vt mag

Watchful Eye
The legend of the gargoyles

Entrepreneurial Ecosystem
Mentors and capital bolster area's visionaries

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Inspiration Then and Now

How an inventive culture defines Virginia Tech—and saves lives

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His invention saved **her life.**

One of Leon Arp's several remaining infant respirators—seen here and on the cover—serves as evidence of the land-grant university's legacy of innovation. Read the full story on page 28. Photo by Logan Wallace.

LOGAN WALLACE

Some Perspectives on Student College Debt

by CHARLES W. STEGER '69

It is not hard to read or hear news reports about growing student debt loads. Because of higher education's essential role in American life, how students pay for college is understandably is a topic of national discourse.

Is student debt higher now than, say, three to five years ago? Yes. Is this debt cause for concern? Is student college debt inordinately high? These answers depend on perspective.

While some students borrow heavily—doctors or lawyers, for instance—only about 0.5 percent nationally borrow more than $200,000. Approximately 43 percent of undergraduate and graduate students borrow between $1,000 to $10,000, and another 30 percent borrow between $10,000 and $25,000, according to the National Association of Student Financial Aid Administration (NASFAA).

At Virginia Tech, average student debt loads increased from $19,807 to $24,320 over the past five years, slightly less than the national average. The situation is indeed worthy of examination. Although the exact reasons for the increase are often individualistic, we suspect that factors include national and international economic malaise and rising tuition in the face of historic losses in state funding. Additionally, Congress raised the annual student-loan borrowing limits.

Despite these factors, 48 percent of Virginia Tech students graduate without any debt. We commend those students who work their way through school and those parents whose sacrifices enable young graduates to enter the workforce without the burden of debt.

As expected, much discussion surrounds other comparators. According to the Federal Reserve Bank of New York's February Quarterly Report on Household Credit, "The outstanding student loan balance now stands at about $870 billion, surpassing the total credit card balance ($693 billion) and total auto loan balance ($730 billion)."

Are those appropriate comparisons? Most notably, which of those three loan balances provides a lifetime return on investment?

Intelligently used debt is not a bad thing. How many of us could not own a home were it not for mortgages? How many businesses have been able to expand or squeeze past a cash-flow crunch because of sensible credit lines from a bank? In similar fashion, a college education financed by loans pays substantial dividends. College graduates earn more, live longer, vote more, and are more engaged in communities than non-college grads.

At Virginia Tech, the average graduating senior's debt load is about equivalent to the cost of a new car. Nearly half of the 2011 graduating class (49 percent) reported employment within six months of graduation, and half of those respondents reported a salary of more than $48,500 per year.

Although some have claimed that student loan debt is the next mortgage bubble, the scale is not comparable. The entire student loan market is estimated at $867 billion, while the mortgage collapse caused losses of almost $8 trillion. NASFAA president Justin Draeger maintains that "even if every borrower defaulted on his or her student loan at the exact same time (an impossibly unlikely scenario), it wouldn't have the same impact on the economy as the housing collapse."

We believe that rising student debt is troublesome and requires serious consideration by state and national policymakers. Colleges and universities must work to contain costs to keep education affordable. For our part, a recent internal analysis revealed that Tech's administrative costs are about half that of peer universities.

The most influential factor driving tuition increases, however, is loss of state funding. States must reconsider their disinvestments in public higher education. Additionally, we must keep some perspective on default rates. For-profit schools account for 25 percent of the national enrollment but 50 percent of the defaults.

The statistics are clear. A college degree is an investment, not simply a cost.

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The Purdue ad

What is a Purdue ad doing in Virginia Tech Magazine? I'm not buying it, though—Hokies are better than Boilermakers.

Jim Barrell (mechanical engineering '80), Greensburg, Pa.

Editor's note: Purdue University, like Virginia Tech, ranks among the nation's top 30 public universities, according to U.S. News and World Report. Their interest in recruiting our graduates underscores and reinforces our reputation for academic excellence.

Hokie hospitality

My husband, Curtis, and I attended the Virginia Tech vs. Georgia Tech game on Sept. 3 (my husband is a Georgia Tech alumnus). This was our first visit to Blacksburg. We were impressed not only with the campus itself, but by the many fans and students who were friendly, helpful, and welcoming to us. When they noticed our Georgia Tech shirts as they passed us on the sidewalk prior to the game, many of them welcomed us to Blacksburg and Virginia Tech. Several people stopped us to ask if we needed help or directions and offered a few good-natured comments about us wearing the wrong shirts.

We were certainly outnumbered at the game (an understatement) and sat in the middle of Virginia Tech students and fans. Everyone was polite and chatted with us, even when Georgia Tech was winning! More importantly, they were gracious when Georgia Tech lost, with some even telling us what a good game it was and how Virginia Tech had to work hard to earn the win. While the results of the game were disappointing, our visit to Blacksburg certainly was not.

You have a beautiful campus, and we look forward to the next battle between the Yellow Jackets and the Hokies. We'll be there!

Tammy Cleveland, Lewisburg, Pa.

Another lost ring

I also lost a class ring. It was stolen in December 1956 and has never been recovered after all these years. I eventually replaced it with another, but I have always wondered where it might be and who would want to wear another's class ring! I would love to get it back for obvious sentimental reasons. My hometown at the time was Arlington, Va.

Randall "Wade" Everett III (public administration '56), Mary Esther, Fla.

Corrections and clarifications

On page 28 of the summer edition, there was a mistake in the presentation of the flow chart on buying versus renting. In the first question about expecting life changes, the "yes" and "no" answers were switched. The online version at www.vtmagazine.vt.edu/sum12/home-flowchart.pdf reflects the correct answers.

In the summer edition's Class Notes, Michael A. Russell (building construction '85), of Roanoke, Va., was listed as deceased when, in fact, another Roanoke resident by the same name died.

In the summer edition's story on student veterans, it was reported that Eric Hodges was pursuing his doctorate in political science. Hodges is a doctoral student in the planning, governance, and globalization program in the School of Public and International Affairs, focusing his studies on political science.

web extras

The halfway point

The cover of the fall 2010 issue of Virginia Tech Magazine featured three members of the Virginia Tech Carilion School of Medicine's first class. Recently, we followed up with the three students, now two years into their med-school journey. To view a video interview, visit www.vtmag.vt.edu.

Medical school garners two key accreditations

The Virginia Tech Carilion School of Medicine is one step closer to full accreditation. The Liaison Committee on Medical Education (LCME) granted the school provisional accreditation, the third of four stages in the process. Following a three-day visit in January, LCME determined that the school has met the prescribed standards in the areas of curriculum, educational resources, student affairs and admissions, faculty affairs, and institutional setting. The school will be eligible for full accreditation when its charter class graduates in the spring of 2014.

New Center for Drug Discovery launched

Virginia Tech has established a new Center for Drug Discovery to accelerate research that could lead to new treatments for cancer, Alzheimer's disease, cardiovascular disease, atherosclerosis, diseases of the central nervous system, and parasitic diseases such as malaria and Chagas disease. The center is intended to be a major force in drug discovery and delivery in the U.S.

Research paper on smart grids and solar power honored

A paper on an economically feasible way to store solar energy in existing residential power networks earned Reza Arghandeh, a doctoral candidate in the Bradley Department of Electrical and Computer Engineering, the best student paper award at the 20th International Conference on Nuclear Engineering, held in conjunction with the American Society of Mechanical Engineering Power 2012 Conference. His advisor is Robert Broadwater, professor of electrical and computer engineering, who specializes in electric power system analysis and design.

In their paper, Arghandeh and Broadwater acknowledge that solar energy resources are "intermittent, seasonal, and non-dispatchable." However, the current national climate with its deregulation policies, electricity tariffs, control strategies, and demand management are "significant tools for flexible and resilient operation of power systems with photovoltaic adoption levels."

PHOTO COURTESY OF THE LOMAKA FAMILY

Chris, Kate, Steve, and Greg Lomaka

Siblings are the first set of quadruplets at Tech

This fall, the Lomaka family made history at Virginia Tech as the first set of quadruplets to enroll. The three brothers and one sister, of Richmond, Va., all agree that Virginia Tech is the place for them even though they each will pursue very different academic and career paths.

The oldest, Greg, will major in statistics. The second oldest, Steve, will major in information systems. The third oldest, Chris, will major in building construction. The youngest, Kate, will major in human nutrition, foods, and exercise.

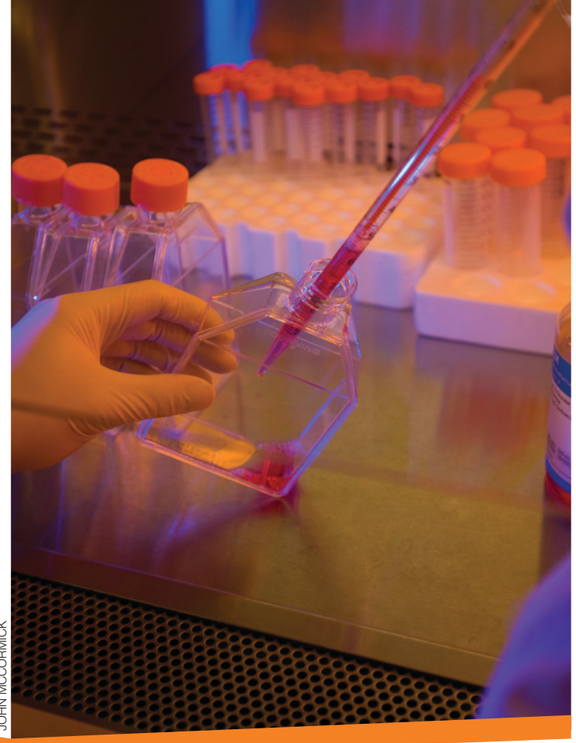
web extras

To view a video interview with the siblings, visit www.vtnews.vt.edu/articles/2012/08/081512-uged-quadruplets.html.

Researchers use computer model to probe mysteries of human immune system

A new computational model developed by a team of Virginia Tech researchers and published in the PLoS Computational Biology journal provides a framework to better understand responses of the human immune system's macrophage cells.

As the security guards of the body, macrophage cells must identify and respond to a pathogen attack while causing as little damage as possible to host cells. An excessive or prolonged immune response could lead to serious, acute and chronic inflammatory diseases such as multiple sclerosis, Type 2 diabetes, and even sepsis. Accordingly, studying how the macrophage immune response could be altered or reprogrammed by sequential pathogen attacks, known as priming and tolerance, is of vital importance to the field.



JOHN MCCORMICK

Football practice facility steered away from woods

In a letter to university President Charles W. Steger in August, Vice President of Administrative Services Sherwood Wilson recommended accepting the recommendation of an advisory committee not to locate an indoor football practice facility in the originally proposed location, the Stadium Woods area directly behind the football practice field. Wilson has directed his staff to "evaluate the options presented by the committee, as well as any other potential sites that may be appropriate." The university does not plan to take action on another request from the committee to place the woods in a conservation easement or to give a special designation to the property. President Steger has accepted both recommendations.

Designing spaces

These kitchens are truly one-of-a-kind. Our students learn about designing these types of residential spaces by working with a variety of layouts and products. It's experiential learning at its best, and it's part of what makes our program at Virginia Tech so innovative."

- Julia O. Beamish, department head and professor of the Department of Apparel, Housing, and Resource Management, on designing spaces for individuals living with a disability. The topic highlighted an October event to kick off National Disability Employment Awareness Month on campus.

Tomorrow's STEM leaders complete summer program at Army laboratory

The Walter Reed Army Institute of Research hosted two programs associated with the U.S. Army's Educational Outreach Program, which manages a host of outreach programs through a cooperative agreement lead by Virginia Tech's Office of Outreach and International Affairs. One is the Gains in the Education of Mathematics and Science (GEMS) program. Titi-Mary Omotade (biology, history '12) worked with high school student Morganne Kelliebrew this summer as part of the program. Omotade got involved with GEMS in her freshman year at Tech. "Education and science—it was perfect," Omotade said. She has signed a two-year contract to work in another Army lab conducting research into anthrax, plague, and other potential biological threats.

Dining, school spirit top the rankings

Virginia Tech ranked in the top 20 in six categories of The Princeton Review's 2012 college rankings lists. Tech was ranked second in "Best Campus Food," third in "Their Students Love These Colleges," fourth in "Town-Gown Relationships Are Great," sixth in "Best Quality of Life," and 18th in "Best Career Services" and "Students Pack the Stadium."

NSF award to help improve the efficiency of DNA fabrication

The National Science Foundation (NSF) has awarded a three-year, $999,531 grant to Virginia Tech to use the tools and methods of industrial engineering to optimize the laboratory processes used to make custom DNA molecules. A transdisciplinary team led by Jean Peccoud, an associate professor at Virginia Bioinformatics Institute, will focus on DNA synthesis. The project will also provide unique cross-disciplinary training for undergraduate and graduate students and post-grad fellowS.

Engineering Expo draws hundreds of companies to campus

Thousands of engineering students seeking industry internships and jobs attended this year's Engineering Expo, hosted by the Student Engineers' Council in September. For the first time since 2008, the event sold out, with 274 firms and government agencies coming to campus, said Ben Drew, chairman of the expo committee and a mechanical engineering major.

Construction of propulsion lab approved

At its quarterly meeting held Sept. 10, the Virginia Tech Board of Visitors approved a resolution that will enable the university and the Virginia Tech Foundation to begin development of an approximately $3.5 million propulsion laboratory at the Virginia Tech Corporate Research Center. Operated by the College of Engineering, the facility will support propulsion research, including next-generation fighter and commercial aircraft engine technology and gas-turbine technology. The specialized facility and equipment will distinguish Virginia Tech as a leader in propulsion research.

New VP for information technology and CIO named

Scott F. Midkiff, professor and head of the Bradley Department of Electrical and Computer Engineering, will become the university's vice president for information technology and chief information officer in October. Midkiff arrived at Virginia Tech in 1986 and developed and taught undergraduate and graduate courses in networking, wireless networks and mobile systems, network applications, and telecommunications. He was appointed head of the Bradley department in 2009.

Marc Edwards wins public interest award for water-safety research

Marc Edwards, the Charles P. Lunsford Professor of Civil and Environmental Engineering, received the Carl Barus Award for Outstanding Service in the Public Interest from the Institute of Electrical and Electronics Engineers' Society on Social Implications of Technology. The award honors Edwards' tireless effort to expose safety and quality problems in the nation's public drinking water supplies, specifically in Washington, D.C. While researching metropolitan water-distribution systems, Edwards found that many homes in the nation's capital were receiving water contaminated with lead leached from city pipes to an extent far exceeding acceptable industry levels.

ANNIE WERNIKOFF

Minor in civic agriculture and food systems gains ground

The newest minor in the College of Agriculture and Life Sciences blends classroom and hands-on learning about the food production process.

Students pursuing a minor in civic agriculture and food systems learn about sustainable agriculture, the food production process, and food sovereignty (the trend of moving away from an industrialized, market-driven food system toward local community farms). Students are required to complete fieldwork in addition to classroom assessments. The program had 21 students its first semester. Two years later, there are 44.

JIM STROUP

Researcher to study inter-hemispheric space weather connections

Joseph Baker, assistant professor and Steven O. Lane Junior Faculty Fellow of Electrical and Computer Engineering, will use a five-year, $480,000 National Science Foundation Faculty Early Career Development Award to study inter-hemispheric space weather connections. "Space weather" refers to dynamics in the near-Earth space environment that can have serious impacts on technological systems such as satellites, electrical power grids, global positioning systems, and communication networks for cell phones and more.

Engineering students' experiments ride along on NASA rocket into space

College of Engineering students watched their experiments blast into space on Sept. 21 when NASA launched a rocket from its Wallops Flight Facility for an estimated 15-minute flight.

The NASA-owned, 40-foot-long rocket carried a series of experiments created by Tech students and student teams from three other U.S. universities.

"Launches at NASA Wallops are a sight to see," said Stephen Noel, a first-year master's student in aerospace engineering who also is serving as team leader of the project. Noel recently finished an internship at Wallops Flight Facility and was witness to several previous launches. "A launch is even more significant and exciting when you have a piece of hardware or an experiment flying onboard."

The launch was part of NASA's RockSat-X program, an educational project designed to provide students with hands-on experience in designing, fabricating, testing, and conducting experiments for space flight. The team was tasked with designing a payload and power system to support several experimental projects, including an optical nitric oxide sensor and an aperture vacuum seal release mechanism for the Space Barometer CubeSat—or a miniature box-like satellite—instrument, both built by Hokie students.

Prior to the launch, anticipation was high. "This rocket flight is different [from] any previous student project in that the rocket skin gets ejected, exposing our entire payload to space. As such, we also have to survive re-entry, roughly 500-degree temperatures, and a water splash-down. It should be fun," said Troy Henderson, an assistant professor of aerospace and ocean engineering, director of the Virginia Tech Space Systems Simulation Lab, and faculty advisor to the current RockSat-X team.

Undergraduates study vocal-cord paralysis in stroke victims

After a stroke, patients often struggle to speak, swallow, or eat because the incident can cause vocal-cord paralysis. Three undergraduate students are part of a team studying how electrical stimulation may help restore vocal cord function.

Garret Burks (left), a junior mechanical engineering major; Kyle Harring (middle), a senior biological sciences major; and Madison Preib (right), a senior majoring in human nutrition, foods, and exercise science, were involved in the research project this summer as part of the Scieneering program, a unique opportunity offered through the Division of Undergraduate Education and funded by a Howard Hughes Medical Institute Science Education Grant.

ALISON C. MATTHIESSEN

University ranks among top schools in alumni loyalty, enthusiasm

In a new college ranking system, Virginia Tech ranked eighth among national universities and 24th among all colleges in alumni loyalty, financial success, and various satisfaction measures.

The study, by Alumni Factor, ranked 177 schools and categorized them as national universities, regional universities, and liberal arts colleges. The study surveyed alumni from the nation's top schools.

In addition, Virginia Tech ranked fourth in overall assessment among national universities, and it was ranked first in the number of alumni who said they would choose the school again.

Participants responded to questions relating to attributes such as their intellectual and social growth during college. Responses were used to gauge their actual feelings about their alma maters.

"Our students form strong bonds with fellow students, having a wide range of backgrounds and interests, that carry into their lives as engaged alumni," said Tom Tillar, vice president for alumni relations. "It's not surprising that the results of this study confirm such an experience."

Other notable rankings:

- Likelihood of recommending the school to a prospective student: **fourth**
- Household net worth: **ninth**
- Overall happiness: **16th**
- Overall college experience: **17th**
- Financial success: **18th**

Protecting biodiversity

We need to be as aggressive in eliminating threats outside of park boundaries as we are in establishing new parks or maintaining existing ones. In many ways, the findings are common sense. However, sometimes 'we,' meaning society, need a wake-up call about the obvious. The take-home point should not be viewed in a negative light, in terms of thinking that hope is lost for biodiversity in the tropics.

— Sarah Karpanty, associate professor of wildlife conservation, whose paper, "Averting biodiversity collapse in tropical forest protected areas," was published in July by Nature's Advanced Online Publication.

LOGAN WALLACE

World Polymer Congress

Virginia Tech and the Macromolecules and Interfaces Institute hosted the World Polymer Congress in June, drawing renowned speakers to campus, including Nobel Prize-winner Robert H. Grubbs (above). More than 1,200 polymer-science experts from around the world descended on campus. The university's Office of Economic Development estimated that the conference would generate close to $2.5 million in total expenditures in the regional economy.

Infestation of stink bugs continues to spread across state

Virginia Tech researchers and Extension agents are working across the commonwealth not only to find a way to control the brown marmorated stink bug, but also to keep it from spreading farther around Virginia and to other southern states.

Since found in Virginia in 2004, the insects have caused millions of dollars in damage, destroying apples and grapes in the Shenandoah Valley, piercing soybeans in north-central fields, and sucking the proteins and carbohydrates out of corn, tomato, green bean, and pepper plants in other areas of Virginia.

This year, stink bugs have been discovered in 20 counties in Virginia, and they are expected to continue to spread throughout the state, infecting more localities than ever before.

