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# VIRGINIA TECH magazine

FALL 2021

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IN AFRICA  
The global land-grant at work



## F1RST IN THE FAMILY

Virginia Tech programs for first-generation students have served hundreds of Hokies and earned national distinction

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## GLOBAL EFFECT

Virginia Tech has made it a mission to take innovation around the world, helping to strengthen emerging economies and improve quality of life in villages and communities. Take Senegal, a country on the continent of Africa where a professor from the School of Plant and Environmental Sciences, has cultivated the use of the mung bean, a nutrient-dense legume.

Read more about mung beans and Virginia Tech's numerous projects in Africa on page 26.



# FEATURES

## 26 IN AFRICA

More than 4,000 miles away from Virginia Tech's Blacksburg campus, students, faculty, and Extension agents are involved in numerous projects in Africa. Through initiatives that range from pest management to youth development, Virginia Tech is transforming lives across the globe.

## 38 MISSION POSSIBLE

Over the past six years, Virginia Tech has realized many successes engaging the Hokie Nation in the life and goals of university. As we look to the future, we're positioned to do even more to further the university's ambitions, thanks to the contagious enthusiasm and participation of alumni and friends.

## 42 FIRST IN THE FAMILY

Nearly all students face challenges as they transition from home to university life. For some, the college experience is profoundly shaped by one distinction: upon graduation, they will be the first in their families to earn college degrees.

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ON THE COVER: In September, Ellie Mangan and Ga'daisyia "Daisy" Gupton participated in a special seminar for first-generation students at Virginia Tech. At right, during Homecoming 2021, Virginia Tech marked the first of numerous celebrations to recognize the university's sesquicentennial—the 150th year since its founding.





THIS IS HOME: President Tim Sands welcomes new students to Virginia Tech during fall semester move-in.

## PRESIDENT'S MESSAGE

# SPIRITED SEMESTER

While the start of the fall semester is always exciting, I don't think I've ever seen a university welcome a new academic year with this much enthusiasm.

Once again, our campuses are offering a full, in-person experience for students, and we are able to connect with the many communities we serve.

In August, we welcomed another academically strong, diverse entering class. Some of our newest students are the first in their families to attend college, and we are excited to offer programs that will support their successful journey toward graduation.

In October, Homecoming Week also kicked off the celebration of the university's sesquicentennial. I invite all Hokies to help us mark this milestone through the end of 2022 by sharing university memories, making a gift, mentoring a student, and showing your Hokie pride in your own unique way.

And please make plans to visit. We're excited to show you how our campus has grown and improved. Blacksburg is being transformed by numerous projects, including the Global Business and Analytics Complex and newly completed Creativity and Innovation District (CID) Residence Hall. The Holden Hall project is also taking shape, a critical step for the College of Engineering.

Exciting things are happening at our campuses across the commonwealth, too. Construction on the first academic building on the Innovation Campus in Alexandria began in September, and

Boeing's \$50 million commitment will enrich the entire endeavor. In October, the Fralin Biomedical Research Institute at VTC celebrated the opening of its new addition in Roanoke, and we have already recruited the first of several cancer researchers who will work in Virginia Tech's new research facility on the Children's National Research & Innovation Campus in Washington, D.C.

These facilities will allow our faculty and students to do what they do best: pursue a commitment to transformational research and inclusive, experiential education. The biomedical addition in Roanoke will advance research in such areas as brain health and disorders and cancer therapeutics. And the CID Residence Hall is an extraordinary addition to our living-learning communities.

As we turn the corner toward the culmination of the fall semester, I would like to thank our faculty, staff, alumni, parents, students, and friends for your continued support and flexibility. I also invite you to watch the 2022 State of the University address on Jan. 19, 2022, as we look back at some of our successes and share more plans for moving beyond boundaries. Until then, know that your generosity of spirit, your personal commitment, and your enthusiastic participation are the examples of *Ut Prosim* (That I May Serve) that set our community apart and propel us into the future.

Thank you, Hokies. Be committed. Be well. ■

*Tim Sands is Virginia Tech's 16th president.*

RYAN YOUNG

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**EDITOR**  
Erica Stacy

**ART DIRECTOR**  
Shanin Glenn

**SECTION EDITORS/Writers**  
Jenny Kincaid Boone, Richard Lovegrove,  
Jimmy Robertson, Travis Williams

**CONTRIBUTORS**  
Dominique Benjamin, Annie McCallum,  
Albert Raboteau, Brian Snell

**GRAPHIC DESIGNERS**  
Shanin Glenn, Summer Woodard

**DIGITAL DESIGN**  
Bruce Harper

**VISUAL ASSETS**  
Dawn Jefferies, Megan Zalecki

**PHOTOGRAPHERS**  
Christina Franusich, Lee Friesland,  
Ray Meese

**DIRECTOR OF DESIGN & DIGITAL STRATEGY**  
Brad Soucy

**EXECUTIVE EDITOR**  
Jesse Tuel

**PUBLISHER**  
Tracy Vosburgh

### CONTACTS

**STORY IDEAS AND LETTERS TO THE EDITOR:**  
**EMAIL:** VT.MAG@VT.EDU. **MAIL:** VIRGINIA TECH MAGAZINE;  
902 PRICES FORK ROAD; UNIVERSITY GATEWAY CENTER,  
SUITE 2100; BLACKSBURG, VA 24061. **ADDRESS CHANGES:**  
**EMAIL:** ALUMNIDATA@VT.EDU. **PHONE:** 540-231-6285  
BETWEEN 8 A.M. AND 5 P.M., MONDAY THROUGH FRIDAY.  
**CLASS NOTES: EMAIL:** CLASSNOTES@VT.EDU. **MAIL:**  
CLASS NOTES, ALUMNI ASSOCIATION; HOLTZMAN  
ALUMNI CENTER, VIRGINIA TECH; 901 PRICES FORK RD.;  
BLACKSBURG, VA 24061. **ADVERTISING:** BRENDA WATSON,  
BRENDAAW@VT.EDU, (540) 739-0048.

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# LETTERS

## TO THE EDITOR

### EVERY DROP COUNTS

In the fall of 1951, while I was a student at VPI studying agricultural engineering, I would wash my 1940 Chevy pickup by dipping water from Stroubles Creek into a bucket, carrying it up to the street, and rinsing off the soap suds so it would be nice and clean to drive to class.

Years later, as a developer of subdivisions who has built over 600 homes, I became very interested in the preserving of water.

In the outlying suburbs where homes were needed, I would drill water wells and install the necessary underground pipes to furnish water to the homes that I would build. Then, I would operate the utility by serving water to the customers for many years.

I enjoyed your magazine article, *Water Matters*, in the summer 2021 edition, but cannot find where you stated that the water we have here on this earth is all of the water that we will ever have, and this is another reason to take care of it.

Forever to Thee,

*Gerald B. Bowen '55*  
*Fort Myers, Florida*

## FROM THE EDITOR

### CORRECTION

*The summer 2021 edition of Virginia Tech Magazine erroneously included Laura Harris Brumsey '07, Sterling, Virginia, in the In Memoriam listing.*

## FROM THE EDITOR

### MAKING HISTORY

Hokie Nation is together again, with students in classrooms on all of our campuses and alumni and friends gathering for games and events. What a great beginning to an extra special year.

From July 2021 through December 2022, Virginia Tech will observe the 150th anniversary of its founding. The first official sesquicentennial events were held during Homecoming 2021, Oct. 15-17. (See photos from the weekend on pages 16-17.)

Throughout this sesquicentennial year, Virginia Tech Magazine will highlight stories and other content that reflect on the past, celebrate the present, and imagine the future. You will be able to recognize this special content by looking for the sesquicentennial logo, which will be featured on the associated pages.

We're asking Hokies everywhere to join us in marking this milestone. The university will be hosting events throughout the year on our campuses, around the commonwealth, across the nation, and even internationally. Visit vt.edu/150 for a calendar of events.

We also invite you to reflect on what makes Hokie Nation so special by sharing your memories and your commitment to *Ut Prosim* (That I May Serve) during University Commencement, the Big Event, and more. Use #VT150 to tag your posts. You may even see your contributions on our sesquicentennial website and at our events.

Follow the Virginia Tech social media accounts to learn more.

SHOVEL READY: A September groundbreaking ceremony in Alexandria marked the start of construction for Virginia Tech's new Innovation Campus. Pictured, from left to right, are David Calhoun, Virginia Tech alumnus and CEO of Boeing; Virginia Gov. Ralph Northam; Virginia Tech President Tim Sands; Justin Wilson, mayor of Alexandria; Julia Ross, Paul and Dorothea Torgersen Dean of Engineering at Virginia Tech; Lance Collins, vice president and executive director of the Innovation Campus; Letitia Long, rector for the Virginia Tech Board of Visitors; Tara Laughlin, student in the Innovation Campus Master of Engineering program; and Matt Kelly, CEO of JBG Smith.



# AROUND THE DRILLFIELD

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## NEWS

**VIRGINIA TECH'S INNOVATION CAMPUS CELEBRATED A MAJOR MILESTONE IN SEPTEMBER—THE START OF CONSTRUCTION.**

**DURING A GROUNDBREAKING CEREMONY FOR THE CAMPUS'** first academic building in Alexandria, a host of top government, university, and business leaders, including Virginia Tech President Tim Sands and Virginia Gov. Ralph Northam, lauded the Innovation Campus for its mission to solve the nation's and commonwealth's critical needs for tech talent.

More than 200 supporters gathered under a large white tent at the campus' construction site on Potomac Avenue.

"It's a day many years in the making, made possible by a broad group of partners who were willing to support a bold vision to advance research, graduate education, and community engagement in the greater Washington, D.C., metro area," Sands said.

The campus' first academic building, at 300,000 square feet, will be built on an approximately 3.5-acre campus in the first phase of a new mixed-use development and innovation district. Fall 2024 is the expected completion date.

"Our vision for the Innovation Campus is to be both a place and a culture that unlocks the power of diverse people and ideas to solve the world's most pressing problems through technology," said Lance Collins, vice president and executive director of the Innovation Campus. "Diversity isn't just a core value to me. It is a measure of excellence that will ensure the Innovation Campus delivers on its full potential." ■

MIKE CHIRIELESON FOR VIRGINIA TECH



**SUPPORTING STUDENTS:** Several colleges at Virginia Tech now have counselors who work directly with the students in those units. (illustration by Brian Yohn)

## ADDITIONAL MENTAL HEALTH COUNSELORS NOW ON BOARD TO HELP VIRGINIA TECH STUDENTS

**VIRGINIA TECH IS EMBEDDING NEW** counselors within three separate colleges, putting them closer to the students who traverse those hallways every day and to the faculty members who instruct them.

Angela Ryan is embedded within the Pamplin College of Business, while Ashli Sharpton works in the College of Science, and Kathryn Mustard works in the College of Engineering. A fourth counselor, Julie Kaplan, serves the Northern Virginia campus.

The university plans to add counselors to be embedded in residence halls for 2022-23.

“I was really interested to plug into it,” Ryan said of her new role. “I’m really interested

in doing things like prevention work and outreach, and this type of position is really designed to do things like that.”

The move to add more embedded counselors was an idea that came out of a Virginia Tech Mental Health Task Force report in March 2019. Executive Vice President and Provost Cyril Clarke wanted the task force, chaired by Assistant Vice President for Student Affairs Chris Wise, to identify factors affecting the mental health of Virginia Tech students; address issues associated with the university’s mental health services; address existing needs; and proactively plan for future support of mental health programs at the university. ■

## NEW CATAWBA SUSTAINABILITY CENTER TRAIL PROVIDES ACCESS TO APPALACHIAN TRAIL, MCAFFEE KNOB



**MCAFFEE KNOB, ONE OF THE APPALACHIAN** Trail’s most popular overlooks, draws thousands each year to its awe-inspiring summit in Roanoke County. But, especially on pretty autumn weekends, that popularity has made parking increasingly difficult for hikers hoping to take in the view.

Now, just in time for the fall hiking season, a new trailhead at the Virginia Tech Catawba Sustainability Center will help ease that load.

The Catawba Greenway, a 2.9-mile looped trail that officially opened in September, winds through the 377-acre Virginia Tech property before connecting to the Appalachian Trail.

The trail will showcase research at the farm, which was given to the university in 1988.

Roanoke County and Virginia Tech formed a partnership nearly 10 years ago to develop the Catawba Sustainability Center into a laboratory supporting university research and community engagement. ■

## NEW STUDY EXAMINES QUALITY OF LIFE IN MINI PIGS

**AT THE VIRGINIA-MARYLAND** College of Veterinary Medicine, researchers want to examine which factors are important when miniature pig owners—also known as “pig parents”—measure their pigs’ happiness.

With the popularity of pet pigs on the rise, Sherrie Clark, professor of theriogenology and interim department head of large animal clinical sciences, and Megan Shepherd, clinical assistant professor of clinical nutrition, began to wonder what people overlook when they think about their pet pigs.

“When we’re talking about mini pigs, we’re talking about a one- to two-hundred-pound animal,” Clark said. “That’s ‘mini’ compared to a half-ton farm pig, but if your pig doesn’t want to cooperate, it’s not just a matter of picking her up and putting her into a crate.”

Clark and Shepherd partnered with Mazuri Exotic Animal Nutrition, a leading exotic animal nutrition company, to design a survey tool to develop quality of life in pet mini pigs.

For this study, healthy pet mini pigs have a wellness visit, and owners complete a survey.

The knowledge from this study will help communication between veterinarians and pig parents. ■

COURTESY OF ANDY MANN, COURTESY OF SPENCER ROBERTS



DIANE DEFFENBAUGH



**ONE STEP AT A TIME:** Jenna Mesisca, a biomedical engineering undergraduate student, collects data to assess the best way for athletes to return to their sports after an ACL injury.

## WEIGHT OR ENERGY: STUDENT RESEARCHES ACL RECOVERY RESULTS

**ACCORDING TO 2021 RESEARCH** IN the Orthopaedic Journal of Sports Medicine, 35 percent of athletes who have recovered from an anterior cruciate ligament (ACL) injury will suffer reinjury after returning to their sport. For Jenna Mesisca, that number is too high.

The fourth-year biomedical engineering student has conducted research to better understand the biomechanics of returning to sport following an ACL injury.

In a study published in Clinical Biomechanics, Mesisca worked alongside Alex Peebles, a Ph.D. student in biomedical engineering, and Robin Queen, professor of biomedical engineering and mechanics in the College of Engineering. The team discovered the importance of factoring both weight and jump height into the tests that are used to clear athletes to resume physical activity following an ACL injury.

The study involved collecting data from more than 20 female athletes who had recently recovered from an ACL injury and who had completed rehabilitation following an ACL reconstruction. The athletes participated in a variety of hops to measure their recovered limbs and non-injured limbs.

“I have always had an interest in sports rehab and injury prevention, particularly as a club lacrosse player at Virginia Tech and an athlete myself,” said Mesisca, who is part of the first cohort of students in the new biomedical engineering degree program.

“I was so excited to be part of this first cohort of biomedical engineers—a major that combines my passion for helping injured athletes, my interest in mechanics and medicine, and my knowledge and skills as a science and math student.” ■



**VETERAN LEADER:** Eric Paterson is the inaugural executive director of the Virginia Tech National Security Institute.

## VIRGINIA TECH LAUNCHES NATIONAL SECURITY INSTITUTE

**VIRGINIA TECH HAS ANNOUNCED THE** formation of the Virginia Tech National Security Institute, which is aspiring to become the nation's preeminent academic organization at the nexus of interdisciplinary research, technology, policy, and talent development to advance national security.

The Department of Defense is Virginia Tech's largest source of federal funding with approximately \$50 million in fiscal year 2020.

Bringing together transdisciplinary researchers, programs, and resources from across the university, including the Ted and Karyn Hume Center for National Security and Technology and the Virginia Tech Applied Research Corporation, the institute will integrate student learning and cutting-edge research at a scale unmatched by other organizations.

With a presence in Blacksburg and the greater Washington, D.C., metro area, the Virginia Tech National Security

Institute will be one of the university's thematic research institutes, joining the Virginia Tech Transportation Institute and the Fralin Biomedical Research Institute at VTC.

Eric Paterson, world-renowned expert in naval hydrodynamics and 30-year veteran of combined industry and higher education experience, will lead the new institute as its inaugural executive director. Paterson has served as interim executive director for the Ted and Karyn Hume Center for National Security and Technology for over two years and has led the Kevin T. Crofton Department of Aerospace and Ocean Engineering as department head for almost 10 years.

"By growing our applied research portfolio that also integrates student learning, this institute will enable Virginia Tech to help solve tomorrow's national security challenges and to deliver the workforce of the future," Paterson said. ■

## VIRGINIA COOPERATIVE EXTENSION AGENTS TO BE TRUSTED MESSENGERS FOR COVID-19 VACCINE INFORMATION



**COVID-19 VACCINES HAVE BEEN** widely available since spring, yet across rural southwest and southern central Virginia, not a single county had more than 40 percent of its population fully vaccinated in mid-August, according to the Virginia Department of Health. That's well below the state and national rates of over 50 percent.

Now, a group of Virginia Tech researchers, along with partners at Virginia State University, are working to deliver facts about the vaccine to the hesitant through messengers they know and trust: Virginia Cooperative Extension agents.

The effort is funded by two Extension COVID Immunization Training and Education grants from the U.S. Department of Agriculture and the Centers for Disease Control and Prevention totaling \$225,000.

The effort will focus on rural and Appalachian region residents along with agricultural and migrant workers, many of whom are Hispanic or Black residents, or live in military communities. ■

## GEOLOGISTS LOOK TO PAST FOR ANSWERS ON FUTURE TSUNAMI THREATS

**MULTIPLE LARGE AND DESTRUCTIVE** tsunamis in the Indian Ocean, Chile, and Japan in the past few decades have underscored the threat that tsunamis pose to coastal regions, ushering in a new era of research aimed at better predicting areas threatened by the fast-developing natural disasters.

Tina Dura, an assistant professor of coastal hazards in Virginia Tech's Department of Geosciences, is looking at the past, with an aim to understand what may lie ahead.

"Some coastlines have not experienced a recent large tsunami, so we may underestimate the potential for infrequent, but large and destructive, tsunami events," Dura said. "We hope to change that by using geological history as our guide."

Dura's Coastal Hazards Lab uses sand beds deposited by tsunamis and preserved in coastal environments to reconstruct past tsunami inundation over hundreds to thousands of years.

Dura was part of research that appeared in Nature Geoscience examining seismic risk of earthquakes and associated tsunamis in the Tokyo region. The work revealed that earthquakes along a previously unconsidered plate boundary have produced significant tsunami inundation in the past. ■



KRISTINA ROSE FOR VIRGINIA TECH, ISTOCK

COURTESY OF TINA DURA

**VIRGINIA TECH VIDEOGRAPHERS HAVE BEEN HARD AT WORK CAPTURING THE UNIVERSITY'S NEWS AND EVENTS. CHECK OUT THIS SAMPLING AND MANY OTHERS AT [VTX.VT.EDU/VIDEOS](https://vtx.vt.edu/videos).**



### SCIENCE FESTIVAL COMES TO ELEMENTARY STUDENTS AS SMALL FIELD TRIPS

Students from Indian Valley Elementary School in Floyd, Virginia, visited Virginia Tech as part of the 2021 Science Festival. Experiments included creating homemade lava lamps and magnetic slime.



### CREATING A SUSTAINABLE FOUNDATION FOR PRODUCTS WORLDWIDE

Students and faculty at the Center for Packaging and Unit Load Design are studying how pallets behave while carrying different types of packages.



### CAUS STUDENTS DRAW INSPIRATION FROM CLASSICAL MUSICIANS

Students in Mintai Kim's Foundation Studio class were challenged to draw sketches inspired by music performed in the Moss Arts Center.



### GAME BALL TRADITION

The Army ROTC Ranger Company has performed the Game Ball Run every year since the 1970s. The tradition dates back to the annual Virginia Tech-VMI football rivalry. The cadets cover 100 miles on campus with the ball during Homecoming week.





# A FORCE FOR POSITIVE CHANGE



## QUILLEN FAMILY SPIRIT PLAZA IN THE WORKS

The Pylons. The Drillfield. Burruss Hall. These are just some of the iconic spots on Virginia Tech's Blacksburg campus that come to mind for Hokies around the world when they picture the university. Student Affairs looks forward to a new spot joining the list of must-see campus attractions: the Quillen Family Spirit Plaza.

The Spirit Plaza is made possible by a \$2 million gift from three siblings of the Quillen family: Chris Quillen '98 and his wife, Jennifer, Hunter Quillen Gresham, and Matt Quillen '06 and his wife, Kelsey. The gift is one of the largest outright gifts in the history of Student Affairs.

