

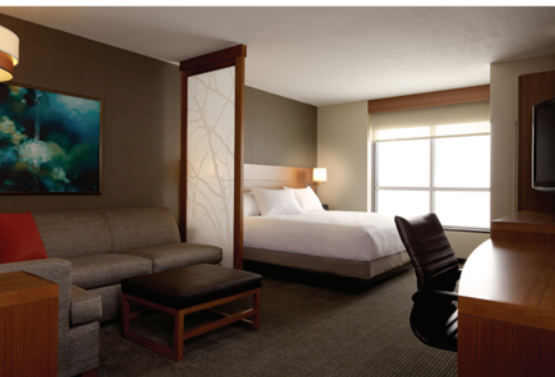
VIRGINIA TECH

magazine

winter 2016-17



Your season tickets are secured,
What about your **place to stay?**



"Unlike any other property I have ever owned - just a great place and simple to own."

The Place Owner
John Malone
VT Alum, BSEE - 1983



"Our hotel-condo is something our entire family can enjoy for decades to come."

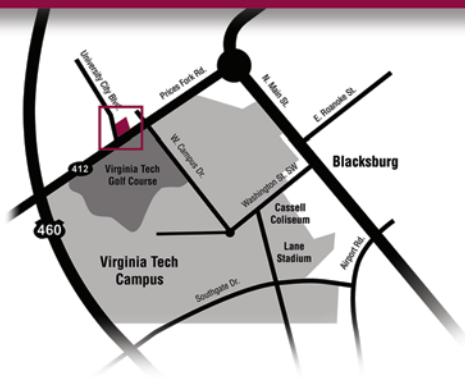
The Place Owner
Marty Johnson



"I realized purchasing a hotel-condo not only gives me a place to stay during the busy football season but it's actually a solid investment too."

The Place Owner
Ernita Thomas
VT Alum, BS in Accounting - 1991

YOUR HASSLE-FREE HAVEN



The Place at University Crossroads, a Luxury Condo-Hotel in the very heart of Blacksburg, is the ideal place for Virginia Tech fans who enjoy Blacksburg's unique style of rest and relaxation.

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Find out what Hassle-Free ownership is all about at *The Place*, at University Crossroads - Blacksburg's New destination point.

www.theplaceuc.com
(571) 969-1328

**Ownership may include rental program opportunities*

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Through an oral history project initiated in 2015, a team of faculty, staff, and students collect and examine the individual stories, memories, tall tales, tragedies, and triumphs that make up our shared history.

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Pushing the envelope, breaking down barriers, pioneering the future: Virginia Tech is leading the way to define what it means to be a land-grant university in the 21st century.

30 Hard-hitting Research

Concussions are a growing concern for athletes of all ages. Find out how Tech's helmet research is changing the game.

36 The Spirit of Giving

A visit to the nation's capital inspired Tom Bagamane '83 to make a difference for the homeless in California. His organization, The Giving Spirit, assembles and distributes survival kits to help those who live on the streets.

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On the cover: Envision Virginia Tech a generation from now—pushing limits, unleashing opportunities, and creating the future.



EDITOR

Erica Stacy

ASSISTANT EDITOR

Mason Adams

ART DIRECTOR

Robin Dowdy

GRAPHIC DESIGNERS

Amanda Robinson '17, Tiffany Pruden, Steven White '92

CONTRIBUTORS

Shay Barnhart, Kim Bassler '12, Sandy Broughton, Paula Byron, Juliet Crichton, Shirley Fleet, Allysa Fox '17, Lindsay Key '06, Richard Lovegrove, Matthew M. Winston Jr. '90, Madeline Yaskowski '19

COPY EDITORS

Juliet Crichton, Richard Lovegrove

PHOTOGRAPHERS

Jim Stroup, Logan Wallace

WEBMASTER, DIGITAL EDITOR

Juliet Crichton

DIRECTOR OF CONTENT STRATEGY

Jesse Tuel

DIRECTOR OF DESIGN & DIGITAL STRATEGY

Brad Soucy

SENIOR ASSOCIATE VICE PRESIDENT FOR ALUMNI RELATIONS

Matthew M. Winston Jr. '90

PUBLISHER

Tracy Vosburgh

CONTACTS

Story ideas and letters to the editor: Email: vtmag@vt.edu. Mail: Virginia Tech Magazine (0336); 902 Prices Fork Road; University Gateway Center, Suite 2100; Blacksburg, VA 24061.

Address changes: Email: alumndata@vt.edu. Phone: 540-231-6285 between 8 a.m. and 5 p.m., Monday through Friday.

Class Notes: Email: fleets@vt.edu. Mail: Class Notes, Alumni Association; Holtzman Alumni Center (0102), Virginia Tech; 901 Prices Fork Rd.; Blacksburg, VA 24061.

Advertising: Jeanne Coates '88; coates@primeconsultingva.com, 757-715-9676.

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Still looking

I always enjoy my Virginia Tech magazines, and your latest stories of the amazing discoveries of lost class rings really hit home. I, too, have lost my ring. Unfortunately, it hasn't found its way home.

In the fall of 1956, I was on the way to Arlington, Va., on a break from my pilot training in Moultrie, Ga., when I decided to take a short break to refill my tank and rest. It had become my habit to tap my ring on the steering wheel while listening to music. Following my stop, as I continued my drive, I suddenly realized I wasn't tapping. I looked down, and my heart sank—no ring.

I turned around and sped back to the gas station with great hopes that I would find it on the edge of the sink where I had taken it off. It was gone.

After all these years, I wonder occasionally where my ring is and what possible use it might be to someone else. I ordered a new ring and wear it proudly, but I would still love to locate the original. My name and "Arlington, Va." are inscribed inside. Perhaps your readers can join my search.

Randall Wade Everett III '56, Blacksburg, Va.

letters to the editor

Third time's the charm

Thank you for sharing the story about lost-and-found class rings. It's nice to know that I'm not alone when it comes to misplacing my Virginia Tech ring. I may be setting records, for the number of times my ring has gone astray—three to be exact.

Getting it back hasn't always been easy. Once, [the search] required a dip in the frigid February waters of the New River in a wetsuit. Once, the ring fell victim to being left on a car roof in Texas during an unexpected roadside assistance stop, and once, it was left at the home of a friend, where it was found in a child's toy box eight months later. That was in 2006. I'm thankful to report that for the last 10 years, I've managed to keep it relatively close.

S. Kevin Barger '76, Dawsonville, Ga.

Corrections:

In the fall 2016 issue of Virginia Tech Magazine, Jeanne DaDamio's majors were listed incorrectly. DaDamio earned a bachelor's degree in French in 1975, and a master of arts in education in 1976. A story in the fall 2016 issue about research of school nutrition programs on the weight of low-income children failed to mention that Kristen Capogrossi (M.A. economics, science '10, Ph.D. economics, agriculture '12), now an economist at RTI International, was the first author on the study, published in Health Economics.

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



Planning for the **2017 Day of Remembrance** is underway

On April 16, the day will begin and end at the April 16 Memorial with the traditional lighting and extinguishing of the ceremonial candle.

At 2:30 p.m. a university-wide commemoration event will be held at the April 16 Memorial to recognize the 32 students and faculty who lost their lives in 2007. At 7:30 p.m. a candlelight vigil will take place in the same location. Candles will be provided.

Additional events are scheduled throughout the weekend including the ninth 3.2-mile Run in Remembrance, a community picnic, and more.

For a complete schedule and detailed events guide for the 10-year commemoration, including links to events beyond Blacksburg, please visit weremember.vt.edu.

A real page-turner

by TIM SANDS

JIM STROUP



Laura and Tim Sands review the information available on the VT Stories website with Ashley Stant, a senior professional and technical writing major from Hague, Virginia.

Almost two years ago, we boldly began to imagine the future of higher education. Today, we're turning our vision into reality. As you'll see in our cover story, things are taking shape in exciting and sometimes surprising ways. We are breaking new ground in research, development, diversity, and the student experience. We are poised to grow and expand our presence in Virginia, across the nation, and around the globe.

As our future develops, we are also taking steps to honor and preserve our history. When Laura and I first came to Virginia Tech, we were welcomed by alumni from around the country, and we were struck by the fact that everyone we met had a story. Some were funny. Some were painful. Some reflected the struggles of our university community as it grew and evolved. Many were inspirational. These personal stories highlight the value of hands-on learning as they intersect with our work to advance research, discovery, and outreach. As Laura put it, the lived experiences of our alumni are a "storehouse of knowledge and wisdom" that can greatly benefit our graduates as they approach the challenges of the next generation.

Every story is part of the collective Hokie experience that made Virginia Tech what it is today. Recognizing the historic value of these personal moments, Laura joined representatives from various areas across campus to develop a plan to record and preserve

our stories. The result is a new, online collection called VT Stories. You can learn more about the project in this edition of Virginia Tech Magazine.

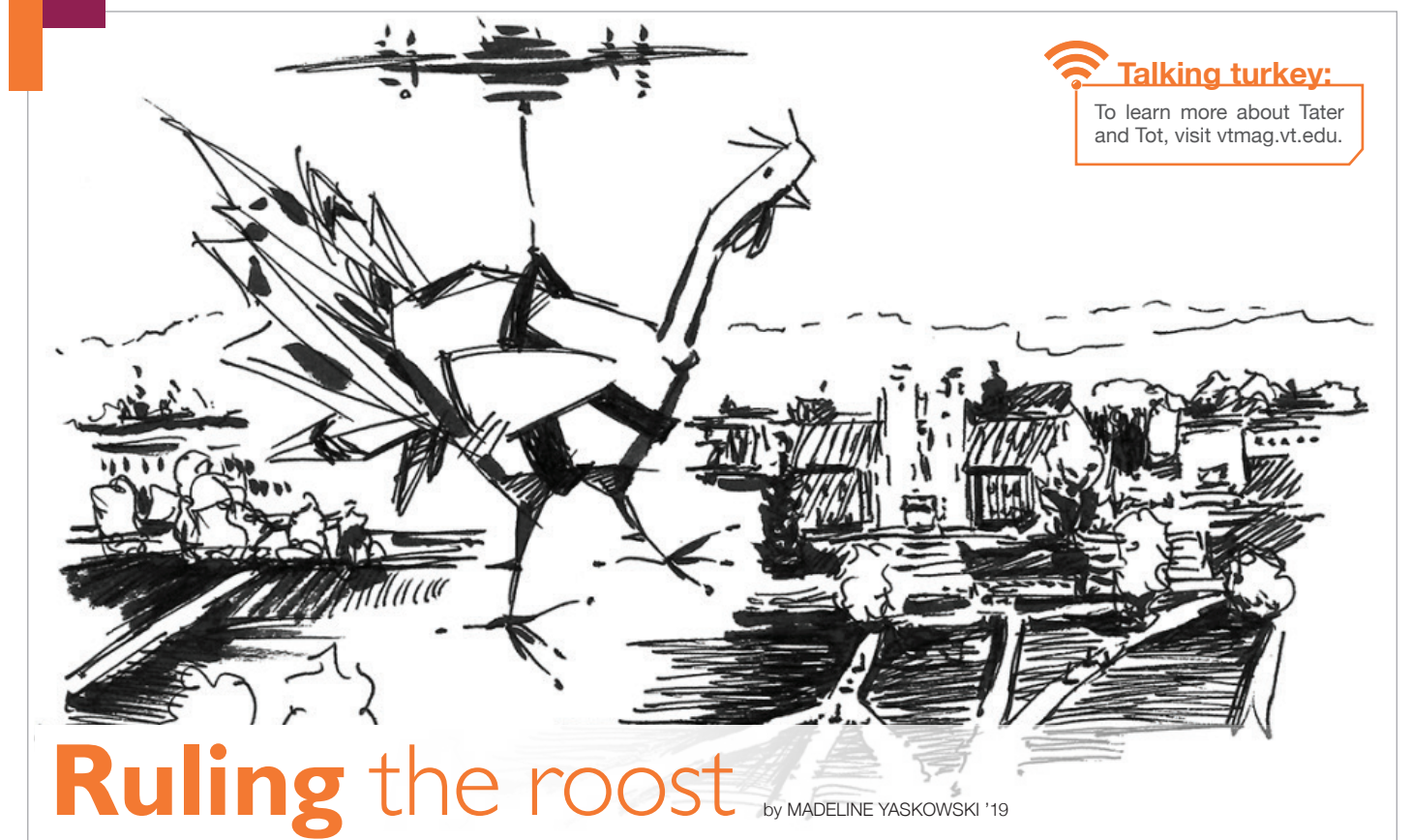
Whether you're a long-time member of our community or will be joining us next fall as part of the class of 2021, I hope you'll visit VTStories.org. Please consider adding your own experiences to the project.

At Virginia Tech, we understand that reaching our full potential begins with respect for where we have been and a clear vision for where we want to go. I hope you'll be part of our next remarkable chapter, as Virginia Tech's future continues to unfold. □

Tim Sands is Virginia Tech's 16th president.

Around the Drillfield

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Each year around Thanksgiving, a few turkeys battle for the ultimate gift: being "pardoned" by the U.S. president. Although the HokieBird might be too widely loved to ever be served for dinner, he had some competition last year—Tater and Tot, who now reside at Virginia Tech in Gobblers Rest, located inside the Livestock Judging Pavilion on Plantation Road.

Tater and Tot were among nearly 80 randomly selected birds who from birth received special training in their quest for fame. They learned to sit still, stay calm, and adjust to a variety of noises. Following the intense training, the two best-behaved and most beautiful birds traveled to the White House.

Though the origin of this tradition is disputed, one legend traces it to Abraham Lincoln, whose son, upon seeing a turkey brought in for Christmas dinner, begged that the bird be spared. While succeeding presidents had holiday turkeys of their own, the official pardoning tradition didn't begin until 1989, when George H.W. Bush saw animal rights activists picketing and declared, "Reprieve."

Following the 2016 pardon, Tech rolled out the red carpet for Tater and Tot, who were escorted to their new home by Rami

Dalloul, a world-renowned poultry immunologist in the College of Agriculture and Life Sciences. The nationally publicized event offered a special opportunity to showcase Virginia Tech's longtime involvement in the turkey industry.