Across the university and commonwealth, researchers are investigating the bug's biology and habitat; pesticide levels; the impact on tree fruit, wine grapes, berries, corn, and more. The stink bug's appetite is as varied as it is voracious. As much as 20 percent of the vegetable crops in Northern Virginia were lost to stink bugs in 2010.

ISTOCKPHOTO

Healthier 'happy meals'

In one of the first-ever studies conducted in a real-world setting with children's meals, Virginia Tech researchers found that children and parents who are dining out may make healthier food choices when they are shown the "nutrition bargain price" of food. The nutrition bargain price menu shows the nutritional value of food in real dollars.

The Virginia Tech study also illustrates that people's eating decisions are more influenced by a message that expresses the information in a well-understood unit (dollars) with an immediate observable impact (cost), rather than in unclear units (calories) with uncertain future impacts. The change in ordering patterns could play a role to help establish a food-labeling system that could contribute to counteract the obesity epidemic in the United States.

web extras

To learn more about Patricia Dove's accomplishments and accolades, visit www.vt.edu/spotlight/achievement/2012-07-30-dove/academy.html.

A national honor

What is unusual about [Patricia Dove's] work is the quantitative rigor with which she approaches these chemical processes. Anyone can view how a mineral forms, and anyone can view that it is beautiful, but what are the chemical controls on making something like that?"

—Alexandra Navrotsky, a professor at the University of California-Davis, on Virginia Tech's Patricia Dove, the C.P. Miles Professor of Science in the Department of Geosciences, who will soon be inducted into the National Academy of Sciences.

Pamplin graduates find job success

Pamplin College of Business grads are highly sought after, if the numbers are any indication. In 2011, Pamplin's graduate employment rate ranged from 70 to 90 percent. The college helps students prepare for the real world through job search resources and its annual career fair. Last fall, nearly 2,000 students and 150 organizations attended. Virginia Tech was also ranked the 13th best campus for college recruiting in the U.S. by a Wall Street Journal survey.

Majors Fair allows students to explore opportunities for new majors or minors

With the enrollment of hundreds of new first-year students who have yet to pick a major and many returning students seeking to change majors, Virginia Tech hosted the annual Majors Fair to share academic opportunities with students. The Office of Undergraduate Advising and Student Government Association co-hosted the September event. Representatives from all of the undergraduate colleges and most of the university's majors were on site to answer student questions and discuss prerequisites and change of major requirements.

U.S. News and World Report gives high marks to engineering, business colleges

Virginia Tech ranks 28th among the top 30 public national universities in U.S. News and World Report's survey of undergraduate programs. The College of Engineering was ranked 16th, and the Pamplin College of Business ranked 40th. Virginia Tech also ranked among 33 universities named as having outstanding "undergraduate research and creative project" programs specifically targeting first-year students.

JIM STROUP

Cadet Kareim Oliphant,

Leading to SERVE

by MAJ. CARRIE COX

Cadet Kareim Oliphant, a senior majoring in psychology in the College of Science, has big plans as the Virginia Tech Corps of Cadets regimental commander for the fall 2012 semester. "Not many college students get the opportunity to influence the direction of the professional development of 1,000 of their peers," Oliphant said. "I'm fortunate to have been granted this opportunity. I'm excited to see what challenges and memorable moments the experience will bring."

Oliphant is no stranger to serving. A vital member of the corps' Regimental Band, the Highty-Tighties, he led the Southern Colonels, the band's 18-piece jazz orchestra, last year. This group performs shows for both campus and community, including the first annual Jazz on the Upper Quad event last April. He also led physical-fitness training for more than 180 cadets in the Citizen-Leader Track program.

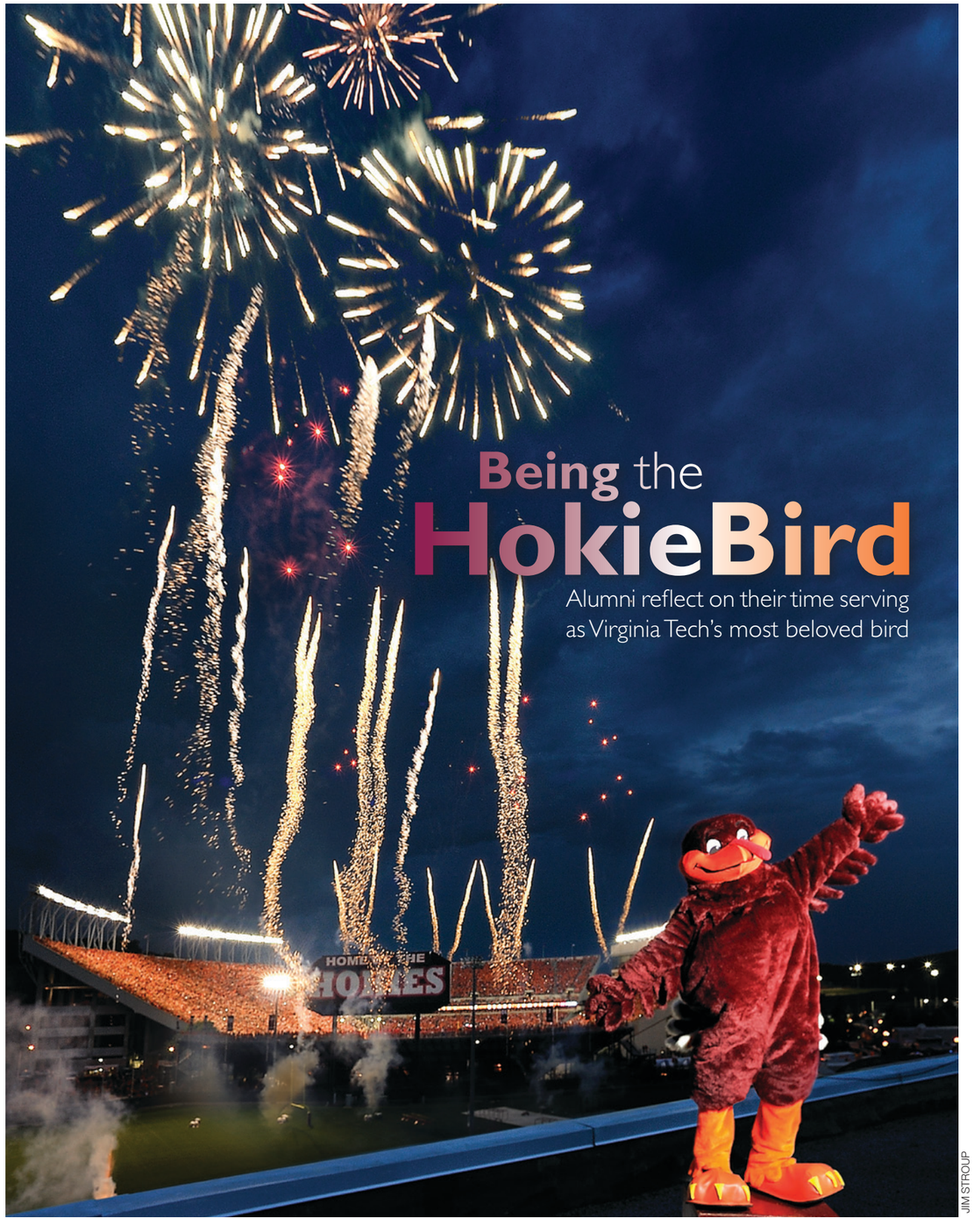
Oliphant, who transitioned in his junior year to the Citizen-Leader Track after two years of ROTC, decided to stay in the Corps of Cadets because of the value of the training and leadership experience. "After having invested two years, I started to realize all the benefits that I had reaped from my involvement in the corps," he said. "My leadership and time-management skills, physical fitness, academic achievement, and personal discipline had all improved dramatically. I was also able to apply things I had learned in the many leadership positions I've held in the corps to other areas of my life, and I was absolutely fascinated by it. I still am. I just knew I wouldn't have achieved all this as a regular student. I'm eager to see just how much more I can learn and grow."

Oliphant also shared his thoughts on leading the corps. "One of the great things about the Corps of Cadets is the fact that cadets are given the opportunity to develop and hone so many valuable leadership skills. I've personally been able to use these skills in the military environment of the corps and [in] other areas, such as my extracurriculars at school and volunteer work and internships outside of school. As regimental commander, I plan to expand and utilize this skill set in an effort to place an indelible mark on the corps and the Virginia Tech community at large. *Ut Prosim*."

Oliphant truly embraces all he's learned about serving others. He works as a hotline volunteer for the Raft Crisis Hotline, has volunteered with substance abuse counselors at a hospital, has interned with a substance abuse counseling service, and currently is a research assistant with an autism clinic. After graduation, Oliphant plans to pursue graduate studies in clinical social work, focusing on substance abuse rehabilitation, therapy, and family counseling. He is intent on a career in social work and counseling and eventually wants to earn his doctorate in clinical psychology.

But first, he has a regiment to lead and to serve.

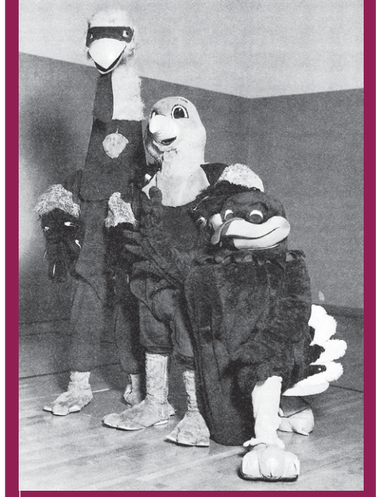
Maj. Carrie Cox is the executive officer with the Corps of Cadets.



JIM STROUP

Being the HokieBird

Alumni reflect on their time serving as Virginia Tech's most beloved bird



The HokieBird and his predecessors appeared in the winter 1988 edition of this magazine. At right, the Jaguars and Kings mascot photos are courtesy of Dvorak and Maroldo, respectively.

The **HokieBird debuted** its current look in **fall 1987**. As we celebrate the **25th anniversary**, let's take a look at some **fun facts**.

The **HokieBird** made **88 appearances** at home athletic events and **181 private appearances** in the 2011-12 academic year.

Five students per year serve as the **HokieBird**.

Four costumes costing **$5,500** each are used.

Upkeep is funded by **private-appearance fees**: **$200 per hour**, or **$50 per hour** for nonprofit or Virginia Tech organizations.

Kaboom: (At left) Moments before kickoff at the Sept. 3 home-opener versus Georgia Tech, photographer Jim Stroup found the HokieBird on the Jamerson Athletic Center rooftop. After giving himself a pep talk, the mascot flew down to the tunnel and ran out onto the field. The Hokies won, 20-17, in overtime.

Curtis Dvorak (communication '96), vice president of mascot operations for the Jacksonville Jaguars and performing as Jaxson De Ville

What are the basic rules of being the HokieBird?

Gotta be able to do "the walk"—the HokieBird has a very specific style to his walk. No talking in costume. Do not allow anyone to see you without the head on. Remember what and who you represent and always respect that tradition.

What was your signature move?

I created the "Scream Machine," which I think is still used.

Kevin Murphy (political science '95), working in sales for a medical device manufacturer

What was your most memorable experience as the HokieBird?

Carrying a wedding proposal request out to the field, where we held up a sign, popping the question.

What are the basic rules of being the HokieBird?

Remember that the fans don't see the person. To them, the bird is Virginia Tech. Encourage that. Don't be a jerk. Ever.

Matt Quillen (horticulture '06), owner of The Brick: Charleston's Favorite Tavern, a Virginia Tech-themed bar in Charleston, S.C.

What was your most memorable experience as the HokieBird?

Wow, there are so many, but I would have to say it comes down to either famous actor Robert Duvall asking to take a picture with me during a Miami night game or [when I was] on the field during the second half of the West Virginia game the year they were ranked No. 6. [We] came back and won the game in a torrential downpour. It's like the rainstorm made our fans go twice as nuts as they normally do.

Todd Maroldo (marketing '97), who is now Slamson, the Sacramento Kings mascot

What sort of training did you have to do?

We went to mascot camp each summer where they taught mascots the basic principles, but most of the time we came up with crazy skits and stunts to do on game days (sometimes getting us in trouble).

Did you get into any fisticuffs with other ACC mascots on the football field?

I did indeed get into fisticuffs. I got into a "minor" altercation with the Miami Hurricane mascot, "Ibis," back in 1996. He started it, though, and I was just defending myself. All in good, poultry fun.

Whitney White (marketing '06, M.B.A. '08), a business development and marketing director for A&K Painting

Tell us about your favorite reaction to the HokieBird.

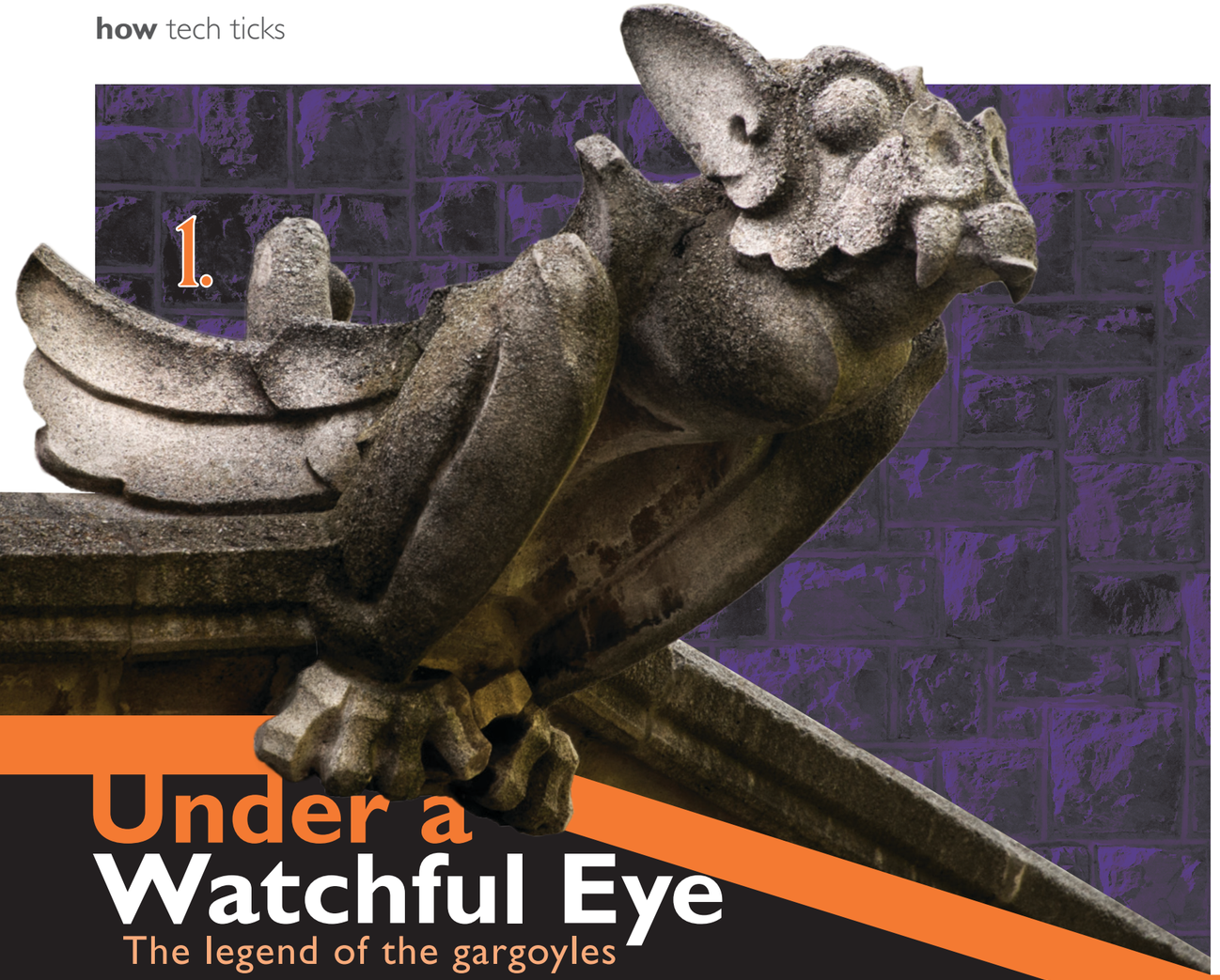
When we played James Madison at home one year, I went over to the away team's area with a big dog-catchers' net and a stuffed dog and waved it in front of their fans and cheerleaders to taunt them. The Duke Dog and cheerleaders got mad and ganged up on me, and I ended up having to fight their mascot off by hitting it with the stick from the net. I later met their mascot without our suits on and the reaction on his face when he saw that it was a girl who was beating him up was priceless!

What's the worst part about being the HokieBird?

The smell! So many different people had sweated in those suits so much that no matter how many times they were washed, they still smelled awful.

web extras

To read all of the alumni responses to each question, visit www.vtmag.vt.edu.



Under a Watchful Eye

The legend of the gargoyles

by DENISE YOUNG
photos by LOGAN WALLACE

Their hunched bodies and contorted faces are the stuff of legend. Chiseled in stone and calling to mind the rooftops of Paris or the Halloween season, the gargoyles capture Hokie imaginations.

Function and form

Gargoyles might send a shiver down our spines or send our imaginations racing, but they have a purpose beyond mere ornamentation. "Basically, gargoyles are nothing more than waterspouts. They move water from the gutters on the roof away from the building," said Matthew Gabrielle, an associate professor in the Department of Religion and Culture. The name "gargoyle," however, is a modern corruption of the French word *gargariser* ("to gargle"), which the sculptures appear to do with the water they move.

Hugh Latimer, university architect, said not all of the fixtures on campus are true gargoyles, which serve as rainspouts. Many, including the infamous "cowgoyles" in the Ag Quad, are what he refers to as "projected medallions," meant simply for decoration.

Instead of the costly process of carving a gargoyle rainspout out of stone, Latimer said the university typically uses the more economical method of "scuppers"—U-shaped pieces of concrete that serve to drain rainwater from the roofs of campus buildings.

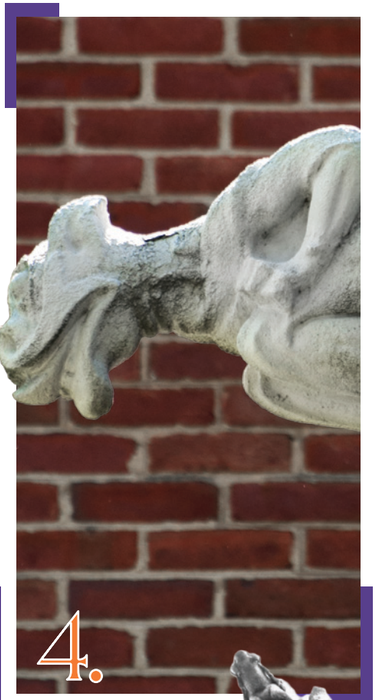
A medieval reminder and modern-day mascot

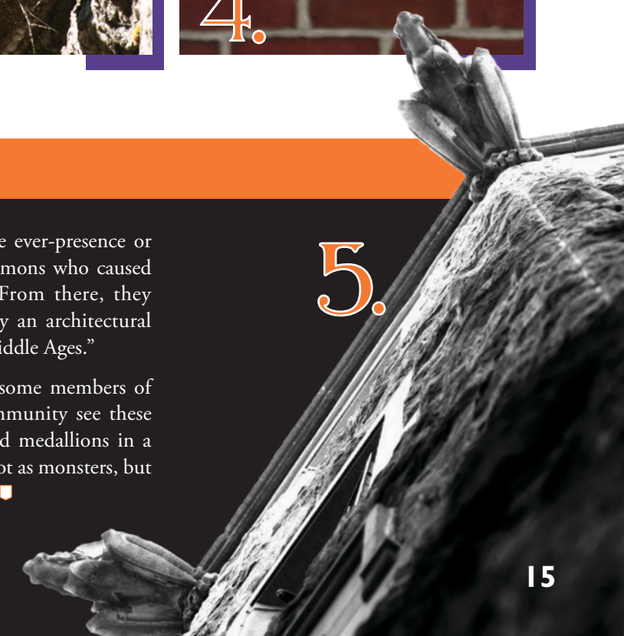
If gargoyles are merely artful rainspouts, why the monstrous faces? Gabrielle offers one theory. "There's no one agreed-upon understanding of why they came to be [so grotesque,] but most likely, [they] symbolized the dangers lurking outside the walls of the Church and the ever-presence or watchfulness of the demons who caused temptation and sin. From there, they became iconic—simply an architectural feature—by the late Middle Ages."

