

vt mag

President announces departure
Charles W. Steger is stepping down

More than a home
The Grove, Tech's presidential residence
since 1902

Edge of possibility
Alumna who led DARPA now at Google's
Motorola Mobility

Quantifying the **brain**

adaptable
sociable
physical





A Hokie's Farewell

by CHARLES W. STEGER '69

When one is totally absorbed in doing what one loves, 14 years pass in an instant. Serving as the 15th president of Virginia Tech has been the most demanding and yet the most exhilarating and fulfilling experience of my life. Years ago, I left a career in the private sector to pursue my passion for teaching and my profound belief in the transformative power of education. It was the right decision. Together with a tremendous faculty and staff, we now have achieved most of the goals that I set out in my inauguration speech in 2000, and we have also seized opportunities to advance the strategic goals of the university.

Last month, I shared with the university Board of Visitors my plans to step down as president. The board has started the search process; I will continue to serve as president until my successor begins work.

These years have been the highlight of my career in higher education, and it has been my privilege to serve as president during a period in which we have strengthened our academic programs and expanded our research and outreach programs. Even as we have adjusted to the decline in state support, we have found ways to continue to enhance our academic mission and broaden our national and international presence. Our reputation is stronger than ever.

The strength of our faculty has been central to sustaining us through these challenging times, and they have brought national and international recognition to the university through their teaching and scholarship. I will always be indebted and grateful to our faculty and staff for their commitment to this university and its mission of discovering and sharing knowledge in the tradition of our land-grant heritage.

As I reflect on my years as president, I am proud of the accomplishments and advances this university has achieved through the efforts of many. Our students are the most qualified in our history. We have increased our student financial aid programs. Our research portfolio has grown from \$192 million in 2000 to \$450 million today.

We established the Virginia Tech Carilion School of Medicine and the Virginia Tech Carilion Research Institute. Since 2000,

The president out and about on campus



we have added or have in design more than 3 million square feet of space valued at \$1.08 billion on the Blacksburg campus and elsewhere, primarily for much-needed new classrooms and instructional space, research, student services, and athletics. We have expanded our presence in the National Capital Region with the new Virginia Tech Research Center — Arlington.

We have enhanced the presence and practice of the arts through the arts initiative and the soon-to-open Center for the Arts. We have strengthened our international focus through expanded outreach programs and study-abroad opportunities for our students.

And finally, we joined the Atlantic Coast Conference.

I am pleased to have led the university through the recently completed capital campaign resulting in \$1.1 billion in private support. Our success in all of these endeavors illustrates the firm commitment to Virginia Tech by our alumni and supporters, who are central to ensuring a strong future.

In the coming months, I look forward to thanking the many individuals who have contributed to the continued growth and development of Virginia Tech. I am indebted to our faculty, staff, students, and to you, our famously committed and



Editor's note:
In the fall edition of Virginia Tech Magazine, published in mid-October, look for an in-depth exploration of Steger's legacy.

passionate alumni, for active engagement and commitment to the university.

I especially appreciate the students who have passed through this university during my tenure and who are making a difference in the world in which we live and work. These inquiring minds are the future of this institution. Over the course of time, they, too, become passionate and committed Hokies like you, helping sustain the quality and outreach of Virginia Tech.

This university and our students have been my passion for more than four decades, and I have great optimism for the future. The promise of this university eclipses all the challenges. We are inventing the future. We have an indomitable spirit. We have the entrepreneurial culture, the creativity, the ability to leverage our strengths, and the willingness to take calculated risks that set us apart from other universities and enable us to move forward. We have tremendous students, faculty, staff, alumni, and friends. It has been an honor and a privilege to lead this dynamic university as its president. □

In 14 years as president of Virginia Tech, Charles W. Steger has provided visionary leadership in the creation and implementation of a bold strategic plan, with a demand for quality across all aspects of the academic enterprise. His impact has not gone unnoticed.

“

... Steger rates among Tech's most consequential presidents in positive ways. During his watch, a research center opened in Arlington, which not only greatly increased the school's visibility in Northern Virginia, but also enhanced its national status as a research university. A center for the arts will open at Tech in the fall of 2013. Tech's Invent the Future campaign exceeded its \$1 billion goal by more than \$100 million. ... Steger devoted his life to Tech; he epitomized the loyalty the school inspires; his middle initials could be 'VT. The class of 1969 has reason for pride. The new president will lead an era of generational transition."

—Editorial, The Richmond Times Dispatch, May 15

“

... The commonwealth will forever be indebted to Dr. Steger for his stalwart leadership and strategic vision in transforming the land-grant institution into one of the leading research institutions in the nation. ... He played a key role in advising our administration to ensure success of our aggressive higher education agenda, and has proven a leader to the other college and university presidents to find innovative ways to meet our goals. ... While the commonwealth will miss Charles Steger, I wish him the best in his retirement and offer the thanks of a grateful Virginia for all he has done to solidify Virginia Tech's reputation as a premier university throughout the nation and around the globe."

—Virginia Gov. Bob McDonnell

“

Charles Steger earned three degrees from Virginia Tech and devoted most of his professional life to his alma mater, working tirelessly to push it into the top tier of the nation's elite universities. ... Steger moved into the president's office at the dawn of a new millennium and moved Tech on a path toward elevating its research enterprise and redefining its land-grant mission for a rapidly changing economy. ... Steger set ambitious goals for his alma mater, pushing Tech to be a leader in higher education while staying true to its motto, *Ut Prosim* (That I May Serve). He could not have envisioned the challenges Tech would face when he assumed leadership in 2000. But through triumph and tragedy, he kept Tech striving toward excellence."

—Editorial, The Roanoke Times, May 16

“

We sadly accept President Steger's desire to step down as president. He has had a long and successful tenure, but we understand his desire to ratchet back the extraordinary commitment of a major university president. Charles has truly been outstanding, visionary, and productive. I believe when history looks back upon his tenure as president, he will be ranked among the best of Virginia Tech's strong leaders. He has advanced Virginia Tech's position and our ability to serve the commonwealth on many levels."

—Mike Quillen (civil engineering '70, M.S. '71), rector of the Virginia Tech Board of Visitors

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JIM STROUP

contents features

The Grove: When a house becomes a home

Sheltering all but one university president since 1902, The Grove possesses an enlightening and entertaining history. Learn more about the building's unique past, from lawn-grazing sheep to elegant dinner parties.

PAGE 18

Hokie Spirit: License plate programs bolster pride

In eight states, Hokies can showcase their school spirit in a way that goes beyond bumper stickers. From Texas to Delaware, Virginia Tech fans can buy custom license plates in honor of the university. The tags are more than mere vanity—a percentage of sales support scholarships sponsored by local alumni chapters in each state.

PAGE 22

Quantifying the Brain

Now in its third year, the Virginia Tech Carilion Research Institute creates a bridge between basic science research at Virginia Tech and clinical expertise at Carilion Clinic, increasing translational research opportunities for both partners. Many of the current research teams at the institute are dedicated to the brain: its influence on all aspects of our body and our behavior, how it adapts, and, in certain instances, how it can be retrained.

PAGE 28

departments

President's Message	1
Around the Drillfield	4
Corps of Cadets	9
How Tech Ticks	10
Professor Profile	12
Economic Development	16
Philanthropy	26
Alumna Profile	36
Book Notes	41
Alumni Association	42
Class Notes	51
Still Life	57

At left: Newman Library is framed by the brilliant colors of spring.

On the cover: Neuroscience is front and center at the Virginia Tech Carilion Research Institute. Read more on page 28. Photo by Jim Stroup.

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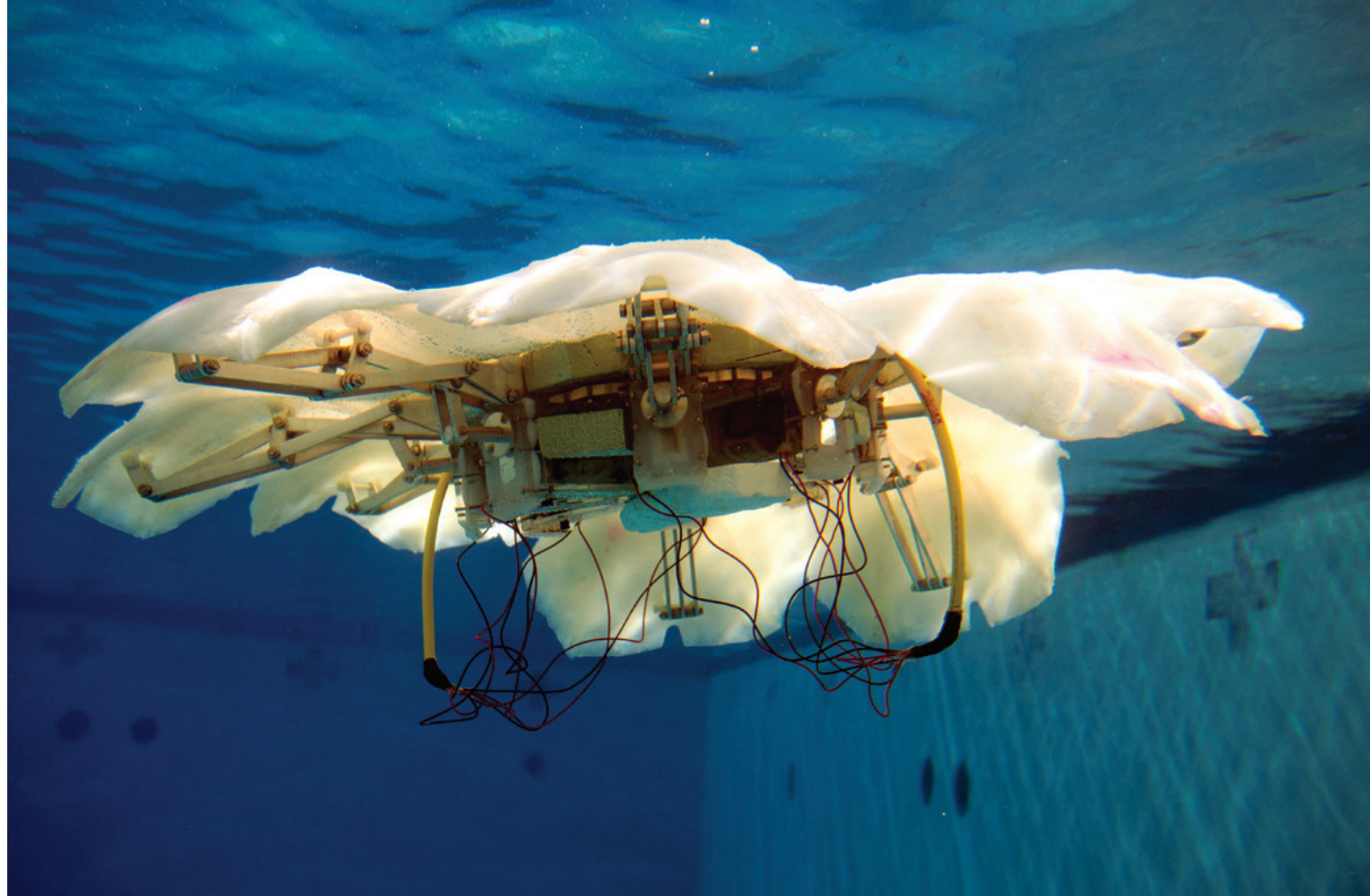
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AMANDA LOMAN

Weighing in at 5 foot 7 inches and 170 pounds ...

Researchers in the College of Engineering have unveiled a life-like, autonomous robotic jellyfish. The prototype, 5 foot 7 inches in length and weighing 170 pounds, is a larger model of a robot created by the same team in 2012. Both robots are part of a multi-university, nationwide project funded by the U.S. Naval Undersea Warfare Center and the Office of Naval Research. The goal is to place self-powering, autonomous machines in waters for the purposes of surveillance and monitoring the environment, in addition to studying aquatic life, mapping ocean floors, and monitoring ocean currents.

Hiring practices recognized by Virginia Values Veterans

As the number of veterans returning home from Iraq and Afghanistan has increased in recent years, Virginia Tech has expanded its efforts to help veterans find employment at the university.

Recognition of these efforts came most recently in the form of certification from the Virginia Department of Veterans Services' Virginia Values Veter-

ans (V3) program, designed to help companies hire and retain military veterans. Among the commonwealth's 53 certified organizations, Virginia Tech is the only university.

In 2011, 1,700 of the 47,000 people who applied for jobs at Tech identified themselves as veterans. As part of the certification process, the university has committed that at least 5 percent of all new hires in 2013 will be veterans. As of fall 2012, the university employed about 300 veterans.

Space@Virginia Tech to lead study to improve communications

Due to the intensity of solar radiation, the Earth's atmosphere becomes electrically active at altitudes above approximately 300,000 feet, the same height at which radio waves and GPS signals propagate. The atmosphere affects these signals, garbling them and interrupting communications for such users as ham radio operators and radio trackers.

One of the main causes of these disruptions is thought to be waves generated in the lower atmosphere by weather systems. As the waves move upward they distort the electrically active region, resulting in instabilities at high altitudes that perturb GPS and radio signals.

Now, researchers at Virginia Tech are teaming with scientists from three other groups to build a small satellite dedicated to global observations of these waves in the mesosphere, thermosphere, and ionosphere, the atmospheric layers above the earth. Funded by the National Science Foundation, the project is capped at \$900,000 and led by Greg Earle, a professor of electrical and computer engineering and a member of the Space@Virginia Tech research center.

Tillar receives Legacy Award from Greek community

At the Fraternity and Sorority Life year-end celebration in April, Vice President for Alumni Relations Tom Tillar (biological sciences '69, M.A. student personnel services '73, Ph.D. student personnel services '78) was recognized with the Legacy Award for his service to Pi Kappa Alpha and Virginia Tech's fraternity and sorority community. Tillar has served Pi Kappa Alpha's local chapter as faculty or chapter advisor for nearly 40 years and also served as the university's second director of fraternity and sorority life. At the national level, he served on the Pi Kappa Alpha foundation board, including two terms as president, and also served as the regional president.

Imaging nanoparticles

The nanoparticles behaved like grains of sand being concentrated on a beach by crashing waves. We think this behavior may be related to why the nanoparticles become concentrated in tumors. Our next experiment will be to insert a cancer cell to study the nanoparticles' therapeutic effects on tumors."

—Deborah Kelly, an assistant professor at the Virginia Tech Carilion Research Institute, where scientists invented a technique for imaging nanoparticle dynamics with atomic resolution. Learn more at www.vtnews.vt.edu/articles/2013/04/042513-vtc-nanoparticles.html.



ZACH BAUDERS | CONTRASTPHOTOGRAPHY.COM

On the move

Competing in the Collegiate Rugby Championship in Philadelphia on June 1-2, the Virginia Tech rugby sevens team went 2-3, an impressive feat for their first appearance in the national tourney. Here, Andrew Haskell runs away from Florida players in a game the Hokies won 19-15. The rugby team is one of 31 club sports at Virginia Tech. To watch a video on the program, visit www.vtmag.vt.edu.



LOGAN WALLACE

Counting carbs: One researcher sees food and fuel in unlikely places

When most people think about renewable energy and sustainable food sources, they picture solar panels and wind turbines, low-impact agriculture, and local foodsheds.

Y.H. Percival Zhang (above), an associate professor of biological systems engineering in the College of Agriculture and Life Sciences and the College of Engineering, pictures carbohydrates.

Using carbohydrates, Zhang has found ways to inexpensively produce hydrogen to power cars and a mechanism to turn any plant into a food source. In carbohydrates, Zhang sees food, fresh water, biofuels, nutrients, and renewable materials.

Two of Zhang's projects involving the manipulation of carbohydrates have received extensive attention around the world. One paper he published highlights how he has been able to extract large amounts of hydrogen from any plant, a breakthrough that has the potential to bring a low-cost, environmentally friendly fuel source to the world. "Our new process could help end our dependence on fossil fuels," he said. "Hydrogen is one of the most important biofuels of the future."

Zhang recently published a paper in the Proceedings of the National Academy of Sciences of the United States of America that demonstrates how he has been able to create starch from plants not traditionally thought of as a food source. The process would allow farmers to grow biomass on marginal lands—without requiring fertilizers, pesticides, and massive amounts of water—and generate food and biofuel.

Researchers alter mosquitogenome with goal of controlling disease

Zach Adelman and Kevin Mylse, both associate professors of entomology in the College of Agriculture and Life Sciences, successfully used a gene disruption technique to change the eye color of a mosquito, a critical step toward new genetic strategies aimed at disrupting the transmission of diseases such as dengue fever. In a groundbreaking study published in the journal PLOS One, the scientists used a pair of engineered proteins to cut DNA in a site-specific manner to disrupt a targeted gene in the mosquito genome. Science magazine heralded these transcription activator-like effector nuclease proteins, known as TALENS, as a major scientific breakthrough in 2012. Applying TALENS to the mosquito genome is a new approach, and the ability to genetically engineer mosquitoes will allow for a better understanding of how the virus infects the insect.

Undergraduates develop technology to deter human trafficking

Three University Honors students won first and second place in a Campus Challenge sponsored by the U.S. Agency for International Development and anti-trafficking agencies. Undergraduates Wes Williams, Nicholas Montgomery, and Kwamina Orleans-Pobee de-

veloped the first-place concept, AboliShop. Employing an established database developed by an anti-trafficking agency, AboliShop is a Web-browser extension that informs online shoppers if the items in their shopping cart are at risk for using forced or exploited labor in their development or distribution. The team's second-place concept was a hotline allowing users to send anonymous instant messages if they were trafficking victims or had witnessed possible trafficking.



LOGAN WALLACE

Guru Ghosh

Guru Ghosh named Outreach and International Affairs vice president

Guru Ghosh, the university's associate vice president for international affairs since 2011, has been appointed vice president of Outreach and International Affairs. Ghosh

has nearly 20 years of experience in higher education administration and has held service positions on boards for organizations supporting international education initiatives. At Virginia Tech, he has worked to establish the university's campus in India, to expose more faculty members to international research and engagement work, and to expand student experiences in places where Virginia Tech has an international presence.

Performance hall named within the new Center for the Arts

The performance hall within the Center for the Arts, opening this fall, has been named in honor of longtime donors Nicholas and Fay Street, of Bristol, Va., and William C. "Jack" and Sandra Davis, of Blacksburg. The Street and Davis Performance Hall encompasses approximately 84,000 square feet of the \$97 million center. "This entire project is really a collaborative effort," said Ruth Waalkes, the university's associate provost for the arts and the center's executive director. "There is funding from the university and funding from the state, but the private funding that is going into this building is significant, and these gifts from the Streets and Davises have been particularly meaningful for us."

Doctoral student researches tax evasion in Greece

By way of his research on tax evasion, Nikolaos Artavanis (Ph.D. finance '13), of Athens, Greece, has captured national and international attention and made an impact on policy. Artavanis co-authored a recent study on tax evasion in Greece that is currently among the top 10 papers on tax law in the Social Science Research Network, considered the world's premier open-access repository of scholarly research. The study, which found that professionals were the biggest tax dodgers, received extensive coverage by the media in the U.S. and abroad.

Undergraduate Man and Woman of the Year named

Darya "Dasha" Nesterova and Nicholas Onapa were named Virginia Tech's 2013 Undergraduate Woman and Man of the Year, respectively. The annual honors are the most prestigious non-academic undergraduate honors at Virginia Tech and are awarded to those students who have exceptional and balanced achievement in academics, leadership, and service.

Nesterova is a senior majoring in biological sciences in the College of Science, with minors in psychology and medicine and society. Onapa is a senior majoring in public and urban affairs in the College of Architecture and Urban Studies, with



LOGAN WALLACE

Relay for Life raises \$573,000-plus for research
This year's Relay for Life, held April 19-20, had raised \$573,000 by mid-June for the fight against cancer, with the total expected to rise before the campaign ends on Aug. 31. The April event drew 543 teams and 6,035 participants as the capstone of a year-long effort to contribute to the American Cancer Society.

minors in international studies and business leadership.

University awarded \$1.59 million for agricultural research in developing countries

Virginia Tech has received \$1.59 million to continue agricultural research in Bangladesh, Indonesia, and Nepal. The awards for three federal contracts funded by the U.S. Agency for International Development represent a vote of confidence in the university's development work, ongoing since 1993. In each country, the Integrated Pest Management Innovation Lab works with local nongovernmental organizations, universities, and research institutes to advance and disseminate agricultural

research. Virginia Tech also partners with scientists from Penn State, Ohio State, Washington State, and Clemson universities on the work in South and Southeast Asia.

Leading cause of accidents: Driving while tired

A 100-car naturalistic driving study conducted by the Virginia Tech Transportation Institute (VTTI) indicates that fatigue is a cause of 20 percent of crashes, rather than the 2 or 3 percent previously estimated based on surveys, simulator studies, and test tracks. Employing a data-acquisition system developed by VTTI engineers, researchers observed driver behavior prior to a crash, and visible fatigue was shown by drivers in 20 percent of all crashes and 16 percent

of all near-crashes. “Applying the findings to the population at-large, these results suggest that drivers are at a four times greater risk of a crash or near-crash if they choose to drive while fatigued,” said Tom Dingus, director of VTTI.