In 1922, A.L. Dean, then-head of Tech's Department of Poultry Science, received a letter from Charles Wampler, a Virginia Co-operative Extension agent interested in raising turkeys artificially. Dean shared his research and knowledge with Wampler, and the poultry industry was forever changed. Wampler is now regarded as the father of the modern turkey industry.

The legacy endures today: Tech's biochemistry department is researching the effects of protein levels on turkey development and maturation, while the Virginia-Maryland College of Veterinary Medicine conducts infection-control in the birds. □

A sophomore double majoring in public relations and German with a minor in psychology, Madeline Yaskowski is an intern for Virginia Tech Magazine.

Celebration of heritage:
View more photos from the event by visiting visting.vtmag.vt.edu.

Native inspiration

by ALLYSAH FOX '17



ALBERT RABOTEAU

At the American Indian and Indigenous Heritage Month event held at Virginia Tech in October, Rufus Elliott '07 wore a "VT" necklace made by his mother; the "beads" are Indian corn.

Rufus Elliott (history '07), Virginia Tech's first Monacan alumnus, honored his life's heroes—his grandmother and his mother—during the university's annual celebration of American Indian and Indigenous Heritage Month in October 2016. He also credited Virginia Tech Professor of Sociology Sam Cook with inspiring his decision to enroll at the university.

In 2001 Cook, who directs the American Indian Studies program at Virginia Tech, piloted a program called the Virginia Indian Pre-College Initiative. Through the program, Native American students in grades eight to 12 were invited to visit campus along with their parents and tribal elders. According to Cook, the goal of the initiative was to encourage students to value education in whatever form it takes.

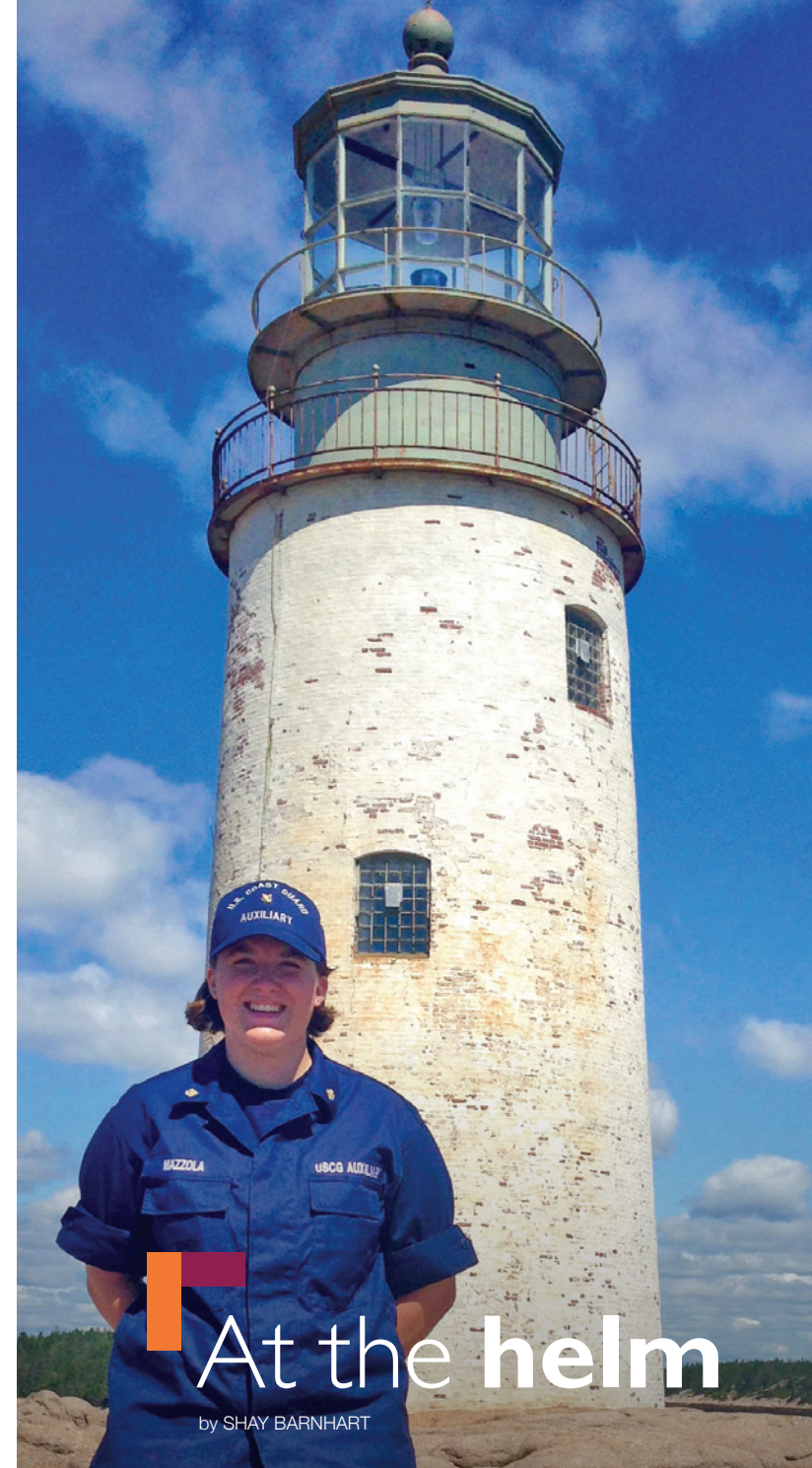
Elliott, who had known Cook for many years, was among the students who visited campus. Several years later, he enrolled at Virginia Tech, but the path to graduation presented some unexpected challenges. In fact, Elliott found himself on academic probation and dropped out for a semester.

Through this difficult period, Elliott said that he often looked at a picture that hung on a wall in his Blacksburg apartment. Depicting a two-room schoolhouse that Monacan children had attended until the late 1960s, the photograph served as a reminder of the rarity of education among his people—including his own family. Elliott's great-grandmother learned to read while working as a maid; his grandmother attended school only through the third grade.

Realizing the vast differences between his relatives' educational opportunities and his own, Elliott was inspired to return to the university, becoming the first Monacan not only to attend, but to graduate from Virginia Tech.

"Events like this are nice, and it may be me being honored today," said Elliott, "but I couldn't have graduated without my mother and grandmother, who went through a lot to get me to Virginia Tech. I'll get the attention today, but they are the ones to honor." □

A senior studying multimedia journalism, Allysah Fox is an intern for Virginia Tech Magazine.



COURTESY PHOTO

At the helm

by SHAY BARNHART

During summer 2015, cadet Katie Mazzola interned with the Coast Guard in Southwest Harbor, Maine, where she had the opportunity to shadow the Aids to Navigation Team of Southwest Harbor and to visit the Moose Peak Lighthouse on Mistake Island.

A senior with the Virginia Tech Corps of Cadets is at the helm of the national U.S. Coast Guard Auxiliary University Programs this academic year.

Katie Mazzola, of Mendham, New Jersey, who is majoring in political science, oversees 22 university programs across the country. Her duties include maintaining the auxiliary's academic standards, coordinating professional development programs, and creating new training courses.

Leadership development is a key component of the program.

"No matter what you do in life, whether you're going into the military or the private and public sectors, it's up to you to be a good leader. Development of that [trait] is huge, and learning through experiences is the best way to do that," Mazzola said.

The recipient of a corps Emerging Leader Scholarship, Mazzola quickly found her calling after joining the auxiliary in 2014 at the urging of a friend who served in the Coast Guard. She said that she hopes to commission with the Coast Guard after graduation and eventually put her political science degree to work.

Established in 2007 at Auburn University, The Citadel, and The College of William & Mary, the Auxiliary University Programs are student-run organizations that take the place of a formal ROTC program. Virginia Tech's unit serves Coast Guard Auxiliary Flotilla 83, based at Claytor Lake, through a partnership with the Corps of Cadets. Students do not have to be enrolled in the corps to join the unit.

Although Virginia Tech's program was established in 2010, it took a few years to gain traction, said Lt. Col. Don Russell, deputy commandant of cadets for the VPI Citizen-Leader Track. The unit has since grown to be one of the largest among the 22 detachments, "thanks in large part to motivated cadets who aspire to lead," Russell said.

Today, more than 200 students participate in the Auxiliary University Programs, about 16 of whom are enrolled at Virginia Tech.

Virginia Tech's unit meets weekly to review Coast Guard coursework and to take boating classes. Students also help Flotilla 83 members with safety training, boat inspections, and other tasks.

"Many of them have spent time in one of the military branches, so it's fun picking their brains about what [service] was like," Mazzola said. "[Their participation] furthers our knowledge of the military overall, and many of them have spent a decade of their time in the Coast Guard auxiliary, as well."

Gary Eifried, the human relations officer for Flotilla 83, said Mazzola works tirelessly to foster the goals of the program.

"She has recruited eight new members into the unit this year alone and works diligently to get them trained and contributing to the program," Eifried said. "Always responsive to the needs of the program, she has an engaging manner and demonstrates excellent leadership qualities." □

Shay Barnhart is the corps' communications director.

Healthy Hokies

The rigors of college life can take their toll.

To bounce back, Hokies have the Division of Student Affairs' Schiffert Health Center, a one-stop shop for health care services, medications, tests, and more.

The center is focused on keeping tens of thousands of students—all non-athletes—healthy and vibrant. Center staff members stress a holistic approach toward physical, emotional, spiritual, and financial health.

"My philosophy is that these kids are our kids," said Kanitta Charoensiri, a physician and the center's director. As she tells her staff, "Please treat [students] how you would want your kids to be treated if they needed health care." Below, Charoensiri answers some of the most frequently asked questions at the center.

Questions + misconceptions

Q: They don't have real doctors.

A: "Yes, we do. We have physician's assistants and nurse practitioners, as well as emergency medicine, internal medicine, and family medicine physicians."

Q: Why did you send my child to the emergency room? Now I have this bill!

A: "If the student's concussion symptoms had continued to improve, that's fine. But if it's not getting better, I will err on the side of caution."

Q: My son was seen there. I want to know what's up.

A: "The health center will talk to parents only if the student has signed a release."

Q: They don't give you antibiotics.

A: "We don't if you don't need it. We're trying to educate. If you use something that you don't need, and then later you do need it, the organisms will be resistant, and the antibiotics won't work."

The doctor is in:
To learn more about student health care services at Virginia Tech, visit healthcenter.vt.edu.

2015-16 statistics

60,470 Patient visits | **15,565** Unique visits



10% increase over 2014-15

More than 1,000 students



in five middle schools reached in educational classes on tobacco reduction and cessation



96% Patient satisfaction rate

Two-dozen students



trained as peer educators to spread health care information across campus

37,990
Pharmacy meds dispensed

18,266
Laboratory tests done

1,865
Vaccines administered

6,130
Allergy injections

23,772
Pharmacy patient visits

183
Dietitian appointments

190
Dermatology referrals

2,220
Skin-related visits

590
Self-care cold clinic visits

1,794
X-rays done

1,034
Orthopedic appointments

45
Healthy Eating Assessment and Referral Team appointments

ROCK OUT

by RICHARD LOVEGROVE
photos by LOGAN WALLACE

VIRGINIA TECH HAS BEEN OPERATING A QUARRY OF SOME SORT SINCE THE 1800S (ONE OLD QUARRY WAS WHERE DERRING AND COWGILL HALLS NOW STAND), BLASTING AND CUTTING CHEPULTEPEC AND KINGSPORT DOLOMITE OF VARIOUS HUES THAT ARE THEN LAID OUT IN AN "ASHLAR" PATTERN TO GIVE CAMPUS BUILDINGS THEIR DISTINCTIVE STYLE.

1. SHOOTER: The method that shooters at the quarry use to separate large slabs from the shelf of rock is a bit old-fashioned and traditional. Typically they rely on black powder measured out in a Vienna sausage cup, though they'll employ dynamite when it appears a layer is going to result in useless scrap.

2. WHAT ABOUT THE COLORS?: Stone from the university quarry is primarily shades of pink and gray, but the façade on Hokie Stone buildings calls for 20 percent black rock. This comes from a quarry in Luster's Gate, about 600-700 tons a year. Called a "bull nose," stone on older buildings protrudes more than modern rock.

3. STONE BLOCKS: Quarry workers prefer the largest blocks that can be fit on the saws, but if they're too large, they look for a good seam, drill into it, insert a hydraulic splitter, and slowly break the slab apart. A loud "pop" means good stone.

4. THE SAWS: The stone slabs are then moved onto one of two enormous saws. The blade saw, at right, has 140 diamond teeth and is replaced every three months. The quarry also uses a wire saw made up of aircraft carrier cable (used to snag aircraft landing on ships) covered with plastic inserts and diamond-embedded metal joints.

Both saws are run by computer, which notifies the quarry manager if they stop or jam.

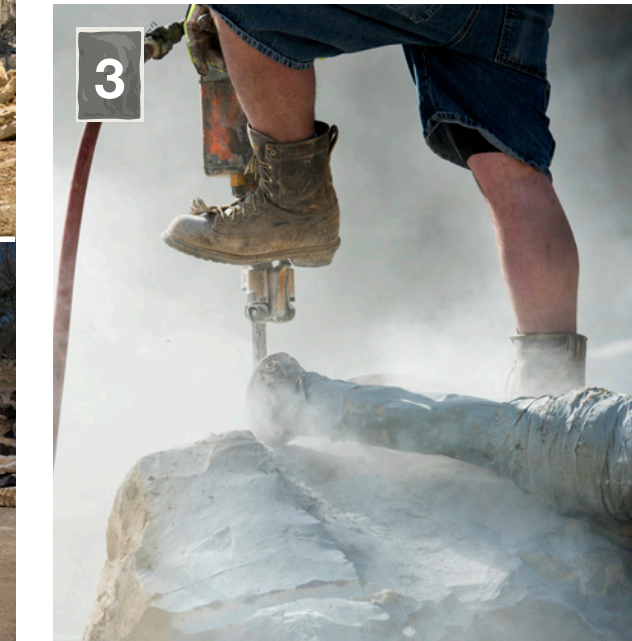
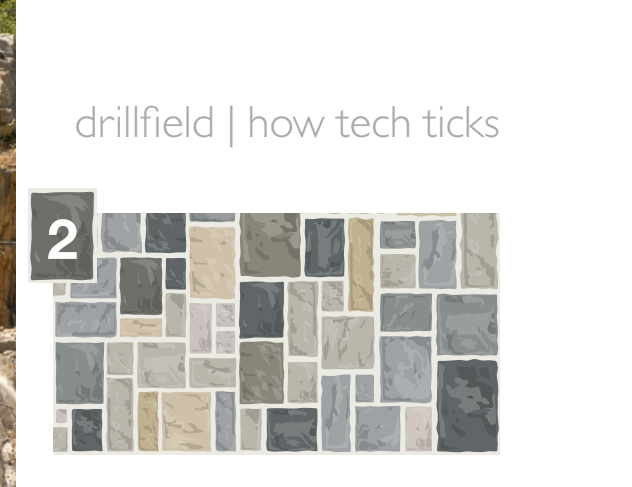
5. THE BREAKER: Quarrymen take blocks from the saw and feed them into a breaker that applies 3,000-3,500 pounds of pressure to crack them into predetermined sizes. The useable pieces are stacked on pallets that hold about 2,350 pounds. The quarry produces about 60 pallets per week. The order for Goodwin Hall required 3,200 pallets, or a little more than a year's work.