The Spirit Plaza will be located in the

area outside Dietrick Hall that faces Washington Street. It will transform and modernize a central campus gathering place that connects residential spaces to the athletics venues via Dietrick Lawn.

"Dietrick Hall is a destination for almost every student, summer conference guest, and visitor to Virginia Tech," said Frank Shushok Jr., vice president for student affairs. "In so many ways, Dietrick is our front porch—a place where we greet old friends, gather new ones, and step out toward endless possibilities. The new plaza will be a poignant articulation of our compelling history, our contagious spirit, and our far-reaching hospitality."

The family's Hokie connections run deep, beginning in the 1930s when the Quillen siblings' paternal grandfather, Hicklen B.

"Jack" Quillen Jr. '40, attended Virginia Tech. The siblings' parents, Michael J. Quillen '70 and Sherwood P. Quillen '71, who are Cornerstone Hokies, shared their love for the university with their children. In addition to imparting abundant school spirit, their parents also demonstrated the importance of philanthropy.

"Our parents instilled the value of generosity in us," said Chris Quillen, who graduated in 1998 with a degree in business from Pamplin College of Business. "The three of us were looking for ways to make a gift together, and our interests in athletics and Student Affairs merged with the Spirit Plaza project."

The Spirit Plaza is targeted to break ground by the end of the year.

## GLOBAL BUSINESS AND ANALYTICS COMPLEX TAKES SHAPE

As fundraising for the Global Business and Analytics Complex (GBAC) enters a crucial period, two of the project's earliest supporters have stepped forward again to give and to encourage fellow Pamplin College of Business alumni to do the same.

In October, Chris Shean '87 hosted an event in Richmond, Virginia, to highlight the project to other Hokies as part of a push to raise the remaining \$8 million toward the project that will allow design for the complex's second building to begin this calendar year.

"I want to take action and set a good example for others to follow," explained Shean, a former executive with Liberty Media who along with his wife, Lesley Shean '88, has given \$2.5 million to help make the complex a reality.

Mary McVay '78, MBA '81 was the first Hokie to make a \$1 million gift in support of the project. Recently, McVay gave an additional \$1 million to create a matching opportunity for donors to the project.

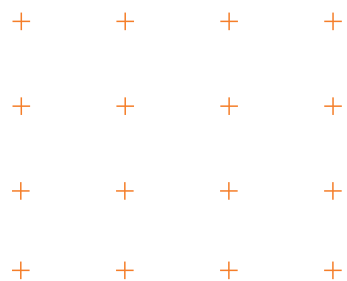
"We don't have many opportunities to put our stamp on something as important as a university," McVay said when asked what motivated her matching gift.

Plans for GBAC include two academic buildings, the first of which is already under construction. Together, the complex's academic buildings are expected to provide roughly 240,000 square feet of space for teaching, research, and collaboration by faculty and students from multiple colleges, with a focus on data analytics and decision-making.

The first building is projected to open in summer 2023. The second building, which will also serve as the new home for Pamplin College of Business, is projected to open in early 2025.

Visit [pamplin.vt.edu/gbac](http://pamplin.vt.edu/gbac) to learn more.





### HITT HALL FUNDING APPROVED

On Aug. 30, the Virginia Tech Board of Visitors reviewed the design, and approved funding for, a new facility in the North Academic District of the Blacksburg campus. Hitt Hall will provide an expanded physical presence for the Myers-Lawson School of Construction—a joint collaboration between the College of Architecture and Urban Studies and the College of Engineering—as well as add critical dining and academic spaces.

Philanthropy plays a crucial role in Hitt Hall’s realization. The building is named in recognition of a generous gift from the Hitt Family Foundation Inc. The Hitt family’s company, Hitt Contracting Inc., is one of the nation’s largest general contractors and has employed Virginia Tech graduates for years.

“I’m excited to see this building coming together,” said HITT Contracting Co-

Chairman Brett Hitt, a member of the company’s founding family. “Our company prioritizes technology and talent. Whether it’s integrating robots into construction sites, maximizing the safety and efficiency of buildings, or attracting a broader and more diverse talent pool to the industry, we strive to be on the leading edge. Virginia Tech is doing that, too, through its powerful research and teaching, which is why it was natural for us to support this project.”

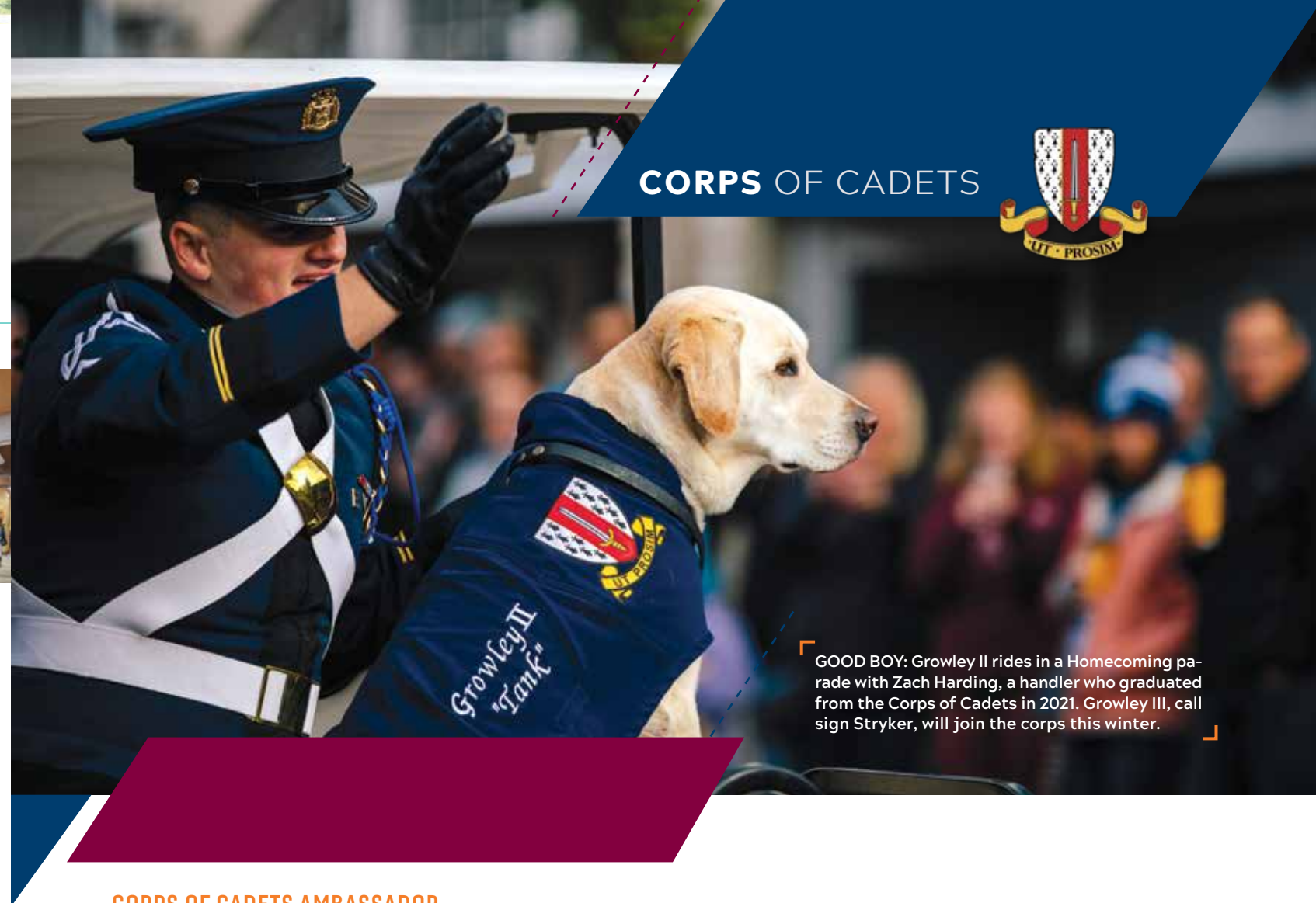
Hitt Hall is a major component of a planned Intelligent Infrastructure Corridor extending west to the Smart Design and Construction Village that has attracted millions of additional dollars in philanthropy as well.

Construction on Hitt Hall is anticipated to start in November and has a target completion time of spring 2024.



**Launched on Oct. 11, 2019, Boundless Impact: The Campaign for Virginia Tech has a goal to raise \$1.5 billion to fuel excellence across all university programs and drive forward major strategic priorities. A second goal is to engage 100,000 alumni in meaningful ways, enhancing and nurturing the Virginia Tech culture. Achieving these goals will have an impact that will stretch far into the future.**

**Your gift of any size helps support students, faculty, and programs that make a difference. Learn more at [give.vt.edu/why-give](https://give.vt.edu/why-give).**



**CORPS OF CADETS**



**GOOD BOY:** Growley II rides in a Homecoming parade with Zach Harding, a handler who graduated from the Corps of Cadets in 2021. Growley III, call sign Stryker, will join the corps this winter.

### CORPS OF CADETS AMBASSADOR

# GROWLEY II RETIRES

**AFTER FIVE YEARS OF SHARING THE** Virginia Tech Corps of Cadets story and providing tail wags and morale boosts to cadets, Growley II (call sign “Tank”) will retire at the end of this semester.

The 8-year-old yellow Labrador retriever has served honorably as the corps’ first canine ambassador. His reward? He soon will become the happily spoiled pet of one of his former handlers.

Growley II arrived on campus during summer 2016 as a 3-year-old, the unexpected result of a miserable winter morning for then-cadet Zack Sever. The 2017 graduate is now a U.S. Navy lieutenant and F-18 pilot with Strike Fighter Squad-

ron 103 at Naval Air Station Oceana in Virginia Beach, Virginia.

That morning’s grouching turned to possible solutions. He drew inspiration from Texas A&M Corps of Cadets dog Reveille and the folklore of Virginia Tech’s corps having a dog decades ago.

Sever worked with Col. Patience Larkin, a 1987 corps alumnus who retired from the U.S. Air Force and formerly served as the corps’ alumni director, to bring the idea of a corps dog—licensed by the U.S. Department of Agriculture as an exhibition animal—to Commandant of Cadets Maj. Gen. Randal Fullhart, who saw the dog as a unique opportunity to connect

the corps with all of Hokie Nation.

Sever became the first handler, and under Larkin’s guidance, the program took shape.

Today, Growley II is beloved across campus and has been featured on several Virginia Tech class rings. His service with the Corps of Cadets has been celebrated around campus and in Lane Stadium during the Hokies game against Duke.

Current Growley Team cadets have spent over a year working with Ciao Bella Retrievers of Troutville, Virginia, to train Growley III. ■

*Shay Barnhart is the Corps of Cadets’ communications director.*

# 150 years



## CELEBRATING OUR SESQUICENTENNIAL



## 2021 HOMECOMING!



 **150 YEARS!**  
To learn more about the Virginia Tech Sesquicentennial, including how to join the celebration, visit [vt.edu/150](http://vt.edu/150).

CF, RM, MARY DESMOND, THOMAS MILLER, MARY DESMOND

IVAN MOROZOV, THOMAS MILLER, CF



**THOUSANDS GATHERED IN BLACKSBURG** for a once-in-a-lifetime celebration marking 150 years of Virginia Tech.

Held in concert with Homecoming 2021, Oct. 15-16, the weekend of festivities kicked off Friday with a parade through downtown, Spirit Rally on the Drillfield, and fireworks above campus. On Saturday, hundreds came together at the Holtzman Alumni Center for a pre-game tailgate before the Hokies took on the University of Pittsburgh.

Through December 2022, the Virginia Tech Sesquicentennial will be observed with ongoing opportunities for honoring the past and celebrating the present. These events will extend across the commonwealth, the nation, and the world—Homecoming was just the start. ■



The Ribler Family

# A WORK OF HEART

## BOUNDLESS IMPACT

To learn more about how you can make a gift to the Beyond Boundaries Scholars program, contact Rachel Grahe at 540-231-3729 or rgrahe@vt.edu.

Gifts to the Beyond Boundaries Scholars program can be made in amounts of \$3,000, \$5,000, \$7,000, and \$13,000. Gifts are matched by the university dollar-for-dollar, doubling their impact.

Students interested in learning about scholarships should go to [find.vt.edu](http://find.vt.edu).

### VIRGINIA TECH SENIOR JACKSON

Ribler wanted to take a painful experience and use it to create something beautiful.

In 2015, his mother, Rebecca Ribler, died after battling cancer for the third time. She was an attorney by profession, but loved to paint and hosted several art exhibitions over the years.

Ribler made a gift to the School of Visual Arts (SOVA) earlier this year to honor his mother and her legacy.

“My mother had a huge heart and was a stranger to nobody,” Ribler said. “In spite of everything, she saw beauty in the world and shared it with us through her artwork.”

Ribler’s gift will fund a SOVA-specific Beyond Boundaries scholarship. The scholarships support efforts to increase the number of underrepresented minorities, enroll more students from underserved populations, and reduce the number of high-achieving students who choose competing schools that can offer more generous financial aid.

“Beyond Boundaries scholarships go toward nontraditional college students, and I think oftentimes it’s the most unexpected people who create the most unique and inspiring art,” Ribler said.

Ribler thinks giving to Virginia Tech in

any amount is important and makes an impact on the community. He encourages fellow students to recognize that the spirit of *Ut Prosim* (That I May Serve) doesn’t have to wait until one’s graduation.

“Any amount you give makes a big difference, and it’s a part of the legacy you build as a Hokie,” he said. “I feel really connected to Virginia Tech in a new way, having planted something here for the incoming generation of students to harvest.”

Ribler is currently taking a painting for nonmajors class and recommends it to anyone with time in their schedules.

“I do not share my mother’s talent for painting,” he said with a laugh, “but it does teach me to look at the world in different ways.”

“I didn’t understand it then, but today I realize what she was doing with her brush and canvas. My mother took a tremendous amount of pain from her extremely complicated life, and she converted it into painting the things that made her life worth living,” he said. “I think in a way I’m doing something similar. I’m taking my experiences and my memory of my mother and transforming that into something positive for somebody else to enjoy.” ■

*Julie Flanagan is an advancement communications specialist.*

COURTESY OF JACKSON RIBLER

# PLAY IT SAFE

BEFORE A RECENT VIRGINIA TECH women’s soccer team training session, David Tegarden and Jay Williams prepared for practice.

Accelerometer—check. Gyroscope—check. Heart monitor—check. Global positioning system (GPS) receiver—check.

Each athlete affixed a unit containing each of the four instruments to her custom vest. This unit noninvasively records and transmits information, in real-time, to a receiver located adjacent to the playing field by using two-way wireless encryption.

For Tegarden, an associate professor in the Department of Accounting and Information Systems, and Williams, a professor in the College of Agriculture and Life Sciences’ Department of Human Nutrition, Foods, and Exercise, this data collection helps with their research goal—maximizing athletic performance while minimizing injury risk.

Using fractal analysis, a concept developed from business analytics that applies nontraditional mathematics to patterns,

Tegarden and Williams are investigating whether a player’s training load leaves evidence, or markers, that warn of the potential for future injury.

“Fractal analysis is used in finance to determine stock trends or detect fraud,” Tegarden said. “Injury can be seen as a type of fraud.”

The players’ units track and transmit their heart rate, geo-location, acceleration, distance traveled, and gait throughout the session, with the goal of finding a correlation between the physical demands of training and competition and injury. The data gathered is imported into a database and run through different programs, including one written by Tegarden. A video analysis system then detects correlations between the information being tracked and injuries.

After a game or practice, Tegarden and Williams provide data to coaches and players to help inform training changes on a personalized level. Williams said that their analysis can reveal subtle differences over the course of a season, such as the manner in which a player runs.

“We also see changes over the week when the team plays multiple games,” he said. “Those changes may be indicative of fatigue.”

Researchers expect to collect enough data to observe players from the start of their careers at Virginia Tech through graduation. This data will allow them to track how an athlete’s performance improves or regresses over time based upon injury history—or lack thereof—and training regimen.

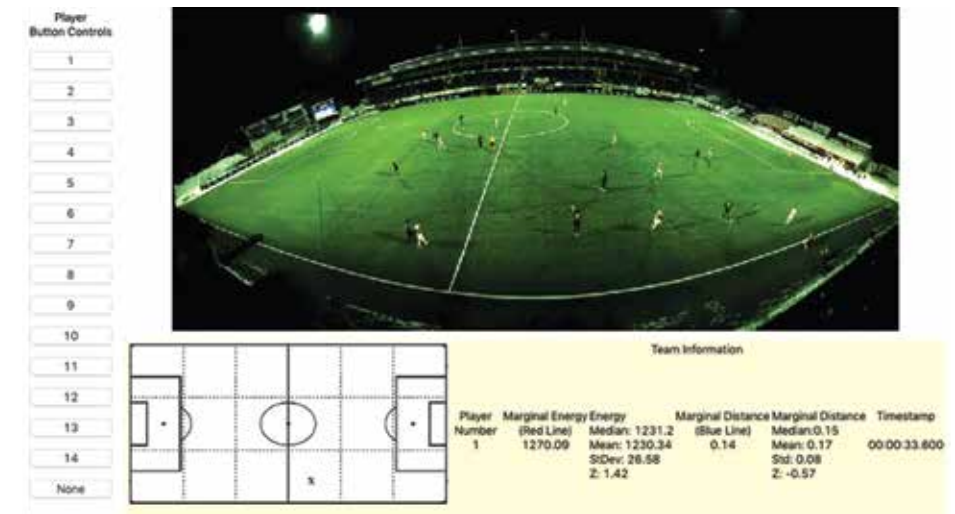
Tegarden said there is another use for their research.

“In accounting, we use control charts to find fraud,” he said. “We took the same idea, adapted it, and applied it to the playing field. With these insights, we can adapt it again and apply it to business.”

“We are taking information from one field, literally, and applying it to another field.”

Read more about this research study at [vtx.vt.edu/magazine](http://vtx.vt.edu/magazine). ■

*Jeremy Norman is assistant director of communications and marketing for the Pamplin College of Business.*



COURTESY OF TOMAS WILLIAMSON



FIELD WORK: Riley McCarthy is a defender for the Virginia Tech women’s soccer team.

**LOGY**  
a subject of study

ol·o·gy  
äləjē

# MINECRAFT

A NEW WAY TO EXPLORE ENGINEERING MAJORS

IN A WORLD OF LECTURES, BROCHURES, and informational slideshows, Ben Chambers is taking a hands-on approach to major exploration: Minecraft.

Chambers, an associate professor of practice in Virginia Tech's Department of Engineering Education, is one of a team of advisors and engineering faculty members looking for new ways to integrate advising and course goals into the first-year program, including exploring how to inform students of the wide variety of majors in the College of Engineering. During one committee meeting, Chambers proposed the use of Minecraft to build a unique college "museum," the Minecraft Museum of Engineering.

With more than 140 million active users, Minecraft is an infinite world video game launched more than a decade ago. Users can explore, build, and create on their own, or join up in collaborative play.

"It's being used in a lot of places for virtual learning, to teach programming and design, to do science and engage students," Chambers said. "Thinking about understanding a major or discipline or an aspect of it well enough to actually build something, to demonstrate it to other people, I think is a pretty interesting way to have students explore majors and disciplines."

Over time, the museum will include a wing for each of the 13 majors available in the

college, all designed and created by students. Museum visitors can expect a true virtual museum experience, including helpful tour guides.

The inaugural department wing, mining and minerals engineering, showcases unique use of Minecraft materials to illustrate real-world principles. One hall depicts longwall mining (a single, continuous mining operation), while yet another highlights job-related equipment, like the rigid frame off-road truck.

The walls of the museum went up this past spring, with support from a \$10,000 grant from the Center for Excellence in Teaching and Learning.

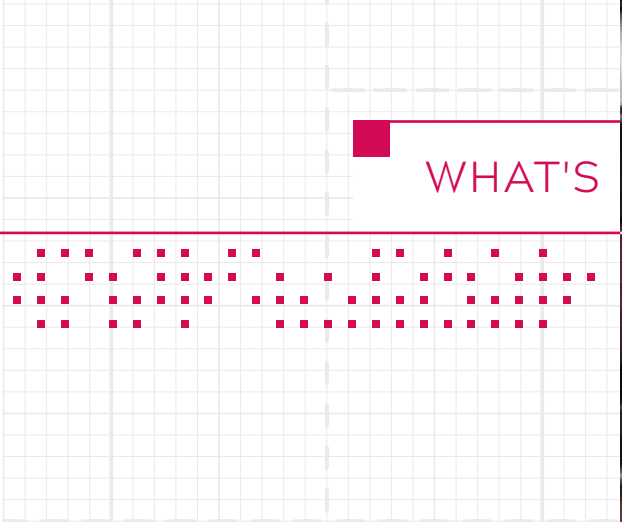
"I find it exciting to be part of this project because I know it's going to help incoming freshmen or transfer students—people who are struggling to decide on their major, like I did," said Alyssa Carr, a sophomore engineering student who helped design the museum. "Plus, it's fun getting to play a video game while helping someone else."