LOGAN WALLACE

Dr. X.J. Meng

X.J. Meng named University Distinguished Professor

Dr. X.J. Meng, a professor of molecular virology at the Virginia-Maryland College of Veterinary Medicine, has been named a University Distinguished Professor by the Virginia Tech Board of Visitors. The rank, bestowed on no more than 1 percent of the faculty at a given time, recognizes those whose scholarly achievements have attracted national and international recognition. Meng is the first professor from the veterinary college to hold the prestigious title. His long list of achievements includes the discovery of two new viruses and the invention of the first

fully licensed U.S. Department of Agriculture commercial vaccine that protects against a deadly swine disease.

Geosciences Professor Patricia Dove, also named a University Distinguished Professor, is profiled on page 12.

Researcher finds neglected disease a threat in Africa

Under a grant from the National Science Foundation, researchers working with disease ecologist Dr. Kathleen Alexander, associate professor of wildlife in the College of Natural Resources and Environment, have identified

banded mongoose as infected with *Leptospira interrogans*, the pathogen that causes leptospirosis, a significant health threat in Botswana. This two-phase disease begins with flu-like symptoms but can cause meningitis, liver damage, pulmonary hemorrhage, renal failure, and even death if untreated. Alexander, a veterinarian and researcher, is working with Botswana’s government to identify immediate research and management actions, particularly the need to alert frontline medical practitioners and public health officials that leptospirosis infections can potentially occur in humans.

Real estate degree fully approved

This fall, undergraduate students will be able to enroll in a real estate degree program now approved by the State Council of Higher Education for Virginia. The innovative degree is a partnership across six colleges: Agriculture and Life Sciences, Architecture and Urban Studies, Pamplin College of Business, Engineering, Liberal Arts and Human Sciences, and Natural Resources and Environment. The program will integrate the knowledge taught in classes across campus to create a unique degree option that fits the diverse needs of the real estate industry.



JIM STROUP

Run in Remembrance

The 2013 3.2-Mile Run in Remembrance was held on April 13. Nearly 8,000 runners and walkers participated in the event honoring the 32 people who lost their lives on April 16, 2007.



COURTESY PHOTO

A Shared Call:

Women of the VTCC

by MAJ. CARRIE COX

From the members of the first classes to permit women in the 1970s to the most-recent graduates, alumnae of the Virginia Tech Corps of Cadets (VTCC) return to campus with a desire to serve, to remember, and to share. Together with today’s female cadets, they are the Women of the VTCC.

In February, the third annual Women of the VTCC event was held. Keynote speaker Denise Greenfield (international studies ’88), a retired Marine lieutenant colonel, was the first female to hold the position of regimental commander, the highest-ranking cadet in the corps. Commissioned as an officer in the U.S. Marine Corps, she served both on active duty and then in the reserves while balancing a civilian career.

After breakfast, cadets attending the event split into career group sessions, during which the visiting alumnae shared their experiences and gave advice on military

and civilian careers and family life. A highlight for many cadets was the opportunity to personally connect with those women who paved the way for their experiences at Virginia Tech. “It really helped me to hear from women who did the same things that I am going through right now and to see them as my role models,” said sophomore meteorology major Wendy Zehner, a cadet and Naval ROTC member.

U.S. Navy Lt. Vanessa Rigoroso (international studies ’06) attended the event as a way to give back, but she also found herself benefiting from the experience. “I thought this was such a great idea in terms of bonding [with] the women of the VTCC, both past and present, and bringing about such a sense of belonging. As an alumna, I also learned a lot from the experience. As much as I thought it was going to be only a monologue, the dialogue between the [women] on the panel and the cadets both during and after the event continues to be eye-opening and refreshing.”

In addition to attending the annual breakfast, current female cadets take part in training courses, awareness programs, and networking events throughout the year. These events include a Rape Aggression Defense program led by the Virginia Tech Police Department and the Mentors in Violence Prevention programs coordinated by the Women’s Center.

The fourth annual Women of the VTCC event is set for Feb. 15, 2014, and all corps alumnae are invited to attend. A shared bond continues to bring these women together, as cadets of yesterday and today answer a common call.

Maj. Carrie Cox, U.S. Air Force Reserve, is the executive officer with the Corps of Cadets.

Those interested in the 2014 Women of the VTCC event can contact Col. Patience Larkin, U.S. Air Force (retired), the Corps of Cadets alumni director, at patience@vt.edu.

What Once Was Old

New life for a beloved tree

by JESSE STEELE

The Henderson Lawn sycamore tree had witnessed at least 140 years of Virginia Tech and Blacksburg life when the Arboretum Committee recommended in 2010 that the tree had to be removed. One of the oldest trees on campus, the sycamore was suffering from a chronic fungal disease known as anthracnose and had become a danger to nearby people and structures.

John Seiler, Alumni Distinguished Professor and the Honorable and Mrs. Shelton H. Short Jr. Professor of Forestry, and Eric Wiseman, associate professor of urban forestry and arboriculture, both in the College of Natural Resources and Environment, knew they had to act quickly. Neither were experts in the ancient practice of tree cloning known as “vegetative propagation,” but the old sycamore held enough sentimental value that the two professors decided to do their best to replicate the historic tree. They collected approximately 300 specimens from the tree before it was dismantled, and they were able to produce two clones.

In an 1872 photo of the Preston and Olin Building, the sycamore is believed to be visible.



CREDITS, FROM LEFT: HISTORICAL PHOTOGRAPH COLLECTION, UNIVERSITY LIBRARIES, VIRGINIA TECH; JOHN MCCORMICK; COURTESY PHOTO

vegetative propagation

photos by LOGAN WALLACE



COLLEGE OF NATURAL RESOURCES AND ENVIRONMENT

5

Seiler and Wiseman helped us visualize vegetative propagation.

1. Cut off a small leaf or twig. Trim the leaf so that the developing root system won't have to support as much leaf area.

2. Dip the stem in rooting powder, which uses growth hormones to convince the stem to grow roots. Unfortunately, the most effective mixtures are often closely guarded trade secrets.

3. Place the stem in soil and use a misting system to keep the leaf moist around the clock.

Only about six of the clones showed promise in the greenhouse, and only two survived to be planted on campus. In the greenhouse, a special lighting regimen tricked the trees into perceiving a perpetual summer. The clones spent less than a year in greenhouses but experienced about three years of growth.

4. As they outgrew the greenhouse, the two sycamores were moved. Wiseman displayed another tree at the Urban Horticulture Center, where one of the clones grew for a year before being planted on Henderson Lawn.

5. The Henderson Lawn clone was dedicated at an April 22 ceremony attended by President Charles W. Steger (far left), Blacksburg mayor Ron Rordam (M.A. history '79), and others.

6

The trees are copies, or identical twins, of the old sycamore. The new trees even look the same, with the same number of branches growing from the trunk at the same angles and lengths.

6. The other clone was planted near Cheatham Hall during a 2011 graduation ceremony for the College of Natural Resources and Environment, an annual tradition. Here, Seiler (left) and Wiseman check its health.

Jesse Steele was a graduate assistant with the marketing and publications unit.

New clone:
To see a video of the new clone on Henderson Lawn, visit <http://vimeo.com/64894992>.

Patricia M. Dove

Into the Academy

by SUSAN A. STEEVES

With a mischievous grin, Patricia “Trish” Dove (agronomy ’80, M.S. geological sciences ’84) reached into her pocket and pulled out a smooth brown egg. It was an ordinary egg from an ordinary hen—nothing unusual. But to Dove, a geoscientist, it was a beautiful example of her research into how animals grow and how minerals are organized into useful structures.

Geoscience isn’t just about volcanoes and mountains. It’s a combination of sciences aimed at understanding the planet. Over millions of years, organisms have developed the ability to grow minerals into a wide variety of skeletons, teeth, and sensors of all kinds. Dove’s curiosity about these processes has led her to study how these structures form and repair themselves, and her work in this area has inspired a new generation of scientists.

Her inquisitiveness has been lifelong. Growing up in her native Bedford, Va., she was a keen observer of the outdoors—collecting leaves from tree species and Indian arrowheads from the soils of her family’s farm. Throughout high school, she competed in local science fairs and presented scientific papers at the Virginia Junior Academy of Science.

During her senior year, Dove’s study of how light intensity affects plants received a state award that sent her to the international Westinghouse (now Intel) science fair in Denver. Her proposal for that work earned her a \$19 junior academy grant. “I was very proud of the support and never guessed it was only the beginning,” Dove recalled.

During the past year, Dove has received multiple honors for her research into the formation of biological minerals. In a virtual landslide of recognition, she was elected to the National Academy of Sciences (NAS), named a 2013 Virginia Scientist of the Year, and awarded the Dana Medal from the Mineralogical Society of America. Then, in June, she was named a University Distinguished Professor at Virginia Tech.

In particular, the NAS induction and distinguished professor honor have secured for Dove a place among the university’s most-lauded faculty members. Previously, only three other faculty members had been elected to the national academy while at Virginia Tech, and the academy’s National Academy of Engineering has selected 16 Tech faculty members over the past 47 years. Meanwhile, only 1 percent of the university’s total full-time faculty at a given time are recognized with the preeminent faculty rank of University Distinguished Professor.

“As an alumna who was recruited back to Virginia Tech as a faculty member 13 years ago, Dr. Patricia Dove has distinguished herself nationally and internationally while excelling in teaching and service at the university,” said Virginia Tech Senior Vice President and Provost Mark McNamee. “Her accomplishments are most deserving of our highest faculty honor, University Distinguished Professor.”

“I didn’t expect this,” Dove said of the honors. “I’ve just been doing what I do.” Her friends, family, and colleagues are not surprised, however.

Professor Alexandra Navrotsky, then a faculty member at Princeton University, met Dove while she was pursuing a Ph.D. in geochemistry there. Now a professor at the University of California, Davis, and a national academy member elected in 1993, Navrotsky said she always expected Dove to have “a very successful career. Trish was always smart, focused, energetic, and nice.”

Dove shares her success with her husband, Joe (agronomy ’80, M.S. civil engineering ’86). As undergraduates in the College of Agriculture and Life Sciences, they met while working in the State Soil Physical Characterization Laboratory run by Professor Dan Amos. Approaching the completion of their graduation requirements, Trish became interested in the geosciences, and Joe made plans to become a civil engineer. Thirty-three years later, they continue to work together, currently with a joint research project funded by the National Science Foundation: Joe, an associate professor of practice in the Virginia Tech Department of Civil and Environmental Engineering, serves as principal investigator.

A characteristic smile crossed Dove’s face when she talked about her research. Most of the projects that she and her team undertake are focused on detailed measurements of how tissue chemistry controls the placement and shapes of tiny crystals that bind together to produce a bone, tooth, or exoskeleton of a shell. For example, the scientists are working



Patricia Dove

- Named a University Distinguished Professor, 2013
- Virginia Outstanding Scientist, Office of the Governor, 2013
- Dana Medal, Mineralogical Society of America, 2013
- Elected to the National Academy of Sciences, 2012
- Named the Virginia Tech C.P. Miles Professor of Science in 2010
- Fellow, Geochemical Society and European Association of Geochemistry, 2010
- Fellow, American Geophysical Union, 2008
- More than \$6 million in research funding received from the National Science Foundation and the Department of Energy
- Papers by Dove and her research group cited more than 3,800 times in science publications



Crystal-clear: Animals grow composites of organic and crystalline materials to form hard materials, such as skeletons, teeth, and shells. The nautilus shell in her hands and the giant helmet shell on the stool contain aragonite, a calcium carbonate mineral, while skeletons, including the horse femur and our own human bones and teeth, are made of calcium phosphate. Patricia Dove is fascinated by this intersection of mineralogy and biology.

LOGAN WALLACE



COURTESY PHOTO

Geoscientist Patricia Dove's love for the natural world is evident even in her hobbies.

to establish the processes of biomineralization and biogeochemistry that control the timing and amount of mineral that forms to produce shell shapes.

The researchers also ask the reverse question: What can fossil skeletons preserved in rocks teach us about early Earth's history? "The forces that change animals over geologic time are complex, but usually are connected to shifts in environment, predators, and their ecological niche," Dove said. Fossil biominerals leave many clues about these conditions.

Recently, Dove explained some of this research to youngsters participating in Kids' Tech University in Blacksburg. Aimed at 9- to 12-year-olds, Virginia Tech's annual STEM-related program communicates the excitement of science and engineering to hundreds of kids from all over the East Coast. Using Legos and other simple models, she showed the children how crystals are assembled from atoms to make beautiful snowflakes and gemstones, then showed them that crystals are everywhere as biominerals.

While talking about her research, Dove delighted in passing around various shells to show how intricate they are with tiny compartments, interesting patterns, or mother-of-pearl on the shell's interior. "The best-known biominerals are the crystals in shells and our bones. But did you know that animals also can grow structures that filter light and food? And that bacteria can make a mineral compass? And starfish can grow sensors that detect movement and shadows?"

"The excitement is what has propelled her," said E. Michael Perdue, who was a professor at Georgia Tech when Dove applied for a job there after she had completed her doctorate at Princeton. Because the search committee didn't hire her, she accepted a National Science Foundation post-doctoral fellowship to work at Stanford University. But the faculty at Georgia Tech had been so impressed with her that when another position opened up, Perdue asked her to re-apply. "I lobbied her pretty hard," he said.

That persistence paid off; Dove stayed at Georgia Tech for seven years, first as an assistant professor and then as an associate professor.

"Trish is a wonderful mentor [to] her students; she maximizes their potential for success," said Perdue, now the director of Ball State University's Ph.D. program in environmental sciences. "She is good at choosing her graduate students, assessing their potential, and interacting with them.

"Most important is that she passes on her excitement for determining how organisms influence their biominerals—control minerals—to build a structure for the organism to live."

The next stop for the Doves was a return to Virginia Tech. Trish's goal for returning was to take her research to the next level in the university's world-class Department

of Geosciences. Over the past 12 years, she has become a full professor, been named C.P. Miles Professor of Science, developed the Biogeochemistry of Earth Processes group in the Department of Geosciences, and received many other honors.

In all, Dove has directed 15 doctoral and master's students and has advised seven postdoctoral fellows. She teaches courses in environmental geochemistry and oceanography, along with conducting research, presenting at science meetings, and writing grant proposals and research papers.

One thing that helped her advance her early research, Dove said, was her willingness to take risks. "Insights from my reading in other disciplines led me to propose some new hypotheses for how minerals interact with their environment. They were controversial, but I was convinced they were sound. At conferences, I was always pestering senior scientists with questions and ideas, and I shared data. I figured I had nothing to lose and everything to learn."

Nonetheless, this dynamic woman, raised on a central Virginia farm where her parents gave her a can-do work ethic, said it was support from others that fortified her to succeed in the competitive world of science. She credited her parents, her husband and family, and the many excellent scientists she has worked with over the years for helping her quietly climb the ladder of academic research.

"I've been fortunate to learn from many amazing people. They have been mentors and advocates," Dove said. "Both are critical to success, and I never forget the old saying, 'If I have seen farther, it is by standing on the shoulders of giants.'" □

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

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

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LOGAN WALLACE

Being bold: Blacksburg entrepreneur Mary Miller '72, '85, '96 considers a number of other regional entrepreneurs to be her heroes and says the region is poised for further expansion.

by DENISE YOUNG

Data-driven Visionary

Tucked in a quiet office complex across the road from a field of grazing cattle, the offices of Interactive Design and Development (IDD) Inc. look out onto the rolling hills of Southwest Virginia. The inspiring backdrop, along with a location just a stone's throw from the brain power of Virginia Tech, satisfies Mary Guy Miller, the company's founder and president.

"We're in a very exciting time in Blacksburg," said Miller (elementary education '72, M.I.S. information systems '85, Ph.D. curriculum and instruction '96), who runs the full-service digital agency that focuses primarily on creating complex Web interfaces and marketing strategies to promote them.

Chris Shively (aerospace engineering '93, M.S. '95), director of development for IDD Inc., elaborated on Miller's sentiment. "Blacksburg has always been such a connected community in terms of technology. There's been a lot of opportunity in that sector," he said.

Alongside the technological edge, the community's quality of life drew praise from Miller and Shively. They know what an increasing number of entrepreneurs and investors are realizing: The New River and Roanoke valleys are ideally suited for both startups and established businesses considering relocation.

A former Extension specialist turned entrepreneur, Miller is well-positioned for her work—using ever-evolving technologies to share information with the people who need it most. "I wanted technology to be the great leveler," said Miller. "I wanted to

Life well lived:

"If I happen to say, 'All my life I've wanted to,' I need to find a way to do it. What are you waiting for? Bloom. Grow. Explore. Don't be bound down," said Miller. Hear her describe her philosophy in our podcast, available at www.vtmag.vt.edu.

close the gap between the haves and the have-nots."

IDD Inc.'s clients have included Dole Food Co., the Library of Congress, the American Federation of Teachers, the Defense Intelligence Agency, and a host of small businesses and startups. Stretching the company's reach to international proportions, IDD recently announced its work with a German hotel software company, Hetras.

Miller, who got her start with laser discs in the early '90s, has steered the company through a sea of advances and innovations in technology. The Internet wasn't yet a cultural mainstay when the company was founded in 1991. IDD has moved from laser discs to CD-ROMs to the Web, from analog to digital. Its products include Intelligen, a content and Web-experience management system; digital marketing and media services; and touch-screen kiosks. The projects that the team undertakes are often data-driven in nature.

Despite the industry's changes, the company's commitment to quality has remained constant. "My goal is always to have [clients] say they got more than they paid for. We want to provide a great value. We want to give you our best advice. We want to help you succeed in the long run. ... Our client's success is really our success."

In the workplace, Miller genuinely wants each member of her team to put his or her best foot forward. "For me, [my dream] is creating an environment for people to create and contribute. ... I say to people, 'When you come to work [for me], you're vested. Speak your mind from day one.'" Miller believes that providing a good working environment for employees is an essential ingredient in a successful small business.

Part of cultivating a community of startups and innovation is the role of mentors.

Miller, who has herself benefited from such guidance, takes mentoring seriously. "I've always had great mentors—and that's why I have a hard time saying no to people who call me up for guidance." Miller quoted from a plaque she once saw on a client's wall: "We have all been warmed by fires we did not build, and we've all drunk from wells we did not dig."

Aside from her role at IDD Inc., Miller is also active in the community, including serving as former president of the Roanoke Blacksburg Technology Council (RBTC). "Sometimes, it's time to dig a well. My work with RBTC is part of that." For her contributions to the industry, the university, and the community, Miller was chosen to receive the 2013 College of Engineering Distinguished Alumna Award, and she spoke at the College of Engineering's spring 2013 commencement.

Jay Foster (electrical engineering '87, M.B.A. '97), president of Roanoke, Va.-based IT firm SoftSolutions Inc., first met Miller through the RBTC 12 years ago. "Mary is one of these people who is willing to share and help other people grow their business. Mary is one of the best examples of why [the region is] such a great place to be," he said.

"We are a technology community encircling a university community, and it's just the best of both worlds," Miller said. "I love this place. I know it's going to grow." □

About the series

In this installment of our series on the region's tech sector, we continue to explore the vibrant drivers of the area's economic growth.



LOGAN WALLACE

The Grove

When a house becomes a home

by CLARA B. COX M.A. '84

Long past are the days when sheep grazed on the lawn and ducks flew through the hallways of The Grove, Virginia Tech's presidential residence. Now the stately two-story brick house, which was completed in 1902, is more likely to host elegant dinners for visiting dignitaries, receptions honoring outstanding faculty and students, or luncheons recognizing regional economic leaders—although the occasional bird does make its way inside.

Seasons of elegance: The Grove, Virginia Tech's presidential residence, was completed in 1902.



JOHN MCCORMICK



JIM STROUP



JOHN MCCORMICK



John M. McBryde

The university celebrates such a gem among its buildings because of the efforts of John M. McBryde, its president from 1891 to 1907, who persuaded the Board of Visitors in the late 1800s to build the 15,147-square-foot mansion. By that time, the forward-thinking administrator had already crafted innovative plans and proceeded to change the certificate-granting, industrial-type school known as Virginia Agricultural and Mechanical College into a degree-granting college, spurring the Virginia General Assembly to add “and Polytechnic Institute” to the name in 1896. McBryde and his son, also named John, developed trappings to reflect the college’s new identity: a seal, a motto, and a coat of arms. The Grove became one of those trappings, an elegant home for the president that spoke volumes about the college’s emerging status in higher education.

McBryde was the first president given nearly free rein in planning the physical footprint of Virginia Polytechnic Institute (VPI). During his tenure, VPI’s first native-limestone-clad, neo-Gothic-style building, known as the Chapel, was constructed on the site where Newman Library stands today. However, it was one of McBryde’s successors, Joseph D. Eggleston Jr., the president from 1913 to 1919, who fully embraced the neo-Gothic style of architecture that made the visual statement that VPI was a real college. Then again, Eggleston also holds the distinction of using sheep to “mow” the lawn of the presidential residence.

The Chapel, destroyed by fire in 1953, and The Grove are among the most im-

pressive of the 67 buildings constructed during McBryde’s presidency. The Grove survived an attempt to convert it into a residence hall and nearly two decades as an office building, a period when it slid into disrepair. Fortunately, a Virginia Tech first lady sparked the renovation that returned The Grove to its original use as the home of presidents.