6. THE FACES: Trucks haul the pallets to the work site, and a stonemason cuts a "face" on all four sides to give the stones their ragged look. □

Building blocks:

For a behind-the-scenes video about the quarry, go to vtmag.vt.edu.

Workers drill 20-25 holes with a 1 3/4 inch drill bit, run 250 feet of drop cord, then hook it all to a battery-powered detonator. They do yell "Fire in the hole!"





Dig it! The only ACC student-athlete to collect at least 400 kills and 200 digs in three consecutive seasons, outside hitter Lindsey Owens (biology '16) was named to the All-ACC first team, making her a four-time all-conference honoree.

Podium power: The first Hokie to claim an Olympic medal since Bimbo Coles in 1988, seven-time All-American Kristi Castlin (political science '10) won a bronze medal in the

women's 100-meter hurdles at the 2016 Summer Olympic Games. Team USA swept the event.

Tech triumph: Head coach Justin Fuente guided the Hokies to a 10-4 record, a berth in the ACC championship game, and their 24th consecutive bowl appearance—a thrilling come-from-behind victory in the Belk Bowl versus Arkansas.

The Hokies finished the season ranked No. 16, and Fuente was named consensus ACC Coach of the Year.

Making a splash: Senior Robert Owen, who finished sixth overall in the 200 backstroke at the 2016 U.S. Olympic Team Trials, was named to the 2016-17 USA Swimming National Team, the first-ever Hokie to be selected.

Owning the plate: Catcher Lauren Duff was named Tech softball's first-ever ACC Freshman of the Year, joining pitcher Maggie Tyler (communication '16) on the All-ACC first team.

Goal! Earning their first NCAA tournament berth since 2007, the Hokies advanced to the Elite Eight and ended the year ranked No. 8 in the men's National Soccer Coaches Association of America poll and No. 11 in the RPI.

Net worth: Joao Monteiro (economics '16) advanced to the Final Four at the 2016 NCAA men's tennis singles championship.

Double play: During MLB's 2016 first-year player draft, redshirt-junior Saige Jenco and junior Aaron McGarity (pictured above) extended the Hokies' streak of multiple players selected in a single draft to eight years, the longest stretch in program history.

All-American grapplers: Tech's wrestling team placed fourth at the 2016 NCAA championship, the best finish in program history and the best finish by an ACC team in conference history. Tech's six All-Americans set a program record for the most in a single season.

Not pictured: **Leaderboard:** In June 2016, rising senior Joey Lane won the 103rd Virginia State Golf Association Amateur, held at

the Pete Dye River Course of Virginia Tech.

The natural: Soccer forward Murielle Tiernan (residential environments and design '16) was named to the All-ACC first team for the third consecutive year and finished her collegiate career atop several all-time lists at Tech: career goals, career points, game-winning goals, and multiple-goal games.

Sky's the limit: Sophomore pole vaulter Torben Laidig claimed silver at the 2016

NCAA outdoor track and field championships.

Dave Cianelli, Tech's director of track and field and cross country, was named the ACC Men's Coach of the Year for the 2016 outdoor track and field season, his 10th such honor.

Hokie highlights: For a video featuring highlights from 2016 athletics, go to vtmag.vt.edu.



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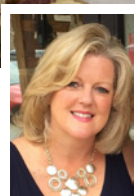
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Every Hokie has a story

VT Stories captures alumni experiences at Virginia Tech through the decades

by MASON ADAMS

JIM STROUP

The VT Stories team includes: (from left to right) Ashley Stant, Katrina Powell, Tarryn Abrahams, Ren Harman, David Cline, President Tim Sands, Dr. Laura Sands, Quinn Warnick, Shannon Larkin, Jessie Rogers, Tamara Kennelly, and Adrienne Serra.

Whether attending as a cadet in the years following World War II, breaking barriers as one of the first African-American women to be enrolled, or using time on the university tennis team to build a career as a professional tennis umpire, alumni made memories on campus.

Collectively, these shared experiences tell the story of Virginia Tech, creating a history that spans generations. Now, a team of faculty, staff, and students are working together to collect these personal accounts and make them available for anyone with an interest in learning more about Hokie history as seen through the eyes of those who lived it.

The VT Stories website launched on Nov. 12, 2016, with nearly 20 stories from a variety of alumni.

“VT Stories is a place where people can find out about the multitude of stories that make up the history of Virginia Tech,” said Katrina Powell, who is the VT Stories coordinator, an English professor, and the director of the Center for Rhetoric in Society. “On one hand it’s a great place to find out about great things going on at Virginia Tech and the really amazing things alumni do after leaving. It’s also a place to understand some of the complicated and meaningful and not always happy moments that happen at the university as a place for lots of change.”

David Cline, an oral historian and assistant professor in the Department of History in the College of Liberal Arts and Human Sciences, said that the VT Stories project is about using “the power of storytelling to really get at what it means to be a Hokie and for allowing our community to have a better sense of its own history.”

VT Stories grew out of previous research Cline had conducted, first on African-American history in the New River Valley centered on the Christiansburg Institute, and then on regional experiences of those in Virginia Tech’s lesbian, gay, bisexual, transgender, and queer/questioning (LGBTQ) community.

Shelli Fowler, formerly a Virginia Tech associate professor of English and senior director for Networked Pedagogies and Professional Development in Technology-enhanced Learning and Online Strategies (TLOS), came away from the LGBTQ project enthusiastic about the potential of the oral history technique.

Fowler, now an associate professor at Virginia Commonwealth University, shared her thoughts with Professor Laura Sands. “After Tim was named president, we began hearing from Hokies around the world,” said Laura Sands. “In addition to offering a warm welcome, they told us their stories: about being a first-generation student, making groundbreaking discoveries, facing hardship, and achieving success. I remember feeling an urgent need to record and preserve these moments.”



Tell your story:

To share your story, visit vtstories.org and click the “Share Your Story” tab in the upper right corner of the screen.

A bridge for alumni and students

A working group consisting of Sands and representatives from across campus formed around the idea.

In the summer of 2015, the group launched a pilot project interviewing about 10 alumni, mostly members of the Corps of Cadets Old Guard.

Ren Harman (biological sciences ’11, M.S. education ’14) became the project manager in 2016. Quinn Warnick, senior director of academic innovation and user experience in TLOS, and Cline are co-principal investigators on the project. The Virginia Tech Alumni Association helps make the connections between alumni and the VT Stories team.

The VT Stories team also includes graduate and undergraduate students in various roles.

“VT Stories is about bringing people together through shared memories and experiences,” said Ashley Stant, a senior professional and technical writing major from Hague, Virginia.

Some of the stories can be uncomfortable, especially those involving cadets who struggled in their first “rat” year or pioneers who broke racial and gender lines to attend Virginia Tech during tumultuous years of social change.

“Stories have power to amplify and confirm, but also to call into question our theories about history,” said Warnick. “We’re finding stories that may have been marginalized and ignored, and we’re bringing those to the forefront. We want to include a range of stories and experiences, and we don’t want to varnish them. Many of these stories have awkward and painful moments in them.”

Stories told by the women of the class of 1970 and by African-American women who attended in the late ’60s include reminders that the atmosphere on campus wasn’t always as welcoming as it is today.

At the same time, those same stories include humorous moments and a shared love of Virginia Tech that shines through even during challenging times.

As the project grows and more stories appear online, the team intends to expand its efforts. In doing so, they’re sharing a Virginia Tech history that’s told not from an institutional perspective, but by the students who represent Tech’s footprint in the world. □

VT STORIES excerpts



Women of 1970: Tech’s Trailblazers

As part of the Virginia Tech class of 1970, (pictured above left to right) Sue Ellen Kimmy, Nancy Hutchinson Webb, Noel Marts, Marilyn Vanhoozer, Donna Price, and Beverly Quinn were pioneers on a transforming campus. Prior to the acceptance of civilian women on Tech’s campus, women, much like these six friends, attended the women’s college at Radford.

As the country and the campus faced great changes in the 1960s, women joined the flock of students crossing the Drillfield on their way to class.

“I remember standing on the steps of Burruss Hall and going, you know, this is the most amazing place I’ve ever seen.”
— Donna Price

“I just felt like when I came to this University I was always a determined young lady, but when I got here I felt like the people I met, the women that came here were sort of, I want to say even trailblazers.”
— Sue Ellen Kimmy

“I think part of the change wasn’t just us being a large cohort of women coming to the University at one time, but also the timing when we were here. So it was from ’66 to ’70. It was Kent State, Vietnam, and there was just a lot going on in the world.”
— Marilyn Vanhoozer

Shaping the land-grant university's future

Next phase of Beyond Boundaries starts with stakeholder committees using collaborative leadership model

by MASON ADAMS

Virginia Tech Provost Thanassis Rikakis meets with members of the Order of the Gavel, a student leader group, to discuss the Beyond Boundaries initiative.

How do we solve complex, 21st-century problems and prepare the workforce of the future for careers in fields that do not even exist today?

At Virginia Tech, educators and administrators are tackling the challenge together, using a model of collaborative leadership that encourages big-picture, multidimensional solutions.

The collaborative leadership method brings together individuals with deep subject-matter expertise, the ability to develop relationships and work with those from different backgrounds, experience built across sectors, and a desire to serve the greater good.

If that approach sounds familiar, it should: These are at the core of the VT-shaped experience in which students are immersed. They are also qualities that researchers and thought leaders have identified as necessary to tackle problems with many facets.

“If individuals, even very talented individuals, come up with a solution to a problem, they’ll solve one or two dimensions,” said

Thanassis Rikakis, executive vice president and provost. “These problems have 20 or more dimensions, and we need to approach all of them in an integrative manner. If we have the right people in the room listening to each other, that’s when the really good ideas emerge.”

The strategy, initiated in December, is the second phase of the Beyond Boundaries initiative. It includes the formation of stakeholder committees that will drive the development of transdisciplinary teams.

The stakeholder committees consist of deans, institute directors, and faculty members with demonstrated strengths in the key components of Virginia Tech’s five Destination Areas and five Strategic Growth Areas. Destination Areas, along with related, smaller-scale Strategic Growth Areas, provide new frameworks for faculty and students to identify and solve complex, 21st-century problems.

The committees will identify multifaceted solutions that can be applied to noisy, real-world problems and will guide the work of the large transdisciplinary design teams that developed each Destination Area and Strategic Growth Area during phase one.

The design teams will remain at the core of the second-phase efforts. Stakeholder committees will tap these teams to carry out many of the tasks involved in advancing the Destination Areas and Strategic Growth Areas by making new hires, planning more facilities, developing curricula around key topic areas, and structuring large-scale research proposals and research and engagement partnerships.

The development of the Destination Areas initiative, launched in the spring of 2016, has been guided by the methodology of iterative design. Instead of delaying action over months or years while studying a problem, iterative design involves using what’s known to begin a project, testing and refining along the way, and incorporating feedback in real time to continuously improve and adapt to rapidly changing conditions.



Strategic solutions:

To learn more, visit the provost’s Destination Area and Strategic Growth Area web pages at provost.vt.edu/destination-areas.

Destination Areas:

- Adaptive Brain and Behavior
- Data Analytics and Decision Sciences
- Global Systems Science
- Integrated Security
- Intelligent Infrastructure for Human-Centered Communities

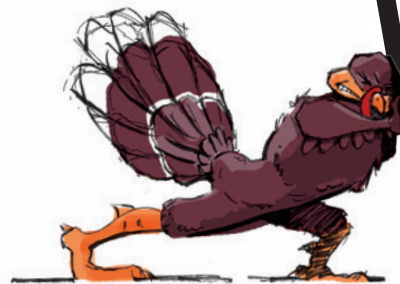
Strategic Growth Areas:

- Creative Technologies and Experiences
- Economical and Sustainable Materials
- Equity and Social Disparity in the Human Condition
- Innovation and Entrepreneurship
- Policy

LOGAN WALLACE

the

BOUNDARY



ISSUE

Plunk a technologically advanced university in the rural, rolling hills of the Blue Ridge Mountains, purposefully choose a bold palette of maroon and orange as the school colors, designate a turkey as the school mascot, and nickname this tightly knit community Hokies. That brand of moxie is ingrained at Virginia Tech, where pushing the envelope isn't optional. It's expected.

Breaking boundaries isn't just something we do. It's who we are. It's part of our history and the key to our future. Hokies aren't afraid to be different, to shake things up, to lead the change. So when Virginia Tech President Tim Sands outlined an ambitious vision that would position our university at the center of defining the role of the 21st-century land-grant institution and transforming higher education, university leaders, faculty, staff, and students took notice and got to work.

In his State of the University address, delivered in September 2016, Sands offered initial glimpses of how Virginia Tech is advancing as a world leader while remaining true to its land-grant mission and motto, *Ut Prosim* (That I May Serve).

Falling firmly within the context of the university's history of bold moves, the charge is clear. Our goal is to answer the big questions and to discover the solutions to meet the changing needs of students and employers—and a world population projected to reach nearly 10 billion by 2050.