Learn more about the College of Engineering at [vtx.vt.edu/magazine](http://vtx.vt.edu/magazine). ■

*Angelo Biviano is the writing and communications program coordinator for the Department of Mining and Minerals Engineering. Niki Hazuda is the communications external relations manager for the Department of Engineering Education.*



COURTESY OF NIKI HAZUDA



WHAT'S IN IT?



# OPEN FOR BUSINESS

TAKE THE ELEVATOR TO THE SECOND floor of 432 North Main Street in downtown Blacksburg, above PK's Bar and Grill.

The doors open to reveal a trendy lounge area, with whiteboard walls, tables and chairs, multicolored couches, and plush swivel seating. Other amenities include a small kitchen and cafe area, featuring high-top tables and booths. Toward the back of the room, there's a large open space for meetings, seminars, and special events.

This inviting space serves as the new home for student entrepreneurs who are part of the Startup Hokies community—within the Apex Center for Entrepreneurs and Pamplin College of Business. Here, students interested in entrepreneurship can learn how to start a business and educate themselves about the full portfolio of programs that Apex offers.

The Apex Center provides interdisciplinary programs and support to approximately 3,500 Virginia Tech students annually and at least 40 startup teams each semester. The new 6,000-square-foot space gives Apex the place to do this on a much larger scale than its original 500-square-foot office in Pamplin Hall.

Previously, Apex hosted student programs in pop-up locations, such as auditoriums and classrooms, throughout campus.

"Our pop-up model for running programs made it challenging because students had no consistent place to go," said Derick Maggard, executive director of Apex. "They didn't know where to find us on a day-to-day basis. Now, we're going to have this space to call our own. It's going to be very transformative for us and our students."

The new space also houses an office for Apex's entrepreneur-in-residence program, as well as offices for the Apex staff and conference rooms.

Being in downtown Blacksburg is also key for the center, Maggard said. The design matches similar innovation spaces atop retail buildings in large urban areas. The goal is to increase the center's visibility to the public and to be accessible to the student teams that it serves.

The space will be open to all members of the Startup Hokies community Monday through Friday from 8 a.m. to 5 p.m. and for extended hours from 5-11 p.m. for students in the incubator or accelerator programs.

"Students don't always work the typical 9 to 5 [day]," Maggard said. "They often work on their startups at night outside of standard class hours. We want to be that collaborative, flexible space where

students work in cross-functional teams to bring new products and services to market." ■ *JKB*

VALUE PROPOSITION: (above) At the new Apex Center space, Tahjere Lewis, who is majoring in building construction, talks with students in the Startup Hokies program about his business venture, Aunt Carol's Sauce.



AT THE APEX OF INNOVATION

To learn more and to watch a video about the Apex Center, visit [vtx.vt.edu/magazine](http://vtx.vt.edu/magazine).



## HOW TECH TICKS

# SKIPPER

A VIRGINIA TECH TRADITION SINCE 1963



BEING ON SKIPPER CREW MEANS A LOT TO ME. WE WORK AS A TEAM TO GET THINGS DONE AT ANY EVENT WHERE WE NEED TO FIRE THE CANNON, AND OUR CHEMISTRY IN DOING SO IS UNMATCHED. I PERSONALLY CARE ABOUT EACH AND EVERY PERSON ON SKIPPER CREW, AND I'M SURE ANYONE ON SKIPPER CREW WOULD SAY THE SAME. **THESE PEOPLE ARE LIKE FAMILY TO ME, AND I WOULDN'T TRADE IT FOR ANYTHING.**

Angel Carcamo-Reyes  
Skipper Crew

EACH YEAR, DATING BACK TO 1918, Virginia Tech (then VPI) would meet rival Virginia Military Institute (VMI) in a football game played Thanksgiving Day. VMI had a cannon named "Little John," which it would fire every time the Keydets scored, while their cadets chanted: "Where's your cannon?"

In the early 1960s, Homer "Sonny" Hickam '64, Alton "Butch" Harper '64, and George Fox '64 tired of the smack talk and decided to fire back. Armed with a plan to "build the biggest cannon the world had ever seen," the trio collected extra brass from cadets' uniform items as well as shell casings from the firing range, which they would melt for the gun. Foundry owner Paul Huffman, an alumnus of the Corps of Cadets, cast the cannon at no charge.

When the cadets learned of the assassination of President John Fitzgerald Kennedy

(JFK), this gave birth to the name Skipper, which had two meanings: first to honor JFK, as he had been a skipper in the U.S. Navy, and also as an inside joke for the cadets (Skipper was a nickname for senior cadet privates who had gotten in trouble.) At the 1963 VMI vs. Virginia Tech game, 50 cadets hauled Skipper from underneath the bleachers and fired the gun.

The cannon suffered a blowout in 1982, so in 1984, Paul Huffman Jr. '78, whose father had cast the original Skipper, offered to fabricate a new cannon at no charge. Skipper II is based on a Confederate Civil War cannon. Its design compares to a 3-inch ordnance cannon, which is 70 inches long and weighs about 800 pounds. ■

*Members of the 2021 Skipper Crew, Alex Bangardt, Ethan Boutwell, Gavin Coburn, Shane Huweart, Ricky Weikle, Angel Carcamo-Reyes, and Caleb Tuggle, contributed to this story.*

MAJ. GEN. RANDAL FULLHART, CHASE MARTINEZ, CF

### THE CREW

Each year, new members of Skipper Crew are selected via a "tap" process. Cadets spend several weeks learning about the history of the cannon and how to clean and operate it. Also, they must be physically capable of serving on Skipper Crew. Cadets are ranked during the highly selective process, with only the top percentage of the tap class named to the crew.

### TRAINING AND SAFETY

Although every member of Skipper Crew has a specialty, each crew member is trained to perform every job. These include rolling black powder charges, managing the transport on busy game days, cleaning the gun and the limber (the large brass and wooden carriage that supports Skipper), and cleaning procedures after being fired.

Members of the Skipper Crew use normal firearms hearing protection. However, since the blast is focused forward, it is quieter from behind the cannon than one might expect.

### THE CHARGE

The charge shell is crafted from aluminum foil, which is filled with 8 ounces of black gunpowder, rolled, and packed tight. Once loaded, a pick is driven through the charge, creating a small opening. The cannon's cord is pulled, driving a hammer onto a primer, which shoots sparks into the charge, causing the explosion.

### CARE AND KEEPING

The maintenance crew makes sure that Skipper is well cared for, especially during games in between shots. The cadets' tasks range from cleaning the bore to emptying the barrel thoroughly so that no debris remains after firing.

### ON THE MOVE

On game days, a service vehicle tows Skipper and the limber to Lane Stadium. The members of Skipper Crew run in front of and alongside the truck to help with traffic control. The lead member of the Skipper Crew carries a flag and the truck blares music along the route.

### STANDBY, FIRE!

In keeping with Virginia Tech tradition, Skipper fires three times for every Corps of Cadets pass in review and also fires at events like the Caldwell I and II marches and Ring Premiere. On football game days, Skipper opens the day, firing twice at Hokie Village, again when the team walks by, once to start the "March to Victory," and at the close of the national anthem. Also, Skipper fires every time the Hokies score and to mark the end of each home game.

### LIVING QUARTERS

Skipper lives on the Upper Quad in a storage room within the basement of Pearson Hall East, often referred to as the "Cave." Campus visitors can easily locate the Cave by finding the two crossed cannons carved within the stone above the entrance. Skipper is visible through a special viewing window.



### HAVE A BLAST

To watch videos, read a detailed history, and find more information about Skipper, visit [vtx.vt.edu/magazine](http://vtx.vt.edu/magazine).



NOV. 28 TO DEC. 1, 2021

# GIVING TUESDAY '21

SHOW YOUR HOKIE SPIRIT FROM HEAD TO TOE

**THIS YEAR, IN HONOR OF GIVING** Tuesday, the creative visions of two Virginia Tech students will be made available to the Hokie Nation as limited-edition sock designs.

**Hokie Skyline**, designed by junior Nicole Tutino, uses familiar Hokie colors to evoke the iconic Blue Ridge mountains, a recognizable sight to anyone who has spent time in Blacksburg.

"Wherever you are on campus, you can always look up and see mountains," Tutino said. "They are something every Hokie can connect to because they are so prominent around campus."

Tutino's choice to use the university colors in her design offers a unique twist on the familiar landmark. "I wanted to make the mountains Hokie-themed by using maroon and orange," she said. "Those colors are such a big part of the Hokie Spirit. The socks give off the idea of the mountains, but are also still a fun design someone would want to wear, and the contrast is eye-catching."

Tutino, who is pursuing a double major in multimedia journalism and fashion merchandise and design, is passionate about both writing and fashion. "I entered Virginia Tech as a journalism major," she said, "but I was missing having another creative outlet. Someday, I would really like to work at a fashion magazine."

Molly McDonald uses her design to invite a question familiar to many Virginia Tech students, alumni, and fans. Her **What is a Hokie?** socks feature a Hokie-Bird pattern over a maroon background.

"When I started to think about my design, I went to take a look at what was already out there," McDonald said. "The bookstore doesn't have a sock with this kind of pat-

tern on it, with the smaller mascot repeated multiple times. I wanted to provide something that people wouldn't already have."

A senior majoring in fashion merchandise and design, McDonald's interest in the field predates her time at Virginia Tech. She credits a high school art project focused on fashion illustration with helping her decide to pursue a career in the fashion industry.

"I knew I wanted to go into a creative career that was changing all the time, and fashion is changing every year, every season even," McDonald said. "I started looking into college fashion programs and realized how great the program here at Virginia Tech is."

As for the name of her design, McDonald says it represents a common question about the university's mascot. "People ask, 'What is a Hokie? What's a Hokie-Bird?' It confuses some people, but it's part of what makes us unique. I imagine these socks will be a conversation starter for alumni and fans."

As for her response to the titular question, McDonald said, "We all know the answer. If someone asks you, 'What is a Hokie?', the answer is, 'I am!'" ■ BS

**To add a pair of Hokie socks to your wardrobe, make a gift of \$10 in honor of Giving Tuesday.**

**VISIT**  
[give.vt.edu/style](http://give.vt.edu/style)

COURTESY OF NICOLE TUTINO AND OF MOLLY McDONALD



# SOCKS ARE BACK!



Want to get some of these special **HOKIE SOCKS?**

In honor of Giving Tuesday, we'll send a pair to anyone who gives \$10 or more between November 28 and December 1!



[give.vt.edu/style](http://give.vt.edu/style)

**LIMITED TIME ONLY!**  
As comfortable as they are stylish, these student-designed socks are great for any occasion and make the perfect gift for the enthusiastic Hokie in your life.

## WINNERS!



Hokie Skyline  
by Nicole Tutino



What is a Hokie?  
by Molly McDonald



"PEOPLE ASK, 'WHAT IS A HOKIE? WHAT'S A HOKIEBIRD?' IT CONFUSES SOME PEOPLE, BUT IT'S PART OF WHAT MAKES US UNIQUE. I IMAGINE THESE SOCKS WILL BE A CONVERSATION STARTER FOR ALUMNI AND FANS."

Molly McDonald  
Student



# *in* AFRICA

*Virginia Tech is Making a World of Difference*

Mung bean recipes and cooking competitions. Drones carrying medical supplies. An app that tracks vegetables from field to market.

Projects like these are changing lives, thousands of miles and an ocean away from Blacksburg.

Africa is at the heart of much of Virginia Tech's work as a global land-grant university. Here, Hokies from all walks of life and research disciplines are making a difference, providing food sources, education, technology access, agricultural expertise, and hope for solving the world's major problems.

These stories highlight a few of the many ways that Virginia Tech's influence travels far and wide to transform communities for the good.





# taking a CLOSER LOOK

*Adapting Innovations for Africa*, BY SARA HENDERY

If Muni Muniappan calls you into his office first thing in the morning, there's a good chance it's to peer through a microscope at an insect he picked up in the parking lot.

Most of the renowned entomologist's research, and that of his colleagues at the Center for International Research, Education, and Development (CIRED), is centered on this simple idea: take a closer look.

Muniappan directs the Feed the Future Innovation Lab for Integrated Pest Management (IPM), one of many programs managed by CIRED, the university's hub for international development. At CIRED, university expertise is harnessed to address some of the world's most pressing problems—including food insecurity, gender inequality, youth unemployment, and more.

One of the center's focus areas—and where it has long-built relationships—is Africa. By 2050, the continent's 54 nations will account for more than half of the global population growth.

"Africa is growing more rapidly than any other part of the world, representing the next great frontier for innovations in business, science, agriculture, natural resources, and technology," said Guru Ghosh, vice president for Outreach and Inter-

national Affairs. "The opportunity for collaborative research projects on capacity-building initiatives is immense. Furthermore, the prospect of working in partnership with African governments, businesses, universities, and others to meet the extraordinary challenges of Africa's future offers Virginia Tech faculty and students unparalleled transformational experiential learning opportunities."

In Kenya, Muniappan has spent hours scouting for tiny parasitic wasps that are natural enemies of a maize pest. In Uganda, gender expert Maria Elisa Christie has conducted countless interviews with female farmers to cull local cooking knowledge. In Malawi, drone specialist Kevin Kochersberger asks students how technology could transform their hometowns.

Ever-evolving social, cultural, political, and environmental dynamics challenge the center's researchers to innovate to ensure that global development remains relevant to communities and supports the strategies of the U.S. government and other funders.

Tailoring solutions to community needs—looking closely—is the secret to the center's lasting impact.

## FINDING GAPS FROM A BIRD'S-EYE VIEW

In remote areas of the southeastern African nation of Malawi, a trip to the clinic for medical supplies can be a full day's walk. The use of drones, however, can help address such barriers.

Launched in 2020, CIRED's African Drone and Data Academy trains African students to construct, test, and fly drones, as well as analyze drone imagery and data. The academy partners with the Malawi University of Science and Technology to help students earn drone certifications to enter the drone workforce or the data analytics industry.

The first of its kind in Africa, the academy, which is located in Malawi, has hosted students from 23 African nations. One of its missions is to help students address humanitarian needs.

Take, for example, Theodore Kamunga Regeza. When he enrolled at the academy, he resided in the Dzaleka refugee camp and wanted to learn to use drones to bring lifesaving medical supplies to remote areas. After graduating, he did just that—working for Swoop Aero, the world's first provider of a drone-based vaccine delivery service.

"Drones can be used to help us solve many problems that we have the vision to address, but are physically unable to reach,"

said Kochersberger, associate professor of mechanical engineering and head of the program. "In remote communities around the world, gaps in infrastructure prevent affordable access to services and data that are critical to sustainable development. Where roads are nonexistent, drones are able to fly in, collecting aerial data to improve agriculture, land use, and planning."

Developing the curriculum to best meet student needs required calibration with African regulatory and operational environments and evaluation of safety management and ethical practices valued by local employers and customers. Kochersberger said the drone technology developed for Malawi's needs could be transformed for communities closer to home.

"Our projects in Malawi have resulted in flood modeling tools that are applicable right here in Montgomery County," he said, "where we combine standard flood modeling methods with high-resolution drone imagery to create accurate risk maps for guiding smart development."

Since the academy's inception, more than 300 students have graduated, with more than half of them women and the majority younger than 25. Given the academy's demand in Malawi, the program is expanding across the continent.



SKY IS THE LIMIT: The African Drone and Data Academy works to build local capacity in the use of drones to address community needs, as Malawi and other African countries have difficulty finding trained staff to keep up with the growing demand.



"Drones can be used to help us solve many problems that we have the vision to address, but are physically unable to reach. ... Where roads are nonexistent, drones are able to fly in, collecting aerial data to improve agriculture, land use, and planning."

Kevin Kochersberger  
associate professor of mechanical  
engineering and head of the program

## GIVING YOUTH A SECOND LOOK

“Youth are the future,” said Bineta Guisse, a coordinator of CIRED’s Youth in Agriculture program.

Since 2018, the program has helped build the skills, knowledge, and confidence of Senegalese youth to contribute to the country’s economic growth.

“If we invest in youth—and catalyze their many strengths and interests—it could be an incredible base for enriching, sustainable development,” Guisse said.

The guiding principle of Youth in Agriculture is simple: Young people should be viewed among a country’s greatest resources.

Senegal experiences higher rates of youth unemployment than many other West African countries. Roughly 60 percent of all unemployed people in the country are under the age of 26.

Modeled after the 4-H program of the Cooperative Extension Service and land-grant university system in the U.S., the program helps establish 4-H clubs throughout Senegal, developing the next generation of agriculturalists.

Cap Skiring, for example, is a 4-H club for Senegalese youth living with disabilities. Despite reduced mobility, the group leads activities together on fruit and vegetable processing.

Tom Archibald, associate professor in the Department of Agricultural, Leadership, and Community Education and head of the program, said that while there are many differences between the West and Africa, the principles that underlie positive youth development are universal.

“Youth across diverse cultural contexts all similarly value life skills, caring adult relationships, and experiential, hands-on learning,” he said. “But at the core of 4-H is gaining confidence in something that interests you.”

One adaptation of 4-H programs in Senegal is a greater emphasis on the use of information and communication technologies popular with local youth, such as the message-sharing platform WhatsApp.

With rural unemployment rates high, many young Senegalese are fleeing to other cities in search of work. Sparking interest in agriculture for young people—including agricultural entrepreneurship—begins with such activities as learning how to grow a seed into a tree, and building the confidence to do so.

In just a few years, the program has established 125 youth clubs in Senegal, enrolled nearly 2,000 youth, and trained more than 500 adult 4-H leaders.

## ZOOMING IN FOR MORE INFORMATION

In Kenya, CIRED is deploying blockchain technology to strengthen the relationship between farmers and buyers and help consumers find safe, high-quality produce.

African indigenous vegetables—such as amaranth or cowpea—are considered valuable sources of micronutrients, but their consumption and marketing is low.

To diminish barriers to consumption and sale of these nutritious vegetables, CIRED works with Egerton University in Kenya and the Australian startup AgUnity to adapt their smartphone app.

“This super app had been used for coffee and cocoa, which are considered cash crops that farmers sell as their main source of income,” said CIRED’s Jessica Agnew, who is co-leading the project. “We wanted to see if we could also use it to help market nutritious crops. To do this, we knew we would need to work closely with AgUnity and Kenyans to understand how the technology can help them market a new product.”

Consumers want information about how these vegetables are grown, transported to market, and processed, but those details rarely make it to the final buyer. The app tracks the indigenous vegetables from the field to the market, using blockchain to make the information more accessible.

Farmers, traders, and retailers can use the app to confirm prices and quantities of vegetables, obtain quality assurance on whether chemical pesticides have been applied, and track movement of the vegetables between transactions. The app also ensures all transactions are permanently and securely recorded on an unchangeable blockchain ledger, guaranteeing producers can collect promised prices and keep track of buyers who might have purchased on credit.

Recently, the project began collaborating with the supermarket chain Quick Mart, which is enabling the Kenyan community-based organization New Vision to sell its vegetables on store shelves. QR codes on the produce will link to a website with photos of the farmers who produced the vegetables and information about production.

“Virginia Tech brings decades of international research and project management experience to this collaboration,” said Ralph Hall, associate director of the School of Public and International Affairs, “which is complemented by the extensive in-country expertise of our colleagues at Egerton University and AgUnity’s innovative blockchain platform.”

## FROM LOCAL TO GLOBAL, *By Rich Mathieson*

Virginia Tech’s land-grant mission has guided the university’s efforts to expand educational opportunities while addressing the world’s most complex problems. That mission encourages us to look outward—to serve and engage with the communities around us.

As the university heads into its next 150 years, that mission takes on an increasingly broad geographic scope of responsibility.

“The quintessential challenge of the 21st century is the movement of students and faculty from connectedness to interconnectedness to interdependence,” said Guru Ghosh, vice president for Outreach and International Affairs. “International engagement is not a choice—it is a necessity.”

Since 2013, Ghosh has led efforts to be engaged fully with society, here and around the world. Among the places where he sees the most opportunity is Africa.

“Africa represents the youngest and fastest-growing population in the world,” Ghosh said. “Its demographic, economic, and political trends will have implications on all our lives.”

From Senegal to Malawi and Ethiopia to Botswana, Virginia Tech researchers are collaborating with institutions, industry, government, and local communities to tackle some of the continent’s most intractable problems and fine-tune critical thinking skills that help shape some of the most cutting-edge research.

In addition, the university offers faculty-led study abroad programs in about a dozen African countries and has exchange partnerships with leading universities across the continent.

