dominion University and received the 2013 Anita Owen Award of Recognition for Innovative Nutrition Education Programs for the Public.

Mark A. Craig (PSCI), Winchester, Va., 12/14/13.
Lisa Daleo (PSYC '87, PSYC '99), Alberta, Minn., 12/11/13.
Anthony D. Doss (ACCT), Callaway, Va., 10/24/13.

Alum's Chinese venture grows

by ALEX BARUCH

JEFF FRIED PHOTOGRAPHY

Robert L. Fried '09

Economic growth in China is a topic at the forefront of many Americans' minds, and one Virginia Tech alumnus is filling a knowledge gap caused by this growth. Robert L. Fried (communication, political science '09), a third-generation entrepreneur, co-founded the Chinese Language Institute (CLI) with his brother, Bradford Fried. Located in Guilin, China (pronounced "gwā'lin"), northwest of Hong Kong, CLI has hosted hundreds of students of all ages who have come from more than 30 countries for an immersive experience in Chinese language and culture. "More and more foreigners are moving to China to learn Chinese and take part in China's economic growth," Fried said.

While Guilin is not a bustling metropolis like Beijing or Shanghai, the city is ideally located, offering many of the perks of a big city. "The city has changed so much since we started CLI," Fried said. "We have easily quadrupled the amount of Americans who are studying in Guilin." Because CLI is officially affiliated with a local university in Guilin, students can apply their studies toward credits at their home universities.

The Fried brothers are proud to have partnered with the city. While establishing CLI, they raised private money to pave the road that leads up to CLI, which allowed local officials on the village council to maintain their autonomy over the road rather than allowing the municipal government to pave—and therefore own—the road. "We worked with the council chief and the other businesses right along the street and collected about $20,000 to have the road properly paved," Fried said. Such cooperation points to a relationship between the city and CLI that is unprecedented in the region.

The idea for CLI, born out of Fried's first study-abroad experience in Guilin with his brother, was an endeavor his professors supported. "I think it is so important for professors to be supportive of their students' crazy ideas," Fried said. "I was really fortunate to have three awesome professors at Virginia Tech, Edd Sewell, Dale Jenkins, and Helen Schneider, who all supported my project and even brought students on CLI's first China study tour in the summer of 2010."

Alex Baruch, a graduate assistant in the marketing and publications unit, is pursuing a master's degree in public administration and policy.

LANCE JORDAN

Lucy Howey-Jordan '04, reaching into the water, works with oceanic whitetip sharks.

Alumna's research leads to protection of endangered shark

Referred to as "the most dangerous of all sharks" by 20th-century conservationist Jacques Cousteau, oceanic whitetip sharks were long considered relatively unstudied in comparison to other large open-ocean sharks—until Lucy Howey-Jordan (biology '04) and her research team conducted a remarkable study.

In 2010, Howey-Jordan and a group of international scientists launched a pilot study in the Bahamas using satellite-linked archival transmitters to track the movements of whitetip sharks, which have suffered an estimated 90 percent decrease in population. The team's findings, published in the February 2013 edition of the science journal PLoS ONE, not only received widespread press coverage, but also spearheaded a successful effort to protect the critically endangered species.

Learn more about the whitetip research at www.science.vt.edu/news/magazine/.

'88 **Darcy Suzanne Ash** (MAED), Parker, Colo., is a lab biller for Schryver Medical.

Stephen C. Kepley (IEOR), Kentwood, Mich., was elected mayor of Kentwood, Mich.

John S. Long (AGEC), Palm City, Fla., was awarded the Swisher Sweets/Sunbelt Expo Florida Farmer of the Year award.

Paul E. Rossler (IEOR , ISE '91), Sand Springs, Okla., is a shareholder with GableGotwals and was named a rising star in intellectual property in the Super Lawyers ratings.

Shirley L. Haskins (HNF), Virginia Beach, Va., 2/9/13.

'89 **Wendy A. Ceccucci** (BAD, BMSC '94), Middletown, Conn., is president of the Association of Information Technology Professionals' education special interest group.