Our vision for Virginia Tech is already manifesting itself in significant ways. The examples that follow illustrate our commitment to meaningful change. Some of these stories are likely familiar. Others may be new. And still more may surprise you with their spectrum and initiative. Together, they are writing the next chapter in Virginia Tech's story, which began when Addison Caldwell, inspired by the promise of an education, walked 26 miles from Craig County to Blacksburg.

Although students today are more likely to arrive by car, they still set out to Virginia Tech to pursue the diverse educational opportunities that will enable them to tackle global challenges and shape the future.

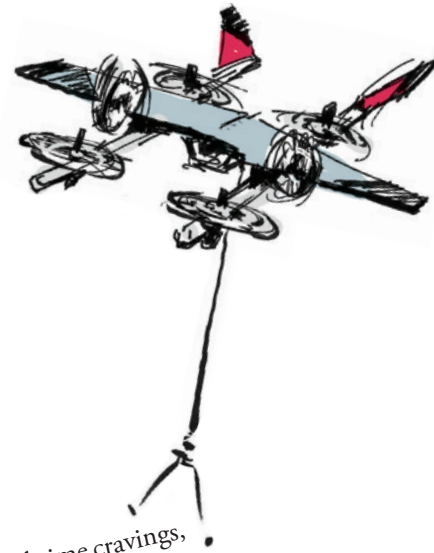
Point of focus

In May 2015, Sands launched a yearlong effort to rethink the university of tomorrow. He challenged a faculty-led committee to envision Virginia Tech, without constraints, a generation into the future.

The initiative, known as Beyond Boundaries, brought together students, staff, faculty, local government officials, and representatives from the Board of Visitors. Participants spent a year focused on four thematic areas central to the university's advancement: the campus of the future, preparing students for the world, discovering new funding models, and advancing as a global land-grant university.

"This vision is not a blueprint or a strategic plan; it is a method of engaging with a rapidly changing world," Sands said. "This work will benefit the university community for years to come."

Initial extensions of Beyond Boundaries included the development of Destination Areas as crosscutting themes that will attract global talent and partners, along with an incubator that would entertain proposals to advance Beyond Boundaries concepts. (For details, see the related story on page 18.)



Flying burritos

Burritos delivered by drones are definitely cool options for satisfying lunchtime cravings, but that's only part of the story.

Autonomous vehicles and unmanned aircraft are gaining momentum as experts in the transportation industry plan for the future. Virginia Tech, as the leader of the Mid-Atlantic Aviation Partnership (MAAP), operates one of six Federal Aviation Administration-authorized (FAA) test sites for autonomous vehicle development. In fall 2016, the university made history by partnering with Project Wing to host the first-ever campus testing of drone-delivered burritos. Project Wing is part of X, an innovation lab, formerly known as Google[x], that incubates new breakthroughs in science or technology.

The research, a step toward integrating deliveries by unmanned aircraft into everyday life, is part of Virginia Tech's commitment to create intelligent infrastructure for human-centered communities, a \$75 million initiative to provide experiential learning opportunities for students and to build infrastructure that supports sustainable communities and co-evolves with users. Extended flight tests at Virginia Tech yielded technical, safety, and user-experience data on food delivery by unmanned aircraft, which then were shared with the FAA. So far, the consensus seems to be that the drones provided a visually spectacular delivery option.

And while lunch transformation in Blacksburg is making history, Virginia Tech is looking for ways to strengthen its community and business partnerships in the Star City—about 30 miles away as the drone flies.

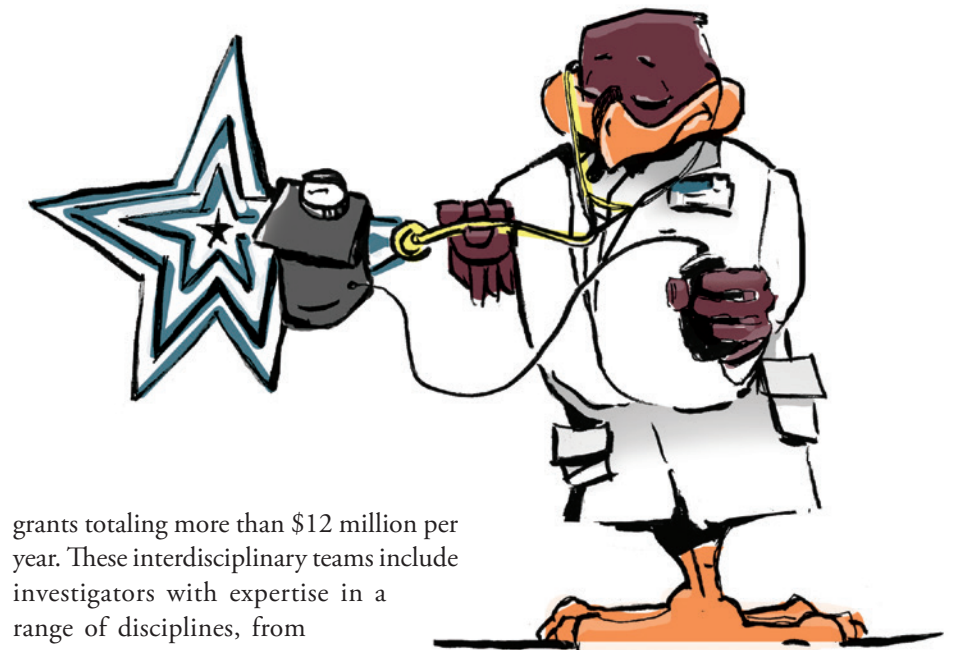


Expanding partnerships

Several years ago, Virginia Tech reinvigorated Roanoke through the university's partnership with Carilion Clinic and the creation of the Virginia Tech Carilion School of Medicine and Research Institute. In 2016, the university took the next step and made the medical school Virginia Tech's ninth college, embarking on a dramatic expansion of the Carilion partnership to create an international impact on the biomedical field. The medical school and closely aligned research institute will form the core of the expanded Virginia Tech Carilion Health Science and Technology Campus.

In 2017, the Virginia Tech Carilion School of Medicine (VTC) will graduate its fourth class of doctors. For three consecutive years, the school has achieved a 100 percent match rate, with all of its graduating students successfully paired with a residency program.

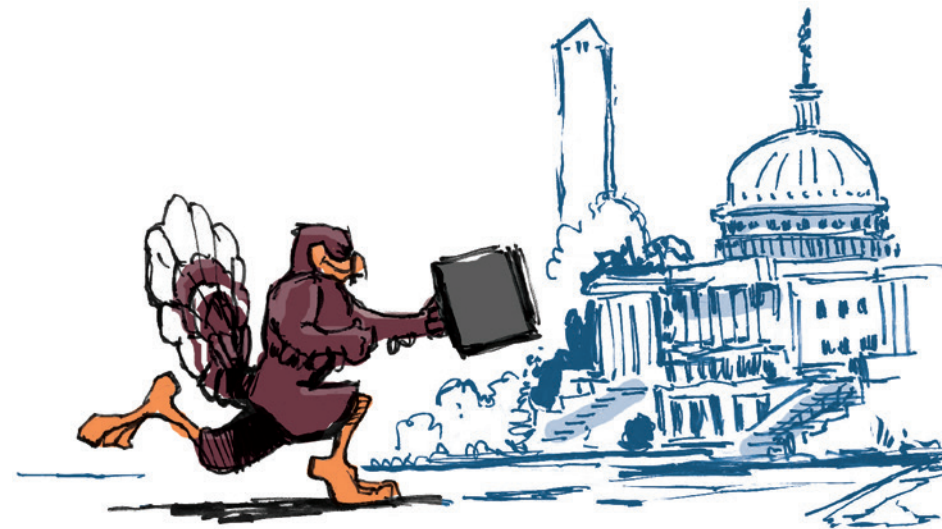
The research institute supports 25 major research teams that have been awarded



grants totaling more than \$12 million per year. These interdisciplinary teams include investigators with expertise in a range of disciplines, from biology and chemistry to computer science and economics. The teams' studies address issues such as addiction, substance abuse, cancer, cerebral palsy, child neglect, developmental disabilities, and traumatic brain injury.

Tech plans to invest \$100 million in health sciences and technology over eight years, including a new \$67 million building that will double the size of the research institute, and to move pieces of its biomedical engineering program and neuroscience endeavors to Roanoke, developing that campus into a full-fledged biomedical district.

Led by Michael J. Friedlander, the founding executive director of the Virginia Tech Carilion Research Institute, the health sciences and technology initiative will also connect to the National Capital Region, which is expected to provide resources in computation, as well as data, electronic health records, and social science analytics. "We are going to differentiate ourselves at the interface of health science and technology across the whole Virginia Tech system, including Blacksburg, Roanoke, and Arlington," Friedlander said.



Beyond Blacksburg: The National Capital Region

Virginia Tech has long maintained a presence in the national capital through the Ted and Karyn Hume Center for National Security and Technology, which heads the university's educational and research programs supporting the defense and intelligence communities and executes a broad range of research programs in wireless communications, satellite engineering, cybersecurity, and big data. The Integrated Security Destination Area will expand the center's role and Virginia Tech's influence on current and future decision-makers.

Tech's footprint in Washington, D.C., is not limited to its academic and research programs, however: Our researchers and thought leaders are actively involved in shaping public policy. Marc Edwards, the Charles Lunsford Professor of Civil and Environmental Engineering, testified to a congressional committee about his work with a group of students and other faculty to expose widespread elevated levels of lead and dangerous Legionella bacteria in Flint, Michigan. Their work, which united a coalition and exposed a citywide health crisis that should serve as a warning for all communities facing crumbling infrastructure, was covered in detail in the spring 2016 edition of Virginia Tech Magazine. This past fall, Edwards was a finalist in Time magazine's Person of the Year competition, and the work of his team continues to support the Flint community.

In November, Virginia Tech officials gathered at the White House to receive Tater and Tot, turkeys pardoned by former President Barack Obama during an annual White House ceremony. (Read more about Tater and Tot on page 5.)

Buildings, business, and big ideas

In fall 2016, Virginia Tech revealed plans for a more than \$225 million Global Business and Analytics Complex to galvanize people who share a passion for an analytic approach to problems that occur in societies, governments, and businesses throughout the world.

Four new structures are planned on the Blacksburg campus, including two academic buildings and two living-learning residential communities for some 700 students. In addition to the facilities envisioned for Blacksburg, "our goal is to develop similar analytics complexes in Roanoke, centered on health analytics, and in the National Capital Region, focused on technology and solutions transition of our research and outreach to government and industry, combined with experiential learning opportunities for students," said Naren Ramakrishnan, the Thomas L. Phillips Professor of Engineering, director of the Discovery Analytics Center, and a member of the faculty team that designed the Data Analytics and Decision Sciences Destination Area.

In addition, preliminary plans for an Intelligent Infrastructure and Construction Complex were announced in spring 2016. A new building within the complex will expand the Myers-Lawson School of Construction, offering increased space to accommodate growth. Since its founding, more than 600 students have graduated from the school's programs, and the Class of 2016 recorded a 100 percent job placement rate within three months of graduation, commanding an average starting salary of \$61,000.

All of the university's growth isn't destined for the future, though: There is change afoot now. To accommodate the big ideas and crucial research of Virginia Tech students and faculty, a new \$42 million Classroom Building, complete with 15 classrooms and four teaching labs, opened in the fall. Two of the classrooms feature round tables with 60-inch screens that can be used by students or the professor. In addition, on the Upper Quad, construction of a second Corps of Cadets residence hall is underway, and plans for the Leadership and Military Science Building are moving forward on schedule.



Raising the bar

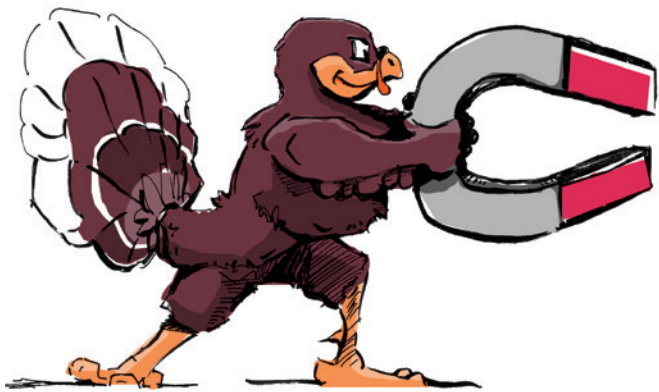
High achievers always want more—more hands-on experiences, more travel, more exposure to experts and people from diverse backgrounds, more opportunities to make a difference for good.

To answer that call, Virginia Tech has elevated its University Honors program to a full-fledged Honors College to attract students of the highest caliber and offer them more chances to explore their passions and change the world in meaningful ways.

“Our students are up for a challenge,” said Honors College Dean Paul Knox, a University Distinguished Professor and Senior Fellow for International Advancement. “We expect more from them, but in return, we expect to give them expanded opportunities to pursue their interests as we create the persona for this new college.”

The shift from an honors program to the Honors College will expand opportunities for diverse experiences while opening the door to accommodate more scholarship funding through initiatives like the Beyond Boundaries Scholars program. This matching gift program was rolled out in November 2016 as a solution to reduce cost as a barrier to enrollment for underrepresented and high-achieving students.

The Honors College will set the gold standard for Virginia Tech’s undergraduate education and its ability to develop VT-shaped individuals who balance deep disciplinary knowledge with breadth in a variety of topic areas, along with experiential learning and a commitment to service—students who, as alumni, will continue to enrich their lives and the lives of those around them.



The Honors College confers no degrees, only diplomas, allowing it to act as a talent magnet for the seven Virginia Tech colleges that offer undergraduate degrees.

Balancing ideas and actions

Our mission-oriented ideals drive us to put big ideas to work and to make our innovative research meaningful, a process that requires reaching out to develop partnerships with businesses and organizations committed to progress. In that light, Virginia Tech is creating a Business Engagement Center. Announced in January, the center will enable the university to expand its partnerships with leading companies.

One notable partnership was established in December 2016. Virginia Tech was one of 17 universities to sign a sponsored academic research agreement with Facebook, removing barriers and encouraging collaboration on future research projects.