“The opportunity to live and study with Africa’s youth as they rise to meet the extraordinary challenges of their future offers Virginia Tech students a unique pathway to academic, personal, social, and professional growth,” Ghosh said. “Such experiential learning opportunities help students grow into global citizens who personify *Ut Prosim* throughout the world.”

GREEN THUMB: During a field visit to the town of Ziguinchor in Senegal, Virginia Cooperative Extension personnel help 4-H club members master basic gardening skills.



TOM ARCHIBALD

## LOOKING BACK, LOOKING AHEAD FOR ANSWERS

The parthenium weed invades valuable farmland throughout Africa and causes human and animal health issues.

Director Muniappan and IPM Innovation Lab team members did their research. In Australia and India, the combined release of a beetle and weevil that eat and breed only on parthenium leaves showed promise in curbing growth. In collaboration with Virginia State University, as well as farmers, local officials, and Extension agents, the IPM Innovation Lab constructed a breeding facility—the first of its kind in Ethiopia—to produce the insects for release.

“This program is a quintessential example of how already developed research can be adapted to local contexts,” Muniappan said. “We accounted for weather, climate change, and geography unique to Ethiopia to ensure all the ways it could work there, too.”

The two natural enemies have now “established” in Ethiopia, replenishing farmland for crop production or livestock grazing.

Since 1993, the IPM Innovation Lab has addressed crop threats in more than 30 countries, safeguarding communities from the spread of destructive pests and reducing reliance on chemical pesticides. The program has brought at least \$2 billion in economic benefits to emerging economies, trained 600 graduate students, and collaborated with hundreds of institutions.

FEED THE FUTURE: Muni Muniappan scouts for the fall armyworm, a destructive crop pest, in Niger.



In collaboration with the University of Virginia's Biocomplexity Institute, for example, the IPM Innovation Lab developed an original pest modeling system that will even safeguard U.S. agriculture.

Tracking the invasive tomato pest *Tuta absoluta*, the teams sounded the alert of its entry to Nigeria, then tracked the spread of the pest from South America to Costa Rica and Haiti. If left unmitigated, the pest will likely enter the U.S.

“Pests know no boundaries,” Muniappan said. “It’s important to remember that developing monitoring systems for one country benefits the entire world.”

In collaboration with Women and Gender in International Development, the IPM Innovation Lab also promotes gender sensitivity. In the case of parthenium, for example, the teams found that the spread of the weed disproportionately impacts women.

“The insight that we gain by working in Africa,” said Maria Elisa Christie, who directs the program, “develops a more complete vision of the opportunities our students and faculty have to contribute to the world. It is a key component of the university’s philosophy, *Ut Prosim*.”

After nearly 30 years, the IPM Innovation Lab will close this year, leaving behind amazing successes. As CIRED’s flagship program, its legacy will be the hundreds of thousands of people trained by the program—like farmers in Kenya, whose income increased after implementing the Push-Pull Technique, or in Niger, where one of Muniappan’s mentees now works as one of the nation’s few entomologists.

## GAINING PERSPECTIVE

Across Africa, Virginia Tech is making a difference—looking closely, deeply, and sometimes even up, as researchers, thinkers, and drones remain on the cutting edge of global innovation adapted for community needs. Brought back is a greater ability to think critically and a more complex understanding of the people and places outside of university walls and state lines.

Brady Deaton, CIRED interim director, said that the process of catalyzing the most informed solutions for ever-evolving global problems demands both technical expertise and human closeness.

“We recognize that the approach to improving global communities needs the support of all dimensions of higher education—the scientific, the technical, the arts,” he said. “It should be noted that no society in the world has ever survived in the absence of human interrelationships.”



# taking a CLOSER LOOK

Sowing Seeds of Sustainability in Senegal, BY ZEKE BARLOW

MAX ESTERHUIZEN CONTRIBUTED TO THIS STORY. YOUSSEUPHA GUEYE ASSISTED WITH TRANSLATIONS.

Assit Deme slips off her sandals and sits with the other women escaping the 101-degree heat under the palm-thatched open-air hut, their feet forming concentric circles of henna-dyed artistry. They just came in from harvesting mung beans in the fields, where their dresses looked like a box of crayons exploded onto the green landscape as they quickly plucked the beans from the knee-high plants.

Deme knows that mung beans are easy to grow in the hot Senegalese sun and that her two children aren’t as hungry after eating them. But since mung beans are a relatively new food source, Deme doesn’t know many ways to prepare them.

Which is why Ozzie Abaye has traveled 4,300 miles to be here today.

Armed with a stack of recipes perfected in her Blacksburg home, five years of research dedicated to bringing mung beans to protein-deficient Senegal, and decades of agronomy knowledge and outreach, Abaye unpacks the mangoes and mint that she bought at the local market.

As women mash garlic in a worn wooden pestle, Abaye talks not only about the ease of growing mung beans, but also their nutri-

tional value. They are high in protein and fiber, which helps children feel full longer. They are high in folic acid and iron, which promotes breast milk production. They don’t need much fertilizer or pesticides, which saves farmers money. The women nod in agreement as they mix the food together while the young children nearby watch the “toubab”—strangers—sharing the afternoon shade.

When the mango-mung bean salad is complete, Deme and the others stuff it into baguettes, a relic of France’s colonialization of Senegal.

“Good, good, good,” one woman says in Palor, one of the many Senegalese languages, as she shares the baguette with her child. Deme nods in agreement.

“The first time I had [mung bean], I didn’t know how to cook it, so there wasn’t a lot of interest. But now that we have mung bean recipes, there is a lot of interest. It is needed for the children, and now we know how to cook it,” says Deme.

“Now I want to go back to the field and plant the rest of them,” she said.

SARA HENDERY

ZEKE BARLOW

The fiber and protein that Deme's children need to grow strong and healthy are not the only benefits encased in the legume. The tiny mung bean is also the main character in an extraordinary story. It is a story of the transformational effects of the research, Extension, and education efforts of a global land-grant university. It is a story of partnerships with groups including the U.S. Department of Agriculture (USDA), U.S. Agency for International Development (USAID), and Counterpart International. It is a story of how agriculture can change the world. It is a story that only Virginia Tech can tell.

### PLANTING A SEED OF AN IDEA

In 2012, Abaye shook a small orb from a seed packet, and dropped it into a Senegalese farmer's hand.

"Had he ever seen this before?" she asked.

The farmer shook his head. He had never seen a mung bean.

Abaye—or "Dr. Ozzie," as she is fondly known by her students—knew the answer before she asked the question on that hot African day.

The professor and Extension specialist in the College of Agriculture and Life Sciences' School of Plant and Environmental Sciences had spent several years assessing crops that could diversify

the Senegalese diet. The efforts led to an idea that would combine all the things she cared most about in life—agronomy, food security, children, and empowering women.

And so, Abaye and others embarked on an USAID Economic Resilience Activity (USAID-ERA) project to investigate the potential use of mung bean as a new crop to address malnutrition and food insecurity in Senegal.

Abaye evaluated various warm-season legumes. None were climatically the right fit for Senegal—until she looked into the mung bean, a short duration, warm-season legume that grows especially well in the tropics and neo-tropics.

She asked her counterparts at the Senegalese equivalent of Agricultural Research and Extension Centers if they ever grew mung beans. One showed her a storage room, housing thousands of small brown envelopes filled with seeds. He located a packet of mung beans, noting that the previous year a private company considered planting them but ultimately abandoned the project.

Later that day, Abaye introduced the seeds to a farmer, who had never seen such a thing.

"That was it, we didn't need to do any more research," said Abaye, whose voice carries the lilting Ethiopian accent of her childhood. "We found our bean."

### HANDS-ON ACROSS THE WORLD

From 2013-16, Andre Dietta was one of 14 Senegalese graduate students who called Blacksburg their home, which was made possible by the USAID-ERA project.

In between walks around the Duck Pond and soccer games on the Drillfield, Dietta spent his time in a lab and at Kentland Farm, testing more than 550 lines of mung beans to identify which would thrive in Senegal.

Although Dietta didn't grow up in an agricultural family, when he looked around his country where food security was a major problem, he knew what he wanted to do.

"Getting into agriculture was trying to be part of the solution," Dietta said recently as he walked around the campus of Gaston Burges University in Senegal, where he's now an assistant professor of agronomy.

Virginia Tech's *Ut Prosim* (That I May Serve) ethos combined with the mung bean project was a perfect match, he thought.

"This felt like an opportunity to give back and serve," he said.

Other students got involved in the project, too.

Mary Michael Lipford was one of three Virginia Tech students engaged in mung bean research and outreach in Senegal. The students were funded by Counterpart International, the college's Graduate Teaching Scholars Program, and the Pratt Undergraduate Research Program.

Their work opened doors they never thought possible.

When Lipford came to Virginia Tech, she wanted to change the world, which seemed like a daunting task until she took a course with Abaye.

"I heard her talk about her mung bean research and how she helps empower women," said Lipford, who traveled to a village in Senegal and helped hold a mung bean cooking competition. "I immediately knew that's what I wanted to do."

For a society to grow, Lipford said, it needs to have its basic needs met: food, water, health, and education. "If you can't feed yourself, you can't go anywhere or do anything," she said.

The mung bean project involved other departments within CALS and around the university. Kevin Kochersberger and Mary Kasarda from the Department of Mechanical Engineering designed a mung bean splitter. Taylor Vashro, a student researcher in the Department of Human Nutrition, Foods, and



MIX AND MATCH: Women mix together mint and mangoes to make mung-bean salad recipes that Ozzie Abaye concocted in her Blacksburg home that incorporate foods found in markets around Senegal.



Exercise, examined the effect of the mung bean on women's and children's dietary diversity.

According to Vashro, one Senegalese woman reported that "when she eats mung beans, her breasts are full of milk, and she's saving money. Because if you don't have milk in your breasts, you have to buy formula for your infant."

After eight years, the project, a success, was wrapping up. But Abaye felt unsettled, believing there was more work to be done.

### PLANTING ANOTHER MUNG BEAN PROJECT

So, on the day Abaye heard that Counterpart International was seeking a partnership with a land-grant institution to pilot a nutritionally rich crop for their school feeding programs in Senegal, Abaye canceled her classes and dashed home to work on a proposal.

Counterpart International—a nonprofit that partners with organizations to build inclusive, sustainable communities in which people thrive—wanted to explore opportunities for complementing school meals with newly released mung bean seed varieties. The project was funded through the McGovern-Dole-USAID Food for Education Program.

"Virginia Tech's experience with developing mung beans made for a great partnership to help us further our mission of providing communities the tools they need to thrive and be sustainable," said Kathryn Lane, chief of party for Counterpart in Senegal.

Over the next three years from Virginia Tech, Virginia Cooperative Extension, and Virginia 4-H visited the West African

MADAME MUNG BEAN: Ozzie Abaye (center) has intimately worked in local villages to make protein-rich mung beans part of their regular diet.



ZEKE BARLOW

ZEKE BARLOW

nation more than a dozen times and collaborated with Counterpart International to pilot a mung bean project at 10 different villages.

From 2019-21, more than 1,000 kilos of mung beans were produced on two hectares of land, which provided school meals to 2,761 school girls and 2,006 boys.

But Mamadoe Thioye doesn't need the statistics to recognize the success of the mung bean in his village.

### GROWING MUNG BEANS, GROWING YOUTH

Ibrahim Thoiye, 12, walked through fields where the rainy season yielded a coat of verdant green over the normally dun-colored land. He passed okra and cassava growing in the sandy soil. Golden birds flitted about the sky as he approached a plot where black pods dangled from ankle-high plants.

Just a few years earlier, Thoiye had never eaten these mung beans, but now he can't get enough of them.

"I can see the difference with the mung bean already," his mom, Asyia Thioye, said. "The children are physically stronger, and it helps with indigestion."

Thoiye's village was among the most successful of the 10 pilot projects. The community is hungry for more. Over the past three

years, Ibrahim's father, Mamadoe Thoiye, donated a few acres to expand bean production for use in the local school canteen.

Mamadoe Thoiye, who is president of the local school board, said the mung beans can be harvested many times during the growing season, and villagers are able to plant many successive crops due to the short growing cycle.

But Thoiye is seeing results well beyond the fields. He said absenteeism is down in school because kids aren't as hungry. And standardized test scores are higher than they've ever been—a testament, he said, to the nutrition they are now getting from the mung bean.

But the project isn't just feeding children's bellies—it's also feeding their minds.

### EXTENSION AND VIRGINIA 4-H GO TO SENEGAL

Erika Bonnett laid out an assortment of circuit boards, water pumps, and balls of yarn, issuing a challenge for the teachers assembled around her: create a lesson for your students using only these materials.

The sound of afternoon prayers drifting in from the nearby mosque mixed with the chatter of excited teachers as they picked up the various electronics and started developing an impromptu lesson.

Over the past three years, as Abaye and others were working in the fields to grow mung beans, Bonnett, a Virginia 4-H education specialist, has been in Senegalese classrooms collaborating with teachers to develop a STEM-based experiential learning curriculum around the mung bean. Before this, most learning modules consisted of theory or teaching from a book. But Bonnett understands the value of the 4-H model of learning by doing.

Bonnett grew up in a small, poor mining town in West Virginia where opportunities were limited. In the third grade, she became involved in 4-H and over time grew her leadership ability by participating in state and national 4-H events. Hooked on the 4-H teaching strategy, Bonnett stuck with those lessons through her Ph.D. studies. Today, she is a leader of educational program development for the more than 200,000 youth involved in Virginia 4-H.

During her time in Senegalese classrooms, Bonnett has worked with teachers to develop STEM education curriculum centered on water quality, pollution, properties, air, plant nutrition, use of technology in the classroom, and more.

Mamoune Niang, headmaster of the school at Thiago where Bonnett was conducting the program, said the lessons have been invaluable.

"In the past, our science was focused on theory," Niang said. "But with this program, [students] have the chance to practice what they are learning. They have an interest in science because they are having hands-on learning."

Over the past year, three Extension agents visited Senegal to teach everything from food safety to good nutrition, including Kim Hoffman, who shared information about healthy eating, echoing her efforts in Stafford County, Virginia, where she works with schools to help children make healthy choices.

Hoffman translated a series of posters focused on safe food handling processes into French and shared best practices with cafeteria workers. She explained how colorful vegetables are the keys to a healthy diet and spoke about how the iron-rich mung bean helps blood clot after a cut. The women nodded in appreciation as a gas stove in the corner hissed, cooking up a fresh pot of the beans.

As Bonnett's and Hoffman's time with the group wound down, so was the project in Senegal. But Niang said the hands-on problem-solving lessons will continue long after the team returns to Virginia.

"Thank you for your friendship and all that you have done for Senegal," Niang said as they hugged goodbye. "It is not a small thing that you have done."

### REAPING WHAT WAS SOWN

Bean by bean, Amadou Saydou Sow measured out his harvest. When one fell to the ground, he carefully picked it up and placed it back into the bag to be measured. He's worked too hard to let even one bean escape.

Of the villages that Abaye has worked with over the past few years, Sow's Thiewle has been the most successful. The 140 kilograms of mung beans from a quarter of a hectare that Sow was weighing out was all the proof that was needed.

These beans are the result of some of the new open-pollinated lines being screened by Senegal's Research Institute and cultivated from 600 lines that are expected to offer the best varieties for Senegal. Sow, head of the local school board, has fed his new-found food



GRATEFUL HARVEST: "Only God knows how happy we are," Amadou SAYSOU SOW said of the mung bean project, which brought a new source of protein and fiber to a food-insecure region of Senegal.



to the children of the village and has produced so much he's able to sell the seeds to other villages, where the work can begin anew.

"Long after Virginia Tech is gone, we will continue this project," said Sow, from whose undershirt the spires of Burruss Hall peeked out.

Ever the agronomist, Abaye wanted to know everything about Sow's harvest. How much did he water it? What inputs did he use? What other crops were grown nearby? How many times did he plant it? When Sow wasn't able to breach the language barrier, he used his fingers to draw a picture in the sand.

For Abaye, this village is more than a test subject. She's part of it now. The day she learned of her sister's death, the village wrapped its collective arms around her. Abaye built and named the school's kitchen in her parents' honor, and children chant her name when she returns after months in the States.

Here, in this remote West African village, all the things to which Abaye has devoted her life—children, education, agronomy, and empowering women—have merged in the form of one little bean. The fruits of this labor will be reaped for years.

"Feeding the children is feeding the community," Sow says as the two say goodbye. "Only God knows how happy we are." ■



COOL BEANS: Kim Hoffman from Stafford County is one of three Virginia Cooperative Extension agents who have been to Senegal in recent years to help improve the well-being of local villagers by teaching them everything from food safety to healthy eating tips.



ZEKE BARLOW

ZEKE BARLOW



# MISSION POSSIBLE

Seeing opportunities for career growth and doing more of what she really wants to do, Tara Laughlin '19 first seriously contemplated pursuing a master's degree earlier this year. But the combination of working full time as a software engineer at Capital One, planning her wedding for next year, and the costs of graduate school gave her pause.

**Fortunately, philanthropy offered her an avenue to chase a dream.**

Laughlin was named one of seven Boeing Graduate Scholars, earning a scholarship to pursue a Master of Engineering in computer science, with a specialization in human computer interaction, at Virginia Tech's Innovation Campus in the greater Washington, D.C., metro area. Her scholarship comes courtesy of Boeing's \$50 million gift commitment to Virginia Tech, part of which is being used to fund student scholarships. The gift also aids with the recruitment of faculty and researchers and will fund STEM pathway programs for underserved K-12 students looking to pursue a college degree and enter high-tech career sectors.

"My company would have paid for part of it," Laughlin said of graduate school. "But I think it definitely would have been difficult to make it work without the scholarship. I'm actually engaged, and we're planning a wedding for next August, so that, on top of graduate school, would have definitely been very difficult."

Laughlin's story illustrates the importance of financial support from Virginia Tech donors, both corporate and individual, who combined to contribute more than \$200 million to the university during the past fiscal year that ended June 30, 2021—a record amount.

That total pushes the university past the halfway mark toward its \$1.5 billion goal for Boundless Impact: The Campaign for Virginia Tech. Launched in 2019, the campaign was created to fuel excellence across all university programs and drive forward major strategic priorities. Along with the dollar goal, the cam-

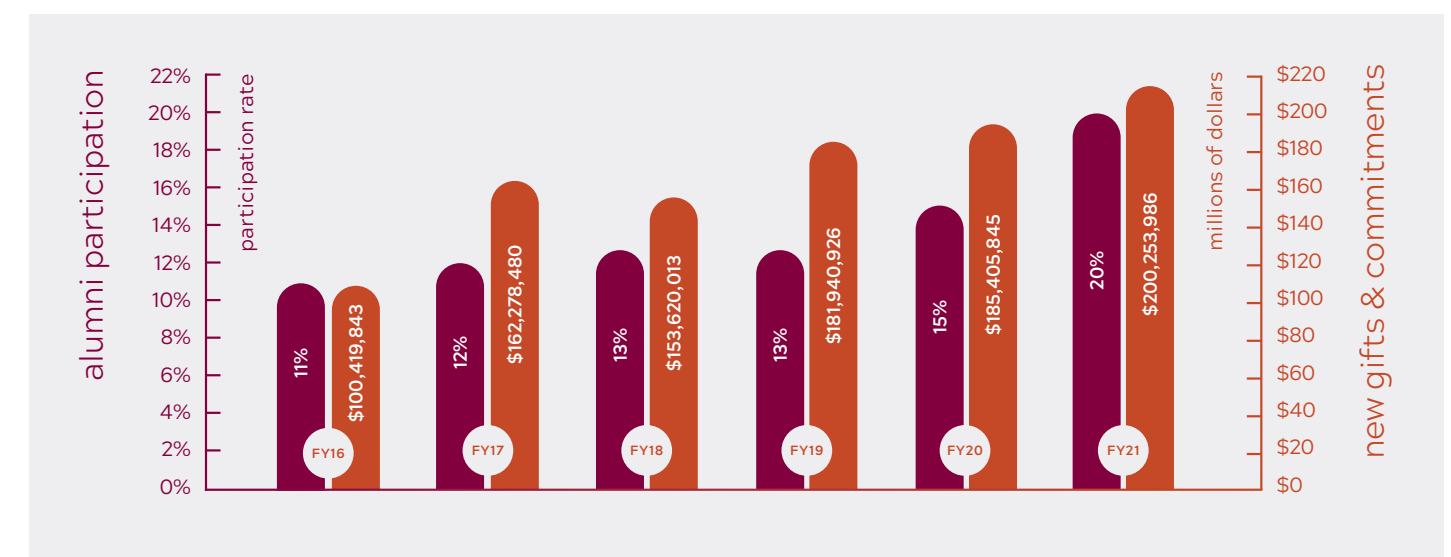
paign also is measuring the number of engaged Hokies—about 70,000, at last count, with a goal of 100,000.