Richard L. Eisbrouch (TA), Woodland Hills, Calif., retired from theater design at Pasadena City College after 50 years.

Henry R. Hollander (ARCH '89, ARCH '91), Alexandria, Va., received the American Institute of Architects Northern Virginia Chapter Award.

'90 **Douglas M. Wagoner** (BAD), Ashburn, Va., was responsible for the separation of Science Applications International Corp. into two independent, publicly traded companies.

Christopher J. Tully (PSCI), Ashburn Va., a son, 3/18/13.

'91 **Joyce A. Cacho** (AGEC), Ballwin, Mo., was named a Fellow in the National Association of Corporate Directors.

AMY ROEDER NORRIS

Amy Norris '07, Charlotte, N.C., a son, Douglas John Norris, 6/27/13.

LOVESTRUCK IMAGES

Duke Fairchild '09 and Sara Lichtenstein '10,'11, Alexandria, Va., 8/10/13.

REBECCA DANZENBAKER

William Frye '02, Ashburn, Va., a son, Brody William Frye, 11/27/13.

'92 **Steve Mollenkopf** (EE), San Diego, Calif., is CEO of Qualcomm.
Brian M. Shepard (HIST), Richmond, Va., is CEO of United Network for Organ Sharing.

Richard D. Barnhart (CSA), Marion, Ind., 4/25/13.

'93 **Edward P. Chamberlayne** (CE '93, CE '02, ISE '11), Falls Church, Va., was awarded the Order of Palmetto by South Carolina Gov. Nikki Haley for his service as the district commander for the U.S. Army Corps of Engineers.
Burchell F. Pinnock (ARCH), Richmond, Va., received the Virginia Society American Institute of Architects' award for distinguished achievement.

Jennifer S. Payne (ART) and John-Paul Wilson, Richmond, Va., 12/28/13.

Patrick J. Kelly (HIST '93, EDCI '95), Virginia Beach, Va., a son, 10/24/13.

'95 **Courtney A. Beamon** (CE '95, CE '96), Midlothian, Va., received the Virginia Tech College of Engineering's 2013 Distinguished Service Award.
Jason A. Darish (HIST), Lebanon, N.J., was selected as the Hokie Hero for the University of Virginia game.
Vinod K. Lohani (CE), Blacksburg, Va., received the 2013 Scholarship of Teaching and Learning Award from Virginia Tech's Center for Instructional Development and Educational Research.
Larkin Sinnott Jr. (HIST), Alexandria, Va., developed a website, True Survivors, that gathers survivor stories of all kinds.

Dennis P. Barongan (ME) and **Katharine S. Barongan** (FCD '99), Ashburn, Va., a daughter, 5/2/13.

'96 **Brian D. Hahn** (MGT), Panama City, Fla., is general manager for Advanced Disposal.
Phillip E. Wiseman (FW '96, FOR '01), Christiansburg, Va., was named coordinator of the Virginia Big Tree Program.

John H. Przybylski (BIOL), Mechanicsville, Va., a daughter, 8/8/13.

'97 **Jasen S. Bohlander** (ARCH), San Francisco, Calif., is a registered architect for Leffy Maytum Stacy Architects.
Perry D. Martin (COMM '97, ELPS '07), Newport, Va., is senior associate director for the VT Engage and Americorps VISTA programs.
Adam J. Rabung (CS), Mechanicsville, Va., is co-founder of Sight Reading Factory, a Scala-based public website developed for music educators and students learning to sight-read.

'98 **Brian J. Colligan** (COMM), Newport News, Va., is the opinion editor for the Daily Press.
David G. Hieber (CE), Fairfax, Va., is an associate with Dewberry.
Jean Ming Hou Huang (CEEN '98, CE '02), Vienna, Va., was promoted to associate vice president of water resources with Dewberry.

'99 **Holly Lynn Funkhouser Cucuzzella** (BIOL), Burlington, N.J., received a doctorate of public health from Drexel University.
Edward "Ted" M. Downs Jr. (HIST), Clarksville, Tenn., was selected as the Hokie Hero for the Sun Bowl.
Kathleen Elizabeth Carlisle Volandt (MKTG, AHRM '04), Raleigh, N.C., was inducted into the Triangle Business Journal's Women in Business Class of 2013, winning the Inspiration Award.

