

SPRING 2023

VIRGINIA TECH. MAGAZINE

RESEARCH DRIVEN
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about fuel

GAME ON
Hokies shatter Giving Day records

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“...one of the greatest jazz
singers of her generation...”

– Rolling Stone

Cécile McLorin Salvant embraces a wide-ranging repertoire with her rich, powerful voice, broadening the possibilities for live performance.

Sat., April 29, 2023, 7:30 PM

Cécile McLorin Salvant

**MOSS
ARTS
CENTER**

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TOPPING