"We are deeply grateful for the remarkable support we have received from Hokies everywhere," said Virginia Tech President Tim Sands. "Their generosity and engagement inspire us as we seek to advance as a leader in higher education and have a positive impact on communities in Virginia and around the globe."

The recent record-setting giving by Virginia Tech supporters continues an encouraging trend of rising generosity. In FY16, the university's Advancement division, charged with engaging alumni and raising money for the university's mission and led by Vice President for Advancement Charlie Phlegar '78, M.S. '87, passed the \$100 million milestone for the first time. By FY21, the total had doubled, reaching \$200.3 million. Moreover, the number of donors more than doubled, rising from 26,937 in FY16 to 57,578 in FY21.

The percentage of undergraduate alumni who give is also increasing. Twenty percent of them contributed during the past fiscal year, compared to 15 percent in FY20. The Advancement division is well on its way to meeting Sands' goal, first outlined in a State of the University Address in 2016, of 22 percent of alumni contributing by 2022. Over the next 20 years, the growth to 22 percent when compared to the FY16 rate will mean an estimated \$900 million in additional giving.

MIKE CHIRIELEISON FOR VIRGINIA TECH



“Nationwide, the percentage of alumni giving to their alma maters has been declining for many years, but not here,” Phlegar said when the record total for FY21 was announced in August. “We are excited and extremely grateful to have received a record number of new gifts and commitments this past year, while also seeing such a major increase in the percentage of our alumni who give.”

The giving percentage is not only a vote of confidence from alumni in the direction of Virginia Tech, but it also represents an investment in the university’s long-term success. Phlegar explained that every gift, of every size, furthers the university’s mission. He pointed to the Class of 2021 achieving a participation rate of 27.2 percent in FY21, which allows the university to continue expanding scholarship opportunities, supporting global research endeavors by faculty and staff, and building the best in facilities—right now and into the future.

“The intangible of why Hokies give is the Hokie spirit that lives within us,” said Class of 2021 President Grant Bommer. “The culture that we foster here leads to students deeply caring about the activities that they are involved in. That is why we give back: so that others can experience everything that makes Virginia Tech so great and help it to reach its fullest potential.”

As a Boeing Scholar, Laughlin is one of many student beneficiaries—a number expected to grow as Virginia Tech continues to build its new Innovation Campus in Alexandria, Virginia.

“It really was a weight off my shoulders, just not having to pay thousands of dollars right off the bat for school,” Laughlin said. “I’m incredibly grateful to have this opportunity and thankful to everyone at Virginia Tech who helped me get here.”

Boeing stands as one of many partners in Virginia Tech’s commitment to build an Innovation Campus that unites industry, government, and academia to solve the world’s most pressing problems through technology. Plans call for the construction of three buildings that will help the university’s long-term goals of graduating 550 master’s and 50 doctoral candidates annually.

“We are [helping to underwrite] the diversity of this student population,” said David Calhoun ’79, the president and CEO of Boeing, at the Sept. 14 Innovation Campus groundbreaking.

Philanthropy also continues to help with major construction efforts, such as the Corps Leadership and Science Building; the Student-Athlete Performance Center and Beamer-Lawson Indoor Practice Facility to support student-athletes; and a Global Business and Analytics Complex to include two academic buildings and multiple living-learning communities oriented around business, analytics, and international affairs.

In August, the Board of Visitors approved the design of Hitt Hall, a facility that will serve as the home for the Myers-Lawson School of Construction and allow the university to double undergrad-

uate enrollment in construction engineering and management and building construction programs. The building also includes a much-needed dining facility and general-use classrooms.

Private donations in excess of \$25 million, including the gift from the Hitt Family Foundation, played a significant role in Hitt Hall’s realization.

“The skill and talent that comes out of Virginia Tech is exceptional,” HITT Contracting Inc. chairman Russell Hitt, who passed away in 2020, said when his family’s naming gift was first announced in 2016. “I know that because we’ve had a lot of Hokies on our team over the years. It’s an honor to give back to a university that not only develops capable, passionate minds, but that values the partnership between industry and higher education.”

Philanthropy’s impact on research should never go unnoticed, either. In 2018, the Fralin family made a \$50 million commitment to the Fralin Biomedical Research Institute at VTC, supporting efforts to recruit and retain world-leading biomedical researchers, who continue to make advances in areas of cancer, heart disease, brain research, Alzheimer’s, depression, and more.

“I look forward to the many discoveries that will emerge as we grow and become a leading academic health center for biomedical research in the commonwealth,” Heywood Fralin, the chairman of Medical Facilities of America and a former member of the Virginia Tech Board of Visitors, said when the gift was announced.

Thanks to the generosity of alumni, friends, students, parents, employees, and corporate and foundation partners—and the hard work of the Advancement division—Virginia Tech finds itself in a position to support many ambitious plans. As it continues to work to achieve the goals laid out in the Boundless Impact campaign, Advancement has set its sights on helping the university expand its mission to an even greater degree.

Now, the division aspires to go from raising \$200 million annually to \$300 million by FY28—a realistic target as more alumni and donors choose to engage with the university.

“An investment in Virginia Tech is a direct investment in students, staff, and faculty members—our university’s greatest resources,” Phlegar said. “Virginia Tech already is a global force thanks primarily to these three constituent groups and the supporting efforts of many others. Now, it’s positioned perfectly to be an even bigger one in the future.” ■ JR

## the growing wave OF ALUMNI

Why is the Advancement team so optimistic about the future of fundraising at Virginia Tech?

It’s the enthusiasm of alumni—and the actual numbers (see the chart at left).

Because the university started to graduate much larger classes starting in the late 1970s, the Advancement division is now engaging with a burgeoning number of alumni who are beginning to consider their long-term legacies. The trends show that older alumni tend to give larger gifts.

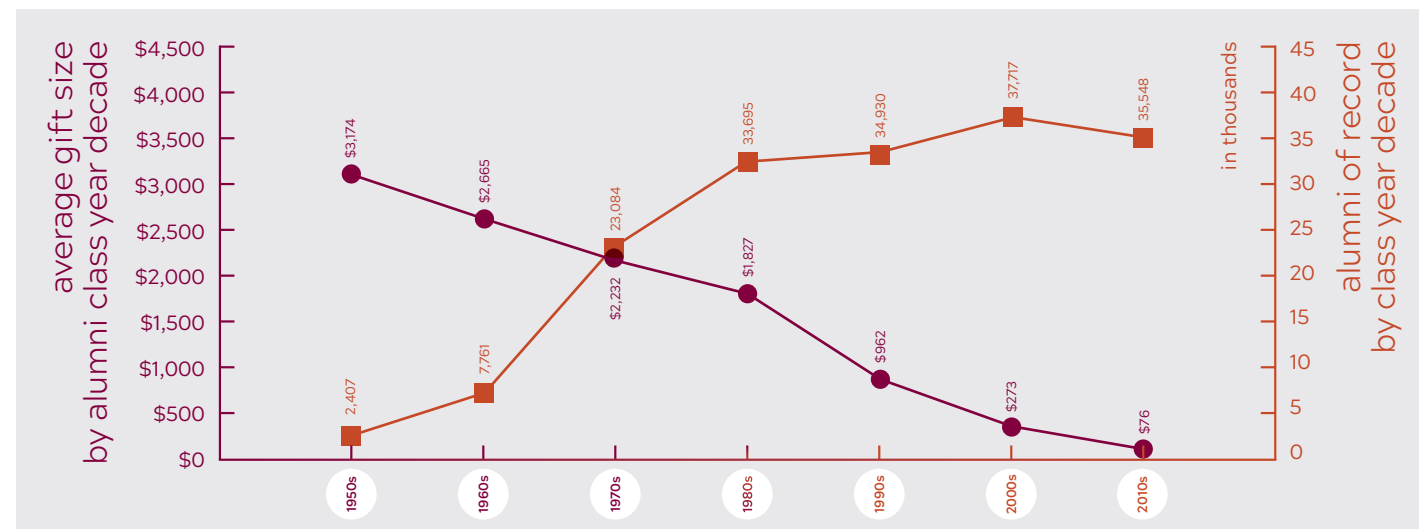
By FY27, the number of alumni who graduated 41-50 years ago will increase by 31 percent. The number of alumni 51-60 years out will double, and the alumni 61-plus years out will increase by 141 percent.

Consider this: The 1970s graduates outnumber the 1950s graduates about 10 to 1. In two decades, when the 1970s graduates are 61-plus years out from graduation, if they give gifts at the same average amount as 1950s graduates today, that alone will mean \$115 million in 20 years compared to about \$12 million today from alumni who are 61-plus years out.

### The future is indeed bright.

“We are inspired by every gift of every size,” Vice President for Advancement Charlie Phlegar said. “We are incredibly grateful for the support of our alumni and donors. Their imprint on this university will last for generations.”

## the growing wave of alumni



COURTESY OF MANDY HOEFER





# FIRST

IN THE

# FAMILY

BY BRIAN SNELL

FOR MANY FIRST-GENERATION COLLEGE STUDENTS, THE PATH FROM THEIR FIRST DAY ON CAMPUS TO GRADUATION PRESENTS THEM WITH A CHALLENGING UPHILL JOURNEY. NATIONAL STATISTICS SUGGEST THAT FIRST-GENERATION STUDENTS GRADUATE AT A SIGNIFICANTLY LOWER RATE THAN THEIR NON-FIRST-GENERATION PEERS. A 2011 STUDY BY THE HIGHER EDUCATION RESEARCH INSTITUTE AT UCLA SHOWED THAT AFTER FOUR YEARS AT A COLLEGE OR UNIVERSITY IN THE UNITED STATES, ONLY 27.4 PERCENT OF FIRST-GENERATION STUDENTS HAD EARNED A DEGREE, COMPARED WITH 42.1 PERCENT OF STUDENTS FROM FAMILIES WHERE AT LEAST ONE PARENT HAS A COLLEGE DEGREE.





“

**EVERYONE BECAME A HOKIE OVERNIGHT. EVEN MY DOG HAS A LITTLE VT SWEATER NOW!”**

**ELLIE MANGAN**  
STUDENT

”

“Everyone became a Hokie overnight. Even my dog has a little VT sweater now!”

That’s how Ellie Mangan described the reaction her family had when she received her offer of acceptance from Virginia Tech.

In August, Mangan began her first semester as a college student. It’s an exciting and intimidating moment for any student, but for Mangan, it has an additional significance: It’s the beginning of her journey to become the first in her family to earn a bachelor’s degree.

That distinction places her among thousands of fellow “first-generation” Hokies—students for whom neither of their parents or guardians have four-year degrees from a college or university.

Mangan’s journey toward higher education began long before she applied to Virginia Tech. “My whole life, we lived near this community college,” she said, “and when my mom and I would drive past it, I would tell her, ‘I want to go to college.’”

Mangan is one of more than 5,200 first-generation undergraduate students enrolled at Virginia Tech this semester. Together, they comprise about 17.5 percent of the overall undergraduate student body, according to the latest data available from the Office of Analytics and Institutional Effectiveness, up from 15 percent in 2018.

A number of barriers, including less access to financial resources and a lack of support in navigating the world of higher education,

place additional burdens on first-generation students compared to students with degree-holding parents or guardians.

A slate of innovative programs at Virginia Tech is aimed at helping ease those burdens. With the generous philanthropic support of first-generation alumna Paula Robichaud ’77, the Office of First-Generation Student Support, along with a variety of other initiatives and departments throughout the university, is working to ensure that first-generation students get the resources and support they need to thrive at Virginia Tech.

Robichaud’s gift in 2019 made it possible for the university to launch a first-generation student initiative and conduct a national search for a director to oversee first-generation programming.

“I want to pay it forward by supporting Virginia Tech students who, in turn, will make opportunities possible for those who follow them,” Robichaud said. “Everybody should have a chance at a good education, to see what they can do with it. Isn’t that the American dream? We are all in this together. It’s as simple as that.”

The effort is proving effective. First-generation Hokies in the Class of 2021 remained enrolled at the university at close to the same rate as their classmates from degree-holding families—85 percent compared to 88.5 percent of non-first-generation students.

Tamara Cherry-Clarke, who was a first-generation college student, took over in July as assistant dean of students for first-generation student support and program director for the GenerationOne living-learning community.

“It’s really about connecting and supporting first-generation students as early as possible,” Cherry-Clarke said. “That’s why it’s so important for this community to be identified and to have resources that meet their needs. Having that support can be the difference between successfully completing their degrees or not.”

Cherry-Clarke, who has been working to help first-generation, low-income, and underrepresented students succeed in higher education for more than a decade, said that she values seeing the students she works with develop the skills and confidence they need to achieve their academic and career goals.

“I love being a part of that journey,” Cherry-Clarke said. “I have former mentees from all of my previous institutions that stay in touch to let me know they’re doing well. One of them just gave my son his COVID vaccine. It’s great to see them continuing along their journeys.”

## WHAT TO EXPECT

Christine Strouth, a senior studying psychology, has come a long way since the beginning of her college career.

“Going into college, it was hard to talk to people at first, and I felt like I didn’t know what I was doing,” the native of Virginia’s Dickenson County said. “My biggest hesitancy with coming to Virginia Tech was that I was going to be jumping into the dark. I was really nervous about not being able to succeed.”

Strouth’s parents encouraged her to apply for college despite financial limitations and a lack of first-hand knowledge of the process. She applied to five universities and was accepted to all of them, but was left with even more questions.

Strouth credits a special program she participated in while in high school with making her more ready for college.

“Each summer, I would go to the campus of a college near our home for a pre-college program called Upward Bound,” she said. “We got to know the campus, took some classes, and learned about applying to college. They could answer questions about financial aid and applying for fee waivers.

“I always knew that, if I completed college, I would be the first person in my family to do so,” Strouth continued, “but Upward Bound introduced me to the term ‘first-generation student.’ It helped me understand what to expect when I got here.”

Upward Bound is part of TRIO, a group of student services and outreach programs administered and funded by the U.S. Department of Education. It aims to help high school students overcome social, academic, and cultural barriers to higher education.

Throughout the country, hundreds of college campuses now host TRIO programs like Upward Bound on their campuses each summer with funding awarded by the federal government. Virginia Tech has worked with the programs since their very beginning more than 50 years ago.

“The Upward Bound and Talent Search programs in Southwest Virginia are two of the oldest such programs in the nation, going back to the beginning of TRIO in the 1960s,” said Frances Clark, the university’s director of TRIO programs. “Maintaining funding and continuity that long is fairly unique.”

Virginia Tech’s three Upward Bound programs—which include a regional program for Southwest Virginia as well as programs

for Salem and Roanoke City—collectively serve more than 200 high school students each year. All participants come from families who fall within specific income guidelines, and two-thirds of those served must meet the criteria to be considered first-generation students when they eventually enroll in a college or university.

Traditionally, a major component of the Upward Bound experience at Virginia Tech has been a six-week, on-campus, intensive summer program aimed at getting students ready for college. Participants ranging in age from rising ninth-graders to rising first-year college students live in dorms, receive crucial support applying to schools and for financial aid and scholarships, and take cross-curricular and project-based classes focused on core subjects needed for academic success in higher education, among a variety of other activities.

Students who participate in Upward Bound at Virginia Tech are under no obligation to apply to the university, though Clark said that many ultimately choose to because of the familiarity and affection they develop for it. According to Clark, 83 percent of

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**I ALWAYS KNEW THAT, IF I COMPLETED COLLEGE, I WOULD BE THE FIRST PERSON IN MY FAMILY TO DO SO, BUT UPWARD BOUND INTRODUCED ME TO THE TERM ‘FIRST-GENERATION STUDENT.’ IT HELPED ME UNDERSTAND WHAT TO EXPECT WHEN I GOT HERE.**

**CHRISTINE STROUTH**  
STUDENT

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**WE WANT OUR STUDENTS TO SEE COLLEGE AS A VIABLE OPTION AND TO FEEL THAT THEY HAVE THE TOOLS THEY NEED TO SUCCEED THERE. BECAUSE MANY OF OUR TUTORS ARE FIRST-GENERATION STUDENTS, THEY CAN TALK TO STUDENTS IN UPWARD BOUND ABOUT THEIR OWN EXPERIENCES AND HELP FILL IN THE GAPS OF WHAT IT'S LIKE TO BE A COLLEGE STUDENT.**

**JASON PURYEAR**  
ASSOCIATE DIRECTOR OF UPWARD BOUND PROGRAMS AT VIRGINIA TECH

”

Upward Bound participants go on to enroll in post-secondary education, compared with 51 percent of students who do not participate but meet the eligibility criteria.

In addition to the summer residential program, all students participating in TRIO programs at Virginia Tech are eligible for tutoring and academic advising.

“We want our students to see college as a viable option and to feel that they have the tools they need to succeed,” said Jason Puryear, the university’s associate director of Upward Bound programs. “Because many of our tutors are first-generation students, they can talk to students in Upward Bound about their own experiences and help fill in the gaps of what it’s like to be a college student.”

Strouth, who has gone on to serve as a mentor to other first-generation Hokies, urges them to remember that they’re not alone at Virginia Tech. “It’s okay to be aware of feeling out of place,” she said. “But remember, just because your parents didn’t go to college doesn’t mean you’re not supposed to.”

## NOT ALONE HERE

Once they arrive on campus for their first semester of classes, first-generation students are faced with an array of new barriers they must overcome as they try to gain their academic and social footing at the university. Chief among them: learning to navigate the world of higher education.

One approach to bridging this gap is a new effort to create a space on campus for first-generation students to find the answers to these questions together, with guidance from faculty drawing on a mix of expert knowledge and personal experience.

GenerationOne, the university’s newest living-learning community, welcomed its initial cohort to Pritchard Hall this fall.

Students participating in GenerationOne are paired with a mentor who is a first-generation junior or senior and can answer questions and share insights from their own experiences navigating the university. GenerationOne peer mentoring will build on

the success of the Hokies First peer-mentoring program, a project of the Dean of Students Office.

“Mentors are essential,” Cherry-Clarke said. “They are the GPS for their mentees, helping to chart the course for success and recovering from wrong turns and dead ends. It’s important for new first-generation students to get to know upperclassmen they can see themselves in, who can serve as examples of the success they themselves can have.”

Shashank Gupta, a senior studying computational modeling and data analytics, works with the community as a mentor for first- and second-year students. “The system here is so different from the way things work in high school or in universities in other countries,” Gupta said. “I want to try to help them not make the same mistakes I did.”

Through both one-on-one and group sessions, mentors like Gupta use the lessons they have learned as first-generation Hokies to help guide their mentees as they decide about their courses, navigate administrative hurdles, and make their way toward graduation and beyond.

“I try to help them think about life after college, too,” said Gupta. “Things like the cost of living, where they want to be, just life stuff beyond being a college student.”

First-generation students living in GenerationOne participate in weekly community nights, during which an invited speaker shares tips and strategies for college success. As a group, they also take History of the First-Generation Identity, a one-credit course on the historical contributions of first-generation college students and the ways that higher education has historically intersected with race, class, gender, and other aspects of identity.

“We wanted to make this course something students could do to understand their own place in the university and explore what it means to be a first-generation student,” said Professor Brett Shadle, the chair of the Department of History. He teaches this new course in collaboration with Associate Professor Dennis Halpin, the department’s associate chair. Both were first-generation students themselves.

In a recent class session, Shadle and the students discussed the social and legal changes that lead to increased inclusion of students in higher education who had previously been excluded on the basis of their race, class, or gender. These societal shifts in turn transformed colleges and universities, especially as students

demand that their courses reflect the perspectives, writings, and discoveries of a greater diversity of scholars and researchers.

Following the lecture, two of the community’s peer mentors, Mimi Rainey and Xayca Solano, led the students in a Jeopardy-style competition and discussion about the importance of including the voices and experiences of different groups of people into fields like history, and at what stage in their academic journeys students should first be exposed to these fuller, more accurate and representative historical narratives.

“In this way,” Shadle said, “we linked how the inclusion of first-generation students from a wide variety of backgrounds, just like the students in this class, helped transform higher education in terms of both teaching and education, and how that knowledge can be incorporated throughout our educational system.”

The GenerationOne living-learning community has been made possible by the expertise, hard work, and dedication of a passionate team of professionals like Cherry-Clarke, teaching-and-research faculty like Shadle and Halpin, and even a number of first-generation students themselves.

As members of the community’s steering committee, first-generation Hokies Elizabeth Owusu ’22 and Christina Ju ’21 helped shape what the GenerationOne experience will look like.

Owusu is a senior pursuing a double major in sociology and political science. After finishing her degree, she hopes to go on to study civil rights law.