Whitney N. Saunders Anderson (IS), Salem, Va., twins, 10/18/13.
Amanda K. Rich Morgan (MATH), Virginia Beach, Va., adopted a son, 10/3/13.

Jeffrey P. Cullina (AE), Glen Burnie, Md., 3/24/13.

'00 **Bryan R. Deehring** (CPE), Crofton, Md., released a recent feature film, "Junction," to Choice Films, Pate Productions, Movie Ranch Entertainment, and New York's Quad Cinema.
Angelee Lee A. Gerovasiliou (BIOL), Kennett Square, Pa., released a new album, "Miss You."

Erin Elizabeth Sill Morgan (HORT, AGED, EDCT '02) and **Michael D. Morgan** (CE '01), Bridgeton, N.C., a daughter, 7/7/13.

Jill I. Newman (IDST) and **Jeffrey O. Newman** (HIST '01, PAPA '09), Roanoke, Va., a daughter, 3/19/13.
Kimberly Kirby Rinaldi (SOC), Midlothian, Va., a son, 7/1/13.

'01 **Paul W. McDaniel** (WOOD '01, FPR '03), Powhatan, Va., a son, 7/12/13.
Cheryl Ann Anderso Zaron (BSE '01, BSE '02) and **Michael P. Zaron** (EE '02), Ellicott City, Md., a son, 8/7/13.

'02 **Craig E. Mills** (CE), Cibolo, Texas, was selected as the Hokie Hero for the University of Virginia game.

William F. Frye (BC), Ashburn, Va., a son, 11/27/13.
Brent R. Laurenz (PSYC), Raleigh, N.C., a son, 9/30/13.
Meredith L Hazelett Papa (HD, EDCI '04), Glen Allen, Va., a daughter, 5/25/13.

'03 **Marion L. Butler III** (ESM), Pocomoke City, Md., earned the Naval Sea Systems Command's 2013 Chief Engineer Scientist of the Year award.
Crystal L. Crockett (MKTG), Christiansburg, Va., is director of development for institutional diversity at Virginia Tech.
Akiko Suzuki (ARCH '03, ARCH '04), Santa Monica, Calif., is associate principal for Montalba Architects Inc.
Keith B. Zawistowski Jr (ARCH), Blacksburg, Va., received the Award for Distinguished Achievement from the Virginia Society of the American Institute of Architects.

William T. Boswell (AAEC) and Sarah R. Boswell, Blacksburg, Va., 5/25/13.
Melissa Smith Dobrovolski (FIN) and Bryan J. Dobrovolski, Chicago, Ill., 5/18/13.

Michelle Rene Guerra Brown (BIOL) '03, Yorktown, Va., a son, 3/26/13.
Kristin N. Gross (HIDM), Bowie, Md., a daughter, 10/8/13.
Jonathan R. Mollerup (CE) and **Lauren Cloyed Mollerup** (CE), Chantilly, Va., a son, 5/16/13.

'04 **Donald T. Atwell** (ENSC), Indialantic, Fla., is co-owner of and brewmaster for Intracoastal Brewing Company.
Michael R. Shannon (CPE), Alpharetta, Ga., with his wife, Jennifer, opened an independent pharmacy.

Michael T. Brady (ARCH) and **Rebecca L. Brady** (ARCH '07), Raleigh, N.C., a daughter, 7/24/13.
Sandy Nagy Brewer (BIOL, MAED '07) and **Seth P. Brewer** (CHE '07), Blue Ridge, Va., a daughter, 11/29/12.
Robert A. Feldt Jr. (FORS '04, GSCR '05, FOR '06), Bel Air, Md., a son, 9/17/13.
Gregory A. Laforest (ARCH) and **Katherine Eleanor Wood LaForest** (ARCH), Pittsburgh, Pa., a son, 7/21/13.
Kathy Marie Holdsworth Miller (SOC), Sarasota Fla., a daughter, 9/6/13.