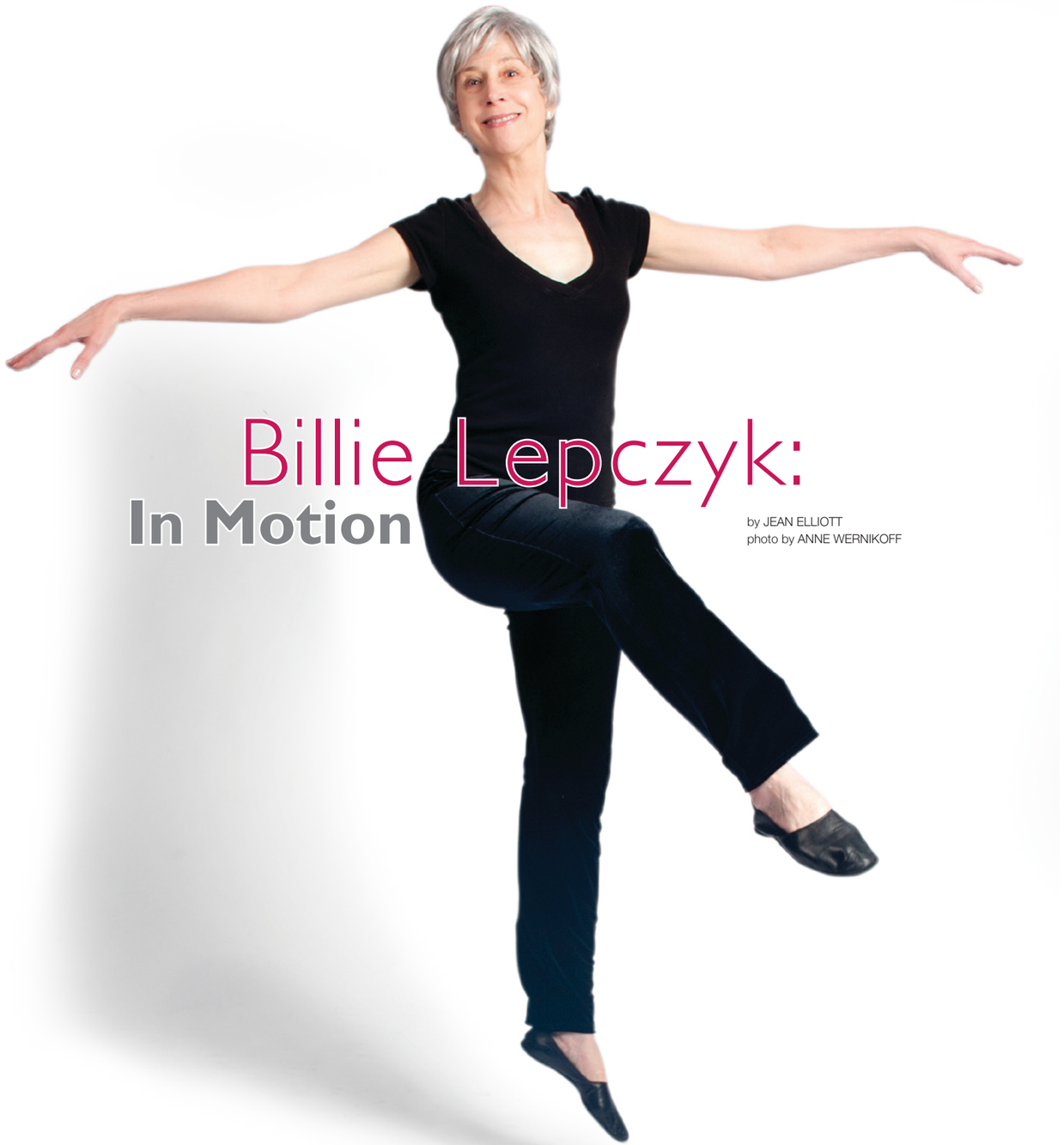
But here on campus, some members of the Virginia Tech community see these gargoyles and projected medallions in a much different light: not as monsters, but as unofficial mascots. ■

pop quiz

Do you know which campus buildings display these gargoyles and projected medallions? Find the answers on page 62.







Billie Lepczyk: In Motion

by JEAN ELLIOTT
photo by ANNE WERNIKOFF

Students emerged from the class chatting with new classmates as if they were lifelong friends—and it was only the first week of the semester. Energy emanated via bright eyes and heads held high, smiles and laughter, and a definite liveliness in students' strides. Billie Lepczyk's teaching skills were already at work.

"I love teaching, and, of course, I love dance," said Lepczyk, who, after 29 years at Virginia Tech, approaches each year as a new adventure for both her students and herself.

Lepczyk encourages students to explore movement in an individual and personal way. In her Creative Dance class, advanced-level dancers work side by side with novices in an immensely popular general education course. As Lepczyk tells it, "You don't need technique in this class; you need imagination and creative abilities." Students with dance backgrounds and those new to the activity intermingle and "soon learn how to think in terms of movement elements and experience, combining [elements and experience] into a finished product."

> "She wasn't teaching to students. She was sharing the teaching process with her students. And she was learning as she was teaching. I think that is the gift of being a teacher—you're teaching because you are a learner and you're a student."
>
> –Debra Knapp, New Mexico State University

Lepczyk's initial assignment for students in the class serves as a terrific icebreaker for undergraduates coming from various majors with diverse backgrounds and a broad range of dance experience. In groups of five, students select magazine pictures of humans in various poses and then construct dance sequences with the images. This simple start creates a positive, creative, non-judgmental environment. Everyone gets to know one another by contributing to a team project. Together they figure out transitions from one position to another. Novices overcome that potentially awkward moment of executing their first steps, and experienced dancers come face-to-face with group problem-solving.

After learning how to map out floor plans and performing their first dance, students are asked to reflect on the creative process in a composition, enhancing the core course with an intensive writing component.

"Creative dance has value in education beyond an aesthetic experience and engaging the imagination and creative abilities," said Lepczyk. "Students learn teamwork and how to contribute and how to be a good citizen. They also become better listeners and appreciate diversity, all while gaining more self-confidence."

Lepczyk's initial lesson, carefully constructed following years of inquiry, has been implemented in courses across the country. She has designed 13 classes over her tenure, founded and advised both the Contemporary Dance Ensemble and the Dance Company of Virginia Tech, and clearly has a flair for teaching. In 2009, she was recognized as National Dance Educator of the Year by the National Dance Association (NDA).

Debra Knapp, who teaches at New Mexico State University, served on the selection committee for NDA. Lepczyk "is able to create an atmosphere where students can flourish," Knapp said. In reviewing videos of Lepczyk's teaching, Knapp said, "She wasn't teaching to students. She was sharing the teaching process with her students. And she was learning as she was teaching. I think that is the gift of being a teacher—you're teaching because you are a learner and you're a student."

— continued on page 45

Dancer, teacher:

- William E. Wine Award, 2012, Virginia Tech
- Named National University Dance Educator of the Year in 2009 by the National Dance Association
- Chair and Fellow, Board of Trustees, International Council of Kinetography Laban (2008-present). The council maintains the standardization of the dance notation system called Labanotation.
- National Dance Association Scholar/Artist (1998)
- Fellow (1988) of the American Alliance for Health, Physical Education, Recreation and Dance Research Consortium and Columbia University Teachers College Fellow
- Co-editor of five volumes of "Dance: Current Selected Research"
- Professional Advisory Committee, Dance Notation Bureau. This committee selects dance masterpieces to be notated and approves reconstructions for university and professional dance companies.
- Master's degree and Ed.D. from Columbia University, undergraduate degree from Michigan State University

‘Raising an Entrepreneurial Ecosystem’

Mentors and capital bolster area’s visionaries

by JESSE TUEL

Bob Summers was already immersed in his third startup venture when he completed a bachelor’s degree in computer engineering at Virginia Tech in 1998. Plotting his next move, Summers surveyed the entrepreneurial landscapes in Blacksburg; Raleigh, N.C.; and Washington, D.C.

About the series

In this third installment of a series on the blossoming tech sector in the Roanoke and New River valleys, Virginia Tech Magazine continues to explore the vibrant drivers of the area’s recent economic growth.

Although his assessment indicated few resources for startups in Blacksburg, Summers chose the town for its quality of life and availability of talent. More than a decade later, those good qualities still ring true—and even better, the lack of resources is becoming a thing of the past.

Step into TechPad, launched by Summers as an open, collaborative space for high-tech entrepreneurs, and you’ll begin to see why.

Two years ago, looking for a downtown venue from which to work, Summers toured an empty space above PK’s Bar and Grill. After extensive renovations, Summers opened TechPad, a co-working space designed to nurture startup entrepreneurs through collaboration and mentoring. He quickly discovered an unmet demand, with four other entrepreneurs joining him in the first month alone. Well ahead of its official opening in September, TechPad had already hosted a variety of startup businesses.

On a Tuesday afternoon in August, Braden Croy, the president of the Virginia Tech Entrepreneur Club, was preparing to enter a conference room in the back corner of TechPad’s 6,000-plus square feet of space. The senior geography major would have 10 minutes to convince a room full of hypothetical investors that they should provide critical funding for the roll-out of his business, Cloud Conservatory, an online source for university-level music education.

If practice makes perfect, Croy, whose business is in the pre-launch phase, was in the right place. He was headed into a “Pitch & Polish” clinic, a monthly session at TechPad hosted by the Roanoke-Blacksburg Technology Council that allows entrepreneurs to hone their ideas in front of about 10 investors, venture capitalists, and successful entrepreneurs.

After outlining such concerns as American spending on the arts, competition in online music education, the pricing structure for lessons, and revenue projections, Croy listened and responded as the audience asked probing questions about the business plan and offered tips on his presentation—in short, the keys he needed to move forward with Cloud Conservatory.

“Their critique of my financials was the most helpful. As in any business, it comes down to money, and when your financials are a bit skewed, investors are going to question the validity of your claims,” Croy said. “The clinic really helped solidify that what I’m doing is viable, and it encouraged me to keep pursuing this great market opportunity.”

LOGAN WALLACE

Bob Summers ’98 (right) is leading a push to improve the region’s resources for startup businesses.

Summers, who previously launched a desktop videoconferencing software company serving more than 3 million customers worldwide, is now working out of TechPad on his fifth startup, Friendeo, which aims to offer users a personalized video entertainment channel. In 2005, though, Summers sensed that he needed a fresh perspective. He stepped away from Blacksburg, going to the Massachusetts Institute of Technology (MIT) for an M.B.A. There, he was inspired by a friend’s Cambridge Innovation Center, adjacent to MIT, and borrowed the concept for TechPad: an open, innovative space next to campus, a place where faculty and students could quickly move from an academic to an entrepreneurial context.

“What [an open design] allows for is ad-hoc, unintended, unplanned conversations that can solve real problems,” Summers said, explaining that every entrepreneur is constantly challenged by market, funding, and personnel opportunities. “An open space can help people through these challenges by sharing. I felt that we needed a vessel, a place for our entrepreneurs to meet on a regular basis and a low-friction pathway to getting started.”

Summers and others are doing nothing short of “raising an entrepreneurial ecosystem,” as he put it. He’s not alone in his efforts. A venue similar to TechPad—the Cooperatory—is coming soon to the Virginia Tech Corporate Research Center, a wholly owned subsidiary of the Virginia Tech Foundation. Meanwhile, other university entities—VT KnowledgeWorks, the Office of Economic Development, Virginia Tech Intellectual Properties, and more—support businesses throughout their life cycles.

LOGAN WALLACE

Making the pitch: Virginia Tech senior Braden Croy overviews Cloud Conservatory at a pitch clinic held at TechPad in August.

web extras

Spend 10 minutes listening to Bob Summers describe his motivation, and you'll be fired up. Our podcasts with the entrepreneurs from this series—including Michael Fleming of TORC Robotics and Winston Samuels of Maxx Performance—are accessible at www.vtmag.vt.edu.

Visionary capital

Financial backing is an integral part of an entrepreneurial ecosystem. When he returned to Blacksburg from MIT, Summers spent a year investigating the viability of an early seed-stage venture fund. The outcome is 460 Angels, a fund whose 35 accredited investors have already made several investments totaling more than $1 million in the last 24 months. Along with the availability of 20 mentors, Summers' goal is a $5 million fund that will make 10 investments per year in the $50,000 to $100,000 range.

In the realm of venture capital, Summers and his 460 Angels colleagues are operating alongside a growing number of others. The Virginia Tech Foundation, Carilion Clinic, and Third Security, a Radford-based venture capital firm, teamed up in 2004 to launch the NewVa Fund, investing $13 million in five businesses that, in turn, generated job growth and additional outside investment. Now the same three players are retooling: Earlier this year, they announced their intention to create the Valley Ventures fund, aimed primarily at life-sciences businesses, said John E. Dooley, Foundation CEO and secretary-treasurer.

For the foundation, which exists to support the mission of Virginia Tech, investing in the Roanoke and New River valleys is both an investment strategy and a regional development strategy. By leading to higher-compensated jobs, employment for students and spouses of faculty and staff, and enhanced retail and cultural scenes, economic development efforts yield tangible benefits for the university, said Ray Smoot (English '69, M.S. educational administration '71), who retired this summer as foundation CEO.

When it comes to capital, however, the mentors behind the money are far more important than the number of zeroes. Venture capital can accelerate sales or attract talent, but a business needs advisors to properly apply the money—which, Summers said, is the real value of such funds.

Pushing Cloud Conservatory toward viability, Croy recognizes as much. "As a startup [entrepreneur], your success depends on that network of advisors and mentors," Croy said.

Dooley added that such advice is "critical for the university long-term" because it aids faculty members—already proficient at the art of discovery—with the next step of moving intellectual property into the commercial pipeline.

A thriving ecosystem

The years of steady progress in the region are bearing fruit. Smoot and Dooley agreed that one measure of success is that they're coming across more and more initiatives that bear no university influence. "There is a growing awareness of opportunity," said Dooley of the region's economic climate.

As for TechPad, 20-plus startups have circulated through its doors since it opened. Two businesses have graduated to a nationally known incubator program, while a third, Heyo (formerly Lujure Media, which Summers advises) just raised $500,000 in venture capital.

To be sure, the region's climate is ripe for entrepreneurs. "I've been really surprised by the number of students and faculty entrepreneurs [who] are here and are ready to get started," Summers said. "There is significant opportunity to grow our entrepreneurial ecosystem, more so than I thought five years ago, and that's a surprise to have that [finding] validated."

ILLUSTRATION BY STEVEN WHITE

Instant Replay

Naturalistic studies provide clues to decreasing crash fatalities

by KAYLA CZECH '11

Every 13 minutes, someone on America's roadways dies in a vehicle-related crash.

In an ongoing effort to lower this sobering statistic, the Virginia Tech Transportation Institute (VTTI) conducts naturalistic driving research involving teen drivers, truck drivers, older drivers, and motorcyclists.

Superior to other research methods, naturalistic driving studies use sophisticated cameras and instrumentation in participants' personal vehicles, providing researchers with thousands to millions of hours of data on actual driver behavior and performance. Data is collected through multiple channels of digital compressed video, radar sensors, machine vision-based lane trackers, cell phones, GPS, and instruments that record such vehicle information as braking, acceleration, and yaw.

Participants, who are monitored for periods ranging from six months to three years, are given no instructions other than to go about their normal daily driving activities. As a result, these drivers face real driving conditions and pressures and make real decisions that have real consequences.

Drivers participating in traditional controlled experiments, on the other hand, might alter their behaviors to make themselves "look good on camera." Moreover, police accident reports must rely on information from those involved and from crash scenes from which the vehicles have often been moved. Drivers in crashes may be deceased or injured; pre-crash events occur so rapidly that the driver or passengers often forget key elements; and witnesses frequently leave out important details.

In a nutshell, data from naturalistic driving studies provide greater detail and accuracy regarding driver behavior, driver error, and vehicle performance in a process similar to instant replay in televised sporting events.

The first naturalistic study of motorcyclists

While fatality rates for other road users have been in decline, according to the National Highway Traffic Safety Administration, fatalities from motorcycle crashes increased 128 percent from 1997 to 2007. In addition, AAA Mid-Atlantic reported 78 motorcyclist fatalities and 1,981 injuries in Virginia in 2010.

To address this growing danger, in August 2011, VTTI launched the world's first large-scale naturalistic motorcycle riding study: the Motorcycle Safety Foundation's (MSF) 100 Motorcyclists Naturalistic Study, a partnership effort between VTTI and (MSF), the largest trainer of motorcycle riders globally.

The study is tracking two age groups, 21 to 34 years and 45 to 64 years, and seven motorcycle models, including sport bikes, cruisers, and touring bikes. Each participating motorcycle is equipped with five color cameras, a GPS, accelerometers, a gyro, forward radar, a machine-vision lane tracker, and front and rear brake sensors.

Three different locations are being used for outfitting, tracking, and data collection: VTTI in Blacksburg; MSF headquarters

Data driven: Alex Bier, an electronics technician supervisor with the Virginia Tech Transportation Institute, uses a laptop to install data acquisition software on a motorcycle.

LOGAN WALLACE

in Irvine, Calif.; and the Motorcycle Mechanics Institute in Orlando, Fla. Researchers expect approximately 500,000 miles of riding data, which will be collected until summer 2013 and studied for an additional year.

"We know of no other naturalistic study for motorcycles," said VTTI director Tom Dingus. "We expect the study to be very valuable to the MSF's work since we also will examine where and how crash avoidance is successful. With so much information bandwidth coming from the cameras and instrumentation on each bike, we'll be able to examine details for years, and the findings will be relevant for decades."

Trucking and texting

In June 2009, the results of a VTTI naturalistic driving study, "Driving Behavior of Commercial Vehicle Drivers," provoked national and international debate about the dangers of texting while driving, ultimately leading to new laws for commercial vehicle drivers.

Combining data from two naturalistic truck-driving studies previously conducted by VTTI, the study evaluated the types, frequency, and impact of driver distraction in commercial motor vehicle operations. Analysis of 3 million miles of motion and video data collected from 203 commercial vehicle drivers revealed that drivers who texted were 23.2 times more likely to be involved in a crash or near-crash event.

Another key finding, which brought balance to the debate, indicated that talking or listening on a cell phone or CB radio did not statistically increase crash risk. However, dialing, reaching, and other intensive visual-manual cell phone sub-tasks did.

The results from this study prompted a two-day Distracted Driving Summit in Washington, D.C., and an executive order by the U.S. president that banned texting while driving for government workers operating government vehicles. In January 2010, the U.S. Department of Transportation announced a federal texting-while-driving ban for truckers and bus drivers. Nearly a year later, a Notice of Proposed Rulemaking was released that would restrict, but not ban, cell phone use by truck drivers.

Distracted driving

Commercial vehicle drivers aren't the only ones on the road affected by VTTI's naturalistic driving research.

"Our research has sparked national debate over the dangers of distracted driving and, if nothing else, has made and will continue to make drivers more aware of how quickly situations can change when they take their eyes off the forward roadway," said Charlie Klauer, research scientist in VTTI's Center for Automotive Safety Research.

Eye-glance data gathered from more than 6 million miles of driving during VTTI's various naturalistic driving studies revealed that text messaging, which had the highest risk—more than 20 times worse than driving while using a phone—also had the longest duration of eyes not on the road: 4.6 seconds over a six-second interval. This time span equates to driving the length of a football field at 55 mph without looking at the roadway. "The danger increases exponentially when drivers take their eyes off the forward roadway for extended periods of time for any distracting task," said Klauer.

In light of these findings, 35 states and Washington, D.C., currently ban texting while driving. In Virginia, texting while driving is considered a secondary offense.

Tracking teen drivers

Among several naturalistic driving studies being conducted with teens, an 18-month study sponsored by the National Institutes of Health will determine issues that place newly licensed teenage drivers at a much higher crash risk when compared to other drivers.

Drivers who text while driving are 23.2 times more likely to be involved in a crash or near-crash event.