Owusu chose to come to Virginia Tech because she felt it would offer her the best opportunity to make connections that would help her in her professional life. “I was really excited to be a part of the social and professional world of Virginia Tech,” she said.

Owusu also reflected on what it was like to discuss her experiences at college with her family.

“It’s challenging sometimes to explain aspects of the college culture to my parents,” she said. “I remember struggling to get them to understand what a class ring is and why the design of it being revealed mattered. Those traditions are just not something they have experience with.”

“I definitely want to make sure students embrace their first-generation identity,” Owusu added. “I want them to know that there are resources here that are meant for them.”



“

**I DON'T WANT YOU TO STRUGGLE ALONE OR TO NAVIGATE THOSE CHALLENGES ALONE.**

**TAMARA CHERRY-CLARKE**

ASSISTANT DEAN OF STUDENTS FOR FIRST-GENERATION STUDENT SUPPORT AND PROGRAM DIRECTOR FOR THE GENERATIONONE LIVING-LEARNING COMMUNITY

## TIGHT-KNIT COMMUNITY

On a warm Tuesday evening in September, the student residents of GenerationOne gathered in a common area of Pritchard Hall for their weekly community night. A large group of first-generation Hokies, some of them wearing “I Am First-Gen” T-shirts, took seats facing a projector screen.

The evening opened with community updates from Cherry-Clarke, the living-learning community’s program director. She shared tips on time management, organization, and preparing for class, skills she referred to as part of a transition to “college-level expectations.”

Cherry-Clarke also urged students who might find themselves struggling—be it with physical health, mental health, finances, or anything else—to get in touch with her, the Dean of Students office, or Schiffert Health Center for support. “I don’t want you to struggle alone or to navigate those challenges alone,” she reminded them.

Cherry-Clarke’s remarks were followed by a presentation on reading and note-taking strategies provided by the Student Success Center. Students shared some challenges they had encountered in their time so far at the university completing assigned readings for their classes, and the presenters outlined a strategy to help students better retain information from assigned readings.

After the evening’s scheduled programming came to a close, many of the students remained in the common area, chatting and reflecting on the ways in which their first few weeks of college compared with their expectations.

Christopher Tutt, a GenerationOne resident, came to Virginia Tech after previously earning an associate’s degree. He’s now pursuing a bachelor’s degree in electrical engineering with minors in Asian studies and classical studies.

“It was harder to make friends there,” said Tutt, describing his experience in community college. “Most people didn’t hang around much after classes. Now, living in this dorm, I’m constantly running into people I know around campus. It’s a much more active lifestyle; there’s always something going on. We’ve been here only a few weeks, but it feels like it’s been years.”

Two first-year students, Henry Barrera and Tyler Myers, agreed that one of the things they like best about living in GenerationOne is the way it has enabled them to quickly develop a supportive

community of new friends who share the experience of being first-generation students. “It’s nice that we all have something in common,” Barrera said, “and everyone here is pretty open.”

“I see a lot of other students walking around campus by themselves with their headphones on,” said Myers, “but with us, it’s like, if you see one of us, you see five of us. It’s a really inclusive group.”

That group also includes Mangan, who is now well into her first semester. Surrounded by her new friends in GenerationOne, she reflected on the ways in which her first few weeks of college life had—and had not—conformed to her expectations.

“Overall, I’m really surprised how well I’ve been navigating things,” Mangan said. “I was nervous I’d be lost all the time, but I’ve been able to get food and get to class on time and all of that.”

Mangan had attended her first Hokie football game, the team’s home opener against the University of North Carolina, that weekend. “It was very exciting,” she said, “It was pretty much exactly what everyone said it would be like. I can’t wait to go again!”

Mangan, who is pursuing a degree in business information and technology, said she is responding well to the transition to college-level coursework. “It’s nice to start learning more in-depth

about the topics I’m interested in,” she said, citing Foundations of Business, a First-Year Experience course in the Pamplin College of Business, as her favorite so far.

As for her experience in GenerationOne, the decision to join the living-learning community seems to be paying off for Mangan. “I’m definitely making some friends,” she said. “A lot of times we’re all hanging out here in the lounge playing ping pong or foosball, or a group of us go for lunch together. It’s a pretty tight-knit community.”

Each of the students in GenerationOne will face an array of challenges, some common to many first-generation students and some unique to them, as they work toward earning their degrees. But with the support of Virginia Tech faculty and staff, their mentors, their families, and their fellow first-generation Hokies, they’ll also have some powerful resources helping them succeed in pursuing their goals.

“I’m actually not as homesick as I thought I would be,” Mangan reflected. “My parents Facetime me a lot, and they were able to come for my birthday, which was nice. Mostly they just seem really happy that I’m doing so well.” ■

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**I SEE A LOT OF OTHER STUDENTS WALKING AROUND CAMPUS BY THEMSELVES WITH THEIR HEADPHONES ON, BUT WITH US, IT'S LIKE, IF YOU SEE ONE OF US, YOU SEE FIVE OF US. IT'S A REALLY INCLUSIVE GROUP.**

**TYLER MYERS**

STUDENT



MARY DESMOND



# AROUND THE HOKIE NATION

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- 66 Family

COMING HOME: Lynn Schnurr's career in intelligence took her around the world. Today, she and her husband, Rodney, both ardent Hokie fans, are enjoying retirement in Blacksburg, Virginia.

## CAREER INTELLIGENCE

**RODNEY SCHNURR REMEMBERS THE MOMENT HE KNEW** his wife likely wouldn't be teaching physical education after all.

"When I realized she was the equivalent of a two-star general, when she hit that status, I knew there was no way she'd be throwing out volleyballs now," Rodney '75 said of wife, Mary "Lynn" Schnurr. "I thought she was going to be a middle school gym teacher. I had no idea that 'Combat Barbie' was going to show up, but she just took off with her career."

A 1975 Virginia Tech graduate with a bachelor's degree in education, Lynn spent 34 years as a civilian working in military intelligence at the Pentagon. She had 13 separate assignments to both Iraq and Afghanistan and was instrumental in getting the latest technology into the hands of soldiers during a time when wartime strategy was rapidly evolving. Lynn retired as a senior executive and one of the highest-ranking women in U.S. Army Military Intelligence in 2013.

"We were ready for more force-on-force battles, tanks and planes [in the early 2000s]. When we went into battle in Afghanistan, we had to quickly adjust our methods and add enhanced technology to fight the insurgency," Lynn said. "My job was trying to create new technology and solutions to help our military fight a new type of battle."

This summer, Lynn's career work was honored when she was inducted in the Military Intelligence Hall of Fame, an elite group of 279 military intelligence professionals.

COURTESY OF CHIRAVI PATEL

INTELLEGEANCE GATHERING: Mary "Lynn" Schnurr made 13 separate trips to both Afghanistan and Iraq during wartime to hear the first-hand concerns from soldiers.



“IT WAS A REALLY EXCITING TIME BECAUSE WE WERE TURNING OUT NEW CAPABILITIES RAPIDLY. I WAS MAKING THE TRIPS WITH ARMY GENERALS AND WAS ASKING THE SOLDIERS FIRST-HAND: ‘WHAT ARE YOUR CHALLENGES? WHAT ARE YOU UNABLE TO DO? WHAT DO YOU NEED TO DO YOUR JOB BETTER?’”

Lynn Schnurr '75

Launching with a start in education, Lynn's career took a direction that might surprise some, but she said the path fell right in line with her family's history and her passion for helping others.

“My dad was in World War II and the Korean War. My brother was in Vietnam and Desert Storm. So, I'm not surprised I ended up with a career as part of our military,” she said. “Sometimes you start your career, and you have no earthly idea where your endeavors may take you.”

Following her retirement in 2013, Lynn transitioned into the defense industry and became the vice president for defense intelligence at General Dynamics. Today, Rodney and Lynn are happy to live in Blacksburg. Lynn serves as a mentor to some of the Virginia Tech volleyball players and the couple attends many of the Hokie athletics events.

“I had the opportunity to get a great education here at Tech. It was a wonderful learning environment; the social aspect was great; and I've always really loved Blacksburg,” Lynn said.

Lynn grew up in Arlington, Virginia, and said her family's military history, along with her brother graduating with a doctorate from Tech, influenced her decision to become a Hokie. While a student, she met Rodney, a running back for the Hokies

football team who would later graduate with a bachelor's degree in marketing from the Pamplin College of Business.

The Schnurrs married in 1975 and Lynn began searching for a teaching job. She worked for a short while as a substitute teacher and a driver's education instructor before accepting a position with the Bureau of Outdoor Recreation in the Department of Interior. She found advancement opportunities there to be limited and proceeded to network, landing a job as legislative correspondent for Congressman Nick Rahall, of West Virginia. After a few years in the position, she applied for an internship in computer science for the U.S. Army Intelligence and Security Command in 1981.

“There were three positions available, and I was selected for one of them. That is how my career in Army Intelligence started,” Lynn said.

During the next 34 years, Lynn ascended the army ranks and played a critical role in getting lifesaving technology into the hands of Army soldiers. She visited troops on the ground to help implement wartime technology solutions in the fields of communications, data, infrastructure, open-source intelligence, and biometrics. Lynn credited her success in part to her interest in getting to know soldiers and understand their needs.

“When I was writing a program for something, I found my real interest was learning about the function,” she said. “I wanted to better understand what the need was, so I could give them a better end product in the field.”

As the Army G2 director of information management and intelligence chief information officer, Lynn developed and implemented the Land Intelligence and Reconnaissance Network, a tool that fostered collaboration between the

Army and other intelligence communities. She also led the efforts of the Joint Intelligence Operational Capabilities in Afghanistan and Iraq, assuring that operational and intelligence data was available for Operations Iraqi Freedom and Enduring Freedom.

Lynn was particularly proud of helping soldiers on the ground access HIIDE devices (Handheld Interagency Identity Detection Equipment). HIIDE uses biometrics—fingerprints, iris recognition, and facial features—to identify people quickly and cross check them with a database of potential threats.

“People in Afghanistan don't have identification cards,” Lynn said. “When our soldiers were out on patrol, it was very dangerous because someone could be a policeman by day and a bomb maker by night. We needed a way to identify the population. So, if a soldier was using the HIIDE device, he could center on a subject's face, and if the person was already in the U.S. database as a ‘bad guy,’ a red border would signal to the soldier there is impending danger.”

Vince McCarron, who worked with Lynn for 20 years in Army intelligence, said her people-first approach was evident both in how she managed her job and her motivation for the work itself.

“[Lynn] always looked out for her people, got to know them personally, and understood what their capabilities were—and then took risks with them,” McCarron said. “And she always thought about the soldiers, the analysts, what she could do to better support them, and she worked tirelessly to make it happen.”

Part of that tireless work included travel to Afghanistan and Iraq from roughly 2003 to 2013 during a time when technology and combat methods were quickly evolving.

“It was a really exciting time because we were turning out new capabilities rapidly,” Lynn said. “I was making the trips with Army generals and was asking the soldiers firsthand: ‘What are your challenges? What are you unable to do? What do you need to do your job better?’”

While he did worry about his wife during that time, Rodney said he found peace in her travel companions and her own fierce nature.

“I was worried about Lynn going to Afghanistan and Iraq, but the comforting thing was that she was always with a three-star or four-star general, so she was afforded maximum protections,” Rodney said. “And she's pretty tough, so I knew she wouldn't be afraid.”

Ryan Schnurrs '02, their son, said he was in high school in Northern Virginia when his mother first started traveling overseas for her work.

“I understood the danger of what she was doing, but I always knew she was very passionate about her work,” said Ryan, who went on to earn a degree in interdisciplinary studies from Virginia Tech in 2002. “Everything she was putting out there in technology was to keep our soldiers safe.”

Ryan, who is now employed as a technical writer in Charlotte, North Caro-

lina, worked with his mother at General Dynamics after her retirement from the Pentagon.

Today, Lynn remains an executive consultant with General Dynamics and is involved with the intelligence community in helping the nation's soldiers.

As a retiree in Blacksburg, Lynn still may not be tossing out volleyballs, but she has taken on the role of mentoring some of Virginia Tech's volleyball players.

“She's one of the first people I reach out to for advice and to help me keep going and push through things,” said Talyn Jackson, a senior setter studying public relations.

Lynn said she enjoys getting to know the student-athletes and feels it's very important to share insights she's gained from her career and life in general. She is also an Advisory Board member of the College of Architecture and Urban Studies and is chair of the Advisory Board for the School of Public and International Affairs.

“I think everything we can do to share knowledge and experience with our young people is really good and beneficial. Sometimes in the world we live in now, with so much social media, young people miss out on simply talking to one another,” Lynn said. “I wanted to give back because that's what we do at Virginia Tech.” ■ TW

CAREER ACHIEVEMENT: Mary "Lynn" Schnurr is one of only 279 people to be inducted into the Military Intelligence Hall of Fame. She is also a winner of the Presidential Rank Award, the highest level award given by the U.S. government to Senior Executive Service members.



COURTESY OF LYNN SCHNURR

COURTESY OF LYNN SCHNURR

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# CLASS NOTES

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, 901 Prices Fork Road, Blacksburg, VA 24061; email the information to [classnotes@vt.edu](mailto:classnotes@vt.edu); or submit the news online at [vtmag.vt.edu/submit-classnote.php](http://vtmag.vt.edu/submit-classnote.php), where photos may also be uploaded for consideration. For assistance, call 540-231-6285.

'51

**CAREER Fred C. Schwartz**, Vonore, Tenn., retired from Chrysler Corp., where he was manager of research and development.

'62

**CAREER Sam L. Lionberger Jr.**, Roanoke, Va., retired from Lionberger Consulting, where he was president.

'70

**CAREER Frances Cogle Lawrence**, Columbia, Mo., retired as professor from Louisiana State University and University of Missouri and recently accepted a position as senior financial consultant at Elwood & Goetz Wealth Advisory Group.

'71

**CAREER Yvonne Hyton-Vest Thayer**, Christiansburg, Va., co-authored and published "Career Anxiety: Guidance Through Tough Times," describing challenges workers face during the digital transformation.

'75

**CAREER James A. Mize**, Cleveland, S.C., published his third humor book, "Hunting With Beanpole," which received the Pinnacle Award from the Professional Outdoor Media Association.

'76

**CAREER Robert A. Rapaport**, Virginia Beach, Va., was elected chairman of the Virginia Workers' Compensation Commission for a three-year term.

'79

**CAREER Howard Keith Hagy**, Scottsville, Va., was awarded the 2021 Jerome F. Lederer Award by the International Society of Air Safety Investigators for outstanding lifetime contributions to technical excellence in aviation accident investigations.

**Thomas N. Langhorne**, Salt Lake City, Utah, received the National Association of State Judicial Educators' 2021 Karen Thorson Award and was named 2019-21 outstanding American judicial educator in recognition of his national judicial education efforts and international Rule of Law initiatives.

'80

**CAREER Joseph M. Reilly**, New Ulm, Texas, retired from ExxonMobil as chief research geoscientist and was elected as vice president of the Society of Exploration Geophysics.

'82

**CAREER Melissa Hayden Weaver**, Cary, N.C., a Brooks Pierce attorney, was recognized by her peers for inclusion in the 2022 edition of Best Lawyers in America.

'84

**CAREER Vernon Randall Tinsley**, Summerfield, N.C., earned top ranking in the 2020 and 2021 editions of Chambers USA: America's Leading Lawyers for Business and was recognized by his peers for inclusion in the 2022 edition of Best Lawyers in America.



Charles "Chip" Cartwright

### TRAILBLAZER

Charles "Chip" Cartwright, a Cornerstone alumnus, was recognized by Virginia Tech earlier this year following a groundbreaking career with the U.S. Forest Service. He received the Influential Black Alumni Ut Prosim Award during the 2021 Black Alumni Reunion held virtually in April.

Cartwright, who graduated with a degree in forestry and wildlife from Virginia Tech in 1970, served a stint in the Air Force. He then blazed a trail as the first Black man to serve as district ranger, forest supervisor, and regional forester.

Cartwright devoted service to his church, Scout troops, and Habitat for Humanity, and served as a black history interpreter for a historical museum in Arkansas.

"I credit the college and the Virginia Tech Corps of Cadets with helping me build a foundation for a successful and meaningful career," Cartwright said. "My dream was, and still is, to make a difference. I believe I am."

COURTESY OF CHIP CARTWRIGHT

'85

CAREER **Leena Banerjee-Brown**, Pasadena, Calif., published a book, "True Light: Ordinary People on the Extraordinary Spiritual Path of Sukyo Mahikari."

**David J. Romola**, Ashburn, Va., was named chief operating officer at Citizant Inc., an award-winning, woman-owned small business.

'86

CAREER **Balakumar "Bala" Balachandran**, Rockville, Md., was recognized with the 2021 J.P. Den Hartog Award from the American Society of Mechanical Engineers.

'88

CAREER **Licia H. Vaughn**, Solana Beach, Calif., was named to the San Diego Business Journal's 2021 Women of Influence: 50 Over 50 list, which recognizes the accomplishments of female trailblazers.

'90

CAREER **Rich Edinger**, Lawrenceville, Ga., was elected to the CPL Architecture Engineering and Planning board of directors.

**Bonnie Kerrigan Snyder**, Lancaster, Pa., published a book, "Undoctrinate: How Politicized Classrooms Harm Kids and Ruin Our Schools And What We Can Do About It."

'91

CAREER **Derek A. Dyson**, Washington, D.C., was named president and CEO of Today's Power Inc.

'92

CAREER **Leighton Carroll**, Johns Creek, Ga., was named CEO of Baylin Technologies, a publicly traded company on the Toronto Stock Exchange.

**Robert "Bo" Dyess Jr.**, Fort Eustis, Va., was elected to the board of directors of the Virginia War Memorial Foundation.

'95

CAREER **Robert L. Hobbs**, Bristol, Va., was elected to serve as a General District Court judge for the 28th Judicial District by the Virginia General Assembly.

**Heather Lutz Kircher**, Leesburg, Va., is federal marketing manager, technical writing/special initiatives, at Dewberry.

**Anita Virmani Whitehead**, Warrenton, Va., KPMG principal and board chair of the KPMG US Foundation Inc., joined Creating Healthier Communities' new corporate leadership council.

'97

CAREER **Christine Andrews McEntee**, Lake Worth Beach, Fla., was named lead visual & brand designer for Southeast Toyota Finance, Deerfield Beach, Fla.

**James L. Moore III**, Lorton, Va., who received Virginia Tech Graduate School's Distinguished Alumni Award, was recognized for the fourth consecutive year by Education Week as one of the 200 most influential education scholars in the United States. He was also honored by the American Council on Education with the 2021 Reginald Wilson Diversity Leadership Award.

WEDDING **Christine Andrews McEntee**, Lake Worth Beach, Fla., and **James McEntee III**, 3/21/20.

'00

CAREER **Marcel Pastoor**, Pittsburgh, Pa., was named head strength and conditioning coach for the Pittsburgh Steelers.

'04

CAREER **John P. Smolen**, Crownsville, Md., was named partner at Ballard Spahr.

**Andrew C. Witt**, Ontario, Canada, published a book, "A Voice Without End: The Role of David in Psalms 3-14."

'05

BIRTHS **Amy Wilson Hall**, Atlanta, Ga., a son, 6/8/21.

'05

BIRTH **Jennifer Carty Tortora**, Salem, Va., a son, 5/18/21.

'06

CAREER **Catherine J. Huff**, Roanoke, Va., a partner at Gentry Locke, has been named the Roanoke Bar Association 2021 Young Lawyer of the Year.



# SAVE THE DATES

## JOIN US! IN PERSON—AND ONLINE

We're hosting alumni events online, on campus, and in your community.

Make plans to join us!

There's something for everyone.

Connect with other Hokies to advance your career, learn something new, enjoy happy hour, and more.

Visit [alumni.vt.edu/events](https://alumni.vt.edu/events) for a complete listing of upcoming events.

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## HOKIE HIKE 2021!

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THERE'S MORE

TO THE STORY



VTX.VT.EDU

'07

CAREER **Lauren E. Robl**, Chesterbrook, Pa., earned an MBA with a concentration in finance from Pennsylvania State University.

BIRTHS **Christopher W. Rose**, Virginia Beach, Va., a daughter, 2/11/21.

'08

CAREER **Justin E. Lerner**, Denver, Colo., has joined Brownstein Hyatt Farber Schreck as of counsel in the Denver office.

**Manisha P. Patel**, Greensboro, N.C., earned the legal elite distinction as published by Business North Carolina magazine, was honored as an inductee into the North Carolina Pro Bono Honor Society, and was appointed to the Legal Aid of North Carolina Board of Directors in 2020.

BIRTHS **Richard "Drew" Marris**, Alexandria, Va., a son, 5/5/21.

'09

CAREER **Elizabeth R. Barrett**, Durham, N.C., has rejoined Quinn Evans as senior associate.