'05 **Jeff D. Donham** (FIN), North Chesterfield, Va., earned his certified financial planner designation in November 2013.
Andrew J. Hubley (FIN), Farmington Hills, Mich., is an associate in the corporate and securities practice for Pepper Hamilton LLP.
James M. Jeffries (HIST), Iron Gate, Va., received the graduate certificate in higher education leadership from the University of South Carolina.
Jennifer Ann George Shannon (BIOL), Alpharetta, Ga., with her husband, Michael, opened an independent pharmacy.

Brenda L. Barger (CE) and **Brian B. Barger** (ME), Washington, D.C., 11/3/12.
Seth W. Pesek (ACIS) and Rachel E. Frankel, New York, N.Y., 10/5/13.

'06 **Amanda M. Mullins** (AHRM), Bristol, Va., is an annual giving officer for Virginia Tech's Office of University Development.

Craig E. Arthur (PUA) and **Nikeshia W. Twana Womack Arthur** (PSCI '07), Christiansburg, Va., 12/21/13.
Jared D. Field (ISE) and Maria B. Selivanova, Houston, Texas, 10/21/13.
Joel A. Miller (AHRM) and **Julie Elizabeth Laun Miller** (COMM '07), Alexandria, Va., 1/26/13.

David S. Londrey (HD), Madison, Va., twin girls, 6/24/13.

Tonya E. Hart (EDPE), Princeton, W.Va., 10/28/13.

Adaptive reuse: a family tradition

by ALEX BARUCH


AMY JONES
Martin Azola '69 and Tony Azola '97, '01

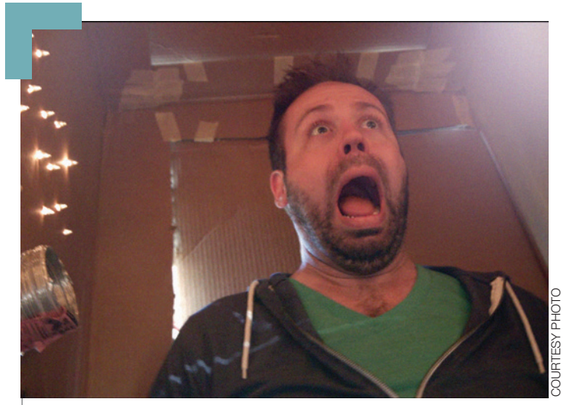
A father-and-son duo is championing adaptive reuse in the construction industry, repurposing historic properties while continuing a family tradition in sustainable construction practices. Martin Azola (civil engineering '68, M.S. '69) and Tony Azola (forestry and wildlife '97, M.S. forestry '01) , serve as the chairman/CEO and the president, respectively, of Azola and Associates Inc., a Baltimore, Md., firm established in 1966 by Martin's father, Joseph Azola.

A former jail, a clocktower, and a railway station, to name a few, have been transformed by the firm. The Azolas are currently renovating an old mansion into a boutique hotel called The Hotel Ivy. Considered a certified historic restoration by the State of Maryland, the structure offered the challenge of preserving historic charm while introducing the modern comforts that high-end customers desire.

Maintaining such a careful balance is important when restoring a historic building, and Tony Azola credits the forestry department with developing his ability to solve complex problems. "Virginia Tech definitely teaches you how to think—how to think critically, being able to think through problems," he said. "In construction, there is a new problem every day."

Although adaptive reuse has been a signature part of the family business for years, Tony Azola said Virginia Tech exposed him to the environmental concepts that influence how he manages projects. "Forestry opened my eyes up to the world. All of the garbage we make has to go somewhere, so you have to have a way to revitalize old things—especially buildings. Virginia Tech opened my eyes to these concepts of reuse and recycling, and I try to bring those principles to the job every day," he said.

Alex Baruch, a graduate assistant in the marketing and publications unit, is pursuing a master's degree in public administration and policy.



COURTESY PHOTO

A still shot from the Super Bowl Doritos commercial that Raj Suri '97 (at right) produced.