The study's results will not only provide transportation researchers with a more complete understanding of how teens learn to drive during the first 18 months of independent driving, but also furnish information to legislators working on graduated driver licensing laws in an effort to reduce teen fatalities.

Past research has indicated that crash rates of novice teenage drivers are significantly higher during the first six months and 1,000 miles of independent driving. Seeking to determine the effect of greater and lesser amounts of supervised driving on the driving performance of newly licensed teens, VTTI researchers will analyze the amount and variety of practice provided by each teen's parent, as well as the teen's compliance with state laws.

Thirty-five states and Washington, D.C., currently ban texting while driving.

Seniors: coming to a stop

To help senior drivers decide if they should stop driving, VTTI has also been conducting research with drivers who are 75 and older.

In a 2007 study sponsored by the National Surface Transportation Safety Center for Excellence, the vehicles of 20 senior drivers were instrumented for one year. During the initial phases of the study, 40 participants—20 senior drivers and 20 seniors who had given up driving within the past two years—underwent a battery of assessment testing that included a driving history and tests of health, vision, physical strength, and reaction time.

Although results are still being tabulated, the study was renewed and continues.

1,500 vehicles instrumented

VTTI is currently managing data collection from more than 1,500 cars, pickups, and SUVs in the Second Strategic Highway Research Program, the largest light-vehicle naturalistic driving study ever conducted. Authorized by the U.S. Congress to address the critical needs of the nation's highway system, the nationwide study is administered by the Transportation Research Board of the National Academies.

As part of their daily activities, roadway users of all ages and in all vehicle types face risks. With the help of VTTI's naturalistic driving research, the frequency of fatalities and injuries can be greatly reduced, and our roads will be safer for all.

Kayla Czech (communication '11) was a public relations, marketing, and graphics assistant with the transportation institute.

web extras

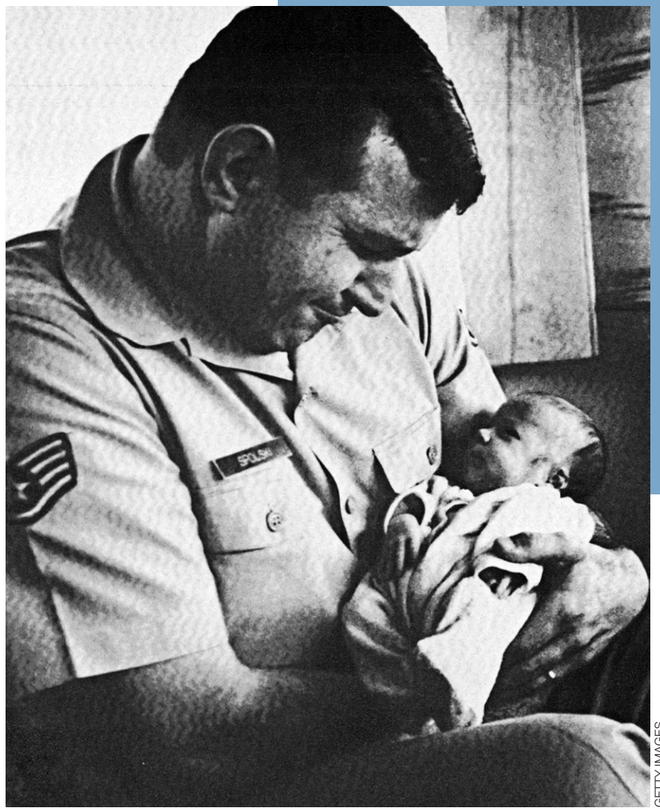
A version of this story originally appeared in the summer 2012 issue of Virginia Tech's Research Magazine. Read the full story at www.research.vt.edu/resmag/.

INSPIRATION Then and Now

How an inventive culture defines Virginia Tech—and saves lives

by JESSE TUEL
photos by LOGAN WALLACE

Life cycle: Former professor Leon Arp (above left and lower left) mentored Andy Muelenaer '75, '79 (above middle and below) in the creation of life-saving medical devices when Muelenaer was an undergraduate, and now Muelenaer is serving in the same role with graduate student Thomas Ruscher (above right, below right) and other students.



GETTY IMAGES

The doctor told Air Force Staff Sgt. Paul Spolski to be prepared for the worst.

Born three months premature in 1970, Carrie, his firstborn child, was suffering from respiratory distress syndrome, a life-threatening condition that, at the time, affected 25,000 infants in the U.S. annually and was the leading cause of death in the first week of infants' lives.

"The air went out of me," Spolski recalled. "I thought we were going to lose her for sure."

Spolski, his wife, and newborn daughter were in Langley Air Force Base, but hope was waiting on the other side of the commonwealth. Carrie's pediatrician recalled an article he'd read about a Virginia Tech professor, Leon Arp, who had invented an infant respirator while he was pursuing his doctorate in industrial education, a degree he completed at Iowa State University in 1965. The pediatrician met with the base's commanding general. Soon enough, Arp and Gene Dillon, a technician in Tech's mechanical engineering department, were en route to Langley on the general's personal jet.

The trip to Carrie's bedside was documented by Life magazine in a four-page photo essay (which included the image above). The respirator ensured that the Spolskis' first meeting with Arp wouldn't be their last. Since reconnecting with Arp and his wife, Kathleen (Kathy), about 20 years ago, Darkes and her parents have kept in touch with the Blacksburg couple. Darkes credits Arp, a professor emeritus of mechanical engineering, and the infant respirator he invented with saving her life.

"It was neat to sit down and actually chat with him," Darkes said, recounting with emotion her first meeting with Arp. "It [felt like we had known] each other forever. I think I just hugged him and thanked him.

"I'm blessed to be [alive]. Not everybody can say that they've been saved by someone and put in Life magazine. It's pretty incredible."

On a visit to Blacksburg in September, Darkes and Spolski reunited with the now-82-year-old Arp. "I'm here because of [him]," said Darkes, a first-grade teacher and married mother of two boys who lives in Mountain Home, Idaho.

Lifelong impact

At left: In an image from a 1970 Life magazine story, Paul Spolski holds his daughter, Carrie, who was saved by an infant respirator invented by Leon Arp (at right), then a Virginia Tech professor.

At right: Carrie Spolski Darkes reunited with Arp at the Roanoke airport when Darkes and Spolski flew to Blacksburg for a visit.

Directly below: Spolski and Darkes on campus in September.

Other images below: A glimpse into the life of Darkes, a married mother of two who lives in Idaho. Submitted photos courtesy of Darkes and Spolski.

inspiration then and now

The inventor at work: In a 1970 edition of Virginia Tech's Context publication, Leon Arp was captured as he checked on an infant's breathing.

web extras

For more on how Tech fulfills its land-grant mission and to learn about the Morrill Act anniversary, visit www.vt.edu/landgrant.

A breath of inspiration

As a junior in high school, Arp converted a washing machine into a device to develop color film. His interest in and aptitude for the design and construction of electromechanical devices would serve him well when, in 1961, one of his twin sons was born with respiratory distress syndrome. Arp clearly saw that the medical community did not have the methods or equipment to assist his child. "It became painfully obvious that not one damn thing was being done to effectively assist [my] son's labored breathing," said Arp, an inventor who is not one to mince words.

Intrigued by the idea of a respirator, Arp discovered that his son's pediatrician, Dr. William C. McCormack, was just as committed to addressing the syndrome. McCormack spent hours teaching Arp the anatomy and physiology surrounding the problem, and Arp received immediate feedback to his questions. "It was like having a private medical professor at my elbow," Arp said. "Without his dedicated support, I could never have learned enough about the medical problem to be able to formulate a successful respirator design and the medical action protocol for its use."

Respiratory distress syndrome is characterized by stiffened lungs caused by the absence of a protective substance called surfactant. In a fight for oxygen, an infant with adequate strength will dramatically increase his or her breathing rate. Taking measurements, Arp determined that afflicted infants were breathing at a rate upward of 100 to 120 breaths per minute, a rate far faster than existing adult respirators could handle. For a respirator to aid in breathing, then, the device had only milliseconds to sense the onset of an infant's inhalation and send an exact volume and concentration of oxygen into the lungs.

Moreover, Arp knew that the device had to be supremely sensitive, able to respond to the miniscule negative air pressure exerted by an infant's tiny lungs at the beginning of inhalation. He developed a sensor that reliably triggered the respirator, and ensured that the device would reset before the next breath.

Because of its sensitivity and short response time, the sensor allowed Arp's respirator to assist a child's breathing, as opposed to the rate-controlled method employed by adult respirators. "That [sensor] was the key to the whole thing. That was my first patent," said Arp, who held four patents by the time he came to Virginia Polytechnic Institute (today's Virginia Tech) from Iowa State University in 1966.

Bringing his invention to Virginia, Arp partnered with two pediatricians in two Roanoke hospitals. In a study from June 1967 to October 1968, they applied Arp's respirator and his methods to 200 infants in respiratory distress—4.8 percent of the hospitals' live births—and improved the infant survival rate at the hospitals from 62.8 percent for those not treated with the respirator to 86 percent for those treated with it. The group published the results in consecutive 1969 editions of the Anesthesia and Analgesia journal—where Darkes' pediatrician would read about the invention that would save his patient's life. Alongside such era-defining marvels as the Apollo moon landing, the respirator was named by the National Society of Professional Engineers as one of the top five engineering achievements of 1969.

On the respirator's success, Arp credited the help he received from machinists and technicians such as Dillon, Jack Gray, Marshall Smith, and Teet Henderson. "I am not an engineer of any kind," said Arp, whose degrees are in industrial education—the study of the materials, tools, and processes of industries. "However, I did do my homework, and the device did exactly what it was intended to do."

Incredibly, the respirator didn't go mainstream. In the early 1970s, it was licensed by a medical-device manufacturer that converted the machine "back into a slow, insensitive" device that was "incapable of assisting the very rapid respiration" of infants with the syndrome, Arp said.

Even so, the power of innovation would not be bridled. The torch would be passed.

The Morrill Act and a Land-Grant Mission

The lifesaving devices highlighted in this article are but a small sampling of the innovations that land-grant universities like Virginia Tech have brought to the world. Charged with the task of conducting research and sharing knowledge with communities both local and global—a role set forth by the Morrill Act, a decisive piece of legislation enacted 150 years ago that established the nation's land-grant institutions—such schools have served society across the decades. That timeless role remains true today.

The outcome at Virginia Tech is a culture of discovery that has touched countless people in the region, the nation, and the world—and, quite literally, saved lives. Built by Virginia Tech students, a bridge in Haiti means children can cross a river to reach their school without being in danger of drowning. A transportation study quantified the dangers of texting while driving and continues to influence policy discussions on the subject across the nation (Editor's note: See the article on page 22). In fields as diverse as agriculture, engineering, water-resource management, and more, Virginia Tech embodies the mission of serving society through research and technology.

Passing the torch

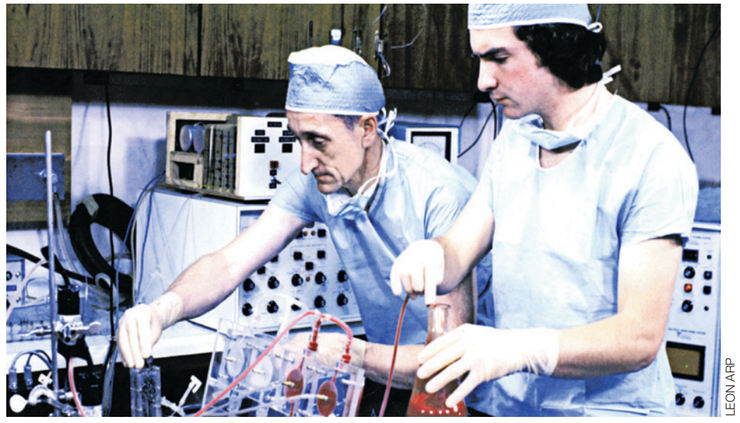
Leon Arp wasn't in the car with Dr. Andy Muelenaer and Al Wicks, but his legacy was.

In 2004, Muelenaer (biological sciences '75, M.S. zoology '79), a Roanoke-based pediatric pulmonologist, and Wicks, an associate professor of mechanical engineering, were driving to Washington, D.C. Muelenaer described an ever-present problem in pediatric pulmonology: monitoring airflow in infant tracheostomy tubes. Blocked tubes account for about a 6 percent mortality rate, Muelenaer said. Wicks had soon sketched on a napkin a solution that involved shooting sound waves through the tube's air flow, measuring air speed like Doppler radar does.

The solution is a now a working prototype—an air-flow sensor for tracheostomy tubes—developed in the Pediatric Medical Device Institute (PMDI), a nonprofit entity led by Muelenaer and Wicks. Thomas Ruscher, a graduate student pursuing degrees in mechanical engineering and computer engineering, has spent two-plus years developing the sensor, and among PMDI's efforts, the sensor is the closest to being ready for commercialization.

PMDI works with a consortium of children's hospitals in Virginia and North Carolina to develop medical devices that meet the clinical needs of physicians. Ruscher, who works out of Randolph Hall on PMDI-related research, described the institute as a "nonprofit that solicits ideas from physicians for devices they'd like to see developed." One student is studying how to detect early signs of cerebral palsy by placing sensors on an infant's limbs. Using similar sensors to measure movement, another project aims to help doctors provide precise dosages of medication for newborns suffering from opiate withdrawal. Another student is developing a software program that would help medical providers determine dosages of medications and the size of equipment to use for CPR based on the child's age, condition, and weight. The institute has a couple dozen devices in the works, in various stages of development.

"The biggest problem for pediatric devices is the typically small market," said Wicks, PMDI's chief technical officer. "Kids tend to be pretty healthy, so the market size tends to be much smaller than the bigger manufacturers want to deal with." Even so, the air-flow sensor may prove useful for adult tracheostomy tubes. And the institute is able to leverage the resources of consortium hospitals throughout the mid-Atlantic, effectively casting a wider net in the creation of life-saving devices. "There's a tremendous amount of need out there for pediatric devices, and we are simply trying to fill the void," said Wicks,



LEON ARP

Picture perfect: (Above) In the 1970s, Leon Arp and Andy Muelenaer '75, '79 collaborated on a device that provided oxygen to patients' hearts and lungs. At left, the two visited in Arp's home.

Andy Muelenaer '75, '79 works with students, including junior mechanical engineering major Ashley Taylor, to develop medical devices for children.

who spoke on his way back to Blacksburg from Washington, D.C., where he had just presented at a conference for the Food and Drug Administration (FDA) meant to improve the relationship between the agency and entrepreneurs by ensuring that prospective inventors understand how to move a device through the approval process.

Amazingly, the legacy of Leon Arp leads directly to PMDI. After the infant respirator, in the early 1970s, Arp turned his attention to an extracorporeal membrane oxygenation device, which provides oxygen for distressed hearts and lungs. Working under Arp's tutelage was a young undergraduate—none other than Andy Muelenaer. Arp inspired the student to pursue a career in pediatrics and children's medical devices.

From Arp, Muelenaer learned to address a problem faced by pediatricians by modifying adult machinery or building a new device. He "increased my confidence" to invent solutions, said Muelenaer, who is an associate professor in the Department of Pediatrics at the Virginia Tech Carilion School of Medicine and PMDI's president and chief medical officer.

Muelenaer met Wicks through the Carilion Biomedical Institute, a partnership launched in 1999 by Carilion, Virginia Tech, and the University of Virginia to promote biomedical research and commercialize medical devices as an economic engine for the region. An idea Muelenaer had for placing a tube into infants' stomachs led him to be named the partnership's chief medical officer. Soon after, the pair was asked to share their expertise with a U.S. Senate committee studying medical-device creation for children, during which they proposed a network of children's hospitals funded by the government. The model became legislation and their consortium of hospitals eventually landed grant funding from the FDA via the University of Michigan.

In the circle of innovation, Muelenaer has returned to his roots, inspiring students in the same building in which he was first inspired by Arp. "I started in Randolph Hall," Muelenaer said, "and I'm right back in Randolph. It all comes back around."

Likewise, the techniques that saved Darkes have been rediscovered. What Muelenaer finds remarkable about Arp's infant respirator was the professor's "genius… to sense that the baby was taking a breath [and to] assist that breath." Arp had broken from conventional methods, such as a "bellows" approach of slamming air into a baby's lungs, which damaged the fragile tissue. Arp recognized, too, that excessive levels of oxygen were harmful to still-developing retinal and blood vessels, so his respirator delivered the right amounts. And when the rest of the medical community used endotracheal tubes, which were potentially dangerous to infants, Arp used a nasal mask.

Today, all of these advances are commonplace. Muelenaer said that neonatologists now are able to anticipate respiratory distress syndrome, deliver drugs to speed up lung development, treat a baby with artificial surfactant (a more recent, and critical, factor), and use advanced respirators that allow the baby to trigger gentle ventilation. "We're really practicing the principles [Arp] discovered and promoted in the '60s and '70s," Muelenaer said.

The spirit of invention

From his Blacksburg home, Arp presses on. An avid photographer who served in the Air Force in photo intelligence, he was preparing this summer for an upcoming photography exhibit. More than 200 prints in handmade frames—including uncirculated portraits of Marilyn Monroe, whom he met in 1950 at a base in Japan—leaned against the interior walls of his home. Outside, Arp pointed to a boat trailer with an attached a snowmobile engine that, at the flip of a lever, gently lowers the boat into the water—evidence of the ingenuity that earned him 25-plus patents.

Whether in Arp's driveway, on campus, in Carrie Darkes' Idaho home, or around the world, the visionary efforts of Virginia Tech and its people sustain—and even save—lives.

Denise Young, assistant editor, contributed to this article.

web extras

Hosting the Blacksburg reunion for Carrie Darkes, Paul Spolski, and Leon Arp was a once-in-a-career kind of treat for our magazine team. Go to www.vtmag.vt.edu to see a fantastic video chronicling the reunion, the research at PMDI, and the circle of innovation evident at Virginia Tech.

JIM STROUP

Donor Supports Critical Research into Autism

by GARY COPE '97

Read Montague, director of the Computational Psychiatry Unit at the Virginia Tech Carilion Research Institute.

What do a condensed-matter physicist, a social psychologist, and a mathematical economist have in common? They, along with other top researchers, scientists, and students at Virginia Tech, are working to unlock the mysteries of the human brain.

The Computational Psychiatry Unit at the Virginia Tech Carilion (VTC) Research Institute combines technology with neuroscience, economics, and behavioral methods to understand the neural computations involved in human cognition and psychiatric illness.

One of the unit's areas of brain research is autism spectrum disorder, a focus that prompted one man to donate the proceeds of his softball tournament to the institute.

Patrick Patterson, of Montvale, Va., has a vested interest in the innovative research at the institute. His daughter, Brooke, was diagnosed with autism when she was 3 years old.

Patterson said he chose to support the institute after touring the facilities, meeting Executive Director Michael Friedlander, and learning about the research there. "We met with Dr. Friedlander and spoke with him," Patterson said. "He was telling us what they do there, what the money goes toward, and that pretty much sealed the deal."

Because of the complexity of the human brain, the institute has a variety of brain research programs with different areas of focus, Friedlander explained. "One subset of our programs focuses on understanding brain development, particularly in children," he said. "Our researchers are using a wide range of innovative technologies to develop new ways to enable very early and accurate diagnoses of autism spectrum disorders, to come up with potential new therapies, and to create precise, scientifically valid methods to evaluate the effectiveness of these and other possible treatments."

For instance, the computational, or mathematical, approach comes into play for the Computational Psychiatry Unit, which is directed by Read Montague. "The one thing we've learned a lot about are the parts that make up the brain and the dynamics among the parts," Montague explained. "The things we know less about are how to model thoughts and the dynamics of thoughts and how these develop through our life trajectory."

Montague's approach to brain research involves identifying patterns and applying mathematics as a way of characterizing and predicting psychiatric and neurological diseases and disorders, including autism spectrum disorder. "Our behavior—however complex it is, or however complex it is for the brain to underwrite it—is patterned," Montague said. "There are patterns to it. You recognize normal patterns; you recognize abnormal patterns. You can tell when somebody is off and when somebody isn't. And where there are patterns and numbers, there is mathematics."