'10

BIRTH **Andrew G. Allen** and **Emily Louise Allen Hindman '11**, Pfafftown, N.C., a daughter, 2/2/21.

**Virginia Thomas Harring**, Clifton Forge, Va., a son, 5/30/21.

**Laura S. McLaughlin** and **Jose A. Torres '16**, Baton Rouge, La., a son, 12/29/20.

'11

CAREER **Joycelyn Bassette Blizzard**, Heathsville, Va., was named Bowdoin College's first director of multicultural alumni engagement.

'12

CAREER **Rosa V. Avalos-Warren**, Pocomoke, Md., a human spaceflight mission manager, will be on console during NASA's Artemis I mission, ensuring teams across the country are ready for liftoff.

'13

BIRTH **Stephen A. Guardipee** and **Laura Keith Guardipee '15**, Charlotte, N.C., a son, 7/20/21.

**Meghan B. Jester**, Salem, Va., a son, 07/09/21.

'15

CAREER **Tamara L. Brown**, Quincy, Mass., is the team reporter/producer for the New England Patriots.

**Eleanor "Bess" Butler**, Savannah, Ga., earned her Certified Financial Planner certification.

**Kimberly J. Koditek**, Virginia Beach, Va., was recognized by Boating Industry in the Top 40 Under 40 listing for the recreational boating industry.

'17

BIRTH **Tyler S. Dotson**, Pulaski, Va., a son, 1/19/21.



Andrea Alexander

## MOTHER, AUTHOR, PHILANTHROPIST

Andrea Alexander's son, Nick, loved professional sports—the inspiring athletes, the unexpected plays, the thrill of the game. What he didn't enjoy was reading.

So, Alexander, who earned her bachelor's in marketing education in 1995 and her master's in vocational and technical education in 1998, decided to become a sports author.

With help from Naren Aryal '92, a friend who owned an independent publishing house (Masco Books), Alexander launched the Glory Days Press Sports Biographies series in 2016. She has since published six books. The proceeds support Glory Days Live, a nonprofit Alexander started to help Loudoun County, Virginia, residents cover sports expenses and fees for their children.

"I want to make sure kids have their needs met," she said, "whether it's inspiration for academics or encouragement for athletics."

# BIRDS OF A FEATHER

**CHUCKIE'S JOURNEY INCLUDED** A few unexpected turns and a detour down a rough road before he safely landed as an honorary member of the Denison family.

The 5-foot-tall, mirror-covered Hokie-Bird spent his earliest days perched on the grounds of the Hotel Roanoke, fully reflecting every aspect of his surroundings. But, after a brutal kidnapping left him damaged, the broken bird was relegated to a storage area at the hotel, and his future was uncertain. That is until Chuck Denison, a hotel employee and the statue's namesake, stepped in to orchestrate the adoption of the statue on behalf of his brother and sister-in-law, Dennie and Sherrie Denison.

"[Dennie's] always been a Hokie fan as long as I can remember," Chuck said. "So, I'm really happy with how it ended up."

Today, Chuckie is enjoying a comfortable retirement nested in Dennie's "man cave," a Virginia Tech-themed space on the downstairs level of the Denison home.

"We were really excited to get him because we know the history of that bird," Dennie '72 said. "Hopefully, it will be passed down to our daughter and son-in-law and their kids."

"And we have two grandchildren who think it's quite the bomb to have a HokieBird in your downstairs," Sherrie said.

Virginia Tech Athletics has been an important part of the Denisons' lives since the couple's early days together.

"When Dennie was a student at Virginia Tech, he never went to games because he always came home on the weekends to work," Sherrie said. "So, we were actually engaged when we first started going to Hokie football games."

Sherrie added that when the couple got married, they arranged the festivities to ensure that they would not miss a single home game. Virginia Tech played at Southern Mississippi on their wedding day, Sept. 17, 1988.

During the decades that followed, in addition to attending home games, the Denisons traveled to many of the Hokies' away and bowl games, making friends and many fond memories.

"By far, our favorite was anytime they [Hokies football] went to the Sugar Bowl in New Orleans," Sherrie said. "And we were in Morgantown the year Michael Vick turned the game around and we won ... the national championship [appearance] year."

"I also got to go to Columbus and see us upset Ohio State and to Notre Dame to see us upset them," Dennie said.

The pair has gone to great lengths to give back to Virginia Tech Athletics. Members of the Hokie Club for more than 25 years, Dennie has led in recruiting new members for many years, and currently, Sherrie serves as president of the Roanoke Valley Hokie Club.

"When you think, 'What does Virginia Tech look like? What does a Hokie look like?' They're the two people you think of," said Evan Massengill, assistant athletic director for fundraising strategy. "They're all in, all the time."

Among other contributions, the Denisons have helped organize a variety of fundraising events for the Roanoke Valley Hokie Club, including starting its annual Football Kickoff Event. So, Massengill said it was no surprise to hear the couple jumped at the chance to adopt the rare piece of Virginia Tech memorabilia.

"It's awesome to have people who care so much about the university that they want to put a statue like that up in their house," Massengill said. "It's special to have those kinds of people around."

Chuckie is one of about 125 HokieBird statues commissioned by the Blacksburg Partnership's Gobble de Art project, which began in 2006, according to Ann Cassell, president of the group. Cassell



Dennie and Sherrie Denison

said each HokieBird is created through a process that results in a one-of-a-kind piece of art, costing \$5,500 or more. The statues can be found in both public settings and private residences.

Over time, a few of the HokieBirds have been stolen, including Chuckie, who was swiped by students from a neighboring university in September 2019.

"The three JMU [James Madison University] students that did it: They stole it, broke it off at the feet, and drove up to Charlottesville and dumped it out," Dennie said.

Once retrieved, Chuckie, in his shattered state, was returned to the Hotel Roanoke where he remained in storage until Chuck Denison helped hatch the plan for his adoption.

"[Dennie] just loves it," Chuck said of his brother. "And I just really wanted to pay him back for all he's done for me. He's a tremendous guy."

It took about a year, including a three-month restoration, and cost about \$2,000 to return Chuckie to peak condition and relocate the bird to the Denisons. But the couple knew he'd be right at home.

"Our downstairs is decorated in all things Hokie," Sherrie said. "And now, when

you walk down the steps, he's the first thing you see. Chuckie owns the room!"

Dennie said their home also has a few hundred feet of decorative Hokie Stone and air conditioning units with custom Virginia Tech panels.

"I couldn't sell this house to a Wahoo, it would have to be a Hokie," he said.

The Denisons don't appear to be in the market anytime soon though, which is good news for Chuckie, who not only has a new home, but a new wardrobe. He now sports a stylish hat Sherrie purchased in New Orleans, a lanyard with game ticket, a maroon and orange scarf, and a Frank Beamer autographed football sits between his feet.

Chuckie is a favorite of the family and their visitors, and he perches at the center of many group photos. But he holds a more significant place in the hearts of Dennie and Sherrie.

"It was very special for his brother to really go to bat and make this happen," Sherrie said. "And I think it also has a special meaning to us just because of all our years of Virginia Tech fundraising, holding events at Hotel Roanoke, and being a part of Hokie Nation. We've made so many good friends over the years just from being Hokies. It's been great." ■ TW

“OUR DOWNSTAIRS IS DECORATED IN ALL THINGS HOKIE. AND NOW, WHEN YOU WALK DOWN THE STEPS, HE'S THE FIRST THING YOU SEE. CHUCKIE OWNS THE ROOM!”

Sherrie Denison



Chuckie Denison



# CHAPTER AWARDS 2020-21

## PYLON AWARDS

### FOCUS AREA CHAPTERS

Atlanta  
Baltimore  
Charlotte  
D.C. Metro Area  
N.C. Triad  
New York City  
Richmond  
Roanoke Valley  
Tidewater

### ORANGE CHAPTERS

Alleghany Highlands  
Charleston  
Charlottesville  
Chicago  
Dallas/Fort Worth  
Denver  
First State  
Fredericksburg  
Loudoun County  
Nashville  
New Jersey  
Orange County  
Palmetto  
Peninsula  
Philadelphia  
San Antonio  
Williamsburg

### MAROON CHAPTERS

Central Pennsylvania  
Cincinnati  
Columbia  
Fauquier  
Greenville/Southampton  
Jacksonville  
Minnesota  
New England  
San Diego  
Southeastern Michigan

## SUPERLATIVE AWARDS

### OUTSTANDING VIRTUAL CHAPTER EVENT

Charlotte Chapter, *Ut Prosim* in the Queen City  
D.C. Metro Area Chapter, Black Alumni Entrepreneur Series

### OUTSTANDING MARKETING AND SOCIAL MEDIA ENGAGEMENT

Columbia Chapter

### RISING STAR CHAPTER

Williamsburg Chapter

### RISING STAR VOLUNTEER

Thomas Doorn '15, NC Triad Chapter

### OUTSTANDING CHAPTER VOLUNTEER

Amy Cheatham '97, Ph.D. '09, Tidewater Chapter

### OUTSTANDING CHAPTER OFFICER

Katharine Friguletto '95, Dallas/Fort Worth Chapter

# STORY LINES

OVER THE PAST FOUR YEARS, MATT Pearson, a Virginia Tech alumnus and architect, has carved a unique niche, using the tools of his trade to recount the experiences of U.S. military heroes.

Pearson's second monument design, unveiled on Sept. 11 at Fort Bragg, North Carolina, honors the work of the 24th Special Tactics Squadron—an elite U.S. Air Force Special Operations unit that solves air and ground problems across conflicts and crises.

After extensive research into the unit's mission and history, Pearson '00, an architect at RATIO, in Raleigh, North Carolina, drafted plans for a circular monument, measuring 80 feet in diameter and constructed with 80,000 pounds of laser-etched granite. The granite display will feature photos and words that describe the squadron's history and evolution.

Other sections of the monument will recognize those killed in the line of service and those who served with distinction. The focal point of the monument, designed as a gathering place for memorials, retirements, and special occasions, will offer a space for reflection.

Pearson estimated that the \$1 million monument will be completed in about 18 months.

"It's incredibly important to connect emotionally with the viewer and with those who move in and around the space," said Pearson, who designed a Navy SEAL Monument in Virginia Beach in 2017.

One of the materials used in the monument holds particular significance. A piece of a steel beam recovered from the World Trade Center Towers in New York City following the Sept. 11, 2001, terrorist attacks will be incorporated into

the design. A small portion of the steel will be melted down and recast into the 24th Special Tactics Squadron's logo, visible upon entering the monument.

In August, Pearson, along with representatives from the Air Force, received the 36,000-pound piece of steel during a dignified transfer ceremony that also included members of the New York City Fire Department.

"The importance for us is to never forget," said Mike Rizzuto, executive director of the special operations unit. "We have some unit members who were very young; some were toddlers when 9/11 happened."

Pearson has a personal connection with the military. His father is a retired Navy captain, and Pearson grew up on three military bases, including one in Iceland. He said his connection to the armed forces makes his memorial work even more important.

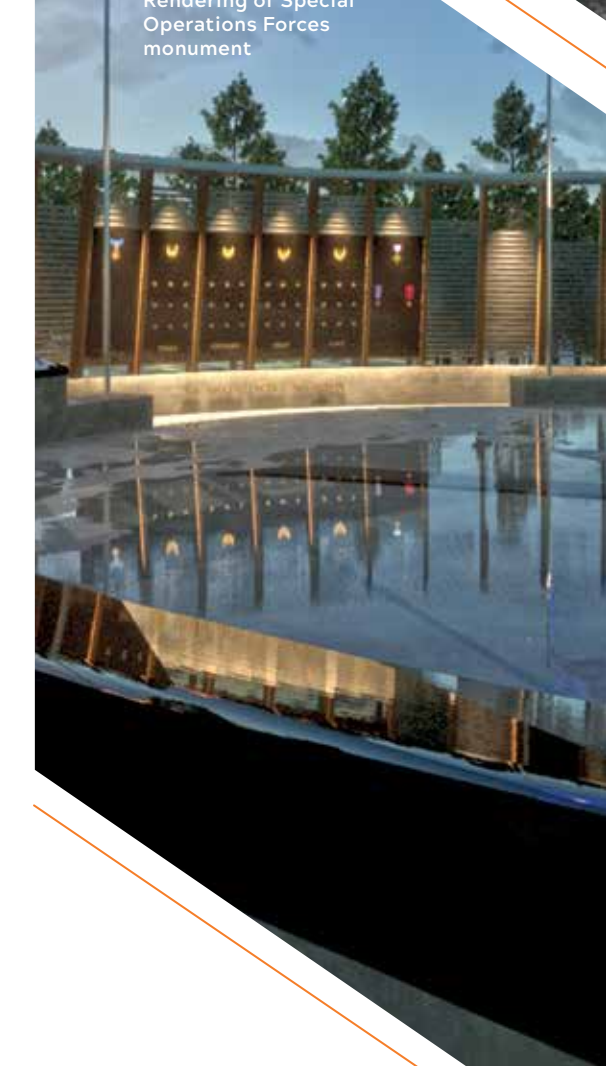
"These monuments, you have to take them very seriously," said Pearson, whose monument design work is pro bono. "You're using architecture to carefully and thoughtfully tell a story to your fellow Americans."

Pearson credits his education in the College of Architecture and Urban Studies as a key to his ability to understand and use different art forms and materials and appreciate how people move through space. He also learned to approach design with reason and logic.

"Virginia Tech was instrumental in being able to talk intelligently about your work," said Pearson, who is married to a fellow Hokie and architect, Jessica Pearson '96. "Without a doubt, the architecture program is one of the best in the world." ■ JKB



Matt Pearson



Rendering of Special Operations Forces monument



## REFLECTIONS

To read more stories about Hokies' 9/11 experiences, go to [vtx.vt.edu/magazine](http://vtx.vt.edu/magazine).

COURTESY OF MATT PEARSON



Chris Marston

## SPIRIT IN MOTION

“

I ENJOY THE COMPETITION. I AM A COMPETITIVE PERSON. I GREW UP IN A COMPETITIVE FAMILY. **BEING COMPETITIVE IS IN MY NATURE, BUT I ALSO DO LIKE SHOWING THAT PEOPLE THAT HAVE STROKES, PEOPLE THAT HAVE CEREBRAL PALSY OR OTHER THINGS, THAT WE'RE CAPABLE OF DOING THINGS, TOO.**”

Chris Marston  
Virginia Tech alum

**MOST PEOPLE STRUGGLE TO FINISH** A 30-minute session on an elliptical machine, so imagine the determination and pain involved with training for a competition that requires swimming half a mile, biking 12.5 miles, and running three miles.

Chris Marston '03 trains for this type of event every day. And he competes at a championship level with a caveat—he does so with cerebral palsy.

The Virginia Tech alum, who graduated from the Charles E. Via Jr. Department of Civil and Environmental Engineering, overcame physical impairments and the grueling nature of his sport when he won the national championship for his classification at the Toyota USA Paratriathlon National Championships held July 18 in Alamitos Beach, California.

“I had the butterflies and the stress, and I was pleasantly surprised,” Marston said. “But it was not totally unexpected. I had been forewarned by people that I had been talking with, and they told me, ‘There is a lot of distance between you and everyone else in your class.’”

“Seeing them [race officials] pull the banner across at the finish line, it felt very good, and at that point, I knew that I had won.”

The win capped a stunning rise to prominence as a paratriathlete—a journey he started just two years ago. ■ JR

In 2019, Marston attended a Paratriathlon Talent Identification Camp at the U.S. Olympic Training Center in Colorado Springs and fared well, but while undergoing a physical to prepare, he learned from his physician about hemiplegia, a form of cerebral palsy—the first time he had heard cerebral palsy associated with his health.

Regardless, Marston, an assistant bridge engineer in Virginia for the Federal Highway Administration, refuses to use the condition as an excuse. Instead, cerebral palsy motivates him.

“I enjoy the competition,” Marston said. “I am a competitive person. I grew up in a competitive family. Being competitive is in my nature, but I also do like showing that people that have strokes, people that have cerebral palsy or other things, that we’re capable of doing things, too.”

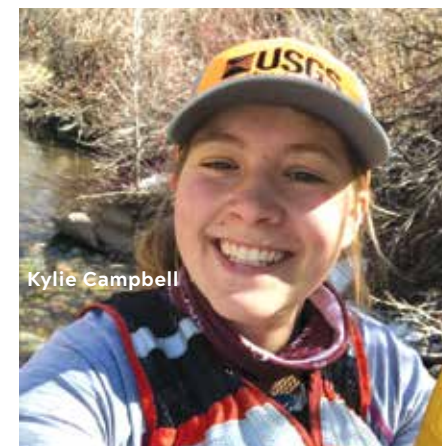
Looking ahead, Marston hopes to earn a spot on USA Triathlon’s development team to be announced later this year, with the dream of securing a place on the U.S. Paralympic team that will compete in Paris in 2024.

Meanwhile, Marston continues to work and train. He makes one arm stroke after the other, pedals mile after mile, and puts one foot in front of the other, all in a chase toward the dreams ahead. ■ JR

FINISHERPX

## YOUNG ALUMNI

## JUST ADD WATER



Kylie Campbell

**SOMETIMES STAYING INDOORS** ON A beautiful day in Blacksburg is for the best.

“It was one of those days where it was like, ‘Do I really have to go to this seminar?’” said Kylie Campbell '18. “But it definitely shaped my Virginia Tech experience. That day, I made the right decision.”

The seminar included Stephen Schoenholtz, director of the Virginia Water Resources Research Center, who was introducing a new degree—water: resources, policy, and management.

One of the first graduates to earn the degree, Campbell is now a hydrologic technician for the U.S. Geological Survey at the Colorado Water Science Center in Grand Junction, Colorado, where she’s responsible for stream gaging a series of waterways in the region.

COURTESY OF KYLIE CAMPBELL

“The best parts are the views and the people,” she said. “I work with a really great group of people and a community that really sees the value of the work. And I get to work in some of the most beautiful places in the world.”

During her time in Blacksburg, Campbell took advantage of numerous academic and extracurricular opportunities.

“[Kylie] was an outstanding student in the traditional format of classroom performance, but she was also very balanced,” Schoenholtz said. “She was focused on her studies, but she also went hiking, she went camping, she did things outside of class. She kind of did it all.”

Campbell was named the 2018 Outstanding Senior for CNRE and upon graduation, immediately put her degree to work.

“I gave my graduation speech, finished up, and the next day, I flew to Colorado to start an internship with AmeriCorps,” she said.

Partnering with American Conservation Experience and the U.S. Fish and Wildlife Service, Campbell visited wildlife refuges across the country to help with a National Visitor Survey project. She said the work opened her eyes to the commonalities among groups of vastly different people.

“I really learned a lot from hunters and anglers about how they use the land and

how they often support the wildlife refuges,” Campbell said. “Sometimes in the media the world can seem really divisive, but in general, people are so nice and willing to talk about what’s important to them.”

Campbell said that realization has transferred to her current position. It’s a job where she wears different hats and just as many different shoes, including waders.

“I definitely spend a lot of time at my desk writing reports, but I spend an equal amount of time trying to figure out how much rebar or concrete I need to use to deploy a sensor,” Campbell said.

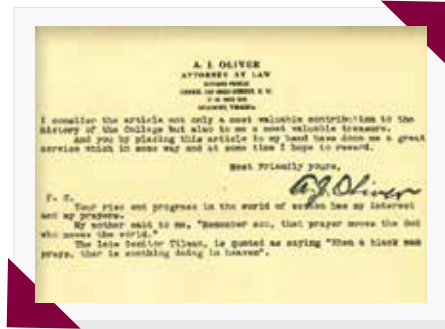
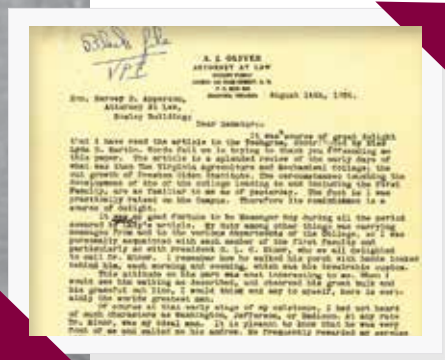
Being able to land a job that combines informing public decisions related to natural resources with trudging around in streams is something Campbell credits to the university.

“Virginia Tech really taught me to be who I am, especially the *Ut Prosim* part. The service part of my job is really important to me ... when I collect information today, it’s benefiting people today, but also researchers 20 years from now,” she said. ■ TW



### STREAMING INFO

Read more about water-related research and study options at Virginia Tech. Go to [vtx.vt.edu/magazine](http://vtx.vt.edu/magazine).



ADDRESSING HISTORY: (above) In 1887, A.J. Oliver became the first Black person admitted to the bar in West Virginia, and two years later became what is believed to be the first barred Black attorney in Roanoke, Virginia.