Alum's Doritos commercial plays Super Bowl, takes $1 million prize

by STEVEN MACKAY

Raj Suri (computer science '97) had a spectacular Super Bowl Sunday. No, he did not bet on the Seahawks decimating the Broncos. He couldn't have cared less about the game. The part-time actor/producer made a Doritos commercial that aired during the game, America's most-watched annual TV event.

He won $1 million for his efforts, too.

Titled "Time Machine" and inspired by the comedy classic, "Back to the Future," the commercial featured a precocious boy using a cardboard time machine and a few sleight-of-hand tricks to dupe an adult passerby out of his bag of Doritos. The spot—shot during one day and costing roughly $300, with much labor donated by friends and family—was one of five fan-made ads featured in the snack brand's annual contest to produce a Super Bowl advertisement. Fans of the snack chip voted online, picking the commercial that would air. (Suri's ad can be watched at www.doritostimemachine.com/.)

COURTESY PHOTO

Based in Phoenix, Ariz., Suri landed a job as a systems analyst at Intel right out of college in 1997. His hobby, however, is acting and producing.

"This whole experience is surreal. I am an amateur producer by definition. To create something that is regarded to be a superb feat in advertising is hard to wrap my head around. It's odd that people want to talk to me. But it's been fun. I do these competitions to create opportunities for myself," said Suri. "I cannot wrap my mind around the fact that our commercial was seen by 111 million people. … I'm extremely proud."

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

'07 **Ryan T. Jennings** (ARCH), Mount Pleasant, S.C., is an intern architect/construction administrator for Novus Architects Inc.

Ebony J. Stephenson (PUA), Newport News, Va., was named to the 30 Under 30 list by the National Kitchen and Bath Association.

Frenda W. Haynie (HIST) and Marcus Haynie, Blacksburg, Va., 9/6/13.

Amy Boettle Roeder Norris (MKTG), Charlotte, N.C., a son, 6/27/13.

Adam C. Robinson (ME), Portsmouth, Va., a son, 10/11/13.

Brian A. Rock (ELPS), Norman, Okla., a son, 9/27/13.

'08 **Michael W. Robertson** (PHYS, MATH) was selected as the Hokie Hero for the Sun Bowl.

Lindsay M. Walton (PSCI), Richmond, Va., was appointed to the Urban Forestry Commission by the Richmond mayor.

Valencia B. Gray (IS) and **Christopher W. Wilson** (ARCH), Centreville, Va., 11/30/13.

'09 **Aaron J. Prussin II** (BIOL, BIOC, PPWS '13), Blacksburg, Va., received the Alfred P. Sloan Foundation Fellowship to support his study of bacterial and viral microorganism communities in the air and on surfaces at a local day care center.

Emily A. Van Houweling (URPL, GSCR '09, PGG '13, GSCR '13), Blacksburg, Va., is associate director for women and gender in international development in Virginia Tech's Office of International Research, Education, and Development.

William D. Fairchild (IDST) and **Sara Michelle Lichtenstein Fairchild** (PSYC '10, EDCI '11), Alexandria, Va., 8/10/13.

Lynn R. Gantt (ME, ME '11) and **Renee L. Gantt** (IDST '11, HSE '11), Ann Arbor, Mich., 7/6/13.

Ann C. Strole (COMM) and **Ryan A. Knicely** (PSYC), Charlottesville, Va., 10/5/13.

'10 **Joshua W. Eggleston** (AE), San Diego, Calif., was selected as the Hokie Hero for the Duke game.

Carly J. Temple (HD), Chester, Va., graduated from Jefferson College of Health Sciences with a bachelor of science from the nursing program.

'11 **Lucy E. Adams**, (WSCI), Blacksburg, Va., is the service program coordinator for VT Engage: The Community Learning Collaborative.

Scott B. Forsythe (PSCI), stationed overseas, was selected as the Hokie Hero for the Miami game.

Sean V. Heatherman Jr. (AE), St. Petersburg, Fla., was selected as the Hokie Hero for the Maryland game.

John C. Piluso (HIST), Sneads Ferry, N.C., was selected as the Hokie Hero for the Boston College game.

Justin A. Hunts (IS) and **Nicole Lisa Gibson Hunts** (ACIS '12, IS '12), Roanoke, Va., 4/6/13.