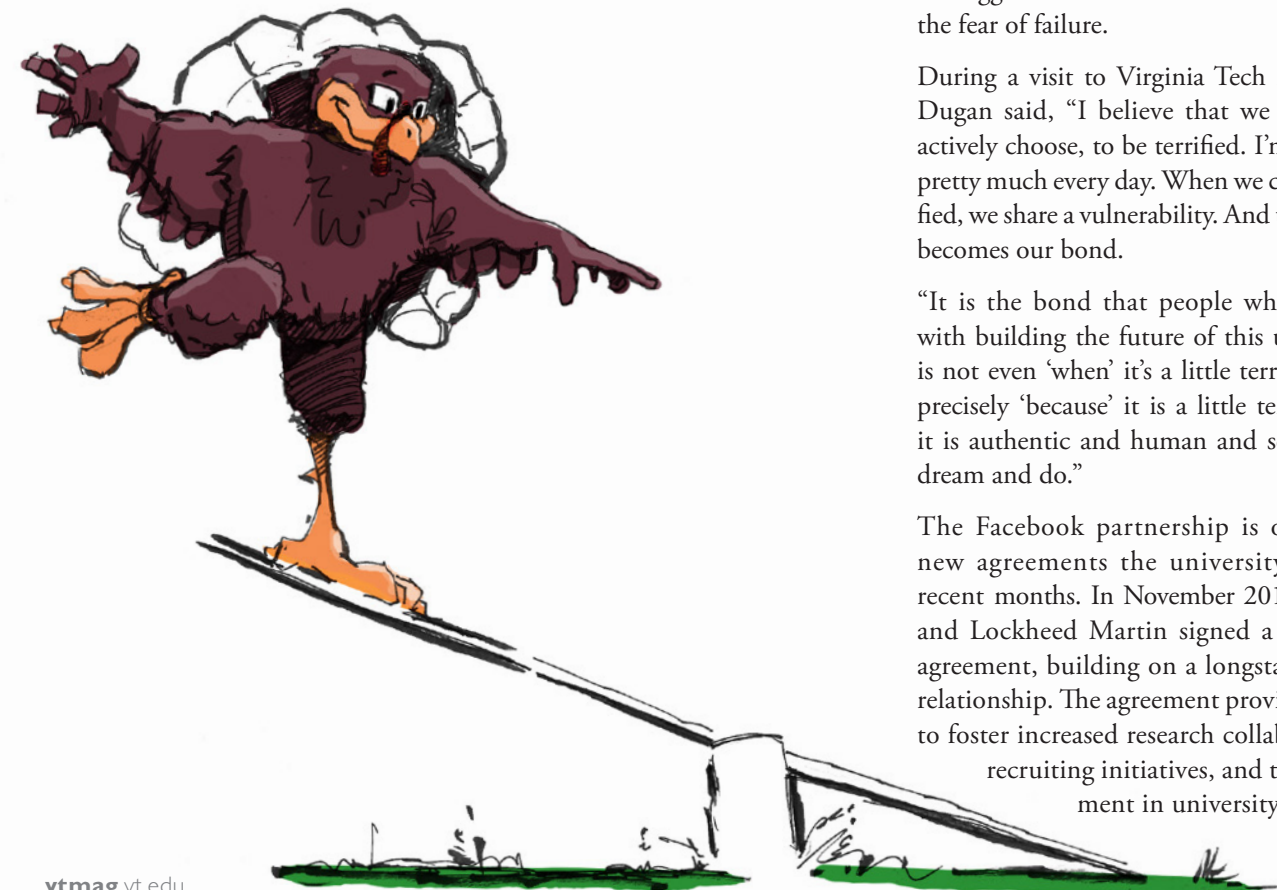
In an online post announcing the partnership, Virginia Tech alumna and Facebook executive Regina Dugan (mechanical engineering '84, M.S. '85) wrote, “The SARA (Sponsored Academic Research Agreement) is designed to make it easier and faster for B8”—shorthand for Building 8, Facebook’s advanced research group, which Dugan oversees—“to work with university researchers. Not in the 9-12 months that’s typically required. But within weeks.”


Dugan knows a thing or two about pushing the limits; in fact, she’s made a career of it. She recognizes the challenges implicit in change, suggesting that the biggest obstacle to innovation is not failure, but the fear of failure.

During a visit to Virginia Tech in August 2016, Dugan said, “I believe that we have to choose, actively choose, to be terrified. I’m a little terrified pretty much every day. When we choose to be terrified, we share a vulnerability. And that vulnerability becomes our bond.

“It is the bond that people who are associated with building the future of this university feel. It is not even ‘when’ it’s a little terrifying. It’s rather precisely ‘because’ it is a little terrifying. Because it is authentic and human and scary to dare and dream and do.”

The Facebook partnership is only one of the new agreements the university has forged in recent months. In November 2016, Virginia Tech and Lockheed Martin signed a master research agreement, building on a longstanding and solid relationship. The agreement provides a framework to foster increased research collaboration, greater recruiting initiatives, and technical engagement in university programs.



 **The rest of the story:**
For more information and to view videos about these stories, visit vtmag.vt.edu.

InclusiveVT

Strolling across the Drillfield today, one is likely to encounter a diverse group of students, staff, visitors, and faculty. Our campus hasn't always been that way, but according to Vice President for Strategic Affairs and Vice Provost for Inclusion and Diversity Menah Pratt-Clarke, who joined Virginia Tech in 2016, there is even more work to be done.

In an open letter, she wrote, "Today's world is a world of many ideas, thoughts, perspectives, backgrounds, experiences, philosophies, and beliefs. ... It is a world that needs courageous and compassionate leaders who are committed to *Ut Prosim*, in the spirit of community, diversity, and excellence."

In 2016, Virginia Tech embraced a diverse future, in part by acknowledging a pioneer from its past and also by reaching out with a message of inclusion.

Irving Linwood Peddrew III, the first black student to attend Virginia Tech—and the first to attend a historically all-white four-year public institution in the 11 former states of the Confederacy—received an honorary bachelor of science in electrical engineering at Tech's spring commencement ceremony. Peddrew studied three years on the Blacksburg campus before moving to California to join the workforce without completing his coursework.

In the fall, Virginia Tech organized a series of discussions about difference and identity as part of an InclusiveVT initiative, #VTUnfinished. Students, faculty, staff and the broader community were invited to share their experiences, stories, questions, and apprehensions in an open forum to help identify where differences lie. The overriding goal of the initiative is to promote positive interactions among people of varying backgrounds, beliefs, and lived experiences.

Taking steps toward building a community of respect that bridges differences furthers the commitment to honor and live the university motto, *Ut Prosim* (That I May Serve).



Can you see yourself?


You don't have to look hard to see the progress. The evidence is clearly visible at the Virginia Tech Carilion School of Medicine and Research Institute in Roanoke, at university facilities in the National Capital Region, and in the broader world.

In September, Sands asked these questions: "What does our history and tradition call on us to do? Where does our spirit of innovation and entrepreneurship lead us? What is the best way to honor the spirit of *Ut Prosim*?"

Our alumni and friends are integral to our future. You can be a part of our continued success. Share our stories. Find a way to get involved with an initiative on campus. Look for ways to live out our university motto in your community and your workplace.

Accept the challenge to move beyond traditional boundaries.

"We cannot afford to miss this window of opportunity during the short time it is open for us," said Sands as he closed his address. "This is our moment. This is our century. And today, I believe there is no better place to be in higher education than right here, right now. The window is open for us now, and we're going to do what Hokies do best.

Let's go!" 



MORE TO GIVE

Hokies are a rare breed. We always find more to give — in the classroom, on the job, and in the community.



Halle Jordan '20 grew up in a county where one in 10 adults have bachelor's degrees and 20 percent of people live in poverty. She doesn't view education as a ticket out of an economically depressed region. It's her chance to learn how to help one. Halle is double majoring in multimedia journalism and political science because "rural areas have challenges, and I want to become a county manager someplace just like my hometown." She's grateful that current-use donations support the scholarship program she benefits from because "it's the only way I could ever be successful in going to college and for my career."

Students like Halle graduate ready to give more, thanks to those who give back to Virginia Tech.

Make a gift that will have an immediate impact. Visit givingto.vt.edu/moretogive or call (800) 533-1144 today.





Head impacts per season

College players - 1,000

High school - 500

Youth* - 300

HARD-HITTING

RESEARCH

by RICHARD LOVEGROVE

It kicked off with little more than two self-described sports nuts who had an idea, \$50,000 in good-faith cash, and a cooperative future hall-of-fame college football coach.

Fourteen years later, Virginia Tech research has revolutionized the sports helmet industry and is fostering safer athletic practice and coaching techniques to reduce head-related injuries, especially concussions.

Concussions and helmet safety weren't even on the research radar when Stefan Duma, the Harry C. Wyatt Professor of Engineering and founder of the Virginia Tech-Wake Forest Center for Injury Biomechanics (CIB), and Virginia Tech football team physician Gunnar Brolinson first hatched a plan to attach sensors to the heads of Virginia Tech football players to monitor the hits they took during practice and games.

Even as recently as the early 2000s, many considered concussion a "junk diagnosis," according to Brolinson, vice provost of research at the Edward Via College of Osteopathic Medicine (VCOM), who has a long research record in sports medicine. "Back then, quite frankly, nobody cared."

Today, however, multiple partners from Blacksburg to Roanoke and across the nation are focused on improving the diagnosis and treatment of concussions and mild traumatic brain injuries in youth and adults in sports ranging from football to men's and women's soccer. Continued Virginia Tech helmet testing is expected to result in the first-ever safety ratings for headgear in every helmeted sport around the globe.

And in the not-too-distant future, consumers may be able to walk into a store to find a sticker or hang tag identifying that a particular helmet meets Virginia Tech's top five-star standard.

* reduced to 150 in Pop Warner, which changed practice rules



Understanding G-forces generated by common activities

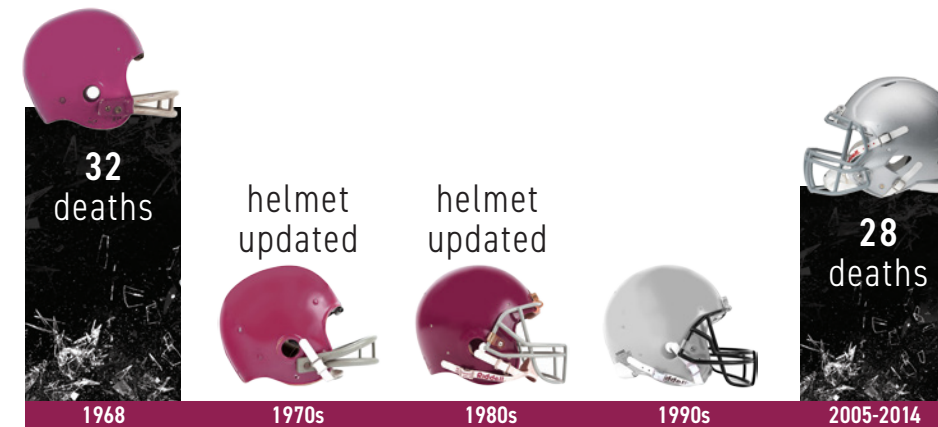
Sneezing - 4 g

Plopping down in a chair - 5 g

Vigorous pillow fight - 20 g

Heading a soccer ball - 40 g

Alert zone for possible concussive hit - 98 g



THE START OF SOMETHING BIG

Duma, who is also acting director of the Institute for Critical Technology and Applied Science, came to Blacksburg in 2000 to establish the university's injury biomechanics program in the Virginia Tech-Wake Forest University School of Biomedical Engineering and Sciences. The CIB developed national expertise in head trauma related to automobile accidents and the biomechanics of blast injuries suffered by the military. The center now boasts the largest university-based injury biomechanics research program in the world, and Duma's work has attracted some \$45 million in research.

In 2002, Brolinson accepted a position with the newly established VCOM. With experience as the physician for the University of Toledo football team and a background in sports medicine, he was interested in continuing research "to improve safety and athletic performance," and he began to wonder how his expertise might intersect with the work at Virginia Tech.

Duma found the answer. "I was in Puerto Rico at a military conference ... and I saw a presenter who has this really unique sensor," Duma said. "I immediately recognized this was a game-changer for how we studied head injury."

The idea? Put accelerometer sensors in helmets to measure acceleration of the brain during practice and games in order to build a database of head impacts that could be applied to head injury research.

According to Duma, the notion was "revolutionary" at the time—perhaps too revolutionary. Nobody was interested in investing the \$50,000 needed for eight to 10 sensors and other necessary equipment. But when Brolinson approached Dixie Tooke-Rawlins, president of VCOM, she immediately agreed to write a check, Brolinson said.

The next hurdle? Buy-in from Virginia Tech athletics. "For Coach (Frank) Beamer, that was about a 15- to-20-minute conversation," said Brolinson. Both Brolinson and Duma also credit the late Jim Weaver, Tech's former athletic director; and Mike Goforth, associate athletics director for sports medicine, as well as Hokie athletes who have cooperated over the years.

"We were doing something that had never been done before on any scale," Brolinson said.

THE RESEARCH INTENSIFIES

The modern football helmet had been updated in the 1970s and 1980s in an attempt to prevent football's nastiest injuries—skull fractures, broken necks, and spine injuries, which killed 32 players in 1968 alone. Because of those mandated improvements, deaths plummeted; and during the 10-year span of 2005 through 2014, just 28 players died from injuries suffered on the football field, according to the Centers for Disease Control.

Unfortunately, those helmets weren't designed to reduce concussion incidence or lower the gravitational forces (G-forces) generated by every hit.

A concussion is a traumatic brain injury resulting from a jolt that causes the head to move or stop so suddenly that brain tissue is twisted, stretched, and strained. In some cases, the brain collides with the inner surface of the skull. Symptoms vary and may not appear right away. Much remains a mystery.

"Concussions can be difficult to diagnose," Brolinson said. "There's no one thing that's a hallmark of a concussion. ... We're dealing with the brain, which is the most complex organ in the body."

In 2007, as concern grew nationally about concussions, along with the cumulative effects of multiple lower-velocity hits—but long before the NFL acknowledged that up to one-third of its retirees were likely to develop concussion-related neurological problems—Lester Carlton, Virginia Tech's head equipment manager, contacted Duma for advice on the best helmets.