> "[Donors] put in your hands a resource that you can do something with that you wouldn't otherwise be able to do. It allows you to take a risk you wouldn't otherwise take; it allows you to think about problems differently."
> –Read Montague

The idea, he said, is that if researchers can identify patterns of healthy brains, they will be able to detect abnormal patterns, which could eventually lead to therapies or even treatments for mental illness and disorders.

To tackle such a colossal research challenge, Montague has assembled a team of researchers that includes a condensed-matter physicist, a social psychologist, a specialist in aesthetics, a physiologist, a mathematical economist, and even a doctoral student who is a geneticist and chemical engineer.

Despite the team's diversity, its members are all committed to a common goal: to gain insight into human cognition through an understanding of brain algorithms and the circumstances that can lead to their disruption.

All the work of the VTC Research Institute's teams of investigators requires funding that in large part comes from the National Institutes of Health, including the research into autism spectrum disorder, which is currently supported largely by the National Institute of Mental Health. "Grants, however, aren't the only sources of funding. In fact, private donations often allow researchers the most freedom," Montague said.

"When somebody hands you a check and says, 'I'll fund a postdoctoral position,' that's crucial," Montague said. "[Donors] put in your hands a resource that allows you to do research that you wouldn't otherwise be able to do, to take a risk you wouldn't otherwise take, to think about problems differently."

Patterson's first charity event proved such a success that he plans to run another one and once again donate the proceeds to the institute. "My ultimate goal is to raise as much money as I can [so that researchers] have what they need to find a definitive, black-and-white answer as to what causes [autism]," Patterson said. "And then [they can] move forward as to what they can do to help those who have autism perhaps cope a little better or to find a way to prevent it altogether."

For Montague and his team, that type of support from the community truly hits home. "It makes what we do a privilege," he said.

Gary Cope (communication '97) is a Web editor with University Development.

web extras

Go to www.vtmag.vt.edu to find a story and video on Read Montague's presentation at the TEDGlobal 2012 conference in Scotland and to read a profile of Patrick Patterson that first appeared in the summer 2012 edition of Virginia Tech's Impact magazine.

Submission guidelines are available online at www.vtmag.vt.edu/bookreview.html. To submit a book, mail it to Book Notes, Virginia Tech Magazine, 205 Media Building, Blacksburg, VA 24061. You can also email your name, the name of the publisher, the genre, and a brief description of the book to vtmag@vt.edu. We must receive the book within one year of its publication date. Photo by Anne Wernikoff (right).

off the **shelf**

BOOKS BY FACULTY/STAFF

Tiffany Trent (English '95, M.A. '97), communications coordinator, Virginia Bioinformatics Institute, "The Unnaturalists," young-adult fantasy, Simon & Schuster.

BOOKS BY ALUMNI

nonfiction

Dwayne A. Bennett (marketing '87), "The Seven Winning Ways to College Success," academic and career advice, RATHSI Publishing LLC.

George A. Bowers Sr. (agricultural education '86), "Blessings: A Collection of Modern Parables," religion, self-published.

Dorothy B. Durband, (Ph.D. housing, interior design, and residential management '00) co-editor, "Student Financial Literacy: Campus-Based Program Development," higher education, Springer.

Tom Finton (communication '77), "The Folks Back Home Won't Believe This: Memoirs of a Concerned Officer ROTC to Vietnam," memoir, military, CreateSpace.

Krista Gallagher (human nutrition, foods, and exercise '03) and Kris Schoels, "A Taste of Virginia Tech," cookbook, Mascot Books.

Lawton Grinter (M.S. forestry '02), "I Hike: Mostly True Stories from 10,000 Miles of Hiking," memoir, Grand Mesa Press.

Michael P. Maxwell (finance '90), "Inside the Minds: Strategies for Consumer Bankruptcy Trustees," finance, Aspatore Books.

Mike Michalowicz (finance '93), "The Pumpkin Plan: A Simple Strategy to Grow a Remarkable Business in Any Field," business strategy, Penguin Group.

Wendy Ostroff (M.S. psychology '98, Ph.D. '00), "Understanding How Young Children Learn: Bringing the Science of Child Development to the Classroom," education, psychology, ASCD.

Christal Presley (English '99, M.Ed. '00), "Thirty Days with My Father," memoir, PTSD and veterans, Health Communications Inc.

David M. Smith (finance '83, Ph.D. '89), co-editor, "Institutional Money Management: An Inside Look at Strategies, Players, and Practices," finance, John Wiley & Sons.

Paul Sybert (electrical engineering '65), "The Kindness of Strangers: Treasures of the Heart," memoir, religion, recovery, iUniverse.

Thomas T. Wiatt (civil engineering technology '80), "The Promised Land," travel, memoir, PublishAmerica.

fiction

Steve Rasnic Tem (English education '73), "Deadfall Hotel," horror, Solaris.

children's/teen

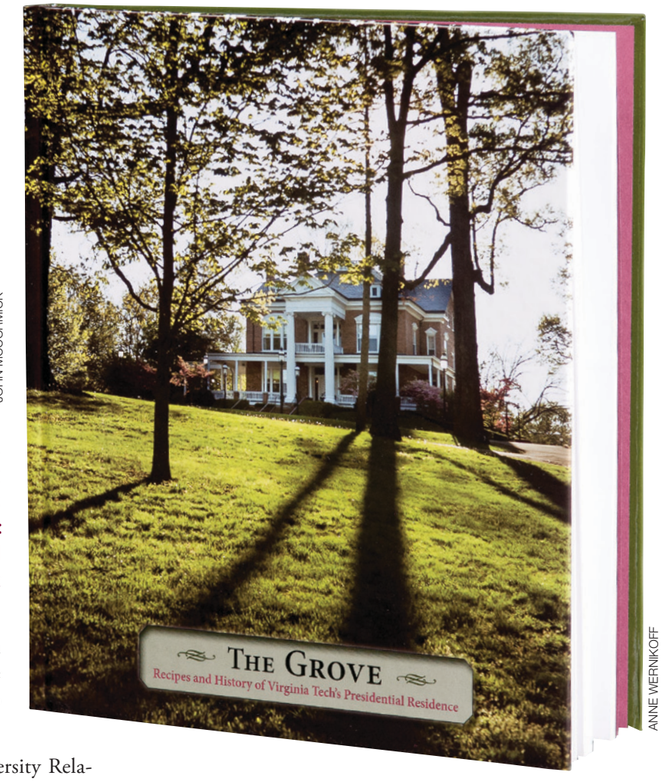
L.A. Lyons (English '07), "The Connection," young-adult paranormal, Charles Town Publishing.

Featured author:

Presidential cookbook serves up recipes with a side dish of history


JOHN MCCORMICK

"In more than a decade of living in The Grove, Virginia Tech's presidential residence, I have admired and enjoyed the artistic creations of Chef Michael 'Mike' Arrington, our executive chef, and, on occasion, Chef Josef R. Schelch, who has now retired from the university. As a result of these experiences, I am inclined to add cooking to my concept of the arts," writes President Charles W. Steger in the foreword to "The Grove: Recipes and History of Virginia Tech's Presidential Residence," edited and written by Clara B. Cox (M.A. English '84).



ANNE WERNIKOFF

Published by the Virginia Tech Foundation in August, the book is a way to raise money for the Employees' Spouse and Dependent Scholarship Program endowment.

Cox, the former director of publications for University Relations, retired in 2010, after more than 33 years of service to the university. Her research skills are well-known; she authored an online update of the university's history and historical data book and was the longtime writer of Virginia Tech Magazine's In Retrospect section, which profiled individuals whose names grace buildings across campus.

Blending a taste of history with a selection of recipes from the presidential residence, the book features recipes for appetizers, salads, breads, cereals, soups, sauces, entrées, vegetables, fruit dishes, and desserts prepared at The Grove; a history of the residence, built in 1902; recipes dating back to the 1940s from Tech's first ladies; and menus for events during the Burruss, Newman, McComas, Torgersen, and Steger administrations.

Additionally, short biographies of chefs Mike and Josef and the 10 presidents who lived in the Southern Colonial Revival-style house accompany information on selecting food, using salt blocks in cooking, historic campus recipes, definitions of words used in the recipes, and an index. Photographs of dishes prepared from the recipes and historic photographs highlight the text.

The book is available at the University Bookstore and at Volume Two Bookstore.

A selection of dishes prepared by chef Michael Arrington. Photos by Jim Stroup.


JIM STROUP

Recipe: Grilled Swordfish Steak **Serves:** 6

Ingredients:
6 swordfish steaks, 6 - 8-ounces
1/4 cup olive oil
1 tablespoon sea salt

Directions:
1. Brush steaks with oil; season with sea salt.
2. Grill on one side for 8 minutes, turning a quarter-turn halfway through. Turn steaks over; grill another 6 minutes, again turning a quarter halfway through.
3. Remove steaks to platter; tent for 15 minutes. To serve, place strawberry and habañero chutney (recipe below) on plate; place swordfish over it. Top with strawberry and habañero relish (recipe below).

Recipe: Strawberry and Habañero Chutney **Yield:** About 2 cups

Ingredients:
1 teaspoon canola oil
1 teaspoon garlic, minced
4 ounces dried strawberries
2 tablespoons key lime juice
1 teaspoon fresh ginger, grated
¼ cup tequila
½ habañero pepper, seeded and minced
1 cup water
1 cinnamon stick
¼ cup seedless strawberry preserves
1 tablespoon fresh cilantro, chopped

Directions:
1. In a saucepan, cook canola oil over medium heat. Add garlic, and sauté until translucent, about 3-4 minutes. Add strawberries, lime juice, ginger, tequila, habañero, water, and cinnamon stick. Bring to a simmer; reduce heat to low. Cook until strawberries are reconstituted, about 20 minutes.
2. Stir in preserves; heat until liquid, another 10 minutes. Remove cinnamon stick; reserve for another purpose if desired.
3. Transfer mixture to food processor; add cilantro. Pulse processor until strawberries are coarsely processed.

Recipe: Strawberry and Habañero Relish **Yield:** About 2 cups

Ingredients:
1 pint strawberries, hulled and diced
½ habañero pepper, seeded and minced
1 tablespoon fresh cilantro, chopped
1 tablespoon white sugar
pinch of salt

Directions:
1. In a bowl, combine all ingredients. Refrigerate for at least 10 minutes and no longer than 1 hour before serving.

Jenny Golding '95, George Bumann '02, and their son, George.

PHOTOS COURTESY OF JENNY GOLDING AND GEORGE BUMANN

For **Hokie Couple**, Education and Art Merge In Yellowstone

by SUSAN A. STEEVES

The year 2012 marks the 140th anniversary of Yellowstone, the world's first expanse to be designated a national park. For two multitalented Virginia Tech alumni, however, the wild wonderland seemingly was created solely for them.

Wife and husband Jenny Golding (forestry and wildlife '95) and George Bumann (M.S. fisheries and wildlife '02) may be a long way geographically from where they grew up—Golding in Maryland and Bumann in central New York state just south of the Adirondacks—but their love of wildlife, learning, and teaching began early in their lives. That path led them not only to each other, but also to their current careers. He's a teacher, guide, and sculptor, opening the wonder of the 2.2 million-acre park to visitors. She is director of education for the Yellowstone Association, the nonprofit partner of the park that provides educational programs for visitors.

Golding and Bumann are hooked on the place, which is evident when they talk about their home in Gardiner, Mont., at the north end of the park, and their adventures. Their path to Yellowstone is a success story that started long ago.

"My grandfather started a cultural history museum on Oneida Lake (in New York), and I was there all the time," said Bumann. "As a 12-year-old kid, I started giving tours on everything from Paleo-Indian artifacts to the Civil War."

Bumann said that he's always been happy anywhere there is wilderness. His sculptor mother contributed art knowledge and know-how to his future career tool kit.

Golding's family lived a number of places when she was growing up, but she came to Virginia Tech from Maryland.

"I was always interested in the outdoors," she said. "I went camping with my parents as a kid." In high school, she participated in an Explorer Scout search-and-rescue post. At Virginia Tech, Golding headed the Outing Club and managed Venture Out, a university group that goes on excursions throughout Southwest Virginia.

Coyotes played a part in Bumann and Golding's first step toward Yellowstone.

In 1997, Golding worked on a coyote research project in the park for Yellowstone Ecosystem Studies. In New York, Bumann was involved with a coyote research project that was connected to a possible reintroduction of wolves to the Adirondacks. A friend told him of a Virginia Tech project seeking a graduate student to investigate the predator aspect in a study on ruffed grouse, and Bumann soon filled the position.

Despite their similar academic pursuits at Virginia Tech, Golding and Bumann didn't meet until after she had returned to Blacksburg from her stints working in Yellowstone and hiking the Colorado Trail. A mutual friend Rachel Gray (forestry and wildlife '94, M.S. '01) introduced them at the old South Main Café, where they were out dancing to "some of that great, traditional old-time music," Bumann said.

Fast forward to the couple's 2001 honeymoon, when Golding and Bumann planned to ride bicycles 500 miles, camping and fly-fishing along the way. When illness intervened, they instead went to Yellowstone, where they'd already sent résumés and started meeting people.

One person they met was Jeff Brown, now the executive director of the Yellowstone Association and Golding's predecessor in the education director position. "They are both so charismatic and quite impressive in their backgrounds," Brown said. "The reason Jenny and George have made a success here is they love the place. Every weekend they're out hiking or rafting or doing something in the community."

> "I'm looking out the window at the view and, even though we own it, I keep thinking the landlords will kick us out when they realize how much fun we're having."
>
> — George Bumann '02

After the couple had sold everything in Blacksburg, packed the car, and moved to Yellowstone, their first jobs were seasonal. But Golding and Bumann soon found their niches and moved seamlessly into their careers and into the community. Golding, who used to moonlight as a songwriter, songstress, and guitarist, has organized an annual music festival in Gardiner. Bumann leads the annual butterfly count and is known by the locals as Mr. Butterfly, though he insists he isn't an expert.

Don't tell that to little George, Golding and Bumann's 2-1/2-year-old son, who often accompanies his father on wildlife expeditions, looking at butterflies or working on a sculpture out in the field. One day Golding and little George saw a butterfly. The toddler piped up and told Golding matter-of-factly, "Mom, that's a Silvery Blue."

Educating youngsters is part of Golding's work. Among her responsibilities is organizing the Yellowstone Association field school that hosts about 6,000 participants annually. "We're really refocusing our work on youth and the relevance of the park for the next century," she said.

Golding's enthusiasm is one of the traits that makes her an effective park educator. "Jenny walks into a room of visitors with a smile on her face and then follows that up with detailed knowledge of her field," said Brown. "It's just fun to interact with her. People have a good time, and she opens their minds."

Opening minds is also Bumann's aim. He recently taught a course, Sketching in Yellowstone, and leads educational park tours several times a year.

One of George Bumann's sculptures

"Art is another way to teach," he said. For his work, Bumann makes the most of his surroundings by modeling his clay and wax sculptures out where the wild creatures are, a practice that makes his art come alive. His beautiful wildlife statues, cast in bronze, have earned placement in the permanent collections of the National Museum of Wildlife Art in Jackson Hole, Wyo., and the Charles M. Russell Museum in Great Falls, Mont.

The Jackson Hole museum is where Greg Fulton, managing partner for Astoria Fine Art gallery, first crossed paths with Bumann. Now home to 14 of Bumann's sculptures, the gallery works with many of the country's established artists, as well as emerging artists such as Bumann, Fulton said, adding that Bumann's work already is in high demand throughout the United States. Fulton speaks from experience, since he's a sculptor himself and grew up in Wyoming. "George's story to me is the perfect one for a wildlife artist; he immerses himself in the wildlife."

Bumann and Golding are so immersed in the Yellowstone ecology that they've become the park's ambassadors to Virginia Tech, introducing Hokies and friends of the university to the glories of the place. When Paul Winistorfer, dean of the College of Natural Resources and Environment, organized a college development tour to Yellowstone, Bumann spent two days giving a scientific tour of parts of the park. "You ask George anything about the flora and fauna, and he knows it; he brings science to life with his personal perspective and knowledge," Winistorfer said.

For Golding and Bumann, the most important aspect of their Yellowstone experience is living in a cozy home with little George and two black Labrador retrievers in the midst of one of the most awe-inspiring places on earth.

web extras

To find links to Bumann's art and more go to www.vtmag.vt.edu.

"Driving through the park, there's something amazing every day—a coyote with a squirrel, an osprey with a fish in its talons," said Golding.

Bumann seconded her thoughts. "I'm looking out the window at the view and, even though we own [the house], I keep thinking the landlords will kick us out when they realize how much fun we're having."

Susan A. Steeves is the media relations manager for University Relations.

Total immersion: George Bumann '02 and Jenny Golding '95 are at home in Yellowstone.

professor profile, continued from page 17

web extras

Go to www.vtmag.vt.edu to find a video of Lepczyk sharing her teaching philosophy.

Beyond the university, Lepczyk has been invited to state, national, and international conferences to give presentations and workshops on the creative dance curriculum. As a summer Fellow in the university's Center for Excellence in Undergraduate Education, Lepczyk produced an educational CD-ROM called "Creative Dance." Similarly, Lepczyk interweaves the latest technology in her courses, encouraging the use of video clips, iPods, and software programs to enhance the overall experience.

"Billie is recognized worldwide as an eminent dance educator and a pioneer in dance-style analysis," said Kerry Redican, professor of health sciences, a longtime colleague of Lepczyk's. "Her scholarship on dance style and movement analysis serves as required reading for dance majors at many institutions in the United States and throughout the world."

Indeed, Lepczyk serves on the board of trustees of an international organization that is guardian of Labanotation, a language of symbols used worldwide that preserves a dance's pure existence as a series of notated movements.

Back in the classroom, Lepczyk, who moves about with a grace that confirms an earlier career in professional performance, makes observations with respect and patience. Students are not only learning from a published scholar but also gleaning tips from a professor with a dance career that includes stage, television, and film appearances.

At the close of class, student conversations were upbeat. "I heard she was a great teacher," commented one. "I love the creative analysis and process," said another.

Lepczyk, clearly pleased, said, "It just keeps getting better and better. And after all these years, students still surprise me."

Jean Elliott is the communications manager in the College of Liberal Arts and Human Sciences.

Another banner year **serving alumni**

Hokie loyalty is unique. I hear this sentiment from alumni relations colleagues around the country who compliment our university's alumni engagement and enthusiasm in comparison to their own graduates. This incredible loyalty makes our association quite successful at attracting participation.

We have more than 225,000 living alumni at present. Some volunteer to fuel the association's engine. Others participate in ways other than our association programs—in the athletic booster program through Hokie clubs, in college programs through advisory boards, and through philanthropy that enables institutional excellence and a growing Virginia Tech Foundation endowment. All of the ways our alumni express their loyalty make Virginia Tech's image enviable. For that, we are eternally grateful.

Over the past year, our alumni association experienced several firsts in our 137-year history. More than 25,000 alumni—a record number—engaged in programs that we originated or sponsored. This number does not include the tens of thousands more who participated in the other ways mentioned above. Such participation testifies to the rich appreciation alumni have for their education and the high regard they have for how Virginia Tech touches lives. Our chapters have developed scholarship programs since the late 1960s; and this past year, we set records for the most funds raised and awarded. We organize an annual advocacy day at the Virginia General Assembly, and the 2012 event attracted 170 participants, including students—our largest ever.

Our career resources program continues to help alumni in their job searches or transitions. We also started planning to more extensively engage alumni in the admissions process through their presence at college fairs and using them to enhance the yield of accepted students. Meanwhile, the Drillfield Series continues to grow in popularity, and its programming will be expanded in 2013 to engage our women graduates and our Corps of Cadets alumni.

JOHN MCCORMICK

A successful year fuels more programs and ideas for the coming year. Take a look at what we have accomplished, and join in.

Tom Tillar '69

Vice President for Alumni Relations

departments

contributors

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

IVAN MOROZOV

Alumni chapters

The Alumni Association has about 73 active chapters and 38 active clubs with a total of 598 volunteers. Sixty-six chapters awarded 230 freshman scholarships totaling $378,200.

Chapters and clubs held 822 events, including many featuring university speakers, plus student/family picnics, community service activities, job fairs, and networking events. In-state chapter volunteers supported legislative advocacy efforts at Hokie Day in Richmond.