The Grove through the years

In 1899, McBryde had a presidential residence in mind when he suggested that the Board of Visitors convert the house where he was living—Tech’s first presidents’ home, now part of Henderson Hall—into an infirmary and build a new home for presidents. The board members concurred, resolving that the house “be of brick and in such plans as the president and executive committee may adopt.” They selected the Southern Colonial Revival style of architecture for the house, whose dominant portico, according to Charles E. Brownell, et al., in “The Making of Virginia Architecture,” “signaled the fact that a person of importance dwelled there.”

Following McBryde’s retirement in 1907, four presidents and a non-president lived in the residence, originally named the “President’s Home in the Grove,” before a major renovation commenced. One of those four, Julian A. Burruss, president from 1919 to 1945, suggested that the house be converted into a dormitory for women. Although the Board of Visitors approved a motion to undertake the conversion and to erect a new executive residence, nothing came of the board’s action, perhaps because the first female students, who matriculated that same month—September 1921—either lived with their families in Blacksburg or had found housing in private homes.

This old house:
See more historical photos of The Grove online at www.vtmag.vt.edu.

When the last of those four presidents, John R. Hutcheson, became too ill in 1947 to continue in office, the Board of Visitors named him chancellor, a first for the institution. In another unprecedented move, the board allowed Hutcheson to continue occupying the presidential home as his residence. He lived there for two more years, while the new president, Walter S. Newman, who had begun working at VPI in 1946, remained in housing assigned to him on Faculty Row, a street of on-campus residences provided for faculty and administrators.

The first major renovation commenced in 1949 after Hutcheson had vacated the house. It was completed in 1951, adding two more years to Newman’s residency in the Holden House on Faculty Row. His wife, LizOtey (the spelling used by her family), played a major role in the renovation and said later that the additions of bathrooms and closets were her primary achievements in remodeling the house.

Newman, perhaps more than his predecessors, was aware that entertaining could benefit the college, telling the

“The administration has recognized the need for the college to participate to a greater extent in providing entertainment for visiting dignitaries and organizations.”

—Walter S. Newman, president from 1947 to 1962



COURTESY OF ALICE DEKKER



LEFT AND RIGHT: SPECIAL COLLECTIONS, UNIVERSITY LIBRARIES, VIRGINIA TECH

Board of Visitors, “The administration has recognized the need for the college to participate to a greater extent in providing entertainment for visiting dignitaries and organizations.” The board authorized an annual expenditure of \$1,000 for official college entertaining, which was usually held in the presidential residence.

Following Newman’s retirement, his successor, T. Marshall Hahn Jr., lived in the president’s home for nine years before building and moving into a house off campus. When Hahn left the university in 1974 to accept a position with Georgia-Pacific, the company’s foundation purchased the house and donated it to the Virginia Tech Foundation. Hahn’s successor, William E. Lavery, lived in the Hahn House throughout his 1975-87 administration.

After Hahn had moved off campus, the former presidential residence began a marked decline. Remodeled in 1972 to serve as an office building, the once glorious venue where presidents had feted governors, actors, and other dignitaries acquired the inauspicious name “Building 274.” In 1983, when its first office occupants had vacated the building, an administrator inspecting the space was met by a duck flying down the stairway, through the reception hall, and into a room that had originally served as the

front parlor. Work began shortly thereafter to prepare the building for other offices.

Meanwhile, the ever-increasing entertaining began creating problems for Peggy Lavery, wife of President Lavery, and she successfully recommended renovating the house and returning it to its original purpose. Her husband resigned before the renovation was completed, however, making Lavery the only president since 1902 not to live in The Grove.

The \$1.2 million renovation updated and restored the presidential residence, which was officially named “The Grove” during the work. The first resident after the completion of the renovation was James D. McComas, president from 1988 to 1994. Promising that The Grove would be used as the “front door” to the university, McComas and his wife, Adele, opened the mansion to numerous guests, entertaining more than 10,000 people there during the first year alone.

Two more presidents have lived in The Grove since McComas, and a major mechanical renovation and extensive maintenance work were completed before the current president, Charles W. Steger, and his wife, Janet, moved in. Like their predecessors, the Stegers entertain a wide variety of guests.

Clockwise from lower left: Virginia Tech first lady LizOtey Newman, who played a role in the first major renovation; The Grove shortly after its construction in 1902; the residence as an office building; and the entryway in 2008.



JIM STROUP

Thanks to the cordiality of all first families who have lived in the presidential residence, The Grove has served Virginia Tech well, establishing a gracious tradition of hospitality and shining proudly as the face of the university. □

Clara B. Cox (M.A. English '84) is the former director of publications in University Relations. A complete history of The Grove—along with recipes served in the elegant home—is available in the award-winning book “The Grove: Recipes and History of Virginia Tech’s Presidential Residence,” edited by Cox. Book sales support an endowment for the university’s Employees’ Spouse and Dependent Scholarship Program.



by EMILY GOODRICH

In eight states nationwide, alumni don't have to settle on a bumper sticker to proclaim their Hokie Spirit.

Virginia Tech license plates are available in Delaware, Maryland, North Carolina, Pennsylvania, Tennessee, Texas, Virginia, and West Virginia, where local Alumni Association chapters often use the specialty plates to raise money for scholarships for current students from their areas.

More Tech plates are sold in Virginia than the next seven college plates combined.

The Texas plates are the newest of the bunch; the program launched in March. Skip Lemanski (geophysics '79) was quick to sign up. "I was anxious to really show some Hokie pride. I knew I wanted something to reflect my training and profession," Lemanski said. "The challenge was having only six characters available on the plate. Enter my wife, Barbara Vanderhoof Lemanski (marketing '79), the creative one. She ... [morphed] 'geophysics' into 'GEOFZ6,' [to go] along with a Hokie maroon car."

The Texas-based Virginia Tech alumni chapters earn 10 percent from each plate sale, and the chapters share the revenue equally and offer scholarship support to Virginia Tech students from their areas. "This is a great sustainable fundraiser for us," said Christine Bryan (computer science '87), the San Antonio chapter's programs and events chair who organized the program. "One of the projects that this money goes to is a Texas Hokie Scholarship for Texas students who go to Virginia Tech."

The Texas chapters provided the state with a deposit, which will be refunded when 500 plate applications are received. Bryan and others worked to design the plates, with one challenge unique to Texas: "We went through six iterations of the plate to make sure it was identifiable as a Virginia Tech plate because the University of Texas has an orange similar to ours, and Texas A&M has the maroon," Bryan said.

In states where the plates are available, the Virginia Tech Alumni Association assists the chapters by publicizing the license

plates statewide. "Our alumni proudly display their pride for Virginia Tech with their license plates and other window decals and magnets," said Vice President for Alumni Relations Tom Tillar (biological sciences '69, M.A. student personnel services '73, Ph.D. student personnel services '78). "These are great opportunities to display Hokie pride and help our students."

Not surprisingly, Hokie plates in the Commonwealth of Virginia have been around the longest. In 1990, sales of the relatively new plates were slow—until new legislation out of Richmond allowed colleges to receive revenue from the plates. Larry Hincker (M.B.A. '94), associate vice president for University Relations at Virginia Tech, hired Matthew Winston Jr. (marketing management '90) as a public relations specialist, and a portion of Winston's job was dedicated to marketing the program to alumni in the commonwealth.

"It was an awareness campaign," said Winston, now the president of the Alumni Association Board of Directors. "We used what would have then been traditional outlets for advertising. We put ads in the Collegiate Times, the alumni magazine, and the faculty and staff newspaper. The individual colleges also let us place ads in their individual alumni magazines."

Once word got out, sales began to pick up. "[The plates] really weren't hard to sell because we were promoting school spirit and promoting the opportunity to raise money for student scholarships, and that really tugged on the heart strings of Hokies," Winston said.

The university receives \$15 of the \$25 fee for each Virginia plate. Plate by plate, those

TOP 10

college plates in Virginia

18,072



#1
7,788



#2
5,735



#3
4,549

14,889

#4
2,793
U.Va. athletic

#5
2,377
UNC Tar Heels

#6
2,258
Penn State

#7
1,958
U.Va. rotunda

#8
1,926
JMU athletic

#9
1,793
U.Va. sabre

#10
1,784
College of William and Mary

* Active registered plates as of June 30, 2012, according to the Virginia Department of Motor Vehicles (DMV). Plate images courtesy of the DMV.

For a list of alumni chapter contact information around the world, see page 46.

“ [The plates] really weren’t hard to sell because we were promoting school spirit and promoting the opportunity to raise money for student scholarships, and that really tugged on the heart strings of Hokies.”

—Matthew Winston Jr. '90, who marketed the program for University Relations

scholarship dollars add up. In fiscal year 2012 alone, the state deposited \$269,880 in a general scholarship fund for Virginia Tech, according to the Virginia Department of Motor Vehicles (DMV). Since fiscal year 2000, \$2.63 million in revenue has been disbursed to Tech.

In particular, license plate revenue benefits students through the University Honors program and the Presidential Campus Enrichment Grant, said Stephanie Clements, associate director for processing in the Financial Aid office. (The grant seeks to broaden multicultural experiences on campus by attracting students from diverse backgrounds.)

More than scholarship funding is at stake: bragging rights. As of June 30, 2012, the three varieties of Virginia Tech plates numbered 18,072, claiming the top three spots in a list of top 10 collegiate plates in Virginia—and totaling more than the next seven schools in the list combined, according to the DMV.

The process for launching a plate program differs by state, as does the design process and financing. Chapters have flexibility in how they use the plates to raise money. In Texas, Pennsylvania, and Delaware,

the chapters held auctions. Pennsylvania auctioned off the first 100 plates, while Delaware held three auctions because of the premium placed on plates with low numbers, such as “VT001.”

In Pennsylvania, the alumni chapters earmark \$21 from each plate sale for a scholarship fund. For some time, however, the program was on hold. “The initial program had never taken off, because you needed to pay a huge up front fee and have 300 applications, which, though we have a lot of alumni in Pennsylvania, [proved] difficult,” said Brendan Sherry (management science and information technology '00), who coordinates the program for Pennsylvania chapters, working with Pittsburgh alumni chapter treasurer Molly Jelovich (industrial and systems engineering '95), who sends proceeds to the university for scholarship disbursement. “In 2007, Pennsylvania changed that rule; you now had to pay a smaller upfront fee, plus a small fee for each plate individually, with no minimum number of applications,” said Sherry.

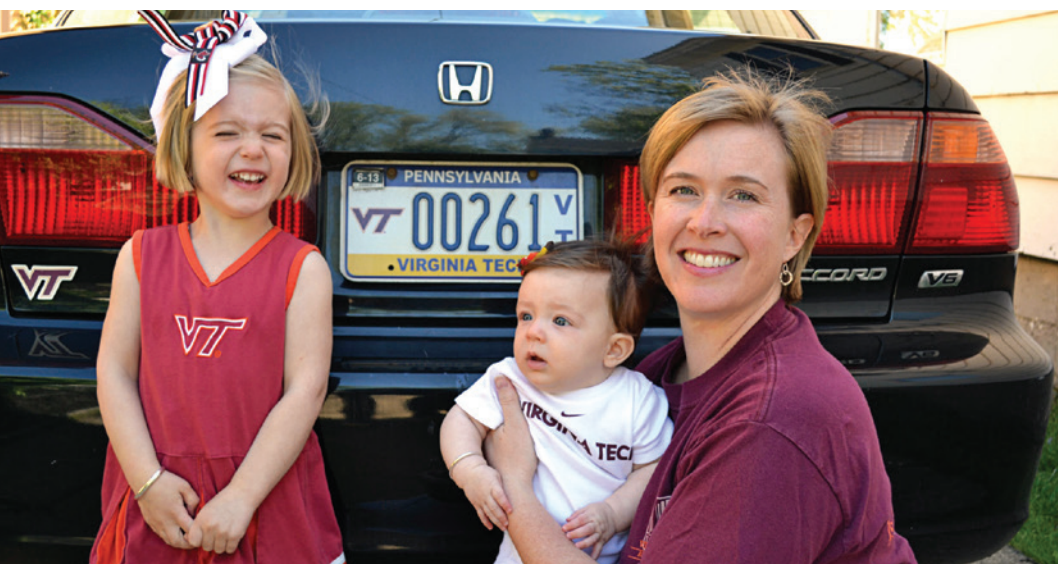
In Delaware, the First State alumni chapter selected the university’s shield as imagery for its plates, said Howard Sholl (political science '66, M.A. history '69), who processes applications from alumni. About 100 Hokie plates roam the roads of Delaware, and each sale raises \$40 for the scholarship fund. □

Emily Goodrich, a rising junior English major, was an intern with Virginia Tech Magazine.



Skip Lemanski graduated in 1979 with an academic degree in—you guessed it—geophysics.

COURTESY PHOTO



Stephanie Keppich '95 with 4-year-old Laura and 4-month-old Mila.

COURTESY PHOTO

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Presidential Aspirations

by MEGHAN MCDONALD '13
photo by LOGAN WALLACE

Four years ago, Reco Charity (finance '13) arrived in Blacksburg not knowing a single person.

Now the new graduate—armed with a finance degree and a minor in political science, leadership experience in multiple organizations, and strong relationships with peers and professors—has been admitted to Howard University School of Law.

A native of Richmond, Va., Charity (pictured above) is the first person in his family to graduate from college. Despite his family's financial difficulties, his mother had encouraged him to prepare for college. As a recipient of financial aid from the university's Presidential Scholarship Initiative (PSI), Charity received a full ride to Virginia Tech.

"The PSI took so much stress off my shoulders," said Charity. "It gave me the opportunity to explore a different field, and I really have to recognize that it's the reason I can go to law school. If I had a lot of debt, it would be impossible."

PSI was created in 2008 to reward and assist academically talented high school students from low-income Virginia families, with preference given to first-generation college

attendees. Scholarships from the initiative are awarded each year to as many as 50 students who, like Charity, have demonstrated persistence and a commitment to academic excellence despite adverse life situations.

"I knew he would accomplish a lot since he was 6 years old and he told me he was going to be the first black president," said Charity's mother, Sabrina. "I told him he'd be the best president, and since then he's always tried to be the best at everything."

Along with taking demanding classes, Charity learned how to manage his time and lead his peers. He credits his experi-

Fueled by philanthropy

Paula Robichaud (health and physical education '77), who endowed a generous scholarship fund in support of the Presidential Scholarship Initiative (PSI), is very proud of and excited for all the students from the program who graduated this year. She believes their success will help future students. "When I get letters from the recipients, the vast majority say that the fact that someone who doesn't know them supports their education makes them want to turn around and do the same thing for others," said Robichaud. "That response is a win-win and one of several reasons I supported the PSI in the first place. I love the ripple effect, and it's very rewarding to be a part of these young people's academic successes."

ences in Alpha Phi Alpha fraternity and the National Pan-Hellenic Council with allowing him to meet a diverse range of people. He was vice president of both organizations during his senior year.

"The best learning experience is one where there is a compilation of people from different backgrounds and cultures," Charity said. "If we all know the same things and experience all the same things in life, how could we possibly learn from one another?"

Charity said he learned not only from his peers and professors, but also learned about himself. One of his philosophies is to never give up—an attitude that was put to the test when he wasn't admitted to a law school that he had repeatedly visited to sit in on classes and network with administrators. "Everyone fails at some point," Charity said. "It's the courage to keep going after you fail that really distinguishes people."

Along with being self-motivated, Charity is also inspired by his younger sister, Destinee. Charity said one reason he's never considered giving up on his educational objectives is because he wants to set an example for her.

Destinee will start high school this fall, and her older brother has already helped her map out an academic experience that will prepare her for college. "All the things I've learned since I've been in college, I take back to her," Charity said. "She knows so much more than I did at her age."

The most important lesson he believes he has shared with his sister is his definition of success. "I told her that it's not about the monetary things, like building a big house or buying a nice car," he said. "Your success is what you do to help those who come behind you."

Scholarship success by the numbers

With an eye on student retention, the Presidential Scholarship Initiative provides academic as well as financial support to students.

Of the initial group of 50 who enrolled in August 2009, five graduated early, 23 were due to graduate in either May or December 2013, and 10 were on pace to graduate in May or December 2014, according to Virginia Tech Associate Vice President for Student Success Karen Eley Sanders.

By comparison, as of 2010, fewer than one-third of students at public four-year universities in the U.S. had graduated within four years, according to statistics compiled by the Chronicle of Higher Education.

Charity hopes to excel in constitutional law and to one day run a business. If his Virginia Tech experience is any indication, his success will continue. □

Meghan McDonald (communication '13) was an intern with Development Communications.

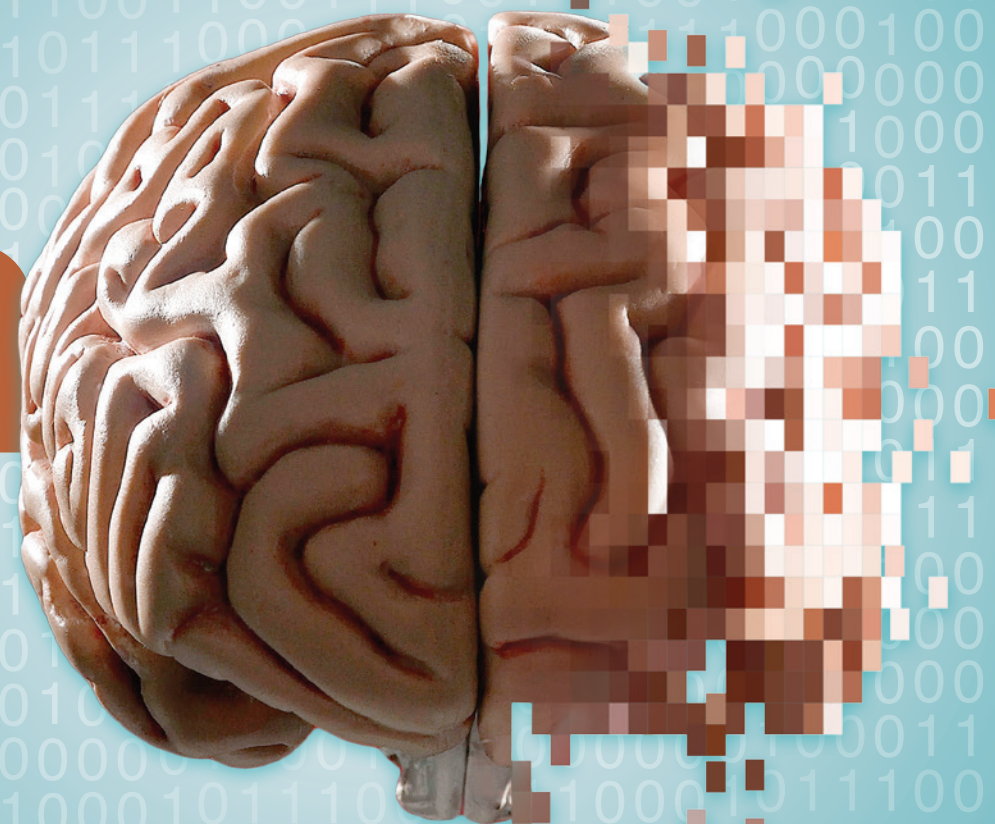
Senior portrait:

Prior to spring commencement, the VT News team profiled several graduating students, including Reco Charity. To learn what's on the horizon for some of the university's newest alumni, visit www.vtmag.vt.edu.

Quantifying the adaptable, sociable, physical brain

by CATHERINE DOSS

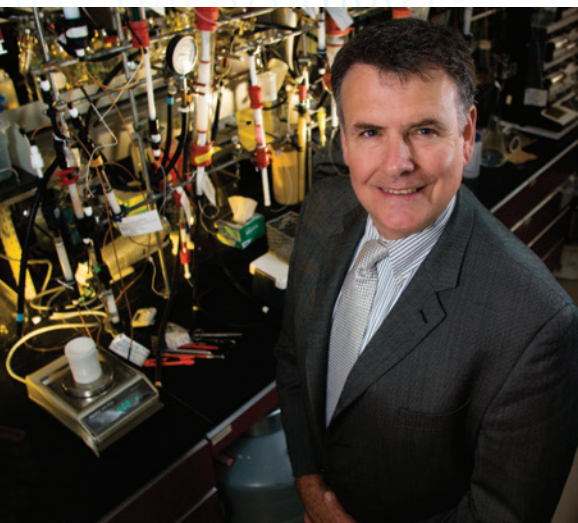
Able to change and adapt without compromising its functional integrity, Silly Putty epitomizes the concept of plasticity. Replace the popular toy with 100,000 miles of blood vessels, millions of years of evolution, and billions of neurons and even more synapses, and the result is one of the most complicated and malleable arrangements of matter known to humanity: the brain.



"I am a computational neuroscientist.

I turn feelings into numbers."

- Read Montague, director of the Human Neuroimaging Lab



JOHN MCCORMICK

In the know: Michael Friedlander, executive director of the Virginia Tech Carilion Research Institute, studies the physical changes that occur at the synaptic connections between individual brain cells during learning.

“Brain plasticity” is a buzz phrase that conjures up excitement, particularly among baby boomers who are nearing a stage in their lives when brain function has already begun to decline. After all, who doesn’t want to believe the brain can learn anything at any age?