"I didn't know," Duma said.

By that time, Duma had amassed a databank of hundreds of thousands of hits (the databank currently contains nearly 500,000 hits for the Tech team and about 3 million for all teams studied). And Steve Rowson, now an assistant professor in the CIB, had enrolled at Tech to earn a Ph.D. in biomechanics.

Rowson was charged with developing a methodology to test helmets by dropping them onto an anvil from different heights in a way that would simulate hits on the field. Significantly, much of the lab research over the ensuing years has been directed by graduate students, many of whom have won academic accolades for their work.

Brain boost:

To read more and to view a video about concussions and helmet research, go to vtmag.vt.edu.

Researchers test helmets by reproducing field conditions in the lab and applying a mathematical formula. Helmets that earn five stars will get an official sticker.



Using a mathematical model for concussion risk, the researchers created the STAR (Summation of Tests for the Analysis of Risk) system for grading helmets according to their ability to reduce brain acceleration during different types of hits.

In the first tests, only one helmet earned the top rating of five stars. Six years of data from eight different colleges, however, arrived at a definitive conclusion: The same hit that measured 150 g in a one-star helmet measured just 75 g in the five-star.

The results changed the industry. Now, every football helmet produced nationally earns five stars, and NFL locker room walls feature a helmet-ranking poster based on the science behind the STAR ranking system.

“Like it or not, Virginia Tech has become kind of like the J.D. Power for ranking helmets,” said Chuck Huggins, CEO of helmet manufacturer Xenith, in a Bloomberg news story on concussions.

In 2015, adding tests for rotational acceleration to the ones already performed for linear, or straight-line, hits, the Virginia Tech helmet lab announced its first rankings for youth and adult hockey helmets. Helmets being used by more than 25 percent of pro and youth hockey players received zero stars, and none earned more than three. Since the rankings were released, however, hockey helmet manufacturers have been improving their models, said Rowson, who is now in charge of the lab’s testing and research.

“Suddenly there was incentive to make better helmets. Nobody knew any better before,” Rowson said.

SAFETY THROUGH BETTER RULES AND COACHING

Although the research has been crucial in helping teams choose quality equipment

to protect their players, helmets are actually the least important factor in reducing concussions and limiting the cumulative effect of non-concussive impacts.

“There are three things that have to be done,” Duma said. “The first and most important is league rules; the second is coaching technique; and the third layer is equipment.”

In a small, groundbreaking study in 2012, the researchers monitored several players on the Auburn Eagles, a team of 7- and 8-year-olds in Montgomery County, Virginia. In a single season, Duma was surprised to record dozens of hits at more than 40 g and six impacts of more than 80 g (98 g is generally considered potential concussion level), the vast majority of them made during practice.

As a direct result of the study, the Pop Warner youth football league announced new rules banning full-speed, head-on tackling drills, as well as limiting contact during practice. Following the rule changes, head impacts in these young players dropped from an average of 300 to 150 annually, Duma said.

“If you know what scenarios carry the highest risk, you can start to design interventions based on that data,” Rowson said. “The word is out that the one thing you can control is the practice structure. Our research has led to these kinds of changes.”

The youth research has continued with a five-year, multi-university, \$3.3 million National Institutes of Health-funded study that will follow young players in three states using improved head and mouthguard sensors.

“We’re trying to understand how to make the game safe, but more broadly understand brain injury biomechanics in the youth population,” Duma added.

VTCRI JOINS THE TEAM

In 2014, Duma and Rowson, with their biomechanics expertise, and Brolinson, with his clinical talents, joined with the neuroimaging wizardry of Assistant Professor Stephen LaConte at the Virginia Tech Carilion Research Institute (VTCRI). Together, the team earned one of four prized spots in the Advanced Research Core of a \$30 million NCAA and Department of Defense (DoD) effort to combat concussions in athletes and active military personnel. “You really have to have all these components if you want to be in the top tier,” Duma said.

LaConte had been working at Baylor Medical College of Medicine in Houston when he was intrigued by research possibilities in Roanoke. Some of his research sponsors, including the DoD, were concerned that he couldn’t gather enough patients for his studies. The opposite has been true. “Actually, my recruitment numbers have improved,” LaConte said. “Carilion has certainly been a very important piece for me.”

LaConte is an innovator in using functional magnetic resonance imaging (fMRI), which can capture patterns of thought by measuring minute changes in blood flow in the brain.

“fMRI allows you to take a movie of the brain in action,” LaConte said. “We’re trying to track healing and restructuring over time, just like any other wound healing—like watching a bruise or a cut on your skin heal over time or repeating X-rays to track a broken bone.”

If researchers working together can characterize what recovery looks like for individual brains, a process not possible today, that could be used to better determine when it’s safe for an athlete to return to play or a serviceman or woman to his or her job, LaConte said.

“It’s a multidisciplinary project,” Brolinson said, “and that’s how you solve a really big problem.”

HELMETS, MORE HELMETS ... AND DRONES

Recently, the research team has moved into the global market, developing tests to rate helmets for cycling, which is the leading cause of concussions worldwide, and soccer headgear. The team is also reviewing the value of the numerous sensors that have appeared on the market in recent years.

“Our research is moving into every helmeted sport worldwide—lacrosse, equestrian, baseball, soccer, field hockey,” Duma said. “The things we did to make our cars safer, we’re using to make our helmets safer. ... We want to provide that basic education.”

“I think we’ve really moved the needle on sports safety,” said Brolinson. “This has been tremendously exciting and gratifying to be involved in.”

That philosophy is also moving into the rapidly expanding field of small unmanned aircraft. Many promising applications for drones, like package delivery, would require the aircraft to fly over people, but such flights are currently prohibited for safety reasons. Collaborating with the Virginia Tech Mid-Atlantic Aviation Partnership, which runs the university’s test site for unmanned aircraft systems, Duma and Rowson are developing experimental methods that can assess injury risk.

“We have a very unique and impressive team that starts with the cooperation and support of our coaches and athletes,” said Duma. “It took 10 years of hard work to get here, and our partnership is paying off.” □

Stefan Duma

Harry C. Wyatt Professor of Engineering and founder of the Virginia Tech-Wake Forest Center for Injury Biomechanics

Class Notes

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alumnus profile



The giving spirit

by PAULA BYRON

Through kits that include seasonal items ranging from shampoo to snack foods, Tom Bagamane '83 (in photo at right) provides the homeless in Los Angeles with survival assistance for life on the streets.

It began with a drive through the nation's capital one frigid winter evening. Minutes after passing the White House and the U.S. Department of Treasury building, Tom Bagamane (communication, political science '83) saw homeless men and women huddled for warmth on the city's steam grates.

"Here I was, surrounded by great monuments to democracy in one of the richest countries on earth," he said. "And yet people were freezing. I thought, 'Enough!'"

Bagamane turned to a fellow Hokie—his sister, Kalpana (industrial engineering and operations research '86)—for ideas. Together they returned to the darkened street, draping wool blankets over the sleeping forms and placing food and water nearby.

"When those people awoke," Bagamane said, "we wanted them to realize that someone had tucked them in, left them nourishment, and cared about them."

The memory of that night remained with Bagamane. In 1999, three years after making Los Angeles his home, he founded The Giving Spirit, a nonprofit that provides the homeless with survival assistance for life on the streets.

Los Angeles has one of the largest homeless populations in the United States, with nearly 50,000 displaced people countywide, most of whom are unsheltered.



The Giving Spirit, which has grown to include more than 13,000 volunteers, purchases goods in bulk, collects donated items, and assembles and delivers survival kits to the homeless from Skid Row to Santa Monica. Each kit contains dozens of individual items, including sunscreen, socks, pillows, and weather protection. The kits are seasonal, with backpacks tailored for summer and duffel bags for winter.

"At a time [when] they feel the most alone, we provide them with food, water, blankets, clothing, toiletries, and, most important of all, hope," Bagamane said. "We're always told, 'Before you came, I had no idea where my next meal was coming from,' or 'I thought I'd been forgotten. Thanks so much for remembering me.'"

Bagamane began his career in the retail industry and later launched two successful pet product companies that have since been sold. Currently, he is the managing director of the Profitable Good Group, which helps businesses implement social-impact strategies. "I'm a capitalist by day and a philanthropist by night," Bagamane said, adding that Virginia Tech's motto, *Ut Prosim* (That I May Serve), still resonates with him.

"We're given opportunities every day to make a difference in other people's lives," he said. "When I founded The Giving Spirit, I thought, 'If this helps just one person, it will be worthwhile.' It's since helped tens of thousands of people. But what I didn't envision is how the work would return so much richness to me and to all our volunteers, especially the kids." □

Paula Byron is the College of Liberal Arts and Human Sciences communications director. This article is excerpted from the college magazine's story on Bagamane.

Helping hands:

Read more about Bagamane in *Illuminations*, the magazine of the College of Liberal Arts and Human Sciences at magazine.liberalarts.vt.edu.

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

Alumni mailing addresses may be viewed online at 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

'40 Robert W. Gifford (GSC), Timonium, Md., 8/17/16.

'42 William C. Eubank (CE), Las Vegas, Nev., 8/8/16.
Ward O. Mathews (ME), Battle Creek, Mich., 8/29/16.

'43 William L. Petty Jr. (CHE, CHE), Baton Rouge, La., 7/15/16.

'44 Joseph L. Jones Jr. (ACCT '47), Willow Street, Pa., 8/9/16.

'45 Luther J. Hamlett (BIOL), Raleigh, N.C., 7/30/16.

'46 Leland E. Beale Jr. (BAD '48), Franklin, Va., 7/13/16.
Kenneth G. Halstead (ME), Raleigh, N.C., 10/7/15.
Ezra H. Williams (BAD '48), Kingsport, Tenn., 7/15/16.

'47 Gene M. Phillips (GBUS '46), St. Augustine, Fla., 6/28/16.

'48 Joseph M. Crockett Jr. (FW '49), Lynchburg, Va., 8/25/16.

'49 Cecil Ray Mullins (ARE), Charlotte, N.C., 8/20/16.
Allen Y. Stokes (AGRN), Sperryville, Va., 8/11/16.
J. Edwin Weddle (BC), Norfolk, Va., 8/5/16.
Clifford E. Wood (ANSC), Wingham, Va., 9/3/16.

'50 J. William Blair II (IAED '51), Staunton, Va., 7/15/16.
E. Beale Carter Jr. (BAD), Newsoms, Va., 7/20/16.
William K. Johnston (ME), Bellefonte, Pa., 8/20/16.
Southey T. Nottingham Jr. (CE), Winterville, N.C., 10/17/15.

William D. Richardson Jr. (CE '51), Aldeo, Ill., 8/13/16.
Sarah J. Burrell Robson (GSC), San Jose, Calif., 4/30/16.
Mary Pettinger Rust (GSC), Raleigh, N.C., 8/8/16.
Robert H. Waugh Jr. (CE), Lynchburg, Va., 8/17/16.

'51 David B. Day (ARCH '50), Conway, S.C., 9/2/16.
R.M. "Bob" Johnstone (AGE), Weston, Mass., 8/25/16.
William H. Martin (BAD), Culpeper, Va., 8/23/16.
Noble L. Moore (BED '51, EDBS '54), Aldie, Va., 6/8/16.
James "Bob" R. Moore (CE), Jacksonville, Fla., 9/3/16.
Rayburn "Bud" J. Oliver (ME), Roanoke, Va., 8/13/13.

'52 Charles A. Hildreth (EE), Indian Trail, N.C., 8/7/16.
Elizabeth Nolen Richardson (GHEC), Roanoke, Va., 8/16/16.
William B. Vaughan (BAD), Alexandria, Va., 8/17/16.

'53 Robert W. Collins (BAD '54), Jacksonville, Fla., 9/2/16.

'54 Mary E. Stone (EDBS), Roanoke, Va., 8/17/16.
Richard C. Windley (ME), Raleigh, N.C., 9/4/16.

'55 Francis "Frank" L. Leonard (BAD), Bristol, Va., 9/21/16.

'56 Henen "Ben" C. Benthall Jr. (EE), Parksley, Va., 7/14/16.
Margaret Mackey Dickerson (GHEC), Ashland, Va., 7/27/16.
Timothy C. Henderson (ASE), Altamonte Springs, Fla., 9/4/16.
John S. Moody (BAD '58), Blacksburg, Va., 8/8/16.

'57 V.H. "Gini" Hudgins Brinn (GHEC), Williamsburg, Va., 8/3/16.
F. Page Doughton Jr. (BAD), Palm Bay, Fla., 7/15/16.
Eugene M. Griffin (AGED), New Braunfels, Texas, 9/11/16.
Wilford "Gene" E. Sivertson Jr. (EE), Yorktown, Va., 9/24/15.

2017 alumni travel tours

alumni travel

For more than 40 years, the Virginia Tech Alumni Association has offered a variety of group travel opportunities for alumni and their families and friends. Our travel planners craft exciting opportunities and manage the details to maximize your enjoyment. Join fellow Hokies in 2017 to experience the adventure of a lifetime or journey to a dream destination. For more information or to register for a trip, contact alumnitravel@vt.edu, call us at 540-231-6285, or visit us on the web at alumni.vt.edu/travel.



Palms in Paradise | April 24-May 10

From \$3,699 per person, double occupancy (airfare included from select cities)

Experience the highlights of Central America on a 16-night luxury cruise from Florida to Colombia, Costa Rica, Nicaragua, Guatemala, Mexico, and California. Board Oceania Cruises' intimate Regatta in Miami and sail to Key West, once home to author Ernest Hemingway. Begin your travels with a stop in Cartagena. Cruise through the impressive Panama Canal, en route to Puntarenas, a gateway to Costa Rica's breathtaking tropical splendors. Savor the beauty of San Juan del Sur, and visit Puerto Quetzal, a gateway to the lovely colonial capital of Antigua. Before your voyage concludes in San Francisco, unwind on the glittering beaches of Acapulco and Cabo San Lucas.