Tyler E. Williams (MSE) and **Katherine Anne Hall Williams** (AE '13), Norfolk, Va., 10/26/13.

'12 **Jack B. DuFour** (ME), Blacksburg, Va., co-founded Taaluma Totes. Sales of the organization's backpacks finance microloans for a person from the country where each pack's fabric originated.

Laura E. Gambrel (HD), Elkins Park, Pa., received the 2013 Dissertation Award from the American Association for Marriage and Family Therapy.

Lesley S. Owens (CHEM), Christiansburg, Va., is an analytical chemist for Inorganic Ventures.

Jessica D. Trail (BIOL), Roanoke, Va., was honored at the International 4-H Youth Exchange conference for her continued commitment to promoting better understanding between cultures.

'13 **Robert M. Davis** (GSCR, PAPA), Staunton, Va., is a public safety analyst for the Department of Emergency Medical Services' regulation and enforcement division for the City of Virginia Beach, Va.

career accomplishments
weddings
births and adoptions
deceased

obituaries

faculty/staff

Robert M. Grant, an applications analyst within Technology-enhanced Learning and Online Strategies, died Dec. 30, 2013. Grant served his country in the U.S. Navy. In Virginia Tech's Computer-Integrated Learning Spaces group, he served as an administrator for a number of campus computer labs. Grant was a member of the Blacksburg Volunteer Rescue Squad for more than 10 years, serving as an emergency medical technician and using his information technology skills to bring the rescue squad to the cutting edge of emergency communications, information sharing, and tracking technology.

Ann Hertzler, professor emerita of human nutrition, foods, and exercise in the College of Agriculture and Life Sciences, died Feb. 6. Hertzler served as a Virginia Cooperative Extension specialist during her two-decade career at Virginia Tech and won numerous awards, including being a Fulbright Scholar from 1989 to 1990. Hertzler's work focused on nutrition issues facing families and children, and she maintained her passion for that subject even after retiring in 2001. She continued to publish research, and she authored, co-authored, or was involved in more than 80 peer-reviewed journal articles or juried exhibits. She was a generous donor to University Libraries, which benefits from the Ann Hertzler Endowment for Children's Cookbooks and Nutrition.