# VAUGHN-OLIVER PLAZA

THE CAMPUS OF VIRGINIA TECH IS populated with pine, sycamore, oak, and more. Nearly 150 years ago, Andrew Jackson Oliver, a former enslaved person who was Virginia Agricultural and Mechanical College's first Black employee, planted some of the original seeds.

Oliver worked as a janitor on campus, where he lived with his family, but it was his landscaping leanings that led the school's agriculturist to call him "a natural tree artist," according to son A.J. Oliver Jr.

Now, in a tribute to the Oliver family and to the local Black community, the Virginia Tech Board of Visitors has named the plaza at the entrance of the College of Lib-

eral Arts and Human Sciences building the Vaughn-Oliver Plaza.

The site is adjacent to the Blacksburg neighborhood called New Town, which was home to many Black men and women who worked at the university between 1880 and 1960.

Andrew Jackson Oliver was born in 1837, enslaved by members of the family for which the town of Blacksburg is named, according to research compiled by Juan Pacheco '19.

Oliver and Fannie Vaughn Oliver married in 1859 and had at least seven children, according to Pacheco's research.

While Andrew Oliver broke a barrier as the first Black employee at Virginia Tech, one of the Oliver sons broke others. Andrew "A.J." Oliver Jr. was educated at Christiansburg Industrial Institute, relocated to West Virginia, and within a decade he had trained to become a lawyer, according to Daniel Thorp, a history professor.

In the 1880s, the Oliver family left Blacksburg for Iowa, but their Blacksburg roots can be felt beyond the plaza.

Just look to the trees. ■

*Andrew G. Adkins is the marketing and communications specialist for the College of Liberal Arts and Human Sciences.*

COURTESY OF LESLIE KING, VIRGINIA TECH SPECIAL COLLECTIONS



# MISSION: MARS

TALKING WITH STUDENTS ABOUT space, Mars, and engineering is one of Michelle Munk's passions.

"If I can inspire someone by being a female engineer, I'm happy to share everything that I can," she said.

Munk, a 1991 Virginia Tech aerospace engineering graduate, is an entry, descent, and landing capability lead for NASA who helps to determine and maintain the technology, tools, and other equipment required for space missions. Based at NASA's Langley Research Center in Hampton, Virginia, Munk's work supports a number of initiatives, including Artemis, a mission to send the first woman and person of color to the moon.

When Munk was young, she wanted to become an airplane pilot, but that dream changed once she realized that she would need 20/20 vision. Then, Munk learned about a distant cousin—a Virginia Tech alumnus who worked at NASA's Wallops Flight Facility on Wallops Island, Virginia. After spending some time at

Wallops herself, Munk set course to study at Virginia Tech and ultimately to work for NASA.

As a student, Munk participated in a co-op program with Johnson Space Center in Houston, Texas. The experience positioned her for a job at Johnson following graduation.

That's when Munk's focus turned to the logistics of getting humans to Mars.

"It's been the pervasive long-term goal and challenge ever since I got to NASA," Munk said, noting that the numerous robotic missions to Mars are helping NASA prepare for the eventuality of human travel.

While at Johnson, Munk developed her first flight hardware, a moding indicator for the International Space Station. The spaceflight electrical connector with LED lights prompted astronauts to turn off the station's control system when a space shuttle got too close.

Designing the hardware "was a huge eye-opener for me, and I was lucky to have

“IF I CAN INSPIRE SOMEONE BY BEING A FEMALE ENGINEER, I’M HAPPY TO SHARE EVERYTHING THAT I CAN.”

Michelle Munk  
Virginia Tech alum

that experience," Munk said. "You could go your whole career doing concepts and never work on something that could fly."

Recently, Munk developed a project to use cameras to capture stereo images of craters that form on the moon during a space vehicle's descent and landing, as part of NASA's Commercial Lunar Payload Services Program. Data from the project will inform future missions.

Munk's versatility is one of her many strengths, said Walt Engelund, deputy associate administrator for programs in the Space Technology Mission Directorate at NASA.

"She can go toe-to-toe with the most technical, detail-oriented engineer or scientist, and then, turn around and talk to a manager at the executive level and convey in much simpler terms the essence of the message or the technology," he said. "That is a fairly unique skill set for an engineer."

Meanwhile, Hokie roots run deep for Munk. She met her husband, Chris, at the university, and their two children are now Virginia Tech students.

Hokie alumni connections also are strong at Langley.

"When I'm in a meeting with someone I don't know, and they impress me, I often find out that they are from Virginia Tech," Munk said. "It's a testament to the fact that *Ut Prosim* is alive and well. We all share those common loves of service and of technological excellence and pushing the boundaries." ■ *JKB*

COURTESY OF MICHELLE MUNK

# FAMILY

**1** “We got married on a beautiful Carolina day!” —Tobert H. Ryland '10, Corpus Christi, Texas, who married Cate Alvarez in Wilmington, North Carolina, 9/11/21.



1

COURTESY OF ROBERT RYLAND

**2** “Introducing: Yadiel Eliseo Torres!” —Laura Shay McLaughlin '10 Baton Rouge, Louisiana, who along with Jose Torres '16, welcomed a son, Yadiel Eliseo Torres, 12/29/20.



2

LAURA SHAY MCLAUGHLIN

**3** “Amelia and Brendan are thrilled to welcome their baby sister, Audrey.” —Christopher Rose '07, Virginia Beach, Virginia, who welcomed a daughter, Audrey Melissa Rose, 2/11/21.



3

WINNIE BRUCE PHOTOGRAPHY

**4** “Big sister Hadley couldn't be more in love with our new addition.” —Amy Wilson Hall '04, Atlanta, Georgia, who welcomed a son, Barrett Thomas Hall, 6/8/21.



4

AMY HALL

**5** “We added a second son to our family in May.” —Virginia Harring '10, Clifton Forge, Virginia, who along with husband Steven Harring '08, welcomed a son, Nicholas Robert Harring, 5/30/21.



5

VIRGINIA HARRING

## STILL LIFE

**AUTUMN ALBUM:** Cool, crisp mornings ... trees clothed in hues of maroon and orange ... warm afternoons with friends on the Drillfield ... pumpkin spice everything ... leaves crunching underfoot during class changes ... this is fall at Virginia Tech.





## '71

**Jerry R. Bryant**, Franklin, Va., 3/4/21.

**Gordon F. Chappell**, Calabash, N.C., 3/17/21.

**William D. Elmore**, North Chesterfield, Va., 1/31/21.

**Louis R. Fawcett Jr.**, Farmville, Va., 4/22/21.

**Linda Laity Hite**, Yorktown, Va., 3/3/21.

**Douglas L. Horton**, Mechanicsville, Va., 1/17/21.

**Leslie B. Young Jr.**, Danville, Va., 12/12/20.

## '72

**William A. Bath**, Overland Park, Kan., 1/5/21.

**William R. Harrison**, Disputanta, Va., 1/5/21.

**Roger Wayne Ogden**, Covington, Va., 1/16/21.

**Mary Dalton Overbay**, Marion, Va., 2/18/21.

**Charles W. Price**, Greenville, N.C., 1/7/21.

**Franklin Stiltner**, Maxie, Va., 1/11/21.

**Carville Gary Wise**, Chesapeake, Va., 1/7/21.

## '73

**Judith Ann Bennett Donaldson**, Marietta, Ga., 12/22/20.

**Arthur W. Gardiner**, Cookeville, Tenn., 2/12/21.

**Jack R. Lewis Jr.**, Moneta, Va., 3/21/21.

## '74

**Barry L. Braatz**, Murfreesboro, N.C., 2/21/21.

**Myra M. Brush**, Montpelier, Vt., 12/18/20.

**Guy "Mike" Cheatham**, Midlothian, Va., 3/13/21.

**Joel C. Galperin**, Charles Town, W.Va., 1/29/21.

**Judy Pinson Sewell**, Blacksburg, Va., 1/16/21.

## '75

**Robert E. Cruickshanks**, Richmond, Va., 12/10/20.

**Kathleen A. Goonan**, Pigeon Forge, Tenn., 1/29/21.

**Paul C. Hamlin Jr.**, Bassett, Va., 4/16/21.

**Michael A. Moses**, North Port, Fla., 1/28/21.

**Charles L. Reid**, East Orange, N.J., 4/19/21.

**Kimberly W. Rife**, Roscoe, Pa., 3/4/21.

**Ahmet Talug**, Stow, Ohio, 4/9/21.

**Loreta Coe Walker**, Bay Village, Ohio, 12/25/20.

## '76

**Frank J. Carmel**, Great Falls, Va., 3/20/21.

**Robert V. Dellinger**, Mechanicsville, Va., 12/26/20.

**Joseph R. Green**, Frederick, Md., 1/30/21.

**Ira Hicks Jr.**, Fort Valley, Ga., 1/13/21.

**Charles A. Houston Jr.**, Decatur, Ga., 12/29/20.

**John C. Pence**, Winchester, Va., 12/29/20.

**Alvin J. Whitlow**, Hampton, Va., 3/31/21.

## '77

**Daniel J. Blizzard**, Hurricane, W.Va., 1/24/21.

**Rick A. Burkhead**, Rochester, N.H., 1/11/21.

**James L. Earles Jr.**, Roanoke, Va., 4/14/21.

**Louis J. Ioia**, Mount Crawford, Va., 2/25/21.

**Gerald M. Reynolds**, Catawba, N.C., 4/16/21.

**Guy H. Quesenberry**, Williamsburg, Va., 3/4/21.

**Robert M. Sturgill**, Bristol, Va., 1/19/21.

**Charles G. Watts Jr.**, Natural Bridge Station, Va., 2/12/21.

## '78

**Richard A. Beyer**, Radford, Va., 2/5/21.

**Jereial B. Fletcher**, Bluefield, W.Va., 3/7/21.

**Clyde H. Perdue Jr.**, Rocky Mount, Va., 2/13/21.

## '79

**Neal E. Blackwell**, Fort Belvoir, Va., 3/19/21.

**William T. Fowlkes III**, Danville, Va., 1/5/21.

**Patricia E. Hughes**, Richlands, Va., 3/11/21.

**David "Richard" Moody**, Richmond, Va., 2/1/21.

**Lou Culler Talbutt**, Blacksburg, Va., 3/13/21.

## '81

**Terrance L. Harrington**, Yorktown, Va., 2/16/21.

**Helen Ramey Hawkes**, Martinsville, Va., 1/25/21.

**Ronald C. Miller**, Kingsport, Tenn., 1/7/21.

**Michael D. Moseley**, Forest, Va., 2/6/21.

## '82

**James "Fred" Aicholtz Jr.**, Glen Allen, Va., 12/11/20.

**Rodney L. Hobbs**, Concord, N.C., 2/13/21.

**Arnold W. Joyce**, Lexington, Va., 12/23/20.

**Willie E. Landrum**, Barnwell, S.C., 2/5/21.

## '83

**Steven J. Alexander**, Stamford, Conn., 3/11/21.

**Daryl W. Marker**, Henrico, Va., 2/18/21.

**Steven T. Smith**, Roanoke, Va., 1/16/21.

## '84

**George E. Landrum**, McLean, Va., 3/9/21.

**Freddie L. Mock**, Lexington, N.C., 3/2/21.

**Margaret E. Tome**, Tucson, Ariz., 1/1/21.

## '85

**William J. Boylan**, Alexandria, Va., 2/1/21.

**Betty C. Brown**, Jeffersonville, Ind., 12/21/20.

**Thurman D. Copeland**, Franklin, Va., 2/10/21.

**James A. Fisher**, Richmond, Va., 12/26/20.

**Jeffrey W. Haley**, Jacksonville, Fla., 1/9/21.

## '86

**Joyce C. Lanter**, Lubbock, Texas, 2/16/21.

**Alan M. Rainey**, Winston-Salem, N.C., 1/19/21.

## '87

**Glenda Farrar Camp**, Salem, Va., 4/10/21.

**Lloyd M. Harrison III**, McKenney, Va., 1/20/21.

## '88

**Catherine Hodell Dennison**, Bar Harbor, Maine, 3/5/21.

**Robert S. McClelland**, Annandale, Va., 4/14/21.

**Ernest F. Norman**, Virginia Beach, Va., 4/25/21.

## '90

**Michele M. Farley**, Bluefield, W.Va., 1/23/21.

**Alicia R. Mehoves**, Herndon, Va., 3/12/21.

**Robert W. Saubert**, Radford, Va., 3/11/21.

## '92

**Douglas A. Dameron**, Wilmington, N.C., 3/29/21.

**Ayodeji O. Sanyaolu**, Bolingbrook, Ill., 2/28/21.

## '93

**Joseph D. Emberson**, Greencastle, Pa., 1/3/21.

**Gil R. Flores Jr.**, Raleigh, N.C., 1/9/21.

**Thomas J. Jeffrey**, Fairfield, Va., 2/2/21.

**Peter A. Matthews**, Port Charlotte, Fla., 3/21/21.

## '96

**Rhya Marohn**, La Plata, Md., 12/21/20.

## '97

**Rachel Wilkinson Caprio**, Seattle, Wash., 3/24/21.

**DeMond C. Owens**, Stony Creek, Va., 1/2/21.

## '98

**Virginia B. Stuart**, Roanoke, Va., 1/2/21.

**Michael J. Walter**, Moneta, Va., 4/12/21.

## '99

**Steven G. Corbit**, Stephens City, Va., 2/8/21.

**Edward M. Coyne**, Baltimore, Md., 2/26/21.

**Hugh M. McKinney**, Huntersville, N.C., 12/24/20.

## '01

**Malcolm E. Mason IV**, Gurley, Ala., 12/11/20.

## '02

**Michele A. Tarantino**, Moneta, Va., 3/31/21.

## '03

**Margaret H. Martin**, Hannibal, N.Y., 1/24/21.

## '05

**Angela M. Eastman**, Chesapeake, Va., 3/2/21.

**Ashley Gwaltney Smith**, Greenville, S.C., 3/16/21.

## '07

**Anna N. Nicholas**, Dillwyn, Va., 4/3/21.

## '08

**Ian A. Hay**, Falls Church, Va., 4/11/21.

**Alejandro P. White**, West Lafayette, Ind., 2/2/21.

## '09

**Kyle J. Facada**, Washington, D.C., 4/13/21.

**Douglas L. Richardson**, San Marcos, Calif., 4/18/21.

## '13

**Bradford M. Deemer**, Mechanicsville, Va., 2/27/21.

## OBITUARIES

**Leon J. Arp**, professor emeritus of mechanical engineering, died July 23. Arp was a researcher, instructor, and innovator in mechanical engineering at Virginia Tech from 1966 to 1991. Arp held more than 25 patents, including an infant respirator inspired by his infant son's struggle with respiratory distress syndrome.

**Jerald Michael Bowers**, assistant professor, the first faculty member hired to join the Virginia Tech School of Neuroscience, died July 27. His research focused on language and neurodevelopment disorders, and children with autism spectrum disorder.

**Barbara Sutton Cowles**, associate director of Virginia Tech's Honors College and member of the university community from 1990-2008, died on Aug. 17.

**Mary Katherine Korslund**, associate professor emerita of human nutrition and foods, died April 29. She joined Virginia Tech in 1964, remaining on the faculty until her retirement in 1995.

**Calvert T. Larsen**, associate professor emeritus of large animal clinical sciences in the Virginia-Maryland College of Veterinary Medicine, died on Jan. 24.

**Harold M. McNair**, professor emeritus, died June 27. McNair joined the Department of Chemistry as an associate professor in 1968. During his 34-year career, the McNair lab made numerous major breakthroughs, including reporting the first capillary gas chromatography-mass spectrometry results.

**Kent Clayton Roberts**, one of the founders of the Virginia-Maryland College of Veterinary Medicine, died on Aug. 24. Roberts served on the Virginia Veterinary Medicine Study Commission to assess the feasibility of a college of veterinary medicine in the commonwealth, then joined the faculty in 1980. In 2009 he was presented with the John N. Dalton Award, the college's most prestigious honor.

**W.S. "Pete" White Jr.**, former rector of the Virginia Tech Board of Visitors, died July 4. White was named to the National Academy of Engineering in recognition of his distinguished four-decade career at American Electric Power. He received the university's Distinguished Alumnus Award in 1989, the William H. Ruffner Medal in 1990, and the College of Engineering's Distinguished Alumnus Award in 1991. He was inducted into the university's Academy of Engineering Excellence in 1999.





Rosemary Blieszner

# END NOTE

## ADVANCING BEYOND BOUNDARIES THROUGH THE SESQUICENTENNIAL CELEBRATION



**JOIN THE CLUB:** Rosemary Blieszner connects with students at CAUS Fest, a recruitment event for student clubs and organizations in the College of Architecture and Urban Studies.

A **ONCE-IN-A-LIFETIME OPPORTUNITY** is how some people describe Virginia Tech’s sesquicentennial anniversary. Indeed, we will use the 18 months of celebrating to recognize and honor our history, showcase our accomplishments, and preview exciting new directions for our learning, discovery, and engagement missions.

The beginning of the sesquicentennial coincides with the start of my 41st year at Virginia Tech. I have continued my career at this institution because of the attitudes, values, and strategies that define and guide Virginia Tech’s land-grant mission. It has been my pleasure to work with a series of university leaders who, in addition to bringing unique skills and perspectives to their positions, consistently identified the most-needed programmatic directions at the time of their tenure.

For example, Charles W. Steger ’69, Virginia Tech’s president from 2000 to 2014, prioritized elevating the university’s research profile. The strategic plan we developed early in his tenure led to decisions and investments that enabled the university to increase research expendi-



COFFEE BREAK: Bruce Pritchard '75, a member of the College of Architecture and Urban Studies advisory board, and Rosemary Blieszner enjoy the 25th Annual Legacy Society Breakfast in September.

tures significantly. At the same time, we embraced instructional innovations and technologies and extended our reach in Virginia and beyond. Moving this goal forward, our current research initiatives on artificial intelligence, health, security, and quantum technologies, in partnership with industry and government sectors, will assure our continued success as a research powerhouse.

Our current president, Tim Sands, arrived with a vision to secure Virginia Tech's reputation as a global land-grant university. Aptly named Beyond Boundaries, the universitywide initiative identified aspirations for Virginia Tech's future generations and established key domains for innovation and investment. These include preparing students for the future workplace, planning the campus of the future, and developing new funding models for achieving priorities. Ongoing efforts to ensure experiential learning opportunities for all students, expand the locations where we teach and engage in scholarship, establish collaborative transdisciplinary research programs, and improve our administrative structures and processes directly serve the Beyond Boundaries vision. The implementation of our vision relies on a shared understanding that achieving our strategic goals is possible only in an environment inclusive of thought from a diverse community of researchers and scholars, teachers and learners.

Now, the Sesquicentennial Steering Committee is guiding the university through celebratory activities that engage the Hokie Nation and our many partners. President Sands charged us to highlight the impact of Virginia Tech's achievements in teaching and learning, discovery and creative scholarship, and outreach and engagement. Sesquicentennial events and activities will continue through 2022. Together we will explore Virginia Tech's past, present, and future through lenses of three cross-cutting themes: solve problems, expand knowledge, and create and engage communities.

The university motto, *Ut Prosim* (That I May Serve), is the foundation of our efforts and represents our highest aspirations. We have planned two sesquicentennial events designed to explore our motto. In April 2022, we will host a conversation among our three *Ut Prosim* Scholars, professors Marc Edwards, Carla Finkelstein, and Linsey Marr. In November 2022, we will engage the university community in an exploration of the motto's meaning and expression by those who embody its ethos.

We have launched a once-in-a-lifetime opportunity to highlight Virginia Tech's accomplishments and propel the university in innovative directions beyond boundaries. None of us will participate in the celebration of our next 150 years in 2172. But, based on the broad foundation

established in the first 150 years, we can be confident that our great university will continue to innovate and thrive through its bicentennial (200th), sesquicentennial (250th), and tercentennial (300th) anniversaries! ■

*Rosemary Blieszner, interim dean of the College of Architecture and Urban Studies and an Alumni Distinguished Professor and former dean of the Virginia Tech College of Liberal Arts and Human Sciences, is the chair of the Virginia Tech Sesquicentennial Steering Committee.*

## IN OUR NEXT ISSUE

The university continues to celebrate its 150-year history throughout 2022. In 1921, Virginia Tech began admitting women interested in pursuing full-time studies, and in 1923 Mary Brumfield was the first woman to receive a degree. The spring edition of Virginia Tech Magazine will explore 100 years of women at Virginia Tech. In our next issue, you'll find stories that highlight how opportunities for women have continued to grow and evolve in the classroom, on the athletic field, and professionally through careers at the university, in corporations, and in STEM fields around the world.