Reunions, homecomings, and special events

Nearly 3,000 alumni attended class reunion weekends, college homecomings, a Corps of Cadets homecoming, a multicultural alumni gathering, a black alumni reunion, and a Graduate School homecoming.

The annual spring Old Guard Reunion attracted 185 members of the classes of 1937 through 1961.

Approximately 1,100 alumni and friends attended other special events, and more than 330 attended special alumni programs, such as the Drillfield Series, Civil War Weekend, and A Day in the Life of College Admissions.

Serving alumni

More than 25,000 alumni and friends attended programs. This figure includes chapter events, in addition to reunions, college and other constituency events, and the Drillfield Series.

Alumni awards

Since 1972, 115 alumni have been honored by the association for achievement in their careers and service to the Alumni Association, Virginia Tech, and their communities (see the awards summary on page 50). Since 1997, 135 alumni have been honored with the Outstanding Recent Alumni Award.

Alumni career resources

Job postings, interview and résumé tips, webinars and seminars, and a career resource library were offered to alumni, in addition to a career-coaches program that features alumni sharing career advice.

Holtzman Alumni Center

Thousands of alumni and students participated in various events held at the Holtzman Alumni Center, including open houses during homecoming weekend, a graduation celebration for seniors, a commencement reception, a poetry prize event, and a wine festival. The Alumni Gallery featured three art and photography exhibits. The center's museum continues to be a big draw for visitors.

Celebrating faculty

The association recognizes Virginia Tech's leading professors with Faculty Excellence Awards for excellence in teaching, research, advising, outreach, Extension, and international categories (see the awards summary on page 50). The Alumni Distinguished Professor program designates 10 faculty members for exceptional teaching and scholarship. These and other faculty are featured at alumni chapter events, reunions, and special events.

Alumni tours

More than 180 Hokies traveled on 19 group tours to locations around the globe, including South Africa, Tahiti, and Europe and Mediterranean cruise locations.

Supporting students

The Student Alumni Associates organization, undergraduate class programs, and student transition programs engage students to instill lifelong loyalty to the university.

The association's scholarship endowment of nearly $2 million, along with other funds raised by alumni chapters, provides merit- and needs-based support for students.

Students continue to honor the class ring tradition through the annual Ring Dance. A special Blacksburg Transit bus now displays a distinctive bus-wrap advertisement proclaiming, "Wear the Tradition."

Benefitting from alumni leadership

By cultivating support among elected officials, Hokies for Higher Education, the legislative advocacy group for Virginia Tech, provides vocal backing on issues of importance for the university and higher education. A record 170 alumni and students visited legislators at the 14th annual Hokie Day at the General Assembly.

The alumni board of directors meets twice each year to advise the association on programming, evaluate progress toward annual goals and strategies, ensure strong fiscal and administrative management, and help create and expand services to alumni.

Approximately 135 chapter volunteers attended the Chapter Officers Leadership Forum, which featured management workshops, a review of best practices, and an emphasis on supporting students. Other leadership-training opportunities were offered through live webinars.

Alumni Association in print and online

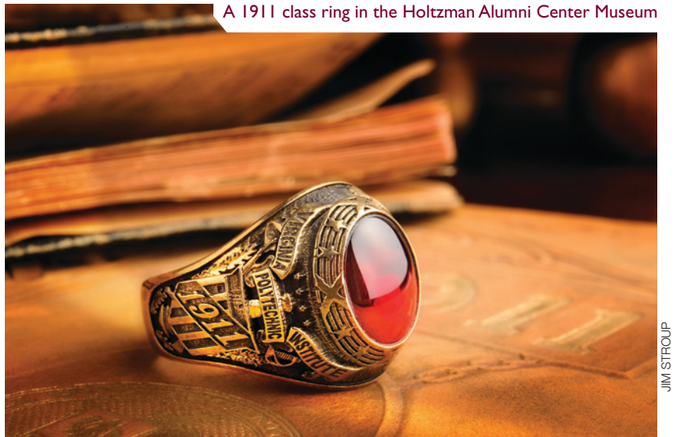
In addition to the Alumni Association section in each issue of Virginia Tech Magazine, the association continues to reach out to alumni through newsletters, event announcements, the association's website, email communications, social media sites, and career resources postings.

Embracing *Ut Prosim* (That I May Serve)

The Hokie Nation Serves initiative encourages the commitment of service hours beyond normal obligations, especially during the month of April. In April, 54 alumni chapters participated in 111 community service projects. At the fall Chapter Officers Leadership Forum, volunteers joined with local scholarship recipients to write letters of support to the troops serving overseas.

Cadets in the Holtzman Alumni Center Grand Hall

ANNE WERNIKOFF



A 1911 class ring in the Holtzman Alumni Center Museum

JIM STROUP

An Old Guard Reunion luncheon at Smithfield Plantation

ANNE WERNIKOFF

Alumni Awards

William H. Ruffner Medal
Samuel L. Lionberger Jr. '62

University Distinguished Achievement Award
Joseph R. Loring '48

Alumni Distinguished Service Awards
Jean Harshbarger Dodge '74
John R. Lawson II '75

Graduate Alumni Achievement Award
Satish V. Kulkarni '72

Graduate Student Awards

Teaching Award
Stephanie Voshell, biology
Megan Fisher O'Neill, English (honorable mention)

Service Award
William Collins, civil and environmental engineering
Megan Stuart, population health sciences (honorable mention)

Outstanding Recent Alumni Awards

Graduates of the past 10 years are eligible.

Mark A. Cline '99, '02, '05, College of Agriculture and Life Sciences
Ryan C. Eargle '06, College of Architecture and Urban Studies
Michael H. Aldrich '02, Pamplin College of Business
Maurizio Porfiri '00, '06, College of Engineering
Erica M. Santana '05, College of Natural Resources and Environment
Guillermo F. Trincado '06, College of Natural Resources and Environment
P. Gavan O'Shea '02, College of Science
Jared D. Taylor '02, Virginia-Maryland Regional College of Veterinary Medicine

Awards for Faculty Excellence

Graduate Academic Advising
Marc A. Edwards, civil and environmental engineering

Undergraduate Academic Advising
Deborah L. Pollio, engineering education

Extension
Dini M. Miller, entomology
D. Scott Jessee, Russell County Extension agent

International Education
Patricia P. Kelly, educational research and outreach

International Outreach
Akshay Sharma, School of Architecture + Design

International Research
Michael Saffle, music and humanities

Outreach
Carl E. Zipper, crop and soil environmental sciences

Research
T. Daniel Crawford, chemistry
Stephen R. Prince, theatre and cinema

Teaching
Alan S. Weinstein, music
Jane A. Wemhoener, English

William E. Wine Awards in Teaching
Billie F. Lepczyk, theatre and cinema
Mitzi R. Vernon, School of Architecture + Design
Jackson R. Webster, biological sciences

Chapter Awards

Outstanding Chapter Awards
Alleghany Highlands, Annapolis, Atlanta, Austin, Baltimore, Central Florida, Central Pennsylvania, Charleston (S.C.), Charlotte, Chattanooga, Chicago, Cincinnati, Columbia (S.C.), Dallas/Fort Worth, Danville, Denver, East Tennessee, First State, Franklin County/Smith Mountain Lake, Fredericksburg, Grand Strand/Myrtle Beach, Houston, Iowa, Jacksonville, Kentuckiana, Knoxville, Loudoun County, Middle Tennessee, Minnesota, National Capital Region, N.C. Triad, New Jersey, New York City, Palmetto, Patrick Henry, Prince William, Research Triangle, Richmond, Roanoke Valley, Rockbridge, San Antonio, San Diego, Seattle, Shenandoah, South Florida, Tampa Bay, The Villages, Tideneck, Tidewater, Tri-Cities, Williamsburg

Achievement Awards
Augusta, New England, Philadelphia, Pittsburgh, Southeastern Michigan, Western North Carolina

Superlative Awards

Outstanding Chapter Event
Richmond Chapter, Central Virginia Wine Festival

Outstanding Community Service Project
Charlotte Chapter, The Big Event – Charlotte
Houston Chapter, Elves and More Build-a-Bike Charity Event

Outstanding Fundraising Event
Charlotte Chapter, May Fundraisers

Outstanding Golf Tournament
Prince William Chapter, Fifth Annual VT Alumni Golf Tournament

Outstanding Chapter Website
Atlanta Chapter

Outstanding Chapter Volunteer
Ernie Flippo, Denver Chapter
Steve ('81) and Jean Barry, Middle Tennessee Chapter
Ron Thompson ('71), Tideneck Chapter

Most Improved Chapter
Tideneck Chapter

Outstanding New Chapter
Southeastern Michigan Chapter

Outstanding Chapter Officer
Allison Elkins '98, Atlanta Chapter
Chris Bryan '87, San Antonio Chapter

Hall of Fame, Outstanding Chapter Event
Alleghany Highlands Chapter, Blue/Gray Banquet

Col. Wes Fox honored as lifetime member

Former Deputy Commandant of Cadets Col. Wes Fox (below) received lifetime honorary membership in the Virginia Tech Alumni Association through official action by the association's board of directors in November 2011. The resolution was formally presented to Fox at the Senior Banquet during Military Weekend held in February. Fox is one of only 81 living recipients of the Medal of Honor. He wore the Marine Corps uniform for more than 50 years, from the time he enlisted during the Korean War until he retired as deputy commandant of cadets in 2001. The banquet was followed by the Military Ball in Squires Student Center. View the Military Weekend image gallery online at www.vtmag.vt.edu/fall12/alumni.html.

Chris Bryan '87 (second from left), Outstanding Chapter Officer, San Antonio Chapter

KATIE THACKER

Alumnae at the 2012 Black Alumni Reunion

ANNE WERNIKOFF

Alumni at the outdoor Wine Festival

JIM STROUP

ROOK ROSZAK '71

alumni association

Expand your horizons with fellow Hokies.

travel

Switzerland

Broaden your horizons and take in new adventures with other Hokies. For more information, visit www.alumni.vt.edu/travel, call 540-231-6285, or email alumnitravel@vt.edu.

Announcing the 2013 travel tours:

Legacies and Landscapes of Cuba
Distant Horizons
Jan. 4-15 | from $5,840*
(includes airfare from Miami)

Ancient Mysteries of the Americas
Go Next—Oceania Cruises' Regatta
Jan. 5-23 | from $3,499* (air included)

Jewels of Southeast Asia
AHI—MV Aegean Odyssey
Feb. 1-19 | from $5,195*
(special reduced air available)

Caribbean Discovery
Go Next—Oceania Cruises' Riviera
Feb. 12-22 | from $1,999* (air included)

Marvels of the Panama Canal
Vacations To Go—Celebrity Cruises' Infinity
April 16-May 1 | from $1,594*

Italian Inspiration
Go Next—Oceania Cruises' Riviera
April 27-May 5 | from $1,799*
(air included)

Antebellum South
Go Next—Great American Steamboat Company's American Queen
May 10-19 | from $2,295*

Italy - Sorrento
AHI—Alumni Campus Abroad program
May 22-30 | $2,795*

Virginia Tech Grad and Young Alumni Trip
Europe itinerary
May 28-June 15 | $3,543

European Mosaic
Go Next—Oceania Cruises' Nautica
June 5-13 | from $2,199* (air included)

European Tapestry
Hosted by College of Engineering Dean Richard Benson
Go Next—Oceania Cruises' Nautica
June 12-20 | from $2,199* (air included)

Baltic Treasures
Go Next—Oceania Cruises' Marina
July 4-15 | from $3,999* (air included)

Belize St. Tropez

Alaskan Adventures
Hosted by College of Architecture and Urban Studies Dean Jack Davis
Go Next—Oceania Cruises' Regatta
Aug. 5-12 | from $1,999* (air included)

British Isles and Norwegian Fjords
Go Next—Oceania Cruises' Nautica
Aug. 14-27 | from $4,999* (air included)

Discover Switzerland
AHI
Aug. 28-Sept. 12 | $3,995*
15-day land journey

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

Travel insurance

The Alumni Association encourages all alumni to consider purchasing travel insurance. Learn more at www.alumni.vt.edu/travel/insurance.

Grand Danube Passage
AHI—MS Amadeus Brilliant
Sept. 6-20 | from $4,395*

Black Sea Serenade
Go Next—Oceania Cruises' Nautica
Sept. 15-28 | from $4,999* (air included)

Pearls of the Mediterranean
Go Next—Oceania Cruises' Riviera
Oct. 10-18 | from $2,199* (air included)

Villages and Vineyards of the Mosel, Rhine, and Main Rivers
AHI—MS Amadeus Diamond
Oct. 14-22 | from $2,895*

Greek Isles Odyssey
Go Next—Ocean Cruises' Nautica
Oct. 17-25 | from $2,199* (air included)

Island Escape
Vacations To Go—Royal Caribbean's Navigator of the Seas
Dec. 8-15 | $594*

2013 Drillfield Series

www.alumni.vt.edu/drillfieldseries

Feb. 15-16 Food for Thought: Culinary and Wine Experience
May 10-11 Focus on Photography 2013
June 21-23 Corps of Cadets Alumni Weekend
July 12-13 Virginia Tech Admissions Weekend
July 19-21 Special Weekend for Alumnae

KEN NEDIMYER

Dave Splitt (English '66) was named chairman of the Coral Restoration Foundation's (CRF) Board of Directors. Growing coral in nurseries and transplanting young corals to reefs, CRF is dedicated to restoring the reefs of Florida and the Caribbean. Here, Splitt inspects corals planted on the site of a ship grounding. In addition to his day job as a corporate attorney, Splitt has performed pro bono work for a variety of nonprofit organizations.

Alumni, we want to hear what you've been doing. We can post online photographs of weddings, babies, and spirited alumni, with some images appearing in print. Mail photos to Virginia Tech Magazine, 205 Media Building, Blacksburg, VA 24061, or email them to vtmag@vt.edu.

Please mail career, wedding, birth, and death news to Alumni Notes, Virginia Tech Alumni Association, Holtzman Alumni Center, Blacksburg, VA 24061; email them to fleets@vt.edu; or submit them online at www.vtmag.vt.edu/submit-classnote.php.

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.

weddings
births and adoptions
deceased

'34 Annie Slusser Albert (BIOL), Blacksburg, Va., 6/15/12.

'39 Harold H. Higgins (AGED), Amherst, Va., 6/25/12.
Morris Pollard (BIOL), South Bend, Ind., 7/18/11.
A. Edwards Schlieser (IE), Mechanicsville, Va., 8/3/11.

'40 William H. Ligon (IE), Greeley, Colo., 6/11/12.

'41 John J. Richardson (AGE), Keeling, Va., 5/14/12.

'42 E. Turner Darden (CHE), Wilmington, Del., 6/22/12.
Joel W. Dinwiddie (AGEC), Virginia Beach, Va., 6/15/12.
Byron E. Haner (BC '49, ARCH '50), Colonial Heights, Va., 6/13/12.
Thomas S. Nickerson (ME, ME '47), Charleston, W.Va., 5/17/12.

'43 Charles R. Carder III (CHE), Montgomery Village, Md., 5/30/12.
Samuel R. Crockett (FW), Wytheville, Va., 4/27/12.
Hampton J. Godfrey (BAD), El Paso, Texas, 4/24/12.
Howard M. Huffman Jr. (AGE), Salem, Va., 5/31/12.
James K. Latimer (IE), Matthews, N.C., 4/23/12.

'44 Melvin S. Feldenheimer (GBUS), Rydal, Pa., 6/11/12.
Irvin W. Gentry Jr. (IE '48), Virginia Beach, Va., 4/24/12.
Albert S. Hester (GSC '46), Ormond Beach, Fla., 1/13/12.
Paul M. Hunt Jr. (ME), New Market, Va., 4/8/12.
Marcus L. Oliver (AGED '47), Sewanee, Tenn., 5/24/12.

'45 W.L. Cobb (IE '49), Richmond, Va., 5/15/12.
John R. Hoover (ME '48), New Cumberland, Pa., 12/29/11.
John A. Slocum Jr. (CHEM '48), Lynchburg, Va., 4/1/12.

'46 Thomas R. Booth (BAD '45), Concord, Va., 6/20/12.
Walter L. Hannah (IE), Greensboro, N.C., 6/5/12.
H.C. Hoggard III (IE '49), Fort Myers, Fla., 6/4/12.
Stanley J. Lowe (ME '48), Charlottesville, Va., 6/6/12.
Marcus R. Snidow (ME '48), Sherman, Texas, 6/11/12.

'47 Joseph R. Loring (EE '48), Arlington, Va., received Virginia Tech's 2012 College of Engineering Distinguished Alumnus Award and the university's 2012 Alumni Distinguished Achievement Award.
W.E. Hotaling (EE '46), Mountain View, Calif., 10/12/11.
Thomas G. Spatig (ME '49), Olive Branch, Miss., 6/10/12.
William C. Wampler (BAD '48), Bristol, Va., 5/23/12.

'48 Julian M. Coleman (EE), Blacksburg, Va., 7/13/12.

'49 James B. Datig Sr. (BAD), Gate City, Va., 4/27/12.
Joseph E. Gardner II (BIOL), Harrisonburg, Va., 5/16/12.
Wilsie T. Hutts (CE), Gainesville, Ga., 5/26/12.
Charles B. Smith Jr. (EE), Jonesboro, Ark., 5/29/12.

'50 Philip L. Baird Jr. (ME), Pine Bluff, Ark., 5/27/12.
R.W. Bowers (BAD), Roanoke, Va., 6/10/12.
Harold J. Harvey (ASE), Huntsville, Ala., 5/24/12.
C. Richard Hoskins (ANSC), Reidsville, N.C., 6/9/12.
Daniel R. Kasten (BC), McGaheysville, Va., 5/26/12.
Harvey M. Williams (IAED), Virginia Beach, Va., 4/17/12.

'51 Richard M. Hylton (ARCH), Roanoke, Va., 6/9/12.
Charles E. Whitehorne (CE), Colorado Springs, Colo., 4/17/12.

'52 Gerald S. Briney (EE), Austin, Texas, 6/13/12.
James G. Dymock (BAD '53), Blacksburg, Va., 6/12/12.
Charles O. Everly (ARE), Sarasota, Fla., 4/8/12.
Howard L. Fisher (DASC, DASC), Callaway, Va., 5/16/12.
George C. Frazier Jr. (ME), Loudon, Tenn., 6/1/12.
Robert H. Merriam (EE), Owensboro, Ky., 3/30/12.
W.L. Michelinie (MINE), Wilmington, Del., 5/14/12.

'53 Charles D. Hall (BAD '56), White Stone, Va., 12/4/11.
Raymond H. Hayworth Jr. (BC, URS '61), Salisbury, N.C., 4/27/12.
Delmar R. Riffe (ME, ME), Beaver, W.Va., 5/14/12.
Richard P. Rosenbaum (AGED), Nashville, Tenn., 6/27/12.
Eunice Martin Smith (BED), Christiansburg, Va., 5/10/12.

'54 Carl M. Eggleston (AGEC), Axton, Va., 6/13/12.
Roy E. Foutz Jr. (BAD), Salem, Va., 5/12/12.
Jack L. Hartman (BAD), Waxhaw, N.C., 5/26/12.
J.C. Peaslee (BC), Cranberry Township, Pa., 6/18/12.
Charles D. Santrock (BAD), Rocky Mount, Va., 6/24/12.

weddings
births and adoptions
deceased

RACHEL SMITH PHOTOGRAPHY

Jaime K. Leiner (ARTF '06) and W.B. Gill, Owings Mills, Md., 5/27/12.

CAITLIN ELIZABETH PHOTOGRAPHY

Erik B. Ostergaard (ME '10) and Lindsey Eubank Ostergaard (ME '10), Springfield, Va., 3/24/12.

COURTESY PHOTO

Brendan J. McDonald (PSCI '04) and Courtney R. Thurston, Columbia, S.C., 7/30/11.

STACEY VIDT

Blair A. Eason (MKT '04) and B.T. Nelson, Virginia Beach, Va., 5/26/12.