“The brain has a profound ability to adapt to challenges over a life span,” said Michael Friedlander, executive director of the Virginia Tech Carilion Research Institute, which is comprised of more than 20 world-class research teams that address some of the major health issues in

“

All brain disorders combined—including stroke, Alzheimer’s disease, traumatic brain injury, depression, addiction, post-traumatic stress disorder, Parkinson’s disease, and developmental and intellectual disabilities such as autism spectrum disorders—have a greater economic impact on the country and the world than any other type of disorder, and that includes cancers and heart disease.”

—Michael Friedlander

contemporary medicine. “We can say that the brain is plastic at all stages of life, but we must remember that, as we get older, its capacity for plasticity changes and in some ways declines.”

Friedlander said those challenges occur more frequently than people might realize.

“All brain disorders combined—including stroke, Alzheimer’s disease, traumatic brain injury, depression, addiction, post-traumatic stress disorder, Parkinson’s disease, and developmental and intellectual disabilities such as autism spectrum disorders—have a greater economic impact on the country and the world than any other type of disorder, and that includes cancers and heart disease,” he said.

Mind-boggling research

Now in its third year, the research institute creates a bridge between basic science research at Virginia Tech and clinical

expertise at Carilion Clinic and increases translational research opportunities for both partners in a unique public-private endeavor that also includes the Virginia Tech Carilion School of Medicine.

Many of the current research teams at the institute are dedicated to the brain: its influence on all aspects of our bodies and our behavior, its adaptive capabilities, and, in certain instances, its potential for training and retraining.

In high-powered labs at the institute, researchers examine components of the human brain that can easily stretch the limit of one’s imagination. For instance, Stephen LaConte, an assistant professor at the institute and at the Virginia Tech-Wake Forest School of Biomedical Engineering and Sciences, helps people who have a mild traumatic brain injury such as a concussion rebalance their default mode network, a network of regions in the brain that seems to be connected to non-taxing mental tasks

such as daydreaming. The default mode is believed to become disrupted when the brain is injured, causing delays in recovery.

LaConte observes the participants’ brain activity using functional magnetic resonance imaging (fMRI), a noninvasive imaging method that measures brain activity. A computer screen is projected so that participants can see it while they are in the machine. On cue, the participants move an arrow on the screen simply by thinking about the task.

Unbelievable? Paranormal? It may seem so at first glance, but LaConte explained.

“We use an innovation for fMRI that we developed and call ‘temporally adaptive brain states,’” he said. “Using three-dimensional movies of the brain, we extract in real time what the brain is doing mid-thought. This is the opposite of the usual goal of neuroimaging, which is to map what’s going on in the brain while the person is doing something.”

Think of this process as biofeedback on steroids. Such feedback might help LaConte’s study participants rebalance their default mode network for better brain health and function.

“Many things happening in our brains are not accessible to us consciously,” LaConte said. “With fMRI, we can potentially see internal processes and give people conscious access to things that they are either minimally aware of or completely unaware of.”

Not surprisingly, in light of its cutting-edge methods, LaConte’s research has many potential applications, such as the rehabilitation of people with neurological and psychiatric diseases.



Brain biofeedback: Using functional magnetic resonance imaging, Assistant Professor Stephen LaConte tracks how study participants can manipulate an arrow on a computer screen—simply by thinking about it.

Brooks King-Casas, an assistant professor at the institute and in the College of Science, studies brain function in the context of social interaction, examining how the brain makes decisions. By studying such factors as the regions of the brain and chemical and neurobiological events, he can provide computational models of various brain processes, including trust and anger, and how psychiatric illness can impact these processes.

In a study funded by the U.S. Department of Veterans Affairs, King-Casas is examining post-traumatic stress disorder and mild traumatic brain injury among returning veterans.

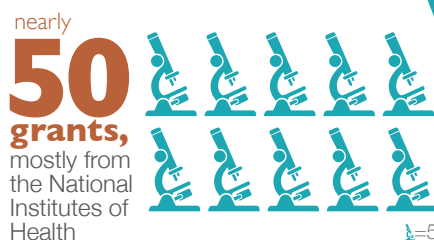
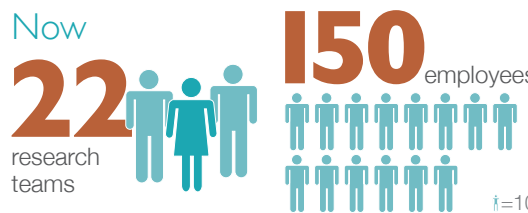
“People who have experienced major stressors often have difficulties with anger and aggression and regulating their emotions in certain social situations,” he said.

“We are interested in how stressful experiences affect how people make decisions in both social and nonsocial contexts.”

Brain training

“The human brain is born very underdeveloped compared to the brains of some other mammals. It continues to develop for many years after birth. It is exquisitely sensitive to environmental inputs during the explosive period of synapsis formation and refinement that occurs during the early years,” Friedlander said. “Millions of synapses between neurons and nerve cells are selectively eliminated, strengthened, refined, and expanded. The brain is very busy during development, and thus the mechanisms of plasticity that undergird learning are the subject of intense scientific scrutiny.”

Virginia Tech Carilion Research Institute by the numbers





Thinking caps: As part of Brain Awareness Week activities in March, Sharon Ramey, a distinguished research scholar at the institute, delivered an interactive session to second-graders in Salem, Va.

Research in Friedlander's lab is directed at revealing the physical changes that occur at the synaptic connections between individual brain cells during learning. The research compares these processes in normal developing brains with those in injured brains.

"Synapses are the fundamental computational elements of the living brain," said Friedlander. "They are the sites where learning occurs and memories are initially formed. Many brain disorders are the result

of impaired synaptic function, often leading to intellectual disabilities, aberrant behavior, or poor memory. The synapse is where the action is for healthy brains and disordered brains alike. They provide an incredible opportunity to understand how memories are formed and to apply this knowledge to help overcome some of the most devastating neurological and psychiatric disorders."

Other institute scientists are dedicated to the fascinating aspects of brain development. What are the biological underpinnings of empathy? Are there noninvasive ways of performing deep brain stimulation for patients with such ailments as Parkinson's disease and depression?

Sharon Ramey, a distinguished research scholar at the institute and a research professor of psychology in the College of Science, and her colleagues at the Neuromotor Research Clinic—which is co-directed by Stephanie DeLuca—are studying highly intensive forms of therapy to promote motor function in children with cerebral palsy and other brain injuries.

Using a method of therapy previously used on adult stroke patients, the team restrains the child's "better" arm with a lightweight flexible cast, prompting the child to start using the "weaker" arm and hand for everyday activities. During the time-intensive therapy sessions, the child learns new skills and movement patterns.

"What has been very exciting about this is that we see rapid and large changes in almost all the children," Ramey said. "We want to find out to what extent this therapy leads to a reorganization of the brain—in terms of voluntary

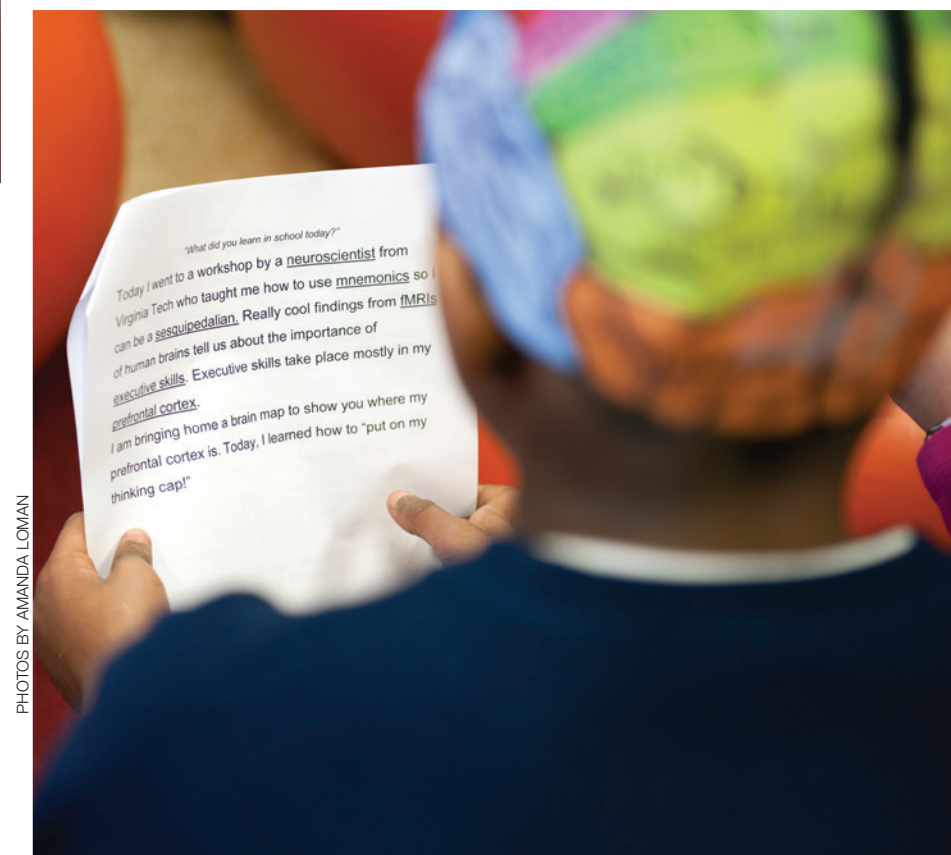
“What has been very exciting about this is that we see rapid and large changes in almost all the children,” Ramey said. “We want to find out to what extent this therapy leads to a reorganization of the brain—in terms of voluntary motor control, sensory perception, and even cognition and motor therapy.”

—Sharon Ramey, distinguished research scholar

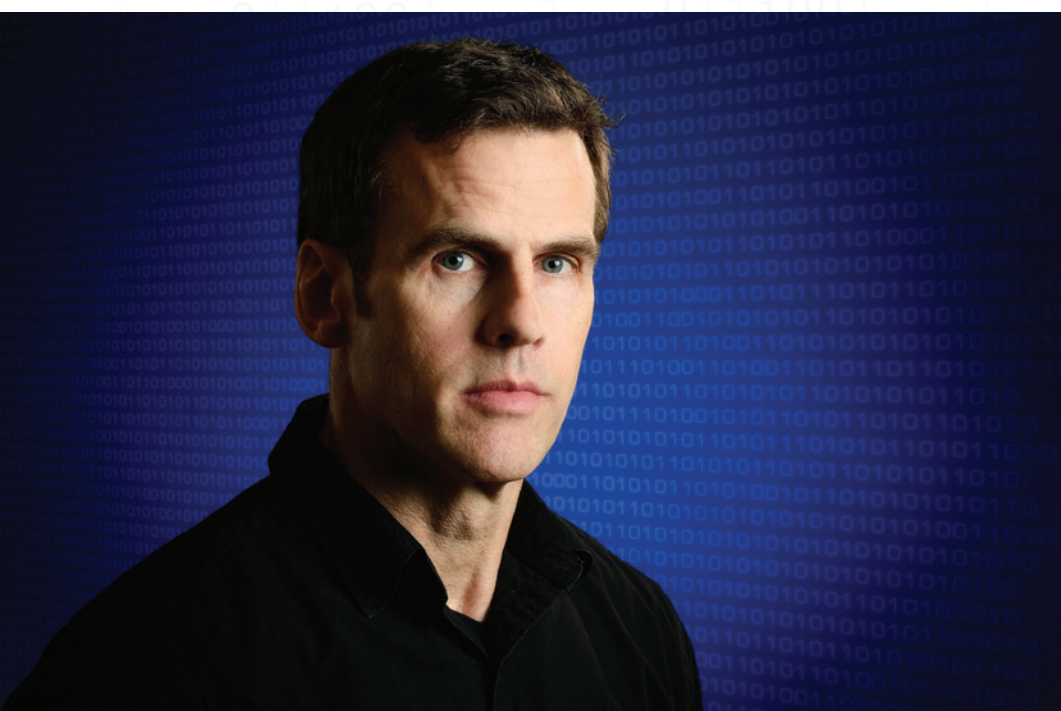
Social-interaction experiments at the institute are quantifying emotions. Examples of the findings are remarkable:

- Most people are so attuned to the nuances of social interaction that they can detect clues to mental illness while playing a strategy game with someone they have never met.
- Computation and feelings are coupled in our brains, and this connection is dynamic: When one changes, so does the other. This finding may open the door to computational models of emotional processing.
- Suspicion resides in two regions of our brains, with our baseline level of distrust distinct from our inborn lie detector.
- Group settings can diminish expressions of intelligence, especially among women.

For more on these stories, visit www.vtmag.vt.edu.



PHOTOS BY AMANDA LOMAN



JIM STROUP

The binary brain: Read Montague, director of the Human Neuroimaging Lab, is changing how mental health is assessed.

interactions. “Social cognition is equally if not more important than parts of our regular cognition, such as intelligence and memory, because it involves basic things that are important to survival,” Montague said. “The brain had to develop social cognition early on in its evolutionary history.”

Montague uses various approaches to brain imaging to study both healthy and diseased brains and how people interact socially.

“Throughout the course of evolution, humans had to be able to deal with other people in a variety of ways,” Montague said. “We had to be able to anticipate and model their likely behaviors because they were often the most dangerous elements in our environment.”

One of Montague’s research areas utilizes social-exchange experiments that typically feature games in which participants engage in some sort of economic exchange. The games measure participants’ levels of risk-taking, trust, and rewards.

As a particular game is played, each participant’s brain is monitored by an fMRI for physical signals that are mediating the process. Montague and his research team then use these computational models of healthy brains in social interaction to help understand how people diagnosed with neuropsychiatric conditions—such as attention-deficit hyperactivity disorder, autism spectrum disorder, borderline personality disorder, and major depression—interact during similar social-interaction games. Ultimately, the knowledge gained from this research will be used in the diagnosis and treatment of these and other disorders.

widely available to all children who could benefit.”

Cognition by the numbers

Until now, there hasn’t been a way to measure a person’s mental health in a computational manner, such as the way lipids and cholesterol are measured for heart disease, and blood sugars are measured for diabetes.

Read Montague, a professor at the institute and in the Department of Physics in the College of Science, is changing how mental health is physically assessed. “I am a computational neuroscientist,” he said. “I turn feelings into numbers.”

As director of the Human Neuroimaging Lab, Montague leads a group of social-cognition researchers at the institute who study people’s awareness of social

motor control, sensory perception, and even cognition and motor therapy.”

With funding from the National Institutes of Health over the next five years, Ramey’s team, along with colleagues at the University of Virginia and The Ohio State University, will treat and study 135 children, ages of 2 to 8, using four versions of the therapy. The study, the first of its kind to follow participants for one year after treatment, aims to find the most efficient and effective treatment for different types of children.

“We can’t think of a better place to do this study,” Ramey said. “Having the Virginia Tech Carilion Research Institute with its Human Neuroimaging Laboratory here in Roanoke, combined with a regional clinical population, make this ideal. Our dream is that soon, this form of therapy will become

The big picture

Montague also directs the Roanoke Brain Study, a project aimed at understanding decision-making through the life span and its relationship to brain development, function, and disease. Designed similarly to the Framingham Heart Study, a highly regarded longitudinal study that has significantly informed how doctors and researchers view the heart, the brain study will use functional imaging, genetic analysis, and behavior to uncover key aspects of human brain. The study will be the world’s largest lifespan study of the brain, drawing in thousands of participants from the Roanoke area and several sites in London.

“We know that higher cognitive function has been under selection pressures for a long time,” Montague said. “Functions such as memory and the ability to anticipate the future, to regulate one’s emotional states, and to make references to things are all part of the cognitive behaviors that distinguish humans from other creatures on the planet that share mammalian brains with us.”

Until now, cognition related to decision-making has not been studied on the scale that Montague and his team hope to realize. “By doing such a large-scale study, we ought to be able to start making statements about a connection between people’s cognitive function and their genetic makeup,” Montague said.

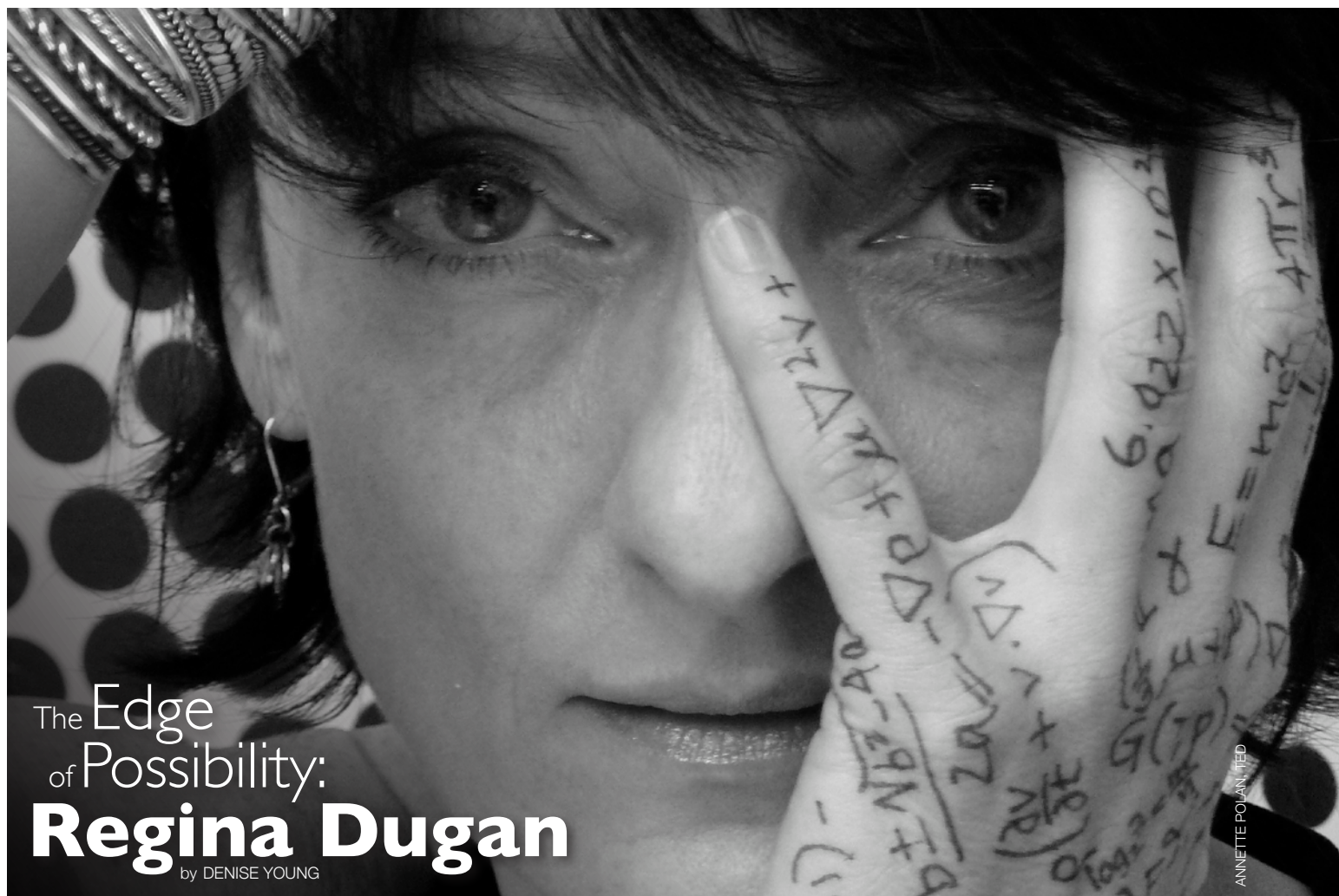
Montague said he hopes the study will serve as an open source of data for brain researchers around the world. Those interested in volunteering for the study may visit <http://research.vtc.vt.edu/volunteer>. □

Catherine Doss is a communications specialist with University Relations.

Brain-related research across campus

Studies that touch on the fascinating complexities of the brain and human behavior are being conducted in almost every college at Virginia Tech. Here are just a few examples:

- **Dr. John Rossmeisl**, associate professor of small animal clinical sciences in the Virginia-Maryland Regional College of Veterinary Medicine, has partnered with Wake Forest University to develop improved therapeutic approaches for managing gliomas, a serious form of brain tumor found in both animals and humans. He and his colleagues have identified two novel receptors that are present only in the cancerous cells. Rossmeisl is working with **Rafael Davalos**, associate professor of biomedical engineering, on the use of electrical fields to increase the permeability of cell membranes to deliver cancer-fighting medication without harming healthy brain tissue.
- **Stefan Duma**, professor of biomedical engineering and head of the Virginia Tech-Wake Forest School of Biomedical Engineering and Sciences, hopes his rating system for football helmets will reduce the risk of concussions. Duma’s rating scorecard is based on an evaluation methodology that incorporates eight years of data and analysis, quantifying head impact exposure and the risk of head injury.
- **Deborah Good**, associate professor of human nutrition, foods, and exercise in the College of Agriculture and Life Sciences, studies how body weight is controlled through physical activity. The Nhlh2 gene is one of only a handful of genes that has been specifically shown to regulate either the ability or the motivation for physical activity. Good’s lab uses mouse models and human genetic information to identify the mechanisms and the possible solutions for physical inactivity.
- **Mark Cline**, assistant professor of animal and poultry sciences in the College of Agriculture and Life Sciences, studies neurotransmitters that are associated with the perception of hunger and satiety in chickens. From an agricultural standpoint, the results of this research may contribute to increased production efficiencies in chickens and may also eventually lead to a pharmacological cure for anorexia and obesity in a variety of species, including humans. Cline’s research team was the first to report the appetite-associated role of six neurotransmitters in any species, and the team has contributed to the finding of other mechanisms of appetite adjustment.
- **Rajesh Bagchi**, associate professor of marketing in the Pamplin College of Business, studies various aspects of cognition and consumer behavior, such as how background colors, specifically red and blue, can influence a consumer’s willingness to pay. Bagchi found that at auctions and similar situations in which consumers compete with one other to buy a scarce or a limited edition product, willingness to pay was strengthened through exposure to red rather than blue backgrounds. In contrast, in situations that allowed negotiations, willingness to pay was weakened by red backgrounds compared to blue. These findings have implications for online retailers and for those who design stores.