students

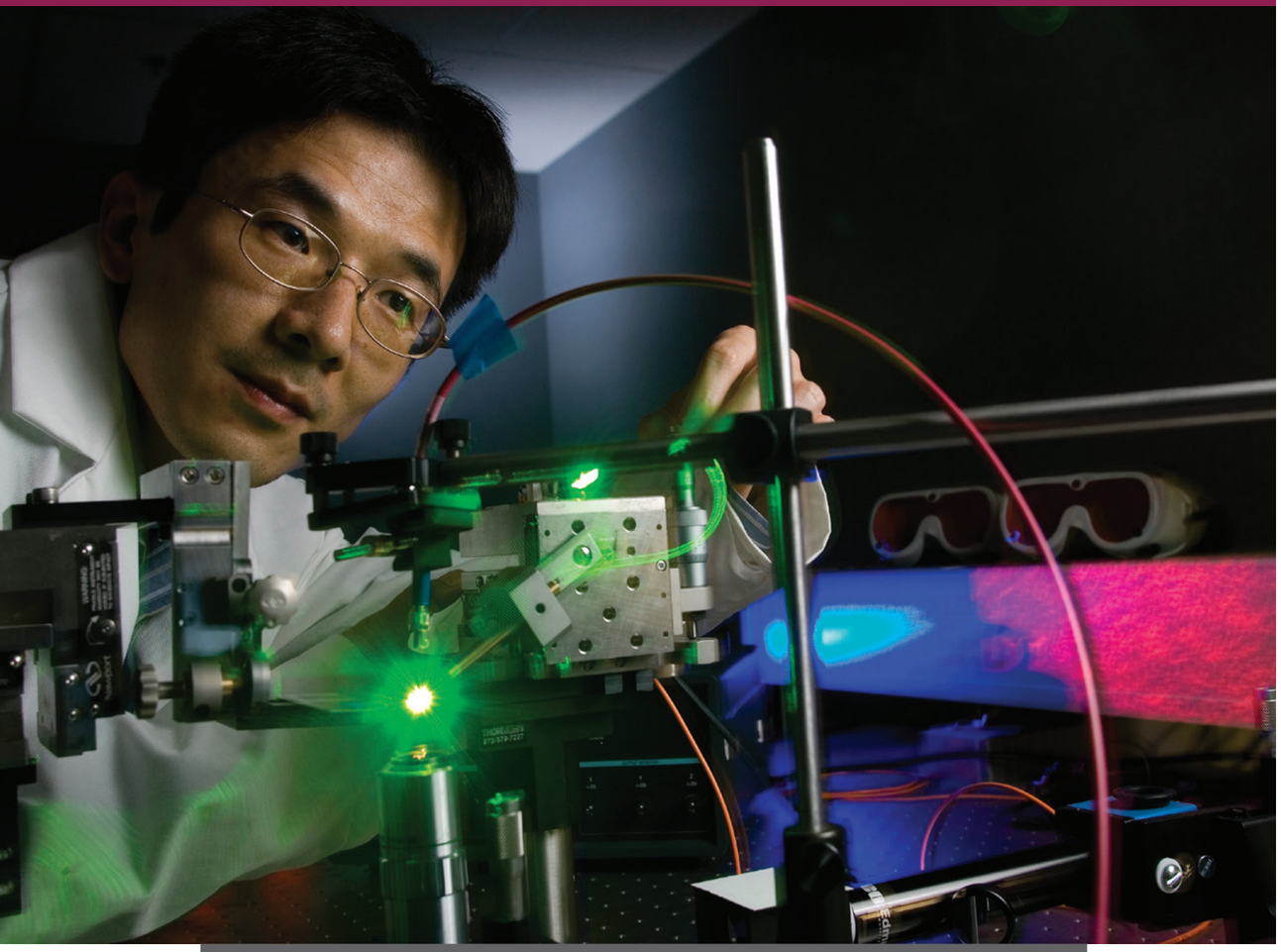
Justin Robey, a senior mechanical engineering major from Elizabeth City, N.C., died Feb. 12.

Samanata Shrestha, a senior from Vienna, Va., majoring in biological sciences with minors in psychology and medicine and society, died Feb. 8.

Kevin Tinley, a junior mechanical engineering major from Southbury, Conn., died Feb. 27.

"Little Hooligan": Jonathan H. Kim, a senior industrial design major, won the people/culture category in the 2013 Virginia Tech Education Abroad photo contest with this image, titled "Little Hooligan," taken in Auroville, India. Said Kim, "We made a quick stop at a market for my professor to buy supplies and the boys came up to the side of our van and started goofing around and having fun." Go to www.vtmag.vt.edu to find a link to the contest's images.

JONATHAN H. KIM



reunions & homecomings

2014 Reunions

Sept. 20 – Georgia Tech
Class of 1974 – 40th Reunion
Class of 1979 – 35th Reunion

Sept. 27 – Western Michigan
Class of 1964 – 50th Reunion

Oct. 23 – Miami
Class of 1984 – 30th Reunion
Class of 1989 – 25th Reunion

Nov. 1 – Boston College
Class of 1969 – 45th Reunion

Nov. 28 – Virginia
Young Alumni Reunion

2014 Homecomings

Aug. 30 – William & Mary
Veterinary Medicine
Graduate School

Sept. 13 – East Carolina
Corps of Cadets
College of Natural Resources and Environment
College of Liberal Arts and Human Sciences

Sept. 20 – Georgia Tech
College of Agriculture and Life Sciences

Sept. 27 – Western Michigan (Homecoming Parade)
Alumni Center Open House and Tailgate
College of Engineering
Student Affairs: SGA and Order of the Gavel
Highty-Tighties
Marching Virginians

Oct. 23 – Miami
College of Science

Nov. 1 – Boston College
Pamplin College of Business

Nov. 28 – Virginia
College of Architecture and Urban Studies
Student Alumni Associates 45th Reunion

www.alumni.vt.edu/reunion

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