'56 **Thomas D. Clark** (ANSC '57), Wytheville, Va., 5/19/12.
Letitia Viel Manuel (HEED '57), Chester, Va., 6/12/12.
Richard S. Spaulding Jr. (IE), Abingdon, Va., 5/11/12.
Velty T. Wright Jr. (IE), Bogart, Ga., 5/30/12.

'57 **Edward B. Eller** (ANSC), Abingdon, Va., is a real estate agent for Callebs Realty.
Nola Shelor Albert (BED), Floyd, Va., 5/5/12.
Granville M. Grant (IE), Conover, N.C., 5/14/12.
George B. Holmes (EDBS), Browns Summit, N.C., 5/31/12.
Roy E. Loving (AGED), Fork Union, Va., 5/18/12.

'58 **James L. Lavinder** (BAD), Martinsville, Va., 4/20/12.

'59 **John E. Evans** (CHE), Shelby, N.C, 5/24/12.
T. Benjamin Garland Jr. (ACCT), Vienna, W.Va., 6/29/12.
C. Henry Hinnant III (VIED '61), Hayes, Va., 2/10/12.
Carlysle D. Hypes (AGED '59, EDBS '68), New Castle, Va., 6/14/12.

'60 **Lewis H. Bridges Jr.** (CE '61), Virginia Beach, Va., 5/15/12.
James R. Duffett (STAT), Falls Church, Va., 6/12/12.
Richard L. Hoffman (ZOOL, BIOL), Blacksburg, Va., 6/10/12.
Claude H. Rutherford (EE), Charlotte, N.C., 4/25/12.
Norma Cundiff Wilbourne (EDBS), Bryans Road, Md., 5/8/12.

'62 **Samuel L. Lionberger Jr.** (BC), Penhook, Va., received Virginia Tech's 2012 William H. Ruffner Medal for his service to the university.
Harry M. Chaney (EE), Bradenton, Fla., 12/3/11.
Ben D. Eichelberger Jr. (GSC), Quinby, Va., 3/26/12.
George L. Zuidema Jr. (CE), Virginia Beach, Va., 4/22/12.

'63 **Carl L. Livesay** (MINE '66), Richmond, Va., 2/12/12.
William S. Porterfield (IE '64), Vinton, Va., 12/5/11.

'64 **Leroy E. Houser Jr.** (DE) Richmond Va., earned Realtor Emeritus status from the National Association of Realtors.
Edward L. Beale (CE, CE '67), Charlotte, N.C., 6/19/12.
Emerson C. Hardy Jr. (DE), Jacksonville, Fla., 5/8/12.
B. Peery Harkrader Jr. (ACCT '65), Christiansburg, Va., 4/29/12.

'65 **Harry F. Folden Jr.** (MATH, MATH), High Point, N.C., 5/30/12.

'66 **Preston L. Durrill** (CHE), Blacksburg, Va., received Virginia Tech's 2012 Sporn Award for Excellence in Engineering Education.
Thomas E. Watson (ME), Staunton, Va., is president of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers.
Eric T. Carlen (EE), Roanoke, Va., 7/10/12.

'67 **George A. Hatchell** (CE), Midlothian, Va., 6/5/11.

'68 **Clyde E. Collins Jr.** (PSCI), Statesville, N.C., 4/17/12.
David E. Jackson (ANSC '69), Fairfax, Va., 4/14/12.
James A. Price (CE), Manlius, N.Y., 11/26/11.
Rick Schumacher (EE '70), Downey, Calif., 7/25/11.
James R. Stafford Jr. (EM), Alpena, Mich., 4/5/12.

'69 **L.R. Bailey Jr.** (BAD '70), Glen Allen, Va., 5/1/12.
Stephen N. Bent (MGT), Greensboro, N.C., 5/5/12.
Alton L. Embrey (CE '70), Midlothian, Va., 8/12/11.
T.E. Ferguson (PSCI '70), Pulaski, Va., 5/19/12.

'70 **Thomas R. Ross Jr.** (MGT '71), Jacksonville, Fla., 6/4/12.

'71 **Garet K. Bosiger** (MGT), Appomattox, Va., was named CFO of the Year for small, privately owned companies by Virginia Business Magazine. He sold his business to Genesis Products Inc.
Claire Cassell Harmon (MGT '72), Los Alamos, N.M., retired from Los Alamos National Laboratory.
Stanley R. Cross (MGT), Midlothian, Va., 4/17/12.
Ronald W. Davis (MGT), Troutville, Va., 4/26/12.
Adrian D. Estes (FW '72), Gloucester Point, Va., 6/9/12.
Stephen B. Hanback (BC), Warrenton, Va., 6/8/12.
J. Kenneth Lassiter Sr. (EE), Raleigh, N.C., 4/29/12.
Kirk E. Paradise (FW), Huntsville, Ala., 5/22/12.
James D. Schwartz (GSC), Gallatin, Tenn., 6/3/12.
Thomas G. Valentine (PSCI '72), Richmond, Va., 5/13/12.

'72 **Stephen G. Lippy** (CE), Lutherville, Md., retired after 40 years of service with the Baltimore County Bureau of Solid Waste Management and received the 2012 Stanley E. Kappe award from the American Academy of Environmental Engineers.
James C. Cardellichio (PSCI), Fairfax, Va., 3/26/12.
John C. Farris (PSYC, PSYC '75), Virginia Beach, Va., 5/26/12.
Stephen E. Fuller (FDSC), Windsor, Va., 12/6/11.
Raymond L. Morrison Jr. (PSCI, PSCI), Summerfield, Fla., 3/25/12.

'73 **Harold W. Adams Jr.** (EE), Midlothian, Va., is retired from Dominion Resources. He received the Institute of Electrical and Electronics Engineers-USA's Citation of Honor for leadership in creating the organization's national energy policy position statement and he is a distinguished member of the International Council on Large Electric Systems.
Larry G. Overstreet (IE), Blacksburg, Va., 4/23/12.
Terry L. Stewart (CE), Weirton, W.Va., 3/10/12.
Carlton H. Wendel (ANSC), Marshall, Minn., 6/15/12.

'74 **Jean A. Harshbarger Dodge** (SOC), Mobile, Ala., received Virginia Tech's 2012 Alumni Distinguished Service Award for her contributions to the university.
Frank G. Ross (PSYC '75), Moreno Valley, Calif., 9/19/11.
Katherine Lambert Vance (ELED), Asheville, N.C, 5/5/12.

'75 **Neil C. Damgaard** (IEOR), New Bedford, Mass., was appointed the Protestant chaplain of the University of Massachusetts at Dartmouth.
Patricia Proudfoot Kelly (EDCI), Salem, Va., earned Virginia Tech's 2012 Alumni Award for Excellence in International Education.
John R. Lawson II (GEOP), Newport News, Va., received Virginia Tech's 2012 Alumni Distinguished Service Award for his contributions to the university.
Robert S. Mills (HORT, ARCH '79), Richmond, Va., received the 2012 Marcellus Wright Jr. Award from the American Institute of Architects Richmond Chapter. His firm, Commonwealth Architects, received the T. David Fitz-Gibbon Award.
William C. Apter (MGT '76) and Terry Mathis, Raleigh, N.C., 6/9/12.
Ellen Graube Burnop (HPE), Blacksburg, Va., 5/11/12.

'76 **Ritchey Bristow** (FW), Greenville, N.C., retired from the General Services Administration after 30 years of civil service.

'77 **Ray E. Van Dyke** (ENGL, EDCI '81, EDAD '97, ELPS '98), Blacksburg, Va., received the Distinguished Leader award from the Division of Undergraduate Education at Virginia Tech.

'78 **James M. Bigwood** (EDMA), Towson, Md., received a regional Emmy Award in the audio crafts category for recording and mixing the Morgan State University Choir.
Matthew J. McGinniss (ZOOL), San Diego, Calif., is executive director of molecular genetics at Genoptix Medical Laboratory in Carlsbad, Calif.
Douglas J. Nelson (ME, ME '79), Blacksburg, Va., was elected Fellow of the Society of Automotive Engineers International.
Kathy Largen Patterson (MUS '79), Pembroke, N.C., earned the National Board Certified Teacher Certification from the National Board for Professional Teaching.
Saifur Rahman (EE), McLean, Va., received the Divisional Professional Leadership Award from the Institute of Electrical and Electronics Engineers-USA.
Mary Lynn Richford (EDAD, EDAD '81), Glen Cove, N.Y., published articles entitled "The Halloween Dance" and "First Communion Day" in Looking Back Magazine.

'79 **Douglas W. Burks** (CE), Midlothian, Va., was inducted into the Academy of Distinguished Alumni in Virginia Tech's Via Department of Civil and Environmental Engineering.
William P. Rhodes (HORT), Darlington, Md., served as an agricultural advisor in Bamyan Province, Afghanistan, from 2009 to 2011.
Harold T. Speaks Jr. (FW), Blacksburg, Va., was named forest supervisor for the George Washington and Jefferson National Forests.
Edward J. Daniel Jr. (COMM '81), Providence Forge, Va., 9/13/11.
Thomas H. Fore Jr. (BIOL), Powhatan, Va., 6/2/12.
Steven R. Hillesland (ECON), Fargo, N.D., 6/24/12.
Mark L. Hopkins (AGRN), Keller, Va., 5/1/12.
Wesley C. Noren (URBA), Fredericksburg, Va., 6/23/12.
Susan Davis Zammit (CTRA), Wythville, Va., 5/4/12.

'80 **Patricia Martin Dove** (AGRN, GEOL '84), Blacksburg, Va., will be inducted into the National Academy of Sciences in recognition of her sustained excellence in original scientific research.

GLEN BURGESS

Alumna honored as first inductee into Equestrian Hall of Fame

by EMILY GOODRICH

Before she began her career in medical sales, Jill Waligura-Diemar (sociology '97), rode horses for the Virginia Tech equestrian team. On April 14, Diemar became the first inductee into the Virginia Tech Equestrian Hall of Fame for her national championship wins in 1996 and 1997.

For Diemar, riding has always been a huge part of her life. "I started riding when I was 7 years old, taking lessons from small barns [nearby]," Diemar said. "I was discovered by a judge at one of my horse shows. She asked me to ride for her, and that's really where I think my career started."

Diemar rode on the self-funded equestrian team, a combined effort with Radford University. She later became a key member of the first team funded by Virginia Tech in her junior and senior years. Jill's husband, Brian Diemar (communication '98), helped spur the idea for the hall of fame and to recognize his wife's role in building the team.

The honor was presented at the Emily Jane Hilscher Memorial Horse Show, while Diemar was touring the riding practice stadium. Open to the public, the horse show is a benefit held in honor of Hilscher, a victim of the April 16, 2007, tragedy.

For Diemar, it is an honor to be remembered and recognized for her accomplishments. "I had very mixed emotions," Diemar said. "I was so grateful but also felt humbled.

"There isn't a lot of recognition of the past teams in the riding [practice area], so it feels like I belong there again," Diemar said. "[The wins] were exciting at the time, but they happened, and they had passed. It was strange because I just feel like a normal person." At the same time, Diemar mused, "It feels like I left a mark."

Emily Goodrich, a sophomore English major, is an intern with Virginia Tech Magazine.

COLLEEN HILL

Nathan E. Jessee (ARCH '06), Kingsport, Tenn., Isaiah, 8/30/11.

COURTESY OF NATHAN JESSEE

ROBIN DOWDY

Jerry L. Dowdy (BSED '95), Christiansburg, Va., Kane, 2/28/12.

COURTESY PHOTO

Matthew G. McCarey (HIST '93), Davidson, N.C., Madigan Mayhew, 10/7/11.

COURTESY OF KEVIN CUDDIHY

Kevin P. Cuddihy (COMM '06), Fairfax, Va., Conor Walter, 6/6/12.

Kimberly Sumner Hardin (ARCH '81), Nashville, Tenn., is vice president and corporate treasurer at the architecture/engineering firm of Barge, Waggoner, Sumner, and Cannon Inc.

Alan K. Truman (EE), Los Altos, Calif., is vice president of engineering for Zettaset in Mountain View, Calif.

William H. Woodall (STAT '74, STAT '81), Blacksburg, Va., received the Box Medal from the European Network of Industrial and Business Statistics.

Millard D. Kefauver III (CHE), Danville, Va., 5/29/12.

Loren Stickney (HNF), Locust Grove, Va., 6/2/12.

'81 Combs Dreiling (ARCH), Roanoke, Va., was elected the 2013 first vice president and 2014 president-elect for the American Institute of Architects.

Dwight A. Polk (EDSS), Baltimore, Md., authored his third book, "Law Enforcement Responder: Principles of Emergency Medicine, Rescue, and Force Protection."

Victoria K. Sloan Wyant (PSYC), Springfield, Va., is assistant manager for the Unit Owners Association for Lexington Square Condominium.

Carl E. Zipper (AGRN '86, AGEC '87), Blacksburg, Va., received Virginia Tech's 2012 Alumni Award for Outreach Excellence.

Linda C. Beal (MHFD, FCD '87), Blacksburg, Va., 6/8/12.

Thomas D. Daley (BAD '82), Richmond, Va., 6/4/12.

Matthew C. McHale (ANSC), Winchester, Va., 5/22/12.

'82 Shirley A. Sunderland Edwards (ACCT), Sandy Spring, Md., received Virginia Tech's Pamplin College of Business 2012 Distinguished Alumnus Award.

Rytas J. Vilgalys (BOT, BOT '85), Durham, N.C., was named a Fellow by the American Academy for Microbiology.

Neal C. McKissick (FIN), Richmond, Va., 4/29/12.

'83 John C. Vanderland (MGT), Beaverdam, Va., received the Virginia Business 2012 CFO of the Year Award.

Nancy Hincher-Harrod (EDCI), Johnson City, Tenn., 6/23/12.

'84 Paige R. Rapkin Atkins (EE), Annandale, Va., was named to the board of directors for the Armed Forces Communications and Electronics Association International.

Stephen J. Bonasera (EE), Omaha, Neb., received the 2012 Joseph P. Gilmore Distinguished New Investigator Award at the University of Nebraska Medical Center.

A. Christopher Johnson (CE), Indian Trail, N.C., is vice president of Gannett Fleming Inc. in Charlotte, N.C.

'85 Barton L. Willis (PHYS), Kearney, Neb., is chair of the Department of Mathematics at the University of Nebraska at Kearney.

Grace M. Chu (BIOC), Germantown, Md., 5/6/12.

'86 Dwight A. Holland (GEOP, ISE '91, ISE '01), Roanoke, Va., received the international Aerospace Medical Association's Sidney Leverett Award for outstanding contributions to aerospace systems operations.

Richard D. Lewis (HNF), Athens, Ga., was recognized with the University of Georgia Foundation Professorship in Family and Consumer Sciences.

Richard B. Loucks (ME), Edgewater, Md., is vice president of engineering for RTI Group in Annapolis, Md.

Bettina K. Ring (FW), Greenbrae, Calif., joined the American Forest Foundation as senior vice president for family forests.

weddings
births and adoptions
deceased

Mitzi R. Vernon (ARCH), Blacksburg, Va., received Virginia Tech's 2012 William E. Wine Award.

'87 Michael F. Loibl (VM), Fairbanks, Alaska, 4/23/12.

'88 Charles D. Fisher Jr. (ENGL), Roanoke Va., was named a Fellow in the Society for Technicial Communication.

Christina M. Baum McIntyre (HNF '95), Eggleston, Va., received a certificate of merit in the "Academic Advising—primary role" category for the National Academic Advising Association's 2012 Outstanding Advising Awards. McIntyre also received Virginia Tech's 2012 Provost Award for Excellence in Advising.

Noel N. Nunnally Schulz (EE '90), Manhattan, Kan., was named Kansas State University's College of Engineering associate dean for research and director of the engineering experiment station.

Richard P. Mackey (EE), Gilbert, Ariz., 6/29/11.

'89 Pauline Donato Lea (FCD '90) and Glen A. Lea, Glen Allen, Va., married 11/11/11.

'90 Joseph M. DeSimone (CHEM), Chapel Hill, N.C., and his firm, Liquidia Technologies, are collaborating with GlaxoSmithKline to research and develop vaccine and inhaled-product candidates using Liquidia's proprietary PRINT technology.

Zhenghe Xu (MESC), Edmonton, Alberta, received the Frank Spragins Technical Summit Award from the Association of Professional Engineers and Geoscientists of Alberta.

'91 John L. Roberts Jr. (AGEC), Amelia Court House, Va., received the 2012 State Friend of Extension Award for sharing his knowledge of the livestock grading system with producers.

Beth Duffy Cox (COMM), Charlottesville, Va., a son, 10/30/11.

Robert C. Weih Jr. (FOR), Monticello, Ariz., 6/17/12.

'92 Sherri L. Cook (BAD), Blacksburg, Va., is senior associate director of finance and administration at the Virginia Tech Carilion Research Institute.

Robert W. Hulvey (CPE), Redondo Beach, Calif., was named to the 2012 Bluetooth Hall of Fame by the Bluetooth Special Interest Group for his contributions to the development of the technology.

Charles E. Watson (STAT, ENGL '93, ENGL '95, EDCI '07) Blacksburg, Va., received the Distinguished Colleague award from the Division of Undergraduate Education at Virginia Tech.

'93 Eric Cramer (BAD, BAD '95), Woodstock, Ga., was promoted to chief investment officer at Buckhead Investment Partners LLC.

Matthew G. McCarey (HIST), Davidson, N.C., a daughter, 10/7/11.

Amy C. Moore (EDPE, EDCH '95), Haymarket, Va., a son, 2/10/11.

'94 Charles E. Cooper Jr. (ARCH), Red Lion, Pa., is a registered architect and a senior project manager and director of sustainability at Frederick Ward Associates in Bel Air, Md.

Michael C. McWithey (AE), Colleyville, Texas, is manager of the Lockheed Martin High Speed Wind Tunnel.

Cynthia A. Whitbred-Spanoulis (PSCI, PAPA '96), Virginia Beach, Va., is deputy director of the Virginia Aquarium and Marine Science Center and was selected as the Virginia Beach Rotary Club 2012 Outstanding City Employee of the Year.

Joshua C. George (CE, CE '96), York, Pa., a son, 4/26/12.

Jane M. Koehler (ENGL), Baltimore, Md., 6/7/12.

'95 Christopher T. Case (ARCH), Charlotte, N.C., is senior project architect for the Durham County Health and Human Services Complex and the University of Maryland Eastern Shore Engineering, Aviation, Computer, and Mathematical Sciences Building.

Jill Colletta Goebel (HIDM), Alexandria, Va., is a senior associate for Gensler, an architecture firm that won a Gold Award in the 2012 Premiere Awards' educational category from the Mid-Atlantic Chapter of the International Interior Design Association for the interior design of the Virginia Tech Research Center – Arlington.

Stefanie F. Lazanov (SOC), Alexandria, Va., is director of revenue management for The Westin Georgetown in Washington, D.C.

Jerry L. Dowdy (BSED), Christiansburg, Va., a son, 2/28/12.

A beacon of hope for orphans in Rwanda

by EMILY GOODRICH

In 2007, April Riegler (clothing and textiles '00) took a trip to Rwanda that changed her life. After meeting with children at the Robero Orphan Centre in Kigali, Riegler was inspired to create a program, Hope Shines, to provide those children with an education.

"I started the program in 2007 by fundraising and gathering volunteers," said Riegler. Among those volunteers was Dan Gladden (wood science and forest products '00), who runs the sports day camps every other year; Maxime Manzi, a freshman university studies major and a cadet; and a number of other Virginia Tech students who volunteer their time and skills for the nonprofit.

"I've kept a close relationship with my professors in clothing and textiles and work with [professors] to run a contest for design students to design the camp T-shirts," said Riegler. "I want to keep Tech involved; it is meaningful to have that community of Hokies."

Hope Shines began its program in Rwanda with a one-week day camp in 2008 and has expanded to include a second week of day camps and a new tutoring program.