“We think someone else, someone smarter than us, someone more capable, someone with more resources will solve that problem. But there isn't anyone else,” alumna Regina Dugan advised the world in her 2012 TED talk. Showcasing a list of projects—from a hypersonic Mach-20 glider to a hummingbird drone—that skirted the edges of possibility, Dugan demonstrated how scientists and engineers make the leap from impossible to improbable to inevitable.

Whether it's from her time leading the Defense Advanced Research Projects Agency (DARPA)—an agency known for paradigm-altering breakthroughs such as GPS and the Internet—or from her current role with Motorola Mobility, Dugan (mechanical engineering '84, M.S. '85) knows a thing or two about pushing the limits of what's possible. In fact, she's made a career out of it.

“The future is made by people who believe in something and then make it so,” said Dugan of her work and the people she leads.

'A celebrated impatience'

Dugan calls DARPA, a Department of Defense agency responsible for developing new technologies for military use, “the coolest agency you've never heard of.” Long before most homes had a computer, the agency was experimenting with a system intended for military communications—what we now call the Internet. It's just one of a very long list of world-changing innovations to the agency's credit. As Dugan puts it, “You might not know DARPA, but your life knows DARPA.”

Dugan, who once served as a program manager with the agency, was DARPA director from 2009 to 2012—a standard tenure for the position. The short timeframe is meant to create a sense of momentum. “You don't go to DARPA to build a career. You go to serve your country; you go to get something done,” said Dugan, the agency's first female director and the 19th overall. “It creates this celebrated impatience. It makes [us] push hard. Speed is part of innovation. It keeps our processes light. New ideas are fragile and fleeting, and you have to move fast in order to capture them.”

More than the creative process drives DARPA researchers. Their work has a very real urgency: to secure the country and to save the lives of our men and women in combat. “If you can save one life there, it really matters,” said Dugan, who earned a Ph.D. from the California Institute of Technology.

Sanjay Raman, currently Virginia Tech's associate vice president for the National Capital Region and an associate professor of electrical and computer engineering, worked as a program manager at DARPA under Dugan. “The word that comes to my mind is passionate, and just really, really committed to the warfighter [a soldier in combat] and committed to trying to get the best technologies as fast as we can,” said Raman of Dugan's leadership.

Raman said Dugan's creativity was always grounded in reality. For example, under her leadership the agency established the DARPA Forward Cell in Afghanistan, DARPA's first full-time forward presence in a combat zone since Vietnam, according to the agency's website. In fact, Dugan visited Afghanistan five times while serving as director. “One of her passions was making sure these kind of pie-in-the-sky ideas were

really grounded in real-world applications that were relevant to the warfighter,” Raman said.

He also credits Dugan with DARPA's pivot toward emphasizing and investing in cybersecurity. “[That] is a very important legacy ... and as we move out of Afghanistan, that's probably the more-lasting legacy,” Raman said.

'Spirited, renegade pirates'

After leaving DARPA, Dugan moved onto another organization highly regarded for its visionary climate: Google-owned Motorola Mobility. The move isn't Dugan's first venture into the private sector. Prior to DARPA, she co-founded a niche investment firm and also served in executive roles in several commercial companies.

“Spirited, renegade pirates” is the term Dugan fondly uses to describe fellow members of Motorola Mobility's Advanced Technology and Projects (ATAP) group, of which she is now senior vice president. The team's mission is to quickly



“The future is made by people who believe in something and then make it so.”

—Regina Dugan

move innovative new technologies from ideas into products. Speaking at the Wall Street Journal's D11 conference in May, Dugan introduced the idea of using electronic tattoos—temporary, wearable technologies—in place of traditional passwords. The concept is just one of the wild, futuristic-sounding technologies being explored at ATAP.

What may sound out of this world to many is grounded in reality for scientists and engineers like Dugan. “Boring is the enemy of innovation,” she said. “I believe that we crave good work, good work with meaning, where we can contribute something to the best of our abilities, something that matters.” For Dugan, her



Air time: Regina Dugan (second from right) on a trip to Afghanistan

core mission is to offer the people around her the opportunity to change the way we interact with each other and technology.

Don Leo, the former vice president and executive director of Virginia Tech's National Capital Region operations who was recently named dean of the University of Georgia's College of Engineering, once served as a project manager at DARPA and interacted with Dugan while she led a technology company in the Washington, D.C., area. He called her a "natural leader" who has an "understanding of the technology pipeline [and] what investments you need to make in ideas to mature that technology rapidly so it [has] an impact in the marketplace." Both qualities, Leo said, will ensure her success leading ATAP.

Though Dugan can't speak about most of the specific projects she oversees at Motorola because they aren't yet public knowledge—not unlike the secrecy that cloaks many DARPA projects—the projects she leads may one day change the world.



Regina Dugan on a recent service trip to Peru

'Science is art'

Dugan believes that only by taking risks do we create life-changing technologies, and she's a big believer in overcoming the fear of failure. "Failure is part of creating new and amazing things. We cannot both fear failure and make amazing things."

At the end of the day, whether she's parsing data from a test flight of a Mach-20 glider or reading a poem by a favorite poet, Dugan finds that actively engaging in the creative process is essential to her life. She insists that scientists and engineers are a lot like artists, which is perhaps why so much of her spare time is occupied by the arts.

"I have a strong appreciation for art in general. In fact, I find that I crave those



Failure is part of creating new and amazing things. We cannot both fear failure and make amazing things."

—Regina Dugan

things in my life—music and art and poetry and dance. Science is art. It is the process of creating something that never existed before. ... It makes us ask new questions about ourselves, others; about ethics, the future." □



PHOTOS COURTESY OF REGINA DUGAN



2013 Reunions

- Sept. 7 - Western Carolina Young Alumni (1998-2013) Class of '93 - 20th Anniversary
- Sept. 21 - Marshall Class of '88 - 25th Anniversary
- Oct. 5 - North Carolina (traditional parade) Class of '63 - 50th Anniversary
- Oct. 12 - Pittsburgh Class of '83 - 30th Anniversary
- Oct. 26 - Duke Class of '73 - 40th Anniversary Class of '78 - 35th Anniversary
- Nov. 16 - Maryland Class of '68 - 45th Anniversary

2013 Homecomings

- Sept. 7 - Western Carolina College of Liberal Arts and Human Sciences
Special Event: Alumni Chapter Officers Forum
- Sept. 21 - Marshall College of Agriculture and Life Sciences Corps of Cadets
- Oct. 5 - North Carolina (traditional parade) College of Engineering
Special Event: Highty-Tighties
Student Affairs Special Event: Recreational Sports
- Oct. 12 - Pittsburgh College of Science College of Natural Resources and Environment
- Oct. 26 - Duke Graduate Degree Alumni College of Architecture and Urban Studies
Special Event: Marching Virginians
- Nov. 16 - Maryland College of Veterinary Medicine Pamplin College of Business

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Book Notes

BOOKS BY ALUMNI

nonfiction

Andrew Gilbert (geology '92), "Courageous Pedagogy: Enacting Critical Science Education," science education, critical theory, Information Age Publishing.

Randy L. Joyner (certificate of graduate studies '88, Ed.D. vocational-technical education '89), et al., "Writing the Winning Thesis or Dissertation: A Step-By-Step Guide," third edition, education, graduates studies, Corwin.

Eric Melniczek (M.Ed. educational leadership and policy studies '02), "Transition to the Real World," transitioning to the workforce, CreateSpace.

fiction

Gregg Clemmer (biology '72), "A Turn for Home," historical fiction, novel, Hearthside Publishing Company.

Jim Crowgey (electrical engineering '60), "One More Chance," contemporary, novel, Trafford Publishing.

Cliff "C.R." Sturgill (management '92), "Dreams from the Heart," relationships,

short stories, CreateSpace.

children's

Johnathan Edmonds (computer engineering '00), "Army Service Pals Search for Sergeant Mike," "Navy Service Pals Travel Around the World," "Air Force Service Pals in the Amazing Airshow," and "Marine Service Pals in the Honor Relay," picture books about military vehicles, Mascot Books.

poetry

Ross Orr Jr. (biology '49), et al., "Whispers of Age" and "Whispers at Twilight," poetry collections, self-published.

BOOKS BY FACULTY/STAFF

Bernard F. Dukore, University Distinguished Professor Emeritus, Department of Theatre and Cinema, "Bernard Shaw: Slaves of Duty and Tricks of the Governing Class," literary criticism, ELT Press.

Joan Gordon, retired associate director of program development, Division of Continuing Education, "Gra Im Thu! I Love You!," historical fiction, Lulu Press.

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, Virginia Tech, 101 Draper Rd. NW, Blacksburg, VA 24061. You can also email your name, the name of the publisher, the genre, and a brief description of the book to booknotes@vt.edu. We must receive the book within one year of its publication date. Photos by Logan Wallace.

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featured author

Early in her career, **Elise Foster** (industrial and systems engineering '99, M.S. '00) was content as an engineer managing high-profile global projects to solve complicated problems. It wasn't long, though, before she realized she wanted to solve different types of problems. Today, Foster is a leadership coach who enables business executives to recognize—and then realize—their potential.

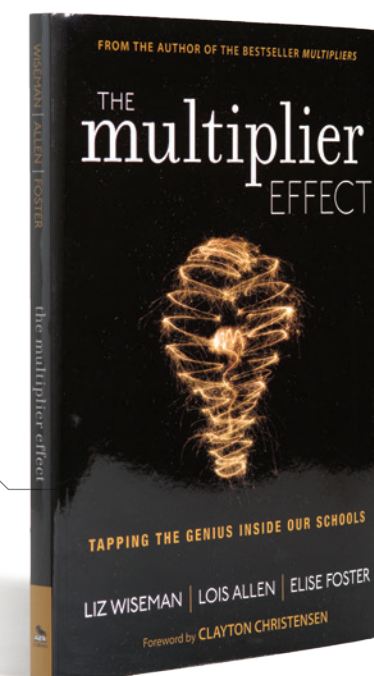
Foster is the co-author of "The Multiplier Effect: Tapping the Genius Inside Our Schools," published by Corwin. The excerpt below is reprinted with the author's permission:

Becoming a Multiplier often starts with becoming less of a Diminisher. And this often means doing less: less talking, less responding, less convincing, and less rescuing of others who need to struggle and learn for themselves. By doing less, we can become more of a Multiplier.

Doing less to achieve more is one of many examples where counter-intuition is more instructive than intuition. When no one else is speaking up, the compelling inclination is to jump in and fill the void. We become a greater Multiplier when we learn to hold back and allow silence to draw in others. When we feel the need to be big, let it be a signal that we need to be small and dispense our views in small but intense doses. And when our instincts tell us to help, we might need to help less.

Becoming a Multiplier requires us to understand how our most noble intentions can have a diminishing effect, sometimes deeply so. Reinhold Niebuhr, the American theologian, said, "All human sin seems so much worse in its consequences than in its intentions." Likewise, while leaders view their own leadership through the lens of their good intentions, their staff perceive that same behavior only by its consequences—the consequences on them and the students they serve.

By learning to do less and challenge more, we can transform from being the Accidental Diminisher to the Intentional Multiplier.



Enriching your lives through distance learning

Distance learning is older than Virginia Tech.

In 1728, Caleb Phillips, of Boston, Mass., advertised teaching shorthand through weekly mailed lessons. This concept evolved from purely correspondence courses to radio and television, delivering educational content for credit.

Then came the Internet, offering both synchronous learning and asynchronous learning. In synchronous learning, all participants are “present” at the same time—in Web conferencing, video conferencing, and educational television. In asynchronous learning, participants access course materials on their own schedules, much like with old correspondence courses. Now, PowerPoint, message board forums, email, and video and audio materials are the norm.

Distance learning allows for a further reach than our physical infrastructure can afford. Faculty and students around the world may interact and collaborate with one another. Physical distance, work obligations, participation in professional events, or even illness do not restrict access to classes. The 800-plus distance-learning courses offered by Virginia Tech are weighted equally with those offered face-to-face. Online courses adhere to the same governance process as traditional courses, and credentials for faculty are equivalent to those teaching traditional courses. Indeed, faculty often do both.

Some feel that teaching online is inherently less effective than face-to-face, but Peter Macedo (physics '97, M.A. curriculum, design, and instruction '98), director of Virginia Tech's Institute for Distance and Distributed Learning (IDDL), emphasized that “research in the field of teaching and learning reflects time and time again that the quality of the learning experience has little to do with the delivery mode. What does have an effect is the appropriateness of the method chosen and the aptitude of the teacher in delivering the instruction.”

The university offers hundreds of distance-learning courses at the undergraduate level although no online undergraduate degrees are offered or planned. Several master's degrees are offered online, plus post-graduate certificate programs that are increasingly attractive to our alumni. Some of the numerous offerings are illustrated to the right.

On page 44, Macedo expands the discussion of distance learning and the IDDL program. As his unit's distance-learning strategic plan states, “Today, Virginia Tech stands at the distinct vantage point to expand the educational opportunities and experiences for its students, creating global access via distance learning.” Distance learning is an exciting trend in higher education, and for Hokie alumni, the availability of courses enhances the quality of a Virginia Tech degree.



Tom Tillar '69

Vice President for Alumni Relations



Liberal arts certificate



Information technology



Natural resources



Nonprofit management certificate



Nuclear engineering



Political science



Agricultural and life sciences



Aerospace engineering



Health information technology



eLearning leadership



Instructional technology



Ocean engineering

contents

Distance learning	PAGE 44
Chapter contacts	PAGE 46
Travel tours	PAGE 48
Board elections	PAGE 49
Hokie Gold	PAGE 49
Columbarium	PAGE 49

contributors

Tom Tillar '69	Vice President for Alumni Relations
Dave Hunt	Communications Director
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AMANDA LOWMAN

Additional information:

- VTOnline: www.vto.vt.edu
- Distance-learning strategic plan: www.distancelearning.vt.edu
- Institute for Distance and Distributed Learning: www.iddl.vt.edu

Championing access: Peter Macedo '97, '98, director of the Institute for Distance and Distributed Learning

Distance learning enhances experience for students and alumni

by PETER MACEDO '97, M.A. '98

As a Virginia Tech graduate, I want all students to be able to participate in quality educational experiences. Distance learning allows for a broader curriculum and options for instructional delivery, often bringing students together from distant places on the globe. Most importantly, distance learning provides students with increased opportunities to enroll in classes that will move them forward in their academic and professional careers.

Virginia Tech offers distance-learning courses at both the undergraduate and the graduate levels, including required courses and free electives during the fall, spring, and summer semesters. Online course credits are transferable throughout the institution and beyond. Undergraduate enrollments have grown annually, rising to 18,442 in the 2011-12 academic year—equivalent to more than 600 30-seat classrooms.

While there is no undergraduate degree that can be earned completely through distance learning, including online courses as a part of an academic career can help students graduate early, double major and/or minor, fulfill major and minor requirements, and stay on track each semester with course scheduling options. Virginia Tech's 560 graduate distance-learning course offerings include more than 30 master's and certificate programs in a variety of fields.

Through the efforts of Virginia Tech's Institute for Distance and Distributed Learning (IDDL), two professional development certificates have been established to prepare faculty to teach at a distance. In this model, Tier 1 instructors, typically new to the online environment, receive tool-based professional development, and Tier 2 participants examine strategies, pedagogy, and best practices. Faculty who have participated have consistently earned higher ratings in student perception assessments than those who have not. To date, 300 individuals have participated in the certificate programs.

Peter Macedo (physics '97, M.A. curriculum, design, and instruction '98) is the director of Virginia Tech's Institute for Distance and Distributed Learning.

For its excellence in developing distance-learning programs, Virginia Tech will receive the National University Technology Network (NUTN) 2013 Institutional Achievement Award at a NUTN conference in September.

The panel of reviewers called Tech's submission the "gold standard" of nominations, citing the university's organizational commitment to distance learning and its methods for ensuring effectiveness and quality, efforts to advance the field, encouragement of faculty members, and creation of the Institute for Distance and Distributed Learning as a resource.



"I've greatly benefited from Virginia Tech's distance-learning opportunities. The classes have made personal, accessible, and challenging contributions to my educational experience. Without the flexibility of distance learning, I would not have been able to graduate in my desired timeframe or participate in other activities inside and outside the Virginia Tech community."

—Brittany Keyes (interdisciplinary studies '10)

Some examples of online courses include

- * English 1654: Introduction to Science Fiction, an award-winning class recognized for its innovative use of collaborative wiki assignments.
- * Science and Technology Studies 2054: Engineering Cultures, created by University Distinguished Professor Gary Downey.
- * Biomedical Sciences and Pathobiology 2135: Human Anatomy and Physiology, the first Virginia Tech online class to integrate a hands-on lab component.

In addition, some graduate degrees are offered entirely online. These include

- * The master of arts in political science, credited with being the university's first online master's program, launched in 1997.
- * The master of arts in instructional technologies, considered one of the finest instructional programs in the country. Students range from K-12 educators to professionals in business, government, and nonprofits.
- * Master of information technology, recognized in 2012 for the second year as one of the nation's best distance-learning programs by U.S. News & World Report.



"I feel that I am continuing to grow both professionally and personally within the risk-management field by utilizing the concepts and ideas learned from the health product risk-management online program. Overall, it has given me the confidence needed to challenge risk-management processes within my organization and make enhancements to those processes to better align with global regulatory risk-management expectations."

—Karla Dickerson (health product risk management '12)



"Teaching online was a good learning experience for both me and my students. We were able to provide the access to classes that allowed students to stay on track to graduate in four years while still being able to hold down a summer job, if necessary."

—Associate Professor Quinton Nottingham (statistics '89, M.S. '91, Ph.D. '95)



JIM STROUP

Virtual teacher: Quinton Nottingham '89, '91, '95, associate professor of business information technology

VIRGINIA TECH ALUMNI CHAPTER CONTACTS

Get involved with the Alumni Association and its 130-plus chapters and clubs around the world. Find a chapter or club near you, and make a difference with the Hokie Nation. For more information or to volunteer to lead a chapter, contact Ginny Ritenour, ginnyrit@vt.edu.