Outrageous Outback | April 7-23

Palms in Paradise | April 24-May 10

Dutch Waterways | April 24-May 2

Ancient Traditions of the Inland Sea of Japan | April 30-May 10

Virginia Tech Grad Trip – Essential Europe | May 21-June 7

Vineyards and Vignettes | May 23-June 1

European Collage | May 27-June 4

Southern Culture and Civil War | June 3-12

Riches of the Emerald Isle | June 27-July 8

The Majestic Great Lakes | July 8-17

Cruise the Rhine River | July 10-18

Awe-Inspiring Alaska | July 14-21

Baltic and Scandinavian Treasures | Aug. 22-Sept. 2

Great Pacific Northwest | Sept. 17-25

Barcelona Immersion | Sept. 15-23

Island Life Ancient Greece | Sept. 18-26

Great Trains and Grand Canyons | Oct. 1-7

Medieval Masterpiece | Nov. 5-14

South African Explorer | Dec. 5-21

**Dates, prices, and itineraries are subject to change.*

alumni.vt.edu/travel

'58 William R. Burks (BAD), Buena Vista, Va., 7/12/16.
Joseph L. Helms (ME), Alexandria, Va., 8/26/16.
Clarence G. Jones Jr. (BAD), Port Orange, Fla., 8/15/16.
W.D. Oglesby (BAD), Roseland, Va., 7/24/16.
Julia Otis Wolfe (HEED), Chester, Va., 8/20/16.
Clarence "Sonny" L. Wright Jr. (ME), Norfolk, Va., 3/11/16.

'59 Lowell M. Gobbie (AGEC), Vinton, Va., 9/3/16.
Ramon "Ray" H. Johnson (EE), Fountain Valley, Calif., 6/7/16.
Gary R. Keesecker (EE), Glen Allen, Va., 7/18/16.
William P. Swartz III (IE), Roanoke, Va., 9/5/16.

'60 Philip D. Hughes (CE '61), Park City, Utah, is a certified ski instructor for Deer Valley Resort.
John E. Mitchell (PHYS '61), Littleton, Colo., received an award of appreciation from the 4th Air Division, Binh Thuy Air Base, South Vietnam, for service to the South Vietnamese people during and after the Vietnam War.

T.W. "Ted" Barrett (ANSC), Suffolk, Va., 8/12/16.

'61 Dwight E. Houff (AGED), Mount Sidney, Va., was inducted into the Virginia Livestock Hall of Fame.

Eugene L. Bradshaw (ARE), Basye, Va., 8/7/16.
John A. Gray (AGE '63), Fredericksburg, Va., 7/9/16.
Robert V. Harris (BAD), Christiansburg, Va., 8/17/16.
Cordelia "Delia" St. Clair Overstreet (HEED), Roanoke, Va., 7/21/16.

'62 George N. Foster (CHE, CHE '65), Hacksneck, Va., 9/13/16.
James A. Paine (SOC), Nancy, Ky., 7/16/16.

Eric "Ric" S. Renne Sr. (AGRN), Surry, Va., 8/15/16.

'63 Rodney L. Duncan (ME, ME '69), Newport News, Va., 9/2/16.
Edward M. Kinzer (ME '65), Oakton, Va., 8/20/16.
Leroy J. Kniskern (EE '64), Christiansburg, Va., 8/3/16.
Glenn C. Shumate (EE), Dublin, Va., 8/17/16.

'64 William E. Thomas (DASC, EDAC '81), Culpeper, Va., was elected chairman of the Germanna Community College Board for 2016-17.

Douglas C. Arthur (BAD), Strasburg, Va., 8/25/16.

Robert "Kenneth" Franks (PHYS), Lexington, S.C., 9/12/16.

'65 Jaan Holt (ARCH), Alexandria, Va., was conferred the title of professor emeritus by the Virginia Tech Board of Visitors.

Richard "Rich" K. Scholz (CE '66), Saucier, Miss., 5/28/16.

'67 Robert C. Moore Jr. (PSCI), Berryville, Va., was recognized by Loudoun County Fire and Rescue for 40 years of service as a volunteer firefighter.

'68 James P. Bailey (EM), Yorktown, Va., 8/14/16.
Marshall D. Stables (FW), Piney Flats, Tenn., 9/7/16.

'69 R.W. "Bob" Boyd Jr. (ASE '70), Saint Mary's City, Md., 7/20/16.

Hsien L. Huang (EE '68, EE '70), Houston, Texas, 2/20/16.
William Y. Roper III (BAD), South Hill, Va., 8/25/16.

'70 William H. Anderson Jr. (PSYC), Charlottesville, Va., 8/29/16.

'71 James D. Watkins (BIOL), Hampton, Va., was appointed by Governor Terry McAuliffe to serve on the Board of Dentistry for the Commonwealth of Virginia.

Richard A. Martin (ECON, BAD '73), Fairfax, Va., 8/27/16.
Pamela L. Morgan (MAED), Beaufort, N.C., 7/9/16.
Howard E. Page (FW), Clifton Forge, Va., 7/25/16.
Richard C. Roller (AGE), Mountain Home Air Force Base, Ind., 6/29/16.
Michael V. Sturgill (FW), Blacksburg, Va., 8/17/16.

'72 Dale C. Parrott (IE), Franklin, N.C., 8/9/16.
James Mitch Saunders (GBUS '73), Moneta, Va., 8/26/16.

'73 Thomas Bain (FW), Virginia Beach, Va., 7/29/16.
Leon E. Hawkins (EDBS '74), Springfield, Va., 8/14/16.
Dorothy Curtis Lane (CHEM), Elk City, Okla., 9/11/16.

'74 John G. Kines Jr. (URBA '74), Disputanta, Va., was appointed by Governor Terry McAuliffe to the Virginia Board of Social Services.

'75 Larry A. Bowers (URBA), Rockville, Md., retired as Montgomery County Public Schools Chief Operating Officer/Superintendent after 38 years of service.

Rosemary Carucci Goss (MHFD '76), Blacksburg, Va., was reappointed the Residential Property Management Advisory Board Professor by Virginia Tech President Tim Sands and Executive Vice President and Provost Thanassis Rikakis.

Robert E. James (DASC, ANSC '78), Blacksburg, Va., was conferred the title of professor emeritus by the Virginia Tech Board of Visitors.

Mary James Legatski (ENGL), Dagsboro, Del., 8/19/16.

Elizabeth Crowley Montgomery (HORT), Annandale, Va., 8/13/16.
Scott D. Prince (MKTG), Saint Simons Island, Ga., 9/2/16.

'76 Stephen Bannon (UA), Santa Monica, Calif. was named chief strategist and senior counselor to U.S. President Donald Trump.

Gretchen E. Quant (MHFD), Newport News, Va., retired from Isle of Wight County Schools after 39 years of teaching.

Cynthia "Cindy" Conner Rudy (ELED), Williamsburg, Va., was appointed by Governor Terry McAuliffe to a 4-year term on the Virginia Board for People with Disabilities. She will serve as chairman of the Investment and State Plan Oversight Committee.

Sally L. Oakes (EDCI '77), Dry Fork, Va., 9/6/16.

'77 Steven F. Hadra (MGT), Mechanicsville, Va., was appointed commissioner for the Hanover County Planning Commission.

Johann "John" R. Kinsey (GEOG), Helotes, Texas, is commander of the Air Component Command of the Texas State Guard.

Kathy Neumann Faykes (ELED), Williamsburg, Va., 8/4/16.
Stanley I. Katz (ANSC), Pensacola, Fla., 4/10/16.

'78 Jane Walker Floyd (ART), Wilmington, N.C., 9/9/16.

'79 Randy G. Bauserman (AGE '78, AGE), Pinckney, Mich., retired from Komatsu America as a program manager, parts, power attachments and accessories—off-road mobile equipment.

Peter L. Ydeen (ART '80), Easton, Pa., had his work featured in two online photography magazines, Silvershotz and PHROOM, and in the French photography daily, L'Oeil de la Photographie.

Lugene A. Stem Mason (CTRA), Mount Washington, Md., 8/12/16.

“

Virginia Tech has supplied the armed forces of the United States with brave individuals who have fought in every war in which the United States has been involved since the Civil War. Millions of people suffered through the Vietnam War. Many Americans did not return home. About 1,500 Americans missing in action (MIA) from Vietnam are still unaccounted for.”

—Bill Yancey (general science '71), who authored a novel, “Abandoned: MIA in Vietnam.” Vietnam veterans may request a free digital copy by emailing the author at wbyauthor@bellsouth.net.

'80 Harold L. Martin Sr. (EE), Kernersville, N.C., was named to the inaugural class of the Triad's Most Admired CEOs by the Triad Business Journal.

R. Dale Collins (MGT), Wilmington, Del., 8/3/16.
Craig G. Covey (ARCH), Richmond, Va., 7/29/16.
Mary E. Graves Merchant (EDCI), Manassas, Va., 5/15/16.

'81 Steven M. Culver (ENGL, EDRE '87), Blacksburg, Va., is associate provost for institutional effectiveness at Virginia Tech.

P. Clayton Hollandsworth Jr. (CS), Lakewood, Colo., retired after 27 years with Lockheed Martin Corporation.

Nancy Elliott-Gunter (PSYC), Alexandria, Va., 8/12/16.
Michael W. Palmer (ME), Reedsville, Ohio, 9/11/16.



Celebrating Hokie-style

From Pittsburgh to Dallas, Virginia Tech alumni shared the holiday spirit with fellow Hokies. The events, which took place throughout December, reflected each chapter's distinctive personality, and many offered an opportunity to practice *Ut Prosim* (That I May Serve) through food drives, toy collections, and other service projects.

The Dallas/Fort Worth Chapter invited alumni from other universities in the ACC to its holiday celebration and also collected toys for Dallas Children's Health and Cook Children's Medical

Center. The N.C. Triad, Middle Tennessee, and Palmetto chapters held holiday dinners and sponsored local food drives. The Jacksonville Chapter joined James Madison University alumni for an evening of gaming and appetizers. The Villages Chapter toured Whispering Oaks Winery, where members enjoyed dinner and entertainment. The Rockbridge, Alleghany Highlands, and Pittsburgh chapters held social affairs to ring in the holidays. Other chapters hosted simple, holiday-themed, happy hours, bringing local alumni together to toast the Hokie spirit.



Of genes and beans

CECILEONARD

Twin brothers, Mike and Kevin Fedkenheuer, infiltrate *Nicotiana benthamiana* in John McDowell's plant pathology lab.

by LINDSAY KEY '06

Kevin Fedkenheuer can't imagine life—or science—without his twin brother, Mike.

In December, the Fedkenheuer twins graduated with doctoral degrees in plant pathology, physiology, and weed science from the College of Agriculture and Life Sciences.

Supervised by Virginia Tech plant pathology researcher John McDowell, their doctoral projects examined the genes responsible for the soybean plant's resistance to a pathogen that causes root and stem rot, and how they might be leveraged to produce a more disease-proof plant.

The pathogen, *Phytophthora sojae*, a close cousin to the pathogen that caused the Irish potato famine, is responsible for billions of dollars of crop loss in the United States and worldwide. The twins' research focused on the use of information from *P. sojae* genomics to develop new strategies to reduce soybean crop losses associated with this disease.

According to McDowell, each brother brought a different skill set to the project. "In only a few months, Kevin developed a system for screening for new pathogen resistance genes in soybean," he said. "In turn, Mike was able to use his technical abilities, honed in the structural biology and biochemistry fields, to evaluate and test the system, and optimize it for use in a wild relative of soybean that has been under-utilized as a source of disease resistance genes. In this way, their projects were distinct, but synergistic."

The brothers' academic teamwork began when they each received a bachelor's degree in biotechnology from James Madison Univer-

sity. At Virginia Tech, Kevin went straight into a doctoral program with McDowell, while Mike focused on human disease, earning a master's degree in biochemistry. However, it wasn't long after earning his master's that Mike joined his brother in McDowell's plant pathology lab.

"I couldn't think of anyone that I'd rather work with or that I could more effectively communicate with about the project we had begun to develop," Kevin said. "Mike got to hear it from me in the exact way we understand things."

Working with McDowell, the Fedkenheuers were able to identify disease-resistance genes in cultivated soybeans, as well as their wild relatives. These genes represent new tools for soybean breeders to reduce losses resulting from root and stem rot disease.

Although the twins are applying for a variety of positions after their research grant expires in March, their long-term dream is to start a business together, focused on the technologies they've developed.

"Our hope is that one day we could use the bioinformatics training we've also received at Virginia Tech to speed up the process of enhancing disease resistance in crop plants and to distribute the technology widely," said Mike. "We really think it could save farmers a lot of stress and money."

"No matter what, we will always end up working together," he added. "It's just a matter of how." □

Lindsay Key '06 is the communications director for the Fralin Life Institute at Virginia Tech.

'05 **John M. Hoffman** (BAD), Alexandria, Va., is associate vice president for Dewberry in Fairfax, Va.

Eugene Jackson (MKTG), Fredericktown, Mo., was named publisher of the Daily News in Park Hills, Mo.

Alison Cordell Matthiessen (COMM, COMM '16), Roanoke, Va., was named director of communications for the Virginia Tech Carilion School of Medicine.

Erin Hawkinson Bracken (COMM) and **Morgan L. Bracken** (CS), Arlington, Va., a daughter, 8/20/16.

Daniel K. Lamay (BC, BAD '10), Staunton, Va., a son, 8/11/16.

Lindsey Luddeke Littman (MKTG), Oak Hill, Va., a son, 8/15/16.

'06 **Rebecca Hoffner Prillaman** (PSYC, PSYC '09) and **Kevin L. Prillaman** (ECAS '08), Chicago, Ill., a daughter, 9/21/15.

'07 **Rayna L. DuBose** (AHRM), Gwynn Oak, Md., is a motivational speaker who lost her hands and feet due to bacterial meningitis. She coaches basketball and football at Marriotts Ridge High School.

Amanda Webster Dye (CSES) and **Glenn A. Dye** (CSES), Fredericksburg, Va., a son, 8/1/16.

Adam C. Robinson (ME), Portsmouth, Va., a daughter, 8/10/16.

'08 **Anne Ryan Driscoll** (STAT '07, STAT '11), Shawsville, Va., received the 2016 Dr. Carroll B. Shannon Excellence in Teaching Award from the College of Science and the College of Liberal Arts and Human Sciences at Virginia Tech.