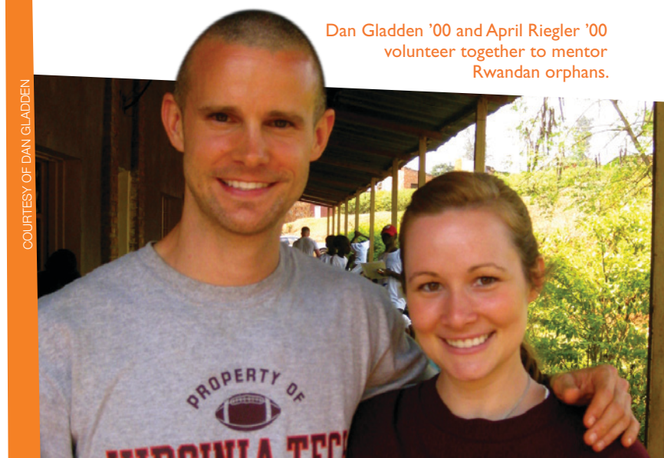
"We focus on creative learning," Riegler said. "A lot of the education in Rwanda is 'repeat after me,' rote memorization. We try to get [children] to step out of that box."

The tutoring program focuses on what the children are currently struggling with in school. A teacher hired by Hope Shines works with a team of translators, most of whom are college students in the Generation Rwanda program, a scholarship program that provides full financial support for Rwandan students attending college. Riegler said Hope Shines is fortunate because the same group of teachers returns each year to build relationships with the kids and provide role models for them.

This year, the tutoring program expanded from four to six months. "Our goal is a year-long program, so we've been taking small steps in that direction," said Riegler. "We see it continuing to build. We never want to let the kids down and make them false promises. So, when we say we're going come back, we always do."

Emily Goodrich, a sophomore English major, is an intern with Virginia Tech Magazine.

Dan Gladden '00 and April Riegler '00 volunteer together to mentor Rwandan orphans.



COURTESY OF DAN GLADDEN

Tara P. Boyce Burlage (COMM), Kill Devil Hills, N.C., 4/28/12.

'96 Denny S. Jessee (CSES, CSES '97), Castlewood, Va., received Virginia Tech's 2012 Alumni Award for Excellence in Extension.

Kevin M. Wilson (ISE) and Tanya L. Boerger, Crofton, Md., 4/21/12.

Jason L. Shingleton (ME), Broken Arrow, Okla., 4/17/12.

'97 James L. Moore III (EDSP, EDCO '00), Alexandria, Va., received the first-ever Black Man Can Award for Higher Education.
Arthur L. Parkerson (MGT), Suffolk, Va., is working on a film entitled "Green Screen: Cultivating Life in the Digital Age."

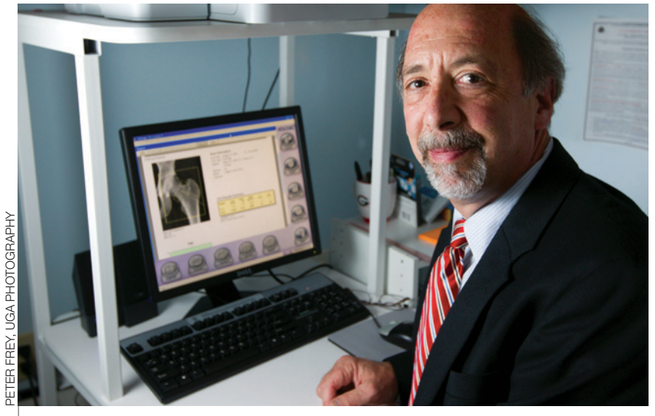
Candice Sanders Palmer (MKTG), London, United Kingdom, a daughter, 4/23/12.

'98 James G. Jenkins (GBUA), Blacksburg, Va., was reappointed as the William S. Gay Junior Faculty Fellow by the Virginia Tech Board of Visitors.
Jonathan P. Parker (MSCI), Arlington, Va., is a partner in Ernst & Young LLP's transaction advisory practice.

Elizabeth Espinoza Garza (EE '99), Clermont, Fla., a son, 3/4/12.
Chad D. Nagle (CEEN) and **Stephenie B. Ingersoll Nagle** (FCD '00), Tongeren, Belgium, a son, 9/16/11.
Courtney S. Privette (FCD), Newport News, Va., a son, 6/26/12.
Tracy Skidmore Woodhead (IS, FR), Woodbridge, Va., a son, 4/19/12.

Theodore C. Von Dameck (ARCH), Blacksburg, Va., 5/11/12.

'99 Donald D. Kranbuehl (CE, ARCH '00), Raleigh, N.C., mentored Moore Square Museums Magnet Middle School students for the 2012 Environmental Stewardship Competition sponsored by the Triangle chapter of the U.S. Green Building Council.



PETER FREY, UGA PHOTOGRAPHY

Richard D. Lewis (HNF '86), Athens, Ga., was recognized with the University of Georgia Foundation Professorship in Family and Consumer Sciences.

Shelley Williams Albert (PSYC), Christiansburg, Va., a daughter, 3/15/12.
Michael M. Huffman (MSCI), Phoenixville, Pa., a son, 4/27/12.
Edward M. Ross (FCD), Richmond, Va., a daughter, 5/30/11.

Muzaffer Cicek (BIOL '96, BIOL), Rochester, Minn., 6/24/12.

'00 Jennifer B. Hasty Aulgur (PSCI), Harrisonburg, Va., was appointed by Virginia Gov. Robert McDonnell as deputy secretary of the commonwealth.

weddings
births and adoptions
deceased

Rebecca J. Baunsgard (ENGL), Bothell, Wash., started her own business, Resume-Checker, providing professional résumé and cover-letter editing services.
Marshall R. Eichfeld (CE), Cleveland, Ohio, was elected president of Ohio Aviation Association.
Michael S. Gaddy (CE), Virginia Beach, Va., completed the Crestcom Bullet Proof Manager training program.
Mark A. Rice (HIST), is executive officer on the USS Guardian.

Jason M. Anderson (ME, ME '03) and **Caroline Pappert Anderson** (PSYC '01), Reston, Va., married 4/29/12.

Dennis B. Cook (HIST), Centreville, Va., a son, 2/29/12.
Marshall R. Eichfeld (CE), Cleveland, Ohio, a daughter, 3/15/12.
Erin Franconeri Regonini (SOC), Clinton, Mass., a son, 11/23/11.

'01 Martin P. Daniel (PAPA), Blacksburg, Va., is associate vice president for research operations at Virginia Tech.

Tarun Hingorani (CPE), Vienna, Va., earned a master's degree from Georgetown University's McDonough School of Business.

Matthew M. Gunzburger (ESM) and Lindsay Bertch, Savannah, Ga., married 10/8/11.

Bryan D. McIlwee (CE) and **Jessica Dalton McIlwee** (COMM '03), Hilton Head Island, S.C., a daughter, 3/13/12.
Sarah Davis Ohlhorst (HNFE, HNFE '04) and **Craig P. Ohlhorst** (ACIS '03), Oakton, Va., a son, 3/27/12.
Bret A. Steele (ACCT), Virginia Beach, Va., son, 6/7/12.
Michael J. Wills (ME, ME '07) and **Theresa Cimorelli Wills** (MATH '04), Annandale, Va., a son, 12/28/11.

Aaron B. Pope (HNFE '02), Abingdon, Va., 5/15/12.

'02 Katrina J. Choi (HIDM, ARCH '04), Alexandria, Va., is an interior designer for Gensler, a firm that won a Gold Award in the 2012 Premiere Awards' educational category from the Mid-Atlantic Chapter of the International Interior Design Association for the interior design of the Virginia Tech Research Center – Arlington.
Elizabeth H. Dyson (FORS), Leonardtown, Md., was named St. Mary's (Md.) public schools' recipient of The Washington Post 2012 Agnes Meyer Outstanding Teacher Award.

Frank J. Corigliano (PHED) and **Megan Dillon Corigliano** (MGT '02), Ewing, N.J., a son, 3/25/12.
Amanda R. Cangemi Crook (HNFE), Mount Airy, Md., a daughter, 5/14/12.
Andrea Podobnik Michael (ACIS) and **Gregory Michael** (GEOG '03), Manassas, Va., a son, 9/21/11.
Addy O'Brien Hodges Miller (FIN), Hayes, Va., a son, 4/4/12.
Bethany A. Lindsay Schiller (ME) and **Noah H. Schiller** (ME '02, ME '07), Yorktown, Va., a son, 2/20/12.
Beverly Kain Sexton (PSYC) and **Hunter B. Sexton** (FIN '03), Wilson, N.C., a daughter, 3/27/12.

'03 Jeremy R. Moss (PSCI, SOC), Alexandria, Va., was named a 2012 Virginia Rising Star by Virginia Super Lawyers, a rating service for lawyers.

Carolyn Friton Benzing (ACIS), Manlius, N.Y., twin girls, 2/18/12.
Molly School de Lima-Campos (HIDM), Oakton, Va., twins, 11/30/11.
Christopher K. Marston (CE), Mechanicsville, Va., a daughter, 6/14/12.
Joshua P. Taylor (BIOL) and **Emily E. Vernon Taylor** (MSE '02), Roanoke, Va., a daughter, 6/22/12.

'04 Sarah C. Kammerer (PSCI), Chicago, Ill., received a Fulbright Research Grant to pilot a family-planning program among women's groups in marginalized tribal communities in India.
Steven L. Mouras (URPL), Blacksburg, Va., received the Governor's Award for Innovation for exemplary service and dedication to the Commonwealth of Virginia.

Seeing no limits

by JENN BATES

After a stroke in 2004 caused him to lose his sight and change his professional goals, William Catterson (exercise physiology '95) found success in an unexpected career. Catterson had nearly finished his master's degree in electrical engineering when he suffered the massive stroke. "I couldn't tell when the lights were on or off. I was having trouble getting around. I had to feel my way around," he said. "It was a pretty terrifying experience."

Catterson completed a master's degree despite his visual impairment. He realized, however, that he could not pursue a career in electrical engineering and decided to teach instead. "I made money in college by tutoring in math and physics. I can still write on a white board, and even though I might not be able to see what I'm writing, whoever I'm talking to can still read it."

Crespi Carmelite High School, a private school in Los Angeles, hired Catterson as an advanced calculus teacher. "[My blindness] didn't seem to deter them very much, and I really give them credit for that. I could imagine they were nervous to let a blind guy start teaching, but they gave me a chance," he said.

Catterson, who walks one mile to school every day, said his students have responded positively to his impairment.

In addition to teaching, Catterson also has a passion for swimming. He started swimming at young age and looked to the sport as a form of rehabilitation after the stroke. "It's exercise I can still do without too much vision. I feel the lane next to me and I count my strokes to know when I'm at the end of the pool," he said. Catterson has competed in more than two dozen races with the help of a guide.

Despite his success in the classroom and the pool, Catterson said there are times that he misses the life he could have had. "I miss my vision a lot. There are a lot of things I can't see that I wish I could. I don't really know what my daughter looks like," he said. Although his life is sometimes difficult, Catterson said he ultimately has no regrets about his unexpected career change.

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

PHOTO COURTESY OF WILLIAM CATTERSON

How Tech Ticks answers from page 14

1) Smyth Hall, 2) Eggleston Hall, 3) Saunders Hall, 4) Hillcrest Hall, 5) Smyth Hall

weddings
births and adoptions
deceased

Blair A. Eason (MKT) and B.T. Nelson, Virginia Beach, Va., married 5/26/12.
Mark J. Lawson (CS '04, CSA '09, CSA '09) and **Christina M. Osborn** (LAR '07), Charlottesville, Va., married 4/21/12.
Brendan J. McDonald (PSCI) and Courtney R. Thurston, Columbia, S.C., married 7/30/11.
Jonathan Melendez (HIST) and **Kimberly A. Stuecheli** (MKTG '05), Fairfax, Va., married 6/16/12.

Kate Stuard Schulz (PSYC) and **Michael C. Schulz** (ACIS '05), Sterling, Va., a son, 4/18/12.
Nicole L. Smith White (COMM) and **Stephen J. White** (CSES '04), Chester Gap, Va., a daughter, 6/16/11.

'05 Amy C. Frady (HNFE), Springfield, Va., is a nutrition program analyst in food distribution for the U.S. Department of Agriculture's Supplemental Nutrition Assistance Program.
Amelia R. Rau (ARCH), Winchester, Va., started her own firm, Rau Design Studio, specializing in affordable, imaginative architecture.
Kimberly A. Willig (ISE), Kingsville, Md., is a professional engineer for Gannett Fleming.

Rachael C. Borth (ARTF) and Jared Krehel, West Orange, N.J., married 6/29/12.
Lindsey M. Hurst (PSCI '05, EDCI '06) and **Daniel C. Childress** (AHRM '06), Bristow, Va., married 6/30/12.
Kristin L. Maglia (ISE) and Francis C. McKernan III, Raleigh, N.C., married 5/27/12.

Thomas D. Ficklin III (ECON), Chesapeake, Va., a son, 7/7/11.
James E. Fitzpatrick IV (ACIS) and **Jennifer Wisch Fitzpatrick** (AHRM '05), Warrenton, Va., a daughter, 4/5/12.
Brenda L. Kuehn (IDST) and **Larry A. Kuehn** (IDST), Hastings, Neb., a son, 3/28/12.
Brian L. Pruden (HTM), Avon, Ohio, a son, 4/5/12.

'06 Sierra R. Guynn (VM), Christiansburg, Va., is a clinical assistant professor of production management medicine with the Virginia-Maryland Regional College of Veterinary Medicine at Virginia Tech.
Jessica C. Leo (ARCH), Chicago, Ill., is an interior designer and architect for OKW Architects Inc. and has received a state license for architecture and interior design and also LEED accreditation.
Megan E. McGowan (IDST), Oakton, Va., owns Wandering Roots Farm in Haywood County, Va.
Donald J. Smith (CE), Richmond, Va., received the Virginia professional engineering license.
Aubrielle Smith Walrond (PSCI), Davidson, N.C., graduated cum laude from Drexel University's Earle Mack School of Law.

Jaime K. Leiner (ARTF) and W.B. Gill, Owings Mills, Md., married 5/27/12.

Kevin P. Cuddihy (COMM), Fairfax, Va., a son, 6/6/12.
Meghan East Eggleston (HD) and **Eric M. Eggleston** (SOC '08), Martinsville, Va., a son, 10/7/11.
Marian Hall Hickes (SOC) and **Matthew T. Hickes** (PSYC '06), Herndon, Va., a son, 7/6/11.
Nathan E. Jessee (ARCH), Kingsport, Tenn., a son, 8/30/11.

'07 Matthew A. Smith (CHEM, BCHM), Sandy Spring, Md., earned a Ph.D. in pharmaceutical and biomedical sciences at the Medical University of South Carolina.
Ebony J. Stephenson (PUA), Newport News, Va., is a designer for Criner Remodeling in Yorktown, Va.
William R. Waddell (BIOL), Tazewell, Va., earned a doctor of pharmacy degree from the Appalachian College of Pharmacy.

Chelsea T. Benincasa (COMM) and Andrew T. Dorman, Silver Spring, Md., married 3/3/12.
James B. Clayton (HORT) and Megan Dominguez, Corpus Christi, Texas, married 3/17/12.
James R. Fleckenstein (HIST) and **Karen E. Mackey** (HIST '07), Gainesville, Va., married 3/25/12.

'08 Stephen J. Gombita (CHE), Arlington, Va., received a juris doctorate degree from the University of Akron School of Law.
Jesse T. Irvin (FIN), Denver, Colo., is a financial analyst for Strategic Energy Advisors bank in Denver and was named the University of Denver's Daniels College of Business Most Outstanding MS Finance Student for 2012.

Mackenzie A. Cohe (BIT) and **Lisa Vornbrock** (FST '10), Fayetteville, N.C., married 6/9/12.

FRED WATKINS/ABC

"I was truly honored. It's wonderful when your peers look at your work and find that it was noteworthy. Personally, I really work hard and try to do my job the right way, and to be honored in that way was just tremendous."

–Pierre Thomas (communication '84), ABC News senior justice department correspondent, on being named the 2012 Journalist of the Year by the National Association of Black Journalists

Meagan M. Flood (COMM) and **Zachary S. Jones** (HIST '08), Charlotte, N.C., married 5/25/12.
Crystal M. Lacey-Thompson (IDST) and William R. Thompson IV, White Post, Va., married 5/26/12.
Aaron P. Myhr (CS, HIST) and **Eileen McCaffrey Myhr** (IDST '08), Centreville, Va., married 6/18/11.

Nicholas R. Nelson (HIST), Fort Knox, Ky., a son, 5/3/12.

'09 Ashley N. Clark (APSC, EDCT '10), Pulaski, Va., achieved certification as a Professional Animal Scientist in the Equine American Registry.
Karisa A. Moore (EDCT), Christiansburg, Va., is interim executive director for equity and access at Virginia Tech.
Nathan B. Roberts (FIN), New Bedford, Mass., completed the U.S. Marine Corps' Basic School in March as a second lieutenant.

Brandon J. Divers (HIST) and **Jennifer Hedrick Divers** (COMM '10), Littleton, Colo., married 5/19/12.
Bradley M. Shoemaker (FORS) and **Jillian P. Massari** (ENGL '10), Waldorf, Md., married 5/5/12.
Benjamin C. Strause (CEM) and **Megan Lyons Strause** (PSYC), Alexandria, Va., married 8/6/11.

David Mishkel (BIOL), Yorktown, Va., 11/3/11.

'10 Klayton L. Shaw (CPE), Carrollton Va., is a software engineer for Northrop Grumman.

Michelle Anonick Banks (FST, CHEM) and **Samuel B. Banks** (ACIS, FIN '10), Midlothian, Va., married 2/19/11.
Erik B. Ostergaard (ME) and **Lindsey Eubank Ostergaard** (ME), Springfield, Va., married 3/24/12.

'11 Adam C. Terminella (BAD), Henrico, Va., is an attorney and counselor at law with Golightly Mulligan PLC in Richmond, Va.
Michael H. Tsutagawa (ISE) Centreville, Va., retired from the U.S. Navy after 20 years of honorable service.

Patrick W. Bates (CHEM) and Elizabeth Payne Bates, Pensacola, Fla., married 11/10/11.

obituaries

students

Ragaei Abdelfattah, a former graduate student, was killed Aug. 9 while serving as a USAID foreign service officer in Afghanistan.

faculty/staff

Bonnie Lee Appleton, professor emerita of horticulture and retired Virginia Cooperative Extension horticulture specialist, 7/21/12.
Don Allen Garst, former teacher in the Department of Civil Engineering, 6/7/12.
Mary H. Ross, professor emerita of entomology in the College of Agriculture and Life Sciences, 7/6/12.
C.W. "Bill" Smith, Alumni Distinguished Professor Emeritus of Engineering Science and Mechanics and a member of the Academy of Engineering Excellence at Virginia Tech, died July 30. Smith became one of the first engineering faculty members to transition from a strictly teaching role to assuming a teaching and research responsibility in the college. In 1977, the university recognized Smith with its Alumni Award for Excellence in Research. Over the course of his career, he received numerous honors for both teaching and research. In addition to recognition as a Fellow in the Society for Experimental Mechanics, the American Academy of the Mechanics, and American Association of Mechanical Engineers, he was awarded NASA's Langley Research Center Scientific Achievement Award and the statewide Dan Pletta Engineering Educator of the Year Award.

friends

Ruth Horton died June 18. Horton and her late husband, Miles C. Horton Jr., were steadfast supporters of Virginia Tech. In addition to the Miles and Ruth Horton Collection of artwork, the couple also gave their house, an art studio, and the Miles C. Horton Sr. Research Center (including the Martin Observatory and Vorticella Lab—which essentially amounts to the top of Salt Pond Mountain near Mountain Lake in Giles County, Va. To read more about the couple's legacy, visit www.vtmag.vt.edu/sum04/feature1.html.

The lobby of Randolph Hall is home to DreamVendor, a 3-D printing machine that allows students to create small objects in quick fashion. "If you can dream it, we can build it," said Assistant Professor of Mechanical Engineering Christopher Williams.

LOGAN WALLACE

"I invent smiles, giggles, and discovery."

Samantha Hugo is inventing the future by designing playgrounds for children with special needs. For many kids, these playgrounds open windows to a new world of discovery. Samantha, a student in Virginia Tech's top-ranked landscape architecture program, is creating innovative solutions to real-life challenges through her work in the classroom and the community. It's how we are bettering the world. It's how students like Samantha invent the future.

VirginiaTech
Invent the Future®

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

facebook.com/virginiatechinvents