IN-STATE: **Alleghany Highlands** - Mary K. All, sandkall@aol.com **Amherst-Nelson** - *Volunteer needed* **Augusta** - *Volunteer needed* **Black Diamond** - *Volunteer needed* **Blue Ridge** - *Volunteer needed* **Central Virginia** - Duke Grant, grantle@vt.edu **Charlottesville** - Kristin White, charlottesvillehokies@gmail.com **Commonwealth** - Andrew Moody, andrewmoody@gmail.com **Danville** - Corrie Teague, cteaguevt@gmail.com **Eastern Shore** - Worth Saunders, aes3ptocs@yahoo.com **Emporia/Roanoke Rapids** - David Webb, dwebb@parkeroilcompany.com **Fauquier** - *Volunteer needed* **Franklin County/Smith Mountain Lake** - Tom Curling, fcsmlhokies@yahoo.com **Fredericksburg Area** - Laura Noel, libraryldy76@aol.com **Gloucester/Mathews** - Louis Serio, seriol@ballardseriocpa.hrcocmail.com **Halifax** - Carlyle R. Wimbish Jr., Mrtech61@gmail.com **Loudoun County** - Keith Seekford, loudounhokie@hotmail.com **Massanutten** - *Volunteer needed* **National Capital Region** - Brent Blevins, blevins@ncrhokies.org **New River Valley** - Cyndy Graham, cyndy@vt.edu **Patrick Henry** - Matthew Jones, mattjonesinsurance@gmail.com **Peanut** - Alan Duke, alan.duke@ferguson.com **Peninsula** - Stephen Stewart, sestewart@gmail.com **Piedmont (Culpeper Area)** - *Volunteer needed* **Prince William** - Krysta Ardigo, vtkrys04@comcast.net **Richmond** - Chris Vidler, contactus@richmondhokies.org **Roanoke Valley** - Amanda Newkirk, roanokehokies@gmail.com **Rockbridge** - Lynn Jones, lingon@embarqmail.com **Shenandoah** - Richard Ruckman, richard.ruckman@ruckmanengineering.com **Southside** - Frank R. Turner, frank_r_turner@hotmail.com **Southwest Virginia** - Jacob Colley, jacobcolley@gmail.com **Tideneck** - Jim Cox, tappikie@gmail.com **Tidewater** - Chris Jennings, Vthokie96@cox.net **Tri-Cities** - F.W. Abernathy Jr., wanddean@aol.com **Williamsburg** - Jason Purse, jasonpurse@yahoo.com **Wythe-Bland** - *Volunteer needed*

OUT-OF-STATE: **ALABAMA:** **Birmingham** - Jeff Graveline, jgraveli@uab.edu **Central Alabama** - Rod Turochy, rturochy@vt.edu **North Alabama** - Mark Zesinger, mark.r.zesinger@saic.com **ALASKA:** **Anchor-age** - Katie Walker, alaskahokie@gmail.com **Fairbanks** - James K. Brooks, jkbrosks85@gmail.com **ARIZONA:** **Flagstaff** - Erin Bell, ebell@vt.edu **Phoenix** - *Volunteer needed*

Tucson - Diane Manzini, dianemarievt@yahoo.com **CALIFORNIA:** **Los Angeles** - Caroline Harrison Kohler, carolinedhkohler@gmail.com **Orange County** - Larry Morgan, lwmorgan03@yahoo.com **Sacramento** - Evan Serge, ejserge@gmail.com **San Diego** - Rachael Spruill, rachael-spruill@gmail.com **San Francisco Bay Area** - Erin Hash, ehash@vt.edu **COLORADO:** **Aspen** - Jeffrey Orsulak, jorsulak@yahoo.com **Colorado Springs** - Russell Bolish, rjbolish@gmail.com **Denver** - Debbie Flippo, debbief-lippo@yahoo.com **CONNECTICUT:** Steffanie Elkins, steffanie.elkins@gmail.com **DELAWARE:** **First State** - Meghan Gloyd, meghan.gloyd@gmail.com **FLORIDA:** **Central Florida** - Adam Ressa, cfl.vt.alumni@gmail.com **Gainesville** - James Tyger, gainesvillehokies@gmail.com **Jacksonville** - Christin Koubek, christin.koubek@gmail.com **Northwest Florida/Mobile, Ala.** - Paul Semmes, paul@fla-build.com **South Florida** - Scott Fairbrother, sfairbroth@aol.com **Southwest Florida** - Duncan Ennis, duncan.ennis@gmail.com **Tallahassee** - Jim Pennington, kquail@gmail.com **Tampa Bay** - Amy Zielenbach, amyziel@verizon.net **The Villages** - Edward Wyks, ewyks@thevillages.net **GEORGIA:** **Athens** - Matthew Winston, ugahokie@excite.com **Atlanta** - Amy Wilson, amyc.wilson@gmail.com **Savannah** - *Volunteer needed* **HAWAII:** Emily (Brown) Tikhonenkova, brownemilyj@msn.com **IDAHO:** Brad England, bengland@usbr.gov **ILLINOIS:** **Chicago** - Sean Piplico, sean.piplico@gmail.com **INDIANA:** **Indianapolis** - *Volunteer needed* **IOWA:** Mark Cline, mcline1@vt.edu **KANSAS:** **Wichita** - Erin Wilcke Nott, erinnot08@gmail.com **KEN-TUCKY:** **Kentuckiana** - Ruth Ann Vaughan, susie@smashingcake.com **Lexington** - Sara Reilly, sara1612@vt.edu **Paducah** - Ryan Eifert, ryan.eifert@att.net **LOUISIANA:** **New Orleans/Baton Rouge** - Brian St. George, bstg@vt.edu **MARYLAND:** **Annapolis** - Becky Oaksmith, boaksmith@comcast.net **Baltimore** - Timothy Fouts, timfouts@gmail.com **Southern Maryland** - Stefanie Bartley, stbartley@vt.edu **West-ern Maryland** - Jennifer Griesbach, jennifer@vt.edu **MASSACHUSETTS:** **New England** - Bill Saam, bsaam5@gmail.com **MICHIGAN:** **Southeastern Michigan** - Abigail Lynn Prout, vtalum2002@att.net **MINNESOTA:** Mark Gingrich, gingrich@vt.edu **MISSOURI:** **Kansas City** - Dennis R. O'Roark, denny.o@sbcglobal.net

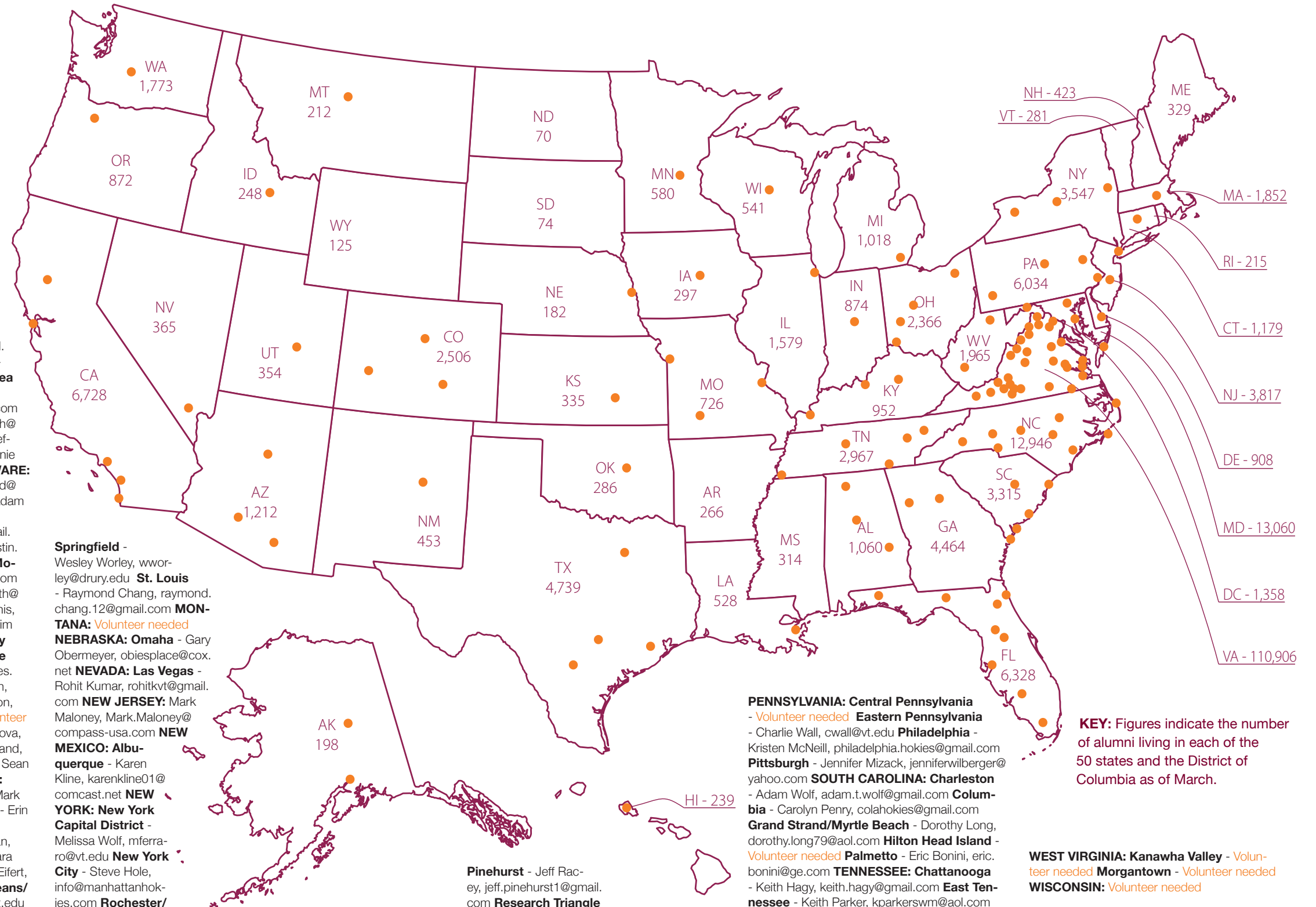
Springfield - Wesley Worley, wworley@drury.edu **St. Louis** - Raymond Chang, raymond.chang.12@gmail.com **MON-TANA:** *Volunteer needed* **NEBRASKA:** **Omaha** - Gary Obermeyer, obiesplace@cox.net **NEVADA:** **Las Vegas** - Rohit Kumar, rohitkvt@gmail.com **NEW JERSEY:** Mark Maloney, Mark.Maloney@compass-usa.com **NEW MEXICO:** **Albu-querque** - Karen Kline, karenkline01@comcast.net **NEW YORK:** **New York Capital District** - Melissa Wolf, mferraro@vt.edu **New York City** - Steve Hole, info@manhattanhokies.com **Rochester/Buffalo** - Erin Smith, ewsmith17@yahoo.com **Syracuse** - Lynette Wright, vtlynn@msn.com **NORTH CAROLINA:** **Charlotte** - Matthew Evans, evansm05@vt.edu **Coastal Carolina** - Joe Rumsey, joe@wilmingtonreal.com **Crystal Coast** - Kristine Obusek, kobusek@vt.edu **Greenville** - *Volunteer needed* **Hickory** - Marshall Hiatt, nhiatt@charter.net **Nags Head** - Don Davis, donandcaroldavis@charter.net **N.C. Triad** - Jim Goff, jgoff717@triad.rr.com

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WEST VIRGINIA: **Kanawha Valley** - *Volun-teeer needed* **Morgantown** - *Volunteer needed* **WISCONSIN:** *Volunteer needed*

INTERNATIONAL: **Australia:** Cathlin Norris, cathlinell@aol.com **China (Beijing):** Abigail Whalen, abigailwhalen@gmail.com **Egypt:** Mohamed Ibrahim Saleh, msaleh@vt.edu **Hong Kong:** Jesse Ho, jesse_ho@hotmail.com **Malaysia:** Edy Wan, [wanedy@mas.po.my](mailto:waneddy@mas.po.my) **Panama:** Anabel Tatis, tatisana@pan.ops-oms.org **Paris:** Wilfried Duchez, wilfried-duchez@netcourrier.com **Philippines:** Cora Villareal, cdvenetgazer@com.ph **United Kingdom:** Sunil Vaswani, Sunil.r.vaswani@gmail.com



2013-14 travel tours

Provence

2013 Black Sea Serenade
Go Next, Oceania Cruises' Nautica
Sept. 15-28 | from \$4,999* (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 | from \$594*

2014 Pearls of Southeast Asia
AHI, MV Aegean Odyssey
Jan. 16-Feb. 3 | from \$3,995*

Asian Wonders
Go Next, Oceania Cruises' Nautica
Feb. 4-22 | from \$6,299* (air included)

Splendors Down Under
Go Next
Feb. 21-March 11 | from \$6,499* (air included)

Alumni Campus Abroad: Peru, featuring Machu Picchu
AHI
March 13-30 | \$3,095*

Tahitian Jewels
Go Next
March 26-April 5 | from \$3,299* (air included)

Historic Reflections
Go Next, Oceania Cruises' Riviera
April 20-May 1 | from \$3,499* (air included)

Alumni Campus Abroad: Normandy, 70th Anniversary of D-Day
AHI
April 22-30 | \$2,995* per person

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

Virginia Tech Grad and Young Alumni Trip
AESU
May 27-June 14 | \$3,675*

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

Discover Wales and Yorkshire
AHI
May 31-June 11 | \$2,499*

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

Alpine Lakes and Scenic Trains
Collette
June 13-23 | \$2,849*

Provence: International Lifestyles Explorations
AHI
July 12-Aug. 3 | \$3,390*

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

Canadian Rockies Family Discovery
Collette
July 20-27 | \$2,099* (adult), \$1,099* (child)

The Wild West and Yellowstone Family Adventure
Collette
Aug. 2-8 | \$1,599* (adult), \$1,099* (child)

Cruise the Waterways of Russia
AHI
Aug. 7-20 | from \$3,895*

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

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

Ireland: Kilkenny, Killarney, Dublin
Go Next
Sept. 19-27 | from \$2,499*

Accent on the Riviervas
Go Next, Oceania Cruises' Marina
Oct. 3-11 | \$2,499* (air included)

Treasures of Southern Africa
AHI
Oct. 8-22 | \$7,320*

Cruise the Panama Canal
AHI, Crystal Cruises
Nov. 19-30 | from \$3,290* (air included)

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

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

Alumni board elects officers and members

At its April meeting, the Alumni Association Board of Directors elected Matthew M. Winston Jr. (marketing '90) president and A. Carole Pratt (biological sciences '72) vice president for one-year terms that begin in July. Winston resides in Athens, Ga., and serves as assistant to the president of the University of Georgia. Pratt, a retired dentist, lives in Dublin, Va. Also elected to the board's executive committee were Kendley J. Davenport (public affairs, management '84), Lisa Carter Ellison (finance '86), and Gregory D. Merritt (marketing '93).

Board members elected by the association's full membership were William M. Furrer (English '91), Travis E. Hardy (geography '01), Mark S. Lawrence (management '80), Melissa Byrne Nelson (finance '92), Gregory J. Sagstetter (philosophy, political science '07), Judy McIntire Springer (international studies, communication '95) and Kai Zuehlke (engineering science and mechanics '05). Incumbents elected to a second term were Lisa Carter Ellison, A. Jerome Fowlkes (finance '88), Kathleen Kyger Frazier (agricultural and applied economics, political science '04), W. Park Lemmond Jr. (business administration

'54), Brian C. Montgomery (industrial and systems engineering '03), and James P. O'Connell (biochemistry '97). Their terms also begin in July.

The fall Chapter Officers Forum and Alumni Association annual meeting will be held Sept. 6 in the Holtzman Alumni Center.



Matthew M. Winston Jr. '90 and A. Carole Pratt '72



Hokie Gold passed from generation to generation

Jess Fowler (general science '64) and other members of the Class of 1964 M Company of the Corps of Cadets, along with the Alumni Association, have launched the Hokie Gold Legacy program to pass on Hokie Spirit—and gold—to new generations through the Virginia Tech class ring. The program enables alumni or families of alumni to donate class rings, which are then melted down to create "Hokie Gold" that is forged into the class rings of future classes.

The first gold was used this past spring in the Class of 2014 rings. Questions about the program can be directed to 540-231-6285 or fleets@vt.edu. Learn more at www.alumni.vt.edu/hokiegold.

Virginia Tech's columbarium

Located on a grassy knoll in view of the Duck Pond, Virginia Tech's columbarium contains niches that may be purchased for individual or dual interments. Each niche is covered with a maroon granite face, on which names will be engraved and filled with gold lettering. While the columbarium is designed to accommodate expansion, more than half of the current 60 niches have been reserved. For more information, contact Josh Burnheimer at 540-231-6285 or ffburnie@vt.edu.



MICHAEL KIERNAN

www.alumni.vt.edu/travel

*For more information, visit www.alumni.vt.edu/travel, contact alumnitravel@vt.edu, or call 540-231-6285. Dates and prices are subject to change. Pricing is based per person on double occupancy without air, except as noted. Free air is based from North American gateway cities. The Alumni Association encourages all alumni to consider purchasing travel insurance. Learn more at www.alumni.vt.edu/travel/insurance.

Say hello to the future.



Stephanie Wiltman has had a desire to work in the medical field since she tore her anterior cruciate ligament in high school. After receiving the Partricia C. Perna Scholarship through the University Honors program at Virginia Tech, she was able to spend a summer exploring and researching quality-of-life issues associated with health care treatment and equipment.

Stephanie is one of the many students who have been able to set their career paths off in promising directions with help from scholarships. To learn more about the positive impact that philanthropy makes on Virginia Tech and those it serves, or to make your gift, visit www.givingto.vt.edu today.

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



Patrick D. O'Boyle (CSES '09), Belle Plaine, Minn., a son, Tucker, 1/20/12.

SULZIE ZIEMKE

'35 🍌 **Julian A. Lindsey** (BAD), Winston-Salem, N.C., 2/15/13.

'37 🍌 **H.P. Jennings** (AGED, AGED '69), Jonesboro, Ark., 12/28/12.

Howard L. Melton (BAD), Plantation, Fla., 7/29/12.

Harold J. Muddiman (ME '44), Lake Junaluska, N.C., 1/13/13.

'38 🍌 **E. Glenn Hart** (BAD), Winston-Salem, N.C., 3/28/13.

R.N. "Nat" Lancaster (METE), Richmond, Va., 1/4/13.

Benson P. Shank (ME), Roanoke, Va., 1/3/13.

James A. Swaney (IE), Fairfax, Va., 1/24/13.

'39 🍌 **Joseph M. Kiefer** (CHE), Pensacola, Fla., 12/11/12.

Harrel L. Knight (CHE), Charleston, W.Va., 1/21/13.

Andrew M. Maxwell (ME), Daytona Beach, Fla., 12/1/12.

'40 🍌 **W.E. "Jiggs" Dunton** (AGRN), Exmore, Va., 12/20/12.

J. Lockwood "Jim" Miller (EE), Clearwater, Kan., 5/7/12.

Grace Allen Patton (GHEC), Crystal Beach, Fla., 3/10/13.

B.C. "Bud" Snidow Jr. (ANSC), Shawnee Mission, Kan., 1/26/13.

'41 🍌 **Walter S. Pierce** (ARE), Lexington, Mass., 2/27/13.

'42 🍌 **W.W. "Bill" Boisture Jr.**, (CHE '46, CHE '46), Hendersonville, N.C., 1/3/13.

Jacklin Moffitt Fagelson (GSC), Nacogdoches, Texas, 2/28/13.

John V. Florchak (METE), Las Vegas, Nev., 1/2/13.

Howard E. Gray (BAD), Vero Beach, Fla., 4/7/13.

Richard E. Moody (EE), Platte, S.D., 3/16/13.

Claude M. Moreland Jr. (MINE), Myrtle Creek, Ore., 1/5/13.

Martha Snidow Radspinner (GHEC), Blacksburg, Va., 1/11/13.

Gordon W. Strickland (ME), Waynesboro, Va., 1/7/13.

William J. West (FW), Richmond, Va., 1/5/13.

H. Hugh Williams (IE), Richmond, Va., 1/24/13.

'43 🍌 **John R. Brown** (ACCT), Kannapolis, N.C., 3/13/13.

Charles A. Holman III (ME '47), Amelia Court House, Va., 1/13/13.

Frank D. McDermott (CE), Midlothian, Va., 12/27/12.

George A. Schaffter Jr. (IE), Sunnyvale, Calif., 12/3/12.

George "Bud" E. Youngberg Jr. (IE), Atlanta, Ga., 11/8/12.

'44 🍌 **John K. Aitcheson Jr.** (MINE '45), Alexandria, Va., 12/26/12.

Raymond L. Gordon (ME, IEOR '47), Newark, Del., 12/21/12.

Angelo J. Ingrassia (METE), Middletown, N.Y., 3/21/13.

Julian S. Lake III (ME), Binghamton, N.Y., 3/2/13.

Howard W. Linkous (BAD), Davidson, N.C., 12/13/12.

Jack W. Webb (BAD '47), Suffolk, Va., 1/30/13.

'45 🍌 **Walter M. Duncan** (CE '47), Front Royal, Va., 2/24/13.

Walter E. Ershow (CERE), New York, N.Y., 1/9/13.

John L. Hopkins (ME), Rocky Mount, Va., 2/23/13.

Max C. Kurbjun (ASE '44), Yorktown, Va., 3/21/13.

William M. Ligon (ASE '47), Lynchburg, Va., 12/17/12.

Robert C. Moore (EE), Poquoson, Va., 1/21/13.

'46 🍌 **Fred W. Culpepper Jr.** (IAED '49), Portsmouth, Va., 12/18/12.

William G. Jackson (BIOL), North Tazewell, Va., 12/17/12.

W. Scott Overton Jr. (FW '48, FW '48), Philomath, Ore., 7/2/12.

Charles "Buck" Russell III (BAD), Farmville, Va., 2/2/13.

John "Jack" Schermerhorn Jr. (ANSC), Wicomico, Va., 3/23/13.

David P. Turner (GAG '49), Staunton, Va., 1/13/13.

Robert A. White (BIOL), Cocoa Beach, Fla., 1/13/13.

Patrick D. Widgen (BC '49), Nasawadox, Va., 2/15/13.

'47 🍌 **Joseph P. Molinari** (BAD), Stafford Springs, Conn., 6/17/12.

Elizabeth A. Myers (GHEC), Portola Valley, Calif., 1/10/13.

Wilbur "Perk" Perkins Jr. (ME '50), Louisville, Ky., 12/26/12.

Dale S. Samuelson (EE), Tucson, Ariz., 11/15/12.

Joseph M. Verlander (ME), Altamonte Springs, Fla., 11/21/12.

W. Baskerville "Bass" Watkins (CHE '48, CHE '48), Greenville, Del., 3/12/13.

'48 🍌 **Ivis Reynolds Hutcheson** (HEED), New Market, Va., 2/8/13.

M. Jane Dewese Ray (GHEC), Myrtle Beach, S.C., 2/23/13.

Eugene H. Reilley Jr. (EE), Woodstock, Ga., 1/13/13.





B.T. "Ben" Sharp (CHE '49, CHE '49), Palos Verdes Peninsula, Calif., 2/1/13.

'49 🍌 **G.L. "George" Cahen** (ASE), Annapolis, Md., 11/17/12.

R. Paul Farrell Jr. (EE), Schenectady, N.Y., 1/12/13.

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

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

-  career accomplishments
-  weddings
-  births and adoptions
-  deceased

Frank P. Iannolo (ASE), San Diego, Calif., 2/2/12.

Vincent C. Schumacher (EE), Fort Wayne, Ind., 2/10/13.

H. Ray Thacker (CE, CE '53, CE '65), Charlottesville, Va., 1/16/13.

G. Edward Via (IE), Chester, Va., 6/5/12.

'50 🍌 **E.C. "Clinton" Cochran** (EE), Winston-Salem, N.C., 2/19/13.

Stony Glass (CE '51), Hampton, Va., 3/2/13.

Robert C. Gober (IE), High Point, N.C., 2/9/13.

Thomas J. Grinnalds (IE), Silver Spring, Md., 3/18/13.

James W. Lark Jr. (ACCT), Pulaski, Va., 3/5/13.

James "Jay" Limerick Jr. (CE), Richmond, Va., 12/22/12.

Joe Y. Pope Jr. (MGT), Waynesboro, Pa., 11/24/12.

Harry J. Thompson (BAD '53), Emerald Isle, N.C., 1/10/13.

Warren A. Thornhill III (BAD), Beaver, W.Va., 1/2/13.

J.I. "Jim" Weathers (EE), Augusta, Ga., 3/1/13.

W.S. "Bill" Wood Jr. (EE), Roanoke, Va., 1/22/13.

'51 🍌 **Charles B. Brown** (CE), Gainesville, Ga., 2/14/13.

Chester N. Myers (CE), Kingsport, Tenn., 1/18/13.

Kenneth "Bud" Perdue (BAD '56), Marion, Va., 2/21/13.

Thurman C. Russell (CE), Port Charlotte, Fla., 12/23/12.



PHOTO COURTESY OF THE FOLGAR FAMILY

The Folgar family: Beatriz; Ruth; Christian '09; Carlos Alberto; Aida '10, M.A. '11; Rodrigo; Francisco; senior computer science and computer engineering major Carlos Jr.; and master's of industrial and systems engineering graduate student Juan '12

From El Salvador to Blacksburg: 7 Hokies in Search of a Dream

For the Folgar family, Virginia Tech embodied the fulfillment of a long-standing dream—to send a generation of siblings and cousins from El Salvador to America for college. Luis Folgar (materials science and engineering '04) was the first member of his family to attend Virginia Tech, drawn to the university by its top-notch engineering programs. The charming campus and town sealed the deal, according to his uncle Carlos. Within a matter of years, six family members would follow Luis:

- Luis' brothers, Christian (mechanical engineering '09) and Juan (industrial and systems engineering '12)
- his uncle, Carlos (Ph.D. materials science and engineering '10)
- and cousins, Aida Cruz Folgar (economics '10, M.A. '11); Carlos, a rising senior studying computer science and computer engineering; and Ricardo Cruz Folgar, a rising senior studying mechanical engineering.

According to Juan, the dream started with his grandfather, the first in his family to earn a professional degree. "His dad didn't believe he had a chance to be a professor, but his uncle helped him out. ... It was such a big change in his life that he wanted his sons and daughters to get a degree."

Carlos, now a glass process engineer at Corning Inc. in New York, recalled that legacy. "My parents were teachers, and for them, having a good education was a priority." Though the cost of sending multiple family members to a university in the U.S. often seemed out of reach, the entire family sacrificed—and they're all certain the money was well spent. "We're not just investing in something that is gone [in] a short period of time, but is forever," said Carlos. "Your family's education is your best investment."

Juan, who is now pursuing a master's degree in industrial and systems engineering, calls Blacksburg the family's second home. "Now, every time the family meets, we start talking about Virginia Tech. It has become something more than a university—it's a big part of our lives and memories."

The family has high hopes for the younger Folangs. Carlos' youngest son is still deciding where he wants to attend college, and Luis already hopes his children, ages 2 and 3, will carry on the Hokie tradition.

Louis "Smitty" Smith (CHEM), Danville, Va., 12/7/12.
J. Robert White (EE), Rocky Mount, N.C., 2/11/13.

'52 **G.E. "Buddy" Russell** (ANSC '53), Blacksburg, Va., was inducted into the College of Agriculture and Life Sciences Hall of Fame for his outstanding service.

W.R. "Bill" Cook (BAD), Daleville, Va., 2/3/13.
Iva Mary Barrett Hopkins (GHEC, GHEC '56), Blacksburg, Va., 1/20/13.
Patrick M. Lathrop (ARCH), Staunton, Va., 12/12/12.
Robert F. McKenna (ANSC), Bristol, Va., 12/4/12.
Thurman J. Reynolds (PHYS), Clifton Park, N.Y., 12/2/12.
Roy G. Stout (AGEC), Gassaway, W.Va., 3/8/13.
R. Lee Whitehead III (BAD '53), Virginia Beach, Va., 3/8/13.

'53 **Herman L. Bradshaw** (AGE), Franklin, Va., 3/20/13.
Denver D. Bragg (POUL), Newport, Va., 2/9/13.
Leonard M. Fulcher (BAD '58), Midlothian, Va., 2/21/13.
David W. Lacy (AGED, EDAD '74), Quitman, Miss., 2/16/13.
William D. Miller (HORT), Forest, Va., 3/21/13.
Alex R. Valdo (METE), Sun Lakes, Ariz., 2/2/13.

'54 **Richard L. McCoy** (ME), Seabrook, Texas, 3/25/13.
A. Craddock McWane Sr. (IE), Lynchburg, Va., 12/3/12.

'55 **B.W. "Bush" Burns Jr.** (ACCT), Boynton Beach, Fla., 12/18/12.
Stage E. Miller (BIOL), Edinburg, Va., 1/2/13.
Donald G. Sink (BAD), Roanoke, Va., 1/30/13.
Wayne E. Varner (BAD), Richmond, Va., 10/26/12.

'56 **Jake M. Stone** (FW), Franklin, Va., received the Presidential Field Forester Award from the Society of American Foresters.

Lewis A. Bowen (ME), Blacksburg, Va., 3/17/13.
B.P. "Ben" Bush (BAD), Rochester, N.Y., 2/22/13.
Donald R. Combs (PHYS '57), Denver, N.C., 2/19/13.
Henry "Ed" Harrell Jr. (AGRN), Emporia, Va., 1/9/13.
M. Campbell Hawkins (CHEM, CHEM '60), Fort Worth, Texas, 12/20/12.
Jack C. Hetherington (ME), Richmond, Va., 2/22/13.
David B. Hough (ARCH), Richmond, Va., 1/19/13.
Robert "Hudge" Hudgins (ME '60), Jacksonville, Fla., 12/23/12.
William G. Morris Jr. (FW '63), Mooresville, N.C., 3/13/13.
Alvertia F. Quesenberry (CTRA, EDVT '75), Staunton, Va., 1/17/13.

'57 **Charles Catlett** (AGRN), Blacksburg, Va., 10/26/12.
Joel R. Dickerson (BAD '58), Richmond, Va., 2/25/13.
Byrnal M. Haley Jr. (BAD), Beaufort, S.C., 1/5/13.
Wendell H. Pollard Jr. (CE '60), Fork Union, Va., 3/20/13.
Ann Huether Ratte (ME), Owens Cross Roads, Ala., 6/26/12.
Sherwood D. Skinner (AGE), Knoxville, Tenn., 2/25/13.
T. Jackson Verell Sr. (BAD), Naples, Fla., 1/28/13.

'58 **V.D. "David" Duerson** (ACCT), Richmond, Va., 1/30/13.
Sherwood "Sonny" Evans (CE), Williamsburg, Va., 10/3/12.
Lewis P. King III (BAD), Richmond, Va., 3/3/13.
Robert H. Pai (ME), Kowloon, Hong Kong, 3/7/13.
Robert C. Richardson (PHYS '58, PHYS '60), Ithaca, N.Y., 2/19/13.
William H. Welsh III (MATH), Oakton, Va., 2/16/13.

'59 **James "Bill" Bryant III** (ANSC), Danville, Va., 12/13/12.
Robert "Mac" McPherrin (EE), Hood River, Ore., 1/7/13.
J.W. "Jim" Moore Jr. (ME), Waynesboro, Va., 1/2/13.
Janet M. Paulsen (BION, BION '66), Green Valley, Ariz., 12/13/12.
Ronald H. Trull (BAD '60), Jacksonville, Fla., 12/22/12.

'60 **Richard T. Crowder** (AGEC, AGECE '62), Alexandria, Va., received the Distinguished Service to Agriculture Award from the American Farm Bureau Federation.
Robert R. Moore (CHE), Leland, N.C., has written a book entitled "The Neighbor."

Louis C. Castagnola (EE '61), Rockville, Md., 12/11/12.
Edward R. Culpepper Jr. (CE), Fairport, N.Y., 2/1/13.
H. David Eason (ME), Mercer Island, Wash., 3/19/13.
J.O. "Jim" Elliott (EE), Beavercreek, Ohio, 1/20/13.
Thomas W. Fore Jr. (EE), Pittsboro, N.C., 2/20/13.
W. Samuel Gay Jr. (EE), St. Augustine, Fla., 3/1/13.
James "Blythe" Moore IV (ME '61), Black Mountain, N.C., 8/31/12.
Charles T. Perkins Jr. (ME '61), Pensacola, Fla., 3/10/13.
Charles P. Settles (ME), Havre De Grace, Md., 3/11/13.

'61 **Jerry J. Brown** (ME), Fairview, Pa., 3/9/13.
Dennis E. Clark Jr. (MINE '63), Elkview, W.Va., 12/2/12.
William N. Hahn (IAED), Richmond, Va., 11/17/12.
Joe W. Hardy (FW), Winchester, Tenn., 11/13/12.

- career accomplishments
- weddings
- births and adoptions
- deceased

Herman L. Johnson (BION, BION '63), Rohnert Park, Calif., 4/19/12.
Albert G. Smith (ME), Princeton, W.Va., 2/22/13.

'62 **Ralph R. Green Jr.** (ME), Terre Haute, Ind., 12/18/12.
Ambler W. Webb Jr. (ME), New Castle, Va., 1/26/13.
Lubomyr "Lou" Zapar (BAD), Chesterfield, Va., 12/17/12.

'63 **Hollis "Skeets" Cahoon** (EE '64), Greensboro, N.C., 3/16/13.
Jack D. Martin (ME '65), Thornton, Colo., 12/4/12.
M. Jack Queijo (EM), Williamsburg, Va., 11/15/12.
James L. Whitehurst (EE), Portsmouth, Va., 2/7/13.

'64 **Kit B. Kiser** (CE '65), Roanoke, Va., 2/25/13.
John Swartwout III (ARE), Delta-ville, Va., 12/24/12.

'65 **James P. Cottingham** (ASE '66), Naples, Fla., 12/6/12.
James S. Green Jr. (BAD), Danville, Va., 2/6/13.
Robert G. Turner (MGT), Falls Church, Va., 4/18/12.
P. Douglas Wilkes Jr. (MKTG), Bagdad, Fla., 12/21/12.

'66 **Clyde G. Gillespie Jr.** (GSC), Blacksburg, Va., 1/8/13.
Walker D. Goad (BIOL), Peoria, Ill., 2/3/13.
V.E. "Moe" Moore (BAD), Stephens City, Va., 2/24/13.

'67 **Richard D. DeRoche** (ME), Chesapeake, Va., 2/3/13.
Thomas O. Evrard (PLPP), Mountain Home, Ark., 1/8/13.
Robert C. Goetz (EM), Friendswood, Texas, 2/18/13.
G. Wyatt Skinnell (ACCT), Lynchburg, Va., 3/19/13.

'68 **Roger L. Cook** (BAD), Danville, Va., 1/20/13.
James V. Motsinger (EE), Manor, Texas, 3/9/13.
W. Alfred Woody (BAD '69), High Point, N.C., 1/25/13.

'69 **Elwin Bresette** (BAD), North Stonington, Conn., 12/31/12.
Gary L. Brumfield (FW), Williamsburg, Va., 3/20/13.
Larry B. Higginbotham (BAD), Newport, Va., 12/22/12.
Howard G. Miller Jr. (AGE), Roanoke, Va., 1/25/13.
S.A. Stephen Williams (PHYS '70), Richmond, Va., 11/11/12.

'70 **Everett Callaway** (ACCT '71), Vienna, Va., 12/14/12.

George C. Langley (CE '71), Birmingham, Ala., 3/15/13.
Robert J. Van Hook (DE), Suffolk, Va., 12/28/12.

'71 **Edwin Boudreaux Jr.** (CHEM), Bartlesville, Okla., has retired from Owens Corning, Phillips Petroleum Company, and Chevron Phillips Chemical Company after 33 years as an industrial scientist.
Donna Woodrum Dunay (ARCH, ARCH), Blacksburg, Va., received the 2012-13 Distinguished Professor Award from the Association of Collegiate Schools of Architecture.
John Waxmunski (MGT), Glen Allen, Va., retired from the Commonwealth of Virginia Department of Accounts after 22 years of service as a senior systems analyst.

Norbert L. Weckstein (BAD), Roanoke, Va., 3/21/13.

'72 **Gregg S. Clemmer** (BIOL), Cocksaysville, Md., wrote a book entitled "A Turn For Home."

Marguerite Higgins Gasi-rowski (ELED), Williamsburg, Va., 1/19/13.
Paul K. Hitte (ME), Derwood, Md., 3/1/13.
William W. Hunter Jr. (PHYS), Yorktown, Va., 1/1/13.

Samuel "Sonny" Riddle Jr. (DE), South Boston, Va., 8/1/12.
Kathleen Malecki Sindall (HIST), Severna Park, Md., 1/24/13.
Donnie M. Spivey (ACCT), Chesapeake, Va., 2/22/13.
Vasso Sugas-Telionis (SOC '75, SOC '75), Blacksburg, Va., 1/3/13.

'73 **John R. Bush** (FW), Mechanicsville, Va., received the Alumni Award of Achievement from Virginia Tech's College of Natural Resources and Environment.
Cynthia A. Miller (HIST), Pittsburgh, Pa., retired as director of the University of Pittsburgh Press.

Clarence "Bud" R. Melugin III (GBUS), Manteo, N.C., 12/13/12.
Tak P. Sit (CE '75, ASE '75), Redwood City, Calif., 8/31/12.

'74 **Francis H. Ayers Jr.** (HIST), Prescott, Ariz., is chancellor of Embry-Riddle Aeronautical University's Prescott campus.
Michael B. Brown (BIOL, MHFD '77, EDSP '91, EDSP '92), Greenville, N.C., is senior vice president for academic affairs at North Carolina Wesleyan College.
John G. Kines Jr. (URBA), Disputanta, Va., is chairman of the Virginia Commission on Local Government.

Teresa L. Helms (MAED, EDCI '78), Christiansburg, Va., 1/11/13.
Kenneth B. Lambert (SOC '75), Jacksonville, Fla., 3/1/13.
Lewis S. Tuggle (PSCI), Saltville, Va., 2/7/13.

'75 **George M. Bain** (FW), Kooskia, Ind., is the director of recreation, lands, minerals, heritage, and wilderness for the U.S. Forest Service's Northern Region in Montana.
Matthew D. Bent (EE, CE '77), Poolesville, Md., is owner and operator of a small business, Syntelic Solutions Corp., which provides software development for the trucking industry.
Pamela Sower Bent (MHFD), Poolesville, Md., is owner and operator of a small business, Syntelic Solutions Corp., which provides software development for the trucking industry.

Denise Eckleberry McFeeley (ELED), Fredericksburg, Va., 3/2/13.
Bertrand J. Arents (EDBS), Montgomery, Texas, 3/18/13.

'76 **Karen Brown DeBord** (MHFD, FCD '91), Moneta, Va., was appointed family and human development specialist for Virginia Cooperative Extension.

Edwin H. Jones Jr. (HIST), White Post, Va., 2/10/13.
Agnes Tenney Payne (EDCI '77), Blacksburg, Va., 3/6/13.
Cynthia D. Perry (UA), Hollywood, Fla., 12/1/12.
Patricia A. Reynolds (HNF), Corvallis, Ore., 1/2/13.

'77 **John M. Carroll** (FW), Louisa, Va., received the Alumni Award of Achievement from Virginia Tech's College of Natural Resources and Environment.

Richard A. Arnaud (EDVT), Crowley, La., 3/11/13.
Evelyn L. Cary (MHFD '78), Richmond, Va., 6/23/12.
Paul "Chip" Gunsten (EDPE), Salem, Va., 12/11/12.
Linda Bussler Seay (ELED), Forest, Va., 3/15/13.

'78 **Thomas P. Hood** (MKTG), Henrico, Va., wrote a book entitled "Richmond, One of America's Best Tennis Towns."
Peter B. Schultz (ENT), Virginia Beach, Va., received the Distinguished Service Award from the Research Center Administrators Society of the United States.
Joseph E. Wells (ARCH), Reston, Va., is office director for Dewberry in Fairfax, Va.

Mary Jane Connelly (EDAD, EDAD '81, EDAD '82), Elmhurst, Ill., 1/15/13.
Teresa A. Hudson (EDCI), Rock Hill, S.C., 11/24/12.

'79 **John W. Coates** (REC), Encinitas, Calif., is city manager for the City of Carlsbad, Calif.
Deborah F. Cook (IEOR, AGE '82), Blacksburg, Va., was named the Verizon Professor in Business Information Technology in the Pamplin College of Business by the Virginia Tech Board of Visitors.

Janine Snead Hiller (HIST), Blacksburg, Va., was named the Richard E. Sorensen Professor of Finance in the Pamplin College of Business by the Virginia Tech Board of Visitors.
Joseph L. Odum (EE), Elkridge, Md., retired from the Department of the Navy after 37 years of service and plays for Baltimore's Marching Ravens, performing at the NFL team's home games.

Barbara Schroth Williams (ANSC), Purcellville, Va., is president of the Virginia Trial Lawyers Association for 2013-14.
Stephen C. Wright (ARCH), Washington, D.C., is managing principal for Leo A. Daly, a planning, architecture, engineering, and interiors firm.

'80 **William G. Darden** (ECON '81), Suffolk, Va., was appointed by Virginia Gov. Bob McDonnell to the State Board of Housing and Community Development.
Helen L. Reed (ESM, EM '81), Bryan, Texas, received the 2013 Presidential Professor for Teaching Excellence Award from Texas A&M University.

Michael B. Overstreet (IEOR), Blacksburg, Va., 1/12/13.
John F. Sheffield (EDVT), Glade Spring, Va., 12/4/12.
Kenneth L. Witt (CS), Salem, Va., 3/28/13.

'81 **Winston A. Samuels** (ANSC, ANSC '83), Warwick, N.Y., was inducted into Virginia Tech's College of Agriculture and Life Sciences Hall of Fame for his outstanding service.
Daniel B. Wilkinson (ME), Raleigh, N.C., received the Envision certification from the Institute for Sustainable Infrastructure.

Philip "Sarge" Coulon Jr. (ETE), Summerville, S.C., 3/11/13.
John A. Roberts (BAD), Denver, Colo., 2/2/13.
Joyce Layne Simpkins (EDCI '78, EDCI), Radford, Va., 3/12/13.



MAC STONE

Picture perfect:

To see more of Stone's wildlife photography, visit www.macstonephoto.com.

Though he still considers the Everglades his “Mecca for wildlife and adventure,” he now leads a highly mobile life. He began his career in Honduras, where he lived in a national park teaching photography to underprivileged children. He has since worked, among other positions, as a field biologist in the Florida Keys for the Audubon Society, as a fly-fishing guide and photographer on a Wyoming ranch. He's currently the executive director of Naturaland Trust, which works to protect land in upstate South Carolina.

Stone credits a summer study-abroad trip to Ecuador as one of the most formative experiences of his time at Virginia Tech. “I hoped to combine all three majors in a more immersive way,” said Stone. “I'm still close with the family I lived with there.” Not only did he forge relationships and improve his Spanish, but he also explored the country's beaches, rainforests, and mountains—plenty of inspiration for a budding photographer.

Stone calls photography a “steady hum through [his] life.” He has risen to international acclaim, with his photos appearing in BBC Wildlife, National Geographic Traveler, Audubon Magazine, and Ranger Rick.

And he isn't slowing down. Stone has self-published several books—one in Spanish, another that was sold to guests at the Wyoming ranch where he worked—and now he is working on a coffee table book about the Everglades.

“The more you marry your hobbies with your education, the more marketable you'll be because your passions are what make you unique,” said Stone. “Everywhere I've traveled and worked has been fueled by the desire to combine stunning landscapes with meaningful employment. My photography has always played a big role in securing these jobs and then sharing the experiences with others.”

Marrying photography and the natural world

Mac Stone grew up in Florida exploring backcountry swamps. After graduating from Virginia Tech, Stone (international policy, Spanish, environmental affairs '06) was eager to find a way to combine his love of photography with his intense interest in the environment.

'82 **Marilyn Lee Samuels** (PSYC), Warwick, N.Y., was inducted into Virginia Tech's College of Agriculture and Life Sciences Hall of Fame for her outstanding service.

Leslie Morders Rhatican (BAD), Alexandria, Va., 2/26/13.

Sandra Shotwell Wontrop (MHFD), Blacksburg, Va., 2/21/13.

'83 **Steven H. Bullard** (FOR), Mathiston, Miss., is president of the National Association of University Forest Resources Programs.

Thomas Truman Capone (EDVT), Blacksburg, Va., had his artwork displayed at the Piccole Meraviglie international exhibition in Italy.

'84 **Gregory N. Bailey** (COMM), Cumming, Ga., is director of editorial for the book division of Crossway Books & Bibles in Wheaton, Ill.

David J. Epstein (ARCH), Shelburne, Vt., is managing partner of TruexCullins Architecture and Interior Design.

Herman “Todd” Holbrook (FIW), Conyers, Ga., is president and CEO of the Georgia Wildlife Federation.

Amr M. Shaarawi (EE, EE '89), Marion, Va., is provost at the American University in Cairo, Egypt.

Jed L. Scott (MGT) and **Margaret Hippert Scott** (MKTG '87), Roanoke, Va., 3/30/12.

Steve T. Varner (IEOR), Cary, N.C., 2/8/13.

'85 **Kenneth W. Bible** (ME), Charleston, S.C., is the chief technology advisor for U.S. Marine Corps Headquarters.

Peter S. Larkin (COMM), Roanoke, Va., is the chief of staff for U.S. Rep. Bob Goodlatte of Virginia.

Elizabeth A. Maier (COMM), Alexandria, Va., is a policy director for Brownstein Hyatt Farber Schreck.

Jack M. Ford (ARCH), Atlanta, Ga., 12/31/12.

Jonathan L. Pickett (PSCI), Farmville, Va., 2/25/13.

Beryle Crockett Santon (EDCI, EDCI '88), Princeton, W.Va., 1/5/13.

'86 **Bettina K. Ring** (FW), College Park, Md., was appointed to the U.S. Department of Agriculture's Forest Resource Coordinating Committee.

Steven M. Roth (BIOL, FST '88), Augusta, Ga., 2/20/13.

Michael R. Shackelford (MATH), Richmond, Va., 11/15/12.

'87 **Peter D. Morrison** (COMM), Martinsville, Va., is vice president of retail marketing for Bassett Furniture Industries Inc.

Michael W. Tompkins (ECAS), Springfield, Va., a daughter, 10/23/12.

M. Teressa Caldwell (EDVT '80, EDAD '85, EDAD), Annandale, Va., 11/30/12.

Susan E. Garrison (HORT, HORT '90, BAD '01), Blacksburg, Va., 2/20/13.

John F. Vaeth (ACCT), Roanoke, Va., 1/4/13.

'88 **Robert L. Hough** (ANSC), Lone Tree, Colo., received the Penn State 2013 Department of Animal Science's Animal Science Distinguished Alumnus award.

Javier “Jack” I. Vega (CE), Frederick, Md., is manager of site/civil services for Dewberry's Fairfax, Va., office.

Jane G. de Montluzin (PSYC), Kenner, La., 3/18/13.

L. Scott Wade (MGT), Blacksburg, Va., 3/24/13.

career accomplishments

weddings

births and adoptions

deceased

'89 **Katrina Workman Berger** (HIST), Haymarket, Va., is the deputy assistant director for domestic operations for the U.S. Department of Homeland Security, Immigration, and Customs Enforcement.

'91 **Anthony T. Kennedy** (BC), Bastian, Va., is an associate and construction department head with Thompson & Litton.

George T. Miller (FW, EDCI '98), Buchanan, Va., was selected as an Appalachian Trail community ambassador for Troutville, Va.

'92 **H.D. Cox** (COMM), Lynchburg, Va., was named a Fellow of the American College of Bankruptcy.

Rush D. Dixon (ARCH, ARCH '93), Mount Pleasant, S.C., was a 2013 Innovation Award finalist for his design of “chomp stix” for children or the young at heart. His company won the kitchen hand tools category in 2012.

Curtis M. Mummau (HIDM), Mechanicsville, Va., is senior vice president with Cushman & Wakefield/Thalhimer.

Michael S. Schroder (HRIM, EDVT '94), Carlsbad, Calif., is dean of the College of Extended Learning at California State University San Marcos and serves as the associate vice president for international programs.

Alok Bhandari (ENE, CE '95), Manhattan, Kan., 1/30/13.

'93 **Edward P. Chamberlayne** (CE, CE '02, ISE '11), Mount Pleasant, S.C., assumed leadership of the Charleston, S.C., District of the Army Corps of Engineers and its feasibility study for deepening Charleston's 45-foot shipping lane.

Kirk J. Duncan (ARCH), Raleigh, N.C., is the manager of the corporate real estate department for First Citizens Bank.

'94 **Benjamin L. Huffman** (ARCH), Chapel Hill, N.C., is regional health care director for Skanska USA.

Elizabeth Nicar Schroder (HRIM, HTM '99), Carlsbad, Calif., is the director of development for biosciences at the University of California San Diego.

'95 **Susan M. Neu** (EDCI), Blacksburg, Va., is assistant director for special programs at the Virginia Tech Language and Culture Institute.

Anderson H. Norton III (MATH), Blacksburg, Va., received the 2013 Association of Mathematics Teacher Educators award.

Adam D. Jarvis (HIDM), Trumbull, Conn., 1/17/13.

'96 **Karen M. Weber** (GEOL '03), Blacksburg, Va., was selected as an associate and shareholder at Draper Aden Associates.

'97 **Walter Lacarbonara** (EM), Rome, Italy, has written a book entitled “Nonlinear Structural Mechanics: Theory, Dynamical Phenomena and Modeling.”

James L. Moore III (EDSR, EDCO '00), Alexandria, Va., was named the American Council on Education Fellow for 2013-14 and received the Standing Committee on Men and Masculinities Outstanding Research Award.

'98 **Scott A. Fowler** (GEOL), Clarksburg, W.Va., was inducted into the Delta Mu Delta International Business Honor Society.

Jean Hou Huang (CEEN, CE '02), Vienna, Va., received the Envision certification from the Institute for Sustainable Infrastructure.

James “Greg” Jenkins (GBUA), Blacksburg, Va., was named the Curling Faculty Fellow in Accounting and Information Systems in the Pamplin College of Business by the Virginia Tech Board of Visitors.

Anne Morgan Vig (ARCH) and **Gregory S. Vig** (ME '99), Doswell, Va., a daughter, 10/21/12.

'99 **Elise Caruso Foster** (ISE, ISE '00), Columbus, Ind., has written a book entitled “The Multiplier Effect: Tapping the Genius Inside Our Schools.”

Brian D. Reynolds (HIDM), Cary, N.C., joined the 2013 Advanced Select Member group of Lincoln Financial Advisors Corp./Sagemark Consulting.

Chadwick E. Meade (FIN) and **Misty Wiley Meade** (MKTG '00), Denver, Colo., a daughter, 10/15/12.

David A. Stanley (ME '99) and **Summer Huff Stanley** (COMM '00), Reston, Va., a daughter, 2/16/12.

'00 **Karen A. Bengel** (ARCH), Washington, D.C., had her work featured on the cover of Home & Design Magazine for combining two apartments into a modern penthouse-style space.

Jonathan C. Boulter (COMM), Blacksburg, Va., is associate director of patron services for the Center for the Arts at Virginia Tech.

John L. Koontz (FST, FST '03, GSCR '08, LSF5 '08), Oak Park, Ill., received the Outstanding Recent Alumni Award from Virginia Tech's College of Agriculture and Life Sciences for his professional and volunteer achievements.

Christopher G. Machut (CPE '01), Virginia Beach, Va., is the chief technology officer for GM Engineering

Correction: A wedding notice in the spring edition was incorrect. Congratulations to: Crystal A. Morgan (COMM '04) and Brian D. Fraser (ARCH '08), Oakton, Va., 9/29/12.

Services LLC, a company that works to increase safety on waterways and at ports and construction sites.

Jonathan D. Komar (WOOD) and **Shayna Gonsky Komar** (HNFE), Marietta, Ga., a son, 7/26/12.

'01 **Benjamin M. Grossman** (HIST), Baltimore, Md., is assistant attorney general representing the Maryland comptroller's office.

Natalie Keyser Grossman (PSCI), Baltimore, Md., is director of senior legal services at the Bar Association of Baltimore City.

Heather Grice Nelson (SPAN), Huntington, W.Va., a son, 2/22/13.

'02 **Nicole L. Bradick** (PSCI), Cape Elizabeth, Maine, launched a business called Custom Counsel, which provides an alternative way to practice law for moms and other attorneys seeking work-life balance.

Joshua S. Cook (BIT), Marion, Va., co-founded a business, Hanook Technologies LLC, creating iPhone/iPad learning applications for kids.

Nicholas A. Hannett (BIT), Warrenton, Va., co-founded a business, Hanook Technologies LLC, creating iPhone/iPad learning applications for kids.

Eric J. Melniczek (ELPS), High Point, N.C., has written a book entitled “Transition to the Real World.”

Abigail Perlstein O'Brien (ARCH), Bridgeton, N.J., is chairman of the board of directors for the Delaware Valley chapter of the U.S. Green Building Council.

Ryan Fagan Carlozzi (MUS), Port Jervis, N.Y., a son, 1/26/13.

Jay J. Mizack (CHE) and **Jennifer Wilberger Mizack** (MKTG), Venetia, Pa., a son, 7/6/12.

Ashley Schultz Sayen (HD, EDCI '04) and **Joseph D. Sayen** (BIT '03, IT '05), Centreville, Va., a son, 3/30/12.

Courtney A. Giesy (PHIL), Columbus, Ohio, 1/7/13.

Felicia M. Wright (CPE), Yorktown, Va., 12/31/12.

'03 **Jennifer A. Jenkins** (COMM), Lexington, S.C., is an administrative support supervisor for the South Carolina Department of Revenue.

Keith B. Zawistowski Jr. (ARCH), Blacksburg, Va., received the 2012-13 Design Build Award from the Association of Collegiate Schools of Architecture.

Phillip J. Ewell (GEOG) and **Jennifer F. Ewell** (BIOL '05), Springfield, Va., a son, 5/26/12.

Amanda Prettyman Rude (HD, EDCI '05) and **Colbey A. Rude** (EE '06), Salem, Va., a daughter, 12/16/12.

'04 **Will R. Crowthers IV** (CPE), Brooklyn, N.Y., launched a travel website naming the world's top 100 places to visit and is currently traveling the world to profile each of the venues.

Scott C. Hughes (COMM), Christiansburg, Va., was appointed annual giving officer for Virginia Tech's Office of University Development.

Roy “Brad” Steinmann Jr. (COMM) and **Amy Lamagra Steinmann** (COMM '06), Henrico, Va., 10/27/12.

Brittany Hardesty Tomblin (HD) and **Bryan Tomblin**, Stephens City, Va., 8/25/12.

Elizabeth Rapson Holland (APSC) and **Jeremy S. Holland** (ME), Preston, Conn., a son, 8/5/12.

Emily Dill McDonald (BIOL), Jacksonville, Fla., a son, 12/31/12.

Katie Streeff McIlwee (CLA) and **Jason E. McIlwee** (ENSC '05), Barboursville, Va., a son, 11/20/12.

Justin M. Sadler (MKTG), East Greenwich, R.I., a son, 9/27/12.

'05 **Samuel R. Gardner** (FSCI), Bedford, Va., was named Bedford County's Young Farmer of the Year by the Virginia Farm Bureau.

Christopher J. Parker (HNFE), Eden, N.C., is vice president for institutional advancement at Patrick Henry Community College.

Edith Tapia (ISE), Falls Church, Va., earned the professional engineer license in the Commonwealth of Virginia and is an industrial engineer at Raul V. Bravo + Associates Inc.

'06 **James D. Forester** (PHYS, EDCI '07), Roanoke, Va., was selected as a 2013-14 Einstein Fellow by the U.S. Department of Energy's Office of Science.

Jonathan L. Kruckow (FIN), Blacksburg, Va., is the New River Valley area executive for Grayson National Bank.

Elizabeth E. Tomlinson (HNFE), Kailua, Hawaii, is a lieutenant in the U.S. Navy Medical Service Corps and serves as a physician assistant at the Branch Medical Clinic in Hawaii.

Adam H. Haywood (MINE) and **Kathryn J. Mann** (PSYC '07), Colonial Heights, Va., 8/3/12.

Lindsey Leisher Estes (COMM), Bel Air, Md., a daughter, 12/21/12.

Bryan T. Gassenmeyer (ISE) and **Lauren Gallagher Gassenmeyer** (PSYC), Herndon, Va., a daughter, 1/17/13.

'07 **Justin A. Lemkul** (BIOC, LSBC '12, GSCR '12), Blacksburg, Va., won Virginia Tech's Outstanding Dissertation Award for 2013 in the science and engineering category.

Amanda N. Stanley (SOC), Bedford, Va., is the executive director for DePaul Community Resources Board of Directors.

Matthew P. Tomlinson (CE), Roanoke, Va., earned the professional engineering license and is employed as a project manager with Gay and Neel Inc.

Christine M. Tysor (EDPE), Blacksburg, Va., is the research program manager at Virginia Tech's Institute for Critical Technology and Applied Science.

Glenn A. Dye (CSES) and **Amanda Webster Dye** (CSES), Fredericksburg, Va., 3/2/13.

Jonathan A. Gill (CPE) and **Mary Shaffer Gill** (PUA '08), Knoxville, Tenn., 5/27/12.

Jennifer Herold Walters (PSYC, BIOL) and **Timothy S. Walters** (LAR), Arlington, Va., 10/27/12.

Christine A. Bychowski Laffoon (ENGL, EDCI '08) and **Daniel R. Laffoon** (CPE '08), Roanoke, Va., a son, 12/25/12.

Jennifer Harris Miller (HNFE), Locust Hill, Va., a son, 1/13/13.

Gregory J. Sagstetter (PSCI, PHIL), Fairfax, Va., a son, 3/9/13.

'08 **Brian A. Tallman** (BAD '07), Alexandria, Va., a daughter, 7/27/12.

'09 **Julie T. Cecere** (VM, GSCR '11, BMVS '12), Newport, Va., is a clinical assistant professor of theriogenology in the Department of Large Animal Clinical Sciences at Virginia Tech's Virginia-Maryland Regional College of Veterinary Medicine.

Ramoa R. Hemmings (HORT), Atlanta, Ga., is a senior horticulturist for the Atlanta Botanical Garden.

Edward I. Dyer (MGT) and **Chelsea Helm Dyer** (BC '11), Roanoke, Va., 11/10/12.

Patrick D. O'Boyle (CSES), Belle Plaine, Minn., a son, 11/20/12.

Emilee Sinclair (HTM), Mooresville, N.C., a son, 11/2/12.

'10 **Richard T. Anuszkiewicz** (AHRM), West Mifflin, Pa., was named among the nation's top "30 Under 30" by the National Kitchen & Bath Association.

Philip G. Cathell (ME), Berlin, Md., is the mechanical engineer manager for Orbital Sciences Corporation.

Hadi Shafiee (EM), Cambridge, Mass., received a National Institutes of Health award for his research in developing microchip technologies for infectious disease detection.

'11 **Jonathan A. Foglietti** (HIST), Chester, Va., 1/9/13.

'12 **Laura E. Gambrel** (HD), Elkins Park, Pa., won Virginia Tech's Outstanding Dissertation Award for 2013 in the social sciences category.

obituaries

alumni

Mel Feldenheimer (business '44), who reorganized the VPI Southern Colonels Orchestra when he returned to campus after World War II, died June 11, 2012. The band became a favorite at dances held at Virginia Tech and other colleges. From 1946 to 1947, the band toured the South under the name "Mel Felton and the Southern Colonels."

faculty/staff

Dean Carter, professor emeritus, died May 2. Carter, who helped establish the art department at Virginia Tech, served as department head for 10 years. A sculptor whose work was exhibited throughout the U.S., he taught sculpture, drawing, and art history from 1950 to 1992.

John Raymond Howell, associate professor of music in the College of Liberal Arts and Human Sciences, died May 3. Joining the faculty in 1979, Howell directed The New Virginians from 1979 to 1993, and in 1996 founded the Virginia Tech Early Music Ensemble, which he directed until 2012. Active in the Blacksburg arts community, he also performed with the Roanoke and Lynchburg symphonies.

James Miller Wiggert, associate professor emeritus of civil engineering in the College of Engineering, died Feb. 17. Wiggert, who taught hydrology and hydraulics from 1962 to 1991, was active in campus politics, serving as president of the Faculty Senate and on the reconciliation committee. He also served on the YMCA Committee.

Kenneth Wade Williams, technical writer for Enterprise Systems at Virginia Tech, died April 24. A member of the Virginia Tech community since 1999, Williams served most recently in Information Systems and as the "tunnel guy" during home football games.

John D. Wilson, Virginia Tech's executive vice president for academic affairs and provost from 1975 to 1982, and president of Washington and Lee University from 1983 to 1995, died March 2. Credited with "transforming Virginia Tech into a comprehensive university that values the arts and humanities, along with the sciences and engineering," Wilson was honored in 2000 with the William H. Ruffner Medal, Virginia Tech's highest honor.

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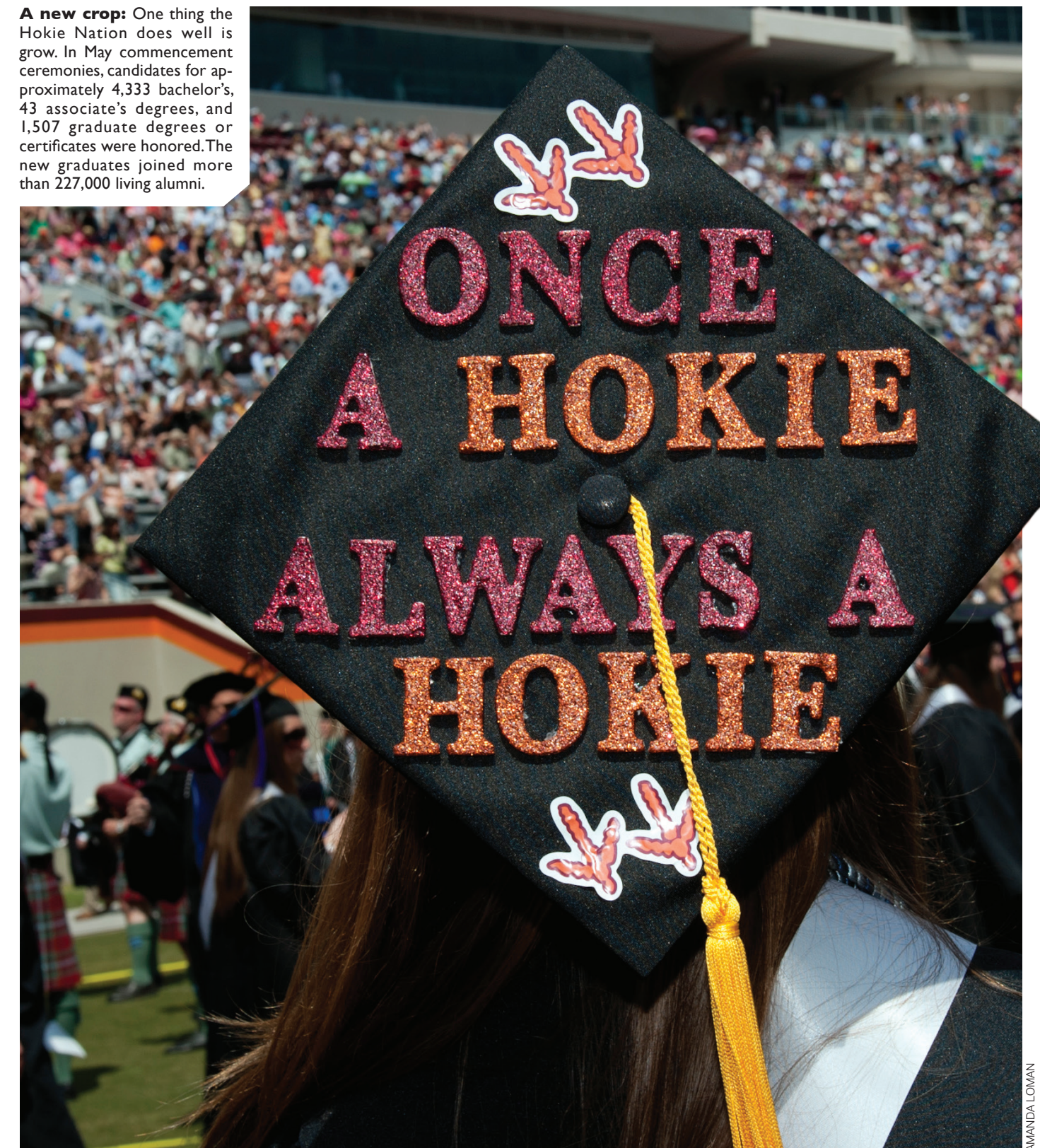
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A new crop: One thing the Hokie Nation does well is grow. In May commencement ceremonies, candidates for approximately 4,333 bachelor's, 43 associate's degrees, and 1,507 graduate degrees or certificates were honored. The new graduates joined more than 227,000 living alumni.



AMANDA LOMAN



IMPACT.

The Virginia Tech Carilion Research Institute. Impacting Virginia and the world.

Eight million new cases of brain disorders in the United States each year create a total economic impact of \$995 billion in direct and indirect costs. It's no wonder, then, that the Virginia Tech Carilion Research Institute is developing a premier brain research program. Institute scientists are inventing new strategies for preventing, diagnosing, treating, and curing such challenges as autism, stroke, traumatic brain injury, Alzheimer's disease, depression, and nicotine addiction. In addition, they are conducting the *Roanoke Brain Study*, a first-of-its-kind initiative that explores how people's genetics, environment, and connections to others affect brain development. Through their work, these researchers are discovering fundamental processes of life and solving major health issues facing people throughout Virginia and the world. We call that impact. To learn more, visit www.thisisthefuture.com.