'09 **Beth E. Osborne** (EDCT), Pearisburg, Va., was named director of operational effectiveness in the Pamplin College of Business Apex Systems Center for Innovation and Entrepreneurship.

Marc T. Robillard (ME), Virginia Beach, Va., earned designation as a professional engineer in Virginia.

Allison B. Chambliss (CHE), Marina del Rey, Calif., is an assistant professor of clinical pathology at the Keck School of Medicine of the University of Southern California.

Alexander Robinson (CE), Gastonia, N.C., received the Engineer of the Year Award from the Charlotte Chapter of the American Society of Civil Engineers in recognition of his efforts with underprivileged children through CITIZEN Schools. The semester-long project used hands-on activities to introduce fifth and sixth grade students to engineering.

Allison B. Chambliss (CHE) and **John Heath**, Marina del Rey, Calif., 6/25/16.

Marc T. Robillard (ME) and **Lisa M. Fegebank**, Virginia Beach, Va., 4/30/16.

'10 **Robert L. Cherry** (ACIS), Alexandria, Va., is senior manager at Dixon Hughes Goodman LLP.

Steven J. Mehr (FIN), St Augustine, Fla., was honored as a Hokie Hero at the football game against Boston College.

Travis G. Taggart (PSCI), Manhattan, Kan., was honored as a Hokie Hero at the football game at Bristol along with the 116th Infantry Brigade combat team.

Sarah P. Ellington (FST) and **Daniel B. Waidelech** (COMM), Chicago, Ill., 8/6/16.

Brittany Worrell Boyce (PSCI), Memphis, Tenn., 8/13/12, a daughter, 8/5/16.

Byron A. Hughes (HGED), Blacksburg, Va., a daughter, 8/23/16.

Angela Bowers Mabalot (HNFE), Melfa, Va., a daughter, 9/26/16.

Jillian S. Linn (COMM), Roanoke, Va., 7/10/16.

'11 **Patrick W. Bates** (CHEM), Jacksonville, Fla., was honored as a Hokie Hero at the football game against Boston College.

Jill C. Butler (BIT), Bethel Park, Pa., 7/14/16.

Justin R. Helms (CEM, CE '12), Meadows of Dan, Va., 7/15/16.

'12 **Amanda Miller** (HIST), Oklahoma City, Okla., shared her military, work, and leadership experiences and challenges with cadets at the annual Gunfighter Panel at Virginia Tech.

Peter S. Firey Jr (MSE) and **Lauren Lemieux Firey** (ME '13), Arlington, Va., 7/8/16.

Brooke Gibson Hielema (PSYC) and **Justin S. Hielema**, Oxford, N.C., 5/25/16.

Allante R. Nelson (BIT) and **Elise Ryan Nelson** (ACIS), Glen Allen, Va., 9/3/16.

'13 **Derek B. Stotler** (PSYC), Arlington, Va., shared his military, work, and leadership experiences and challenges with cadets at the annual Gunfighter Panel at Virginia Tech.

John E. Waters III (ISE), Chapin, S.C., was honored as a Hokie Hero at the football game against Boston College.

Kevin M. Willett (GEOG), Jacksonville, Fla., was honored as a Hokie Hero at the football game against Boston College.

hokie business showcase

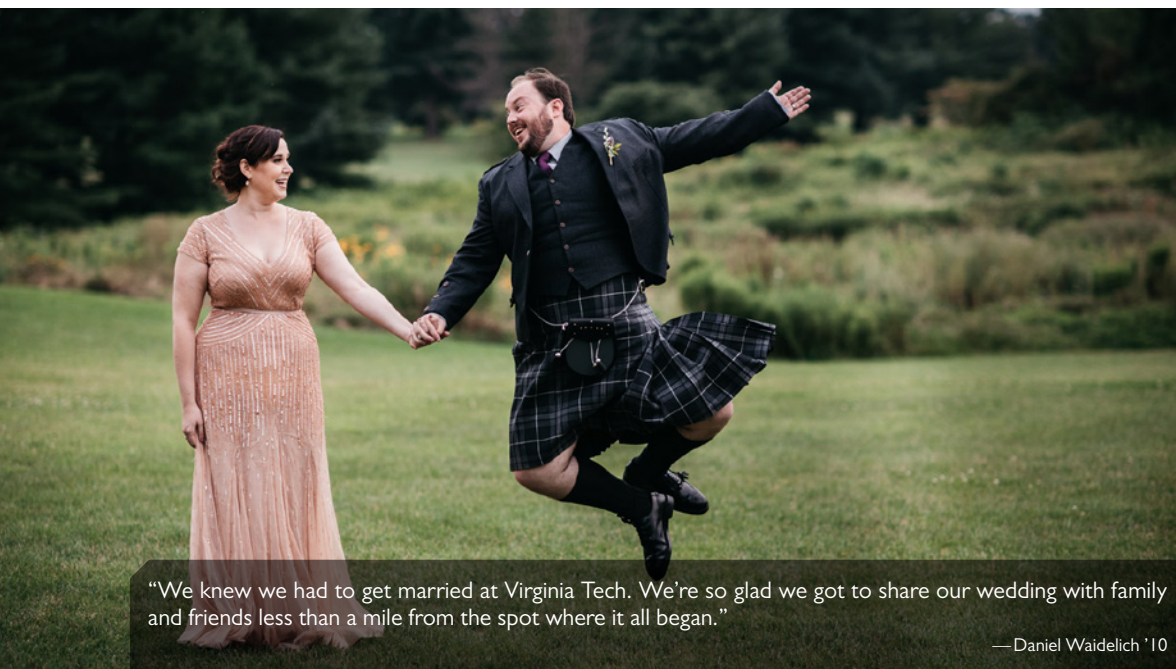
Advertise your business in Class Notes! Contact us at vtmag@vt.edu for rates and more information. Restricted to alumni-owned businesses.



"Welcome to the family. Father-of-the-bride, William (Bill) Mills '83 and mother-of-the-bride, Sharon Pickett Mills '82 could not be happier. GO HOKIES!!!!"

—Sharon Pickett Mills '82

Michelle Mills Hill '16 and Parker Hill '16, Christiansburg, Va., 08/06/16.



"We knew we had to get married at Virginia Tech. We're so glad we got to share our wedding with family and friends less than a mile from the spot where it all began."

—Daniel Waidelich '10

Sarah Ellington '10 and Daniel Waidelich '10, Chicago, Ill., 08/06/16.



BROOKS LENHART PHOTOGRAPHY

"Although Justin is not a Virginia Tech alumnus, he has officially become a Hokie through marriage and is learning the Tech traditions."

—Brooke Hielema '12

Brooke Hielema '12 and Justin Hielema, Creedmoor, N.C., 05/28/16.

"Edith comes from a long line of Hokies on my side of the family. She's a natural in maroon and orange!"

—Lisa Pace '00



CHELSEA SCHAEFER PHOTOGRAPHY

Andy Pace '00 and Lisa Pace '00, Houston, Texas, a daughter, Edith Marie, 08/02/16.

"Blakely has been cheering on the Hokies since she was born. We can't wait to take her to her first football game!"

—Brittany Boyce '10



SARAH GUDEMAN EMILY BORHMAN

Brittany Boyce '10, Bartlett, Tenn., a daughter, Blakely Camille, 08/05/16.



30

years ago, the Hokies defeated North Carolina State University at the Peach Bowl in Atlanta, Ga., earning Virginia Tech its first-ever bowl victory.

36

years ago, Virginia Tech already recognized the value of experiential learning. The Department of Forestry allowed students to learn about wildlife through hands-on study and field experiences.

70

years ago, Virginia Tech students enjoyed their ring dance debut at the German Club, a tradition that is still celebrated today.

BY KIM BASSLER '12, UNIVERSITY LIBRARIES COMMUNICATIONS COORDINATOR. IMAGES COURTESY OF LIBRARIES' SPECIAL COLLECTIONS; MORE CAN BE FOUND AT IMAGEBASE.LIB.VT.EDU.

'14 **Alexander R. Crawford** (AEM), Williamsburg, Va., an associate advisor at PBMares Wealth Management has been authorized by the Certified Financial Planner Board of Standards (CFP Board) to use the Certified Financial Planner and CFP certification marks.

'15 **Ross M. Holdsworth** (MINE), Leesburg, Va., was honored as a Hokie Hero at the football game against Liberty.

Sean W. Spillane (ARCH), Greensboro, N.C., 7/25/16.

'16 **Donald R. Back** (PGG), Christiansburg, Va., has been named an affiliated faculty member and senior fellow of the Institute for Policy and Governance at Virginia Tech.

Claire E. Kelling (ECAS, STAT), Morrow, Ohio, was awarded the 2016 Phi Kappa Phi Fellowship by The Honor Society of Phi Kappa Phi.

Nora Salem (GSCR, ENCW), Blacksburg, Va., received a Fulbright U.S. Student Program grant to study Islamic feminism in Malaysia.
Michelle Mills Hill (PR) and **Parker F. Hill** (ACIS, FIN), Cambria, Va., 8/6/16.

obituaries

Paul "Tony" Distler, director of the School of the Arts emeritus at Virginia Tech and former Voice of the Marching Virginians, died Dec. 28. For four decades, Distler's distinctive baritone could be heard booming over the public address system during the halftime show of the Marching Virginians.

Cory Papenfuss, a research associate in the Vibrations and Acoustics Laboratories in the College of Engineering at Virginia Tech, died after a plane crash Jan. 4 in Brookfield, Wisconsin. An employee at Virginia Tech since 2006, Papenfuss worked in the vibrations and acoustics lab.

Daniel "Danny" Powers, who worked at the Virginia Tech Southern Piedmont Agricultural Research and Extension Center for 38 years, died on Aug. 16. Powers was the assistant farm manager at a facility in Blackstone, Virginia.

Charles W. Schiffert, director of Virginia Tech's Student Health Services from 1971 to 1986, died Oct. 6. Schiffert transformed Student Health Services from a small office to a department with multiple programs and 10 full-time practitioners.

Edward R. Willis, a 63-year-old retiree of the Virginia Tech biochemistry department, died November 14.



JIM STROUP

Tradition

by MATTHEW M. WINSTON JR. '90

Virginia Tech is a community that is rich with time-honored traditions—shared experiences that create instant bonds, spanning generations of alumni—from those who served in World War II to those who are just old enough to vote—touching every Hokie in between.

Ranging from the firing of Skipper at Hokie football games to the Corps of Cadets' annual Caldwell March that follows the steps the first student took on his way to Blacksburg, our traditions have us jumping to the rhythms of "Enter Sandman" and using a library of coofers to study. Each of us proudly dons maroon and orange apparel and accessories for all occasions, and we may even dream of homes built from Hokie Stone. Perhaps most important of all, we live the Virginia Tech motto, *Ut Prosim* (That I May Serve), expressing our love for our university by serving in the communities where we live, work, and play.

Yet, few Virginia Tech customs are more prominent or iconic than those associated with the class ring. Each year, a new ring is unveiled. Designed by representatives of the student body, the ring stands as reflection of the experiences and memories of the class and continues the story of this great university. The passion and pride that this tradition evokes are uniquely Hokie.

I guess that's why I was not too surprised by the overwhelming response many of us at Virginia Tech received following the cover story of the fall 2016 edition of Virginia Tech Magazine, which

featured tales from those who had lost and later recovered their class rings. Alumni shared personal stories about losing their rings in the midst of some wild adventure like scuba diving or mountain climbing. Their rings were literally dug up out of a flower bed, cut out of a fish, or found in a rolled-up baby blanket in an old crib purchased at a yard sale—each ring eventually finding its way back to the rightful owner.

Prompted by the magazine feature, alumni from around the globe contacted us to place orders to have rings resized or refurbished, which is part of the lifetime guarantee of the Virginia Tech class ring. Others wished to order a replacement for a lost ring, or as a gift for a family member. And still others who never purchased a class ring while a student reached out to us to finally buy and wear their class treasure for the first time. Whatever the motivation, Virginia Tech alumni from all over the world demonstrated their desire to "wear the tradition." Each of them recognizes that a Virginia Tech class ring is not just a piece of jewelry, but is an expression of affection for our experiences at Virginia Tech.

The pride and joy from the letters, emails, and phone calls we received reinforces the knowledge that Virginia Tech alumni are more connected and committed to their alma mater than any other alumni network in the land. We will always sustain grand customs, and our current and future students are sure to create new ones. We love our alma mater; we believe in our alma mater; and we support our alma mater. That's who we are, and that's what we do. □

"So stand and sing all hail to thee, VT, all hail to thee."

Matthew M. Winston Jr. (marketing management '90) is senior associate vice president for alumni relations.



LOGAN WALLACE

Taking wing: Following nearly 10 weeks of medical care and rehabilitation, a red-tailed hawk that was rescued and brought to the Virginia-Maryland College of Veterinary Medicine was released back into the wild in early October 2016. The release took place behind The Inn at Virginia Tech and Skelton Conference Center, near the Virginia Tech golf course.

Up and away

View more photos and watch a video of the release by visiting vtmag.vt.edu.



Save the dates

Virginia Tech Day at Kings Dominion

April 29 | \$29.99 per person | alumni.vt.edu/kingsdominion

Alumni Association **events**

Civil War Weekend and Spring Campaign | March 17-19

Family Weekend | April 21-23

Virginia Tech Day at Kings Dominion | April 29

Old Guard Reunion | May 17-19

Orientation Leader/Hokie Camp Counselor Reunion | June 23-24

Beer Festival at Virginia Tech | June 24

Day in the Life of College Admissions | July 7-8

Women's Weekend at Virginia Tech | July 14-16

For more information, including details about Homecoming and other future events, call **540-231-6285**, or visit alumni.vt.edu/events.

Industry networking **events**

Virginia Tech hosts events across the globe that provide alumni and students with opportunities to connect with industry professionals in a variety of career fields and regions. Alumni share experiences, build professional networks, and explore industry trends.

Hokies on Wall Street | April 20

Hokies in Health Science and Technology | June 2-3

Hokies in London | June 17

Go to alumni.vt.edu/events/networking/ for more information or to register for events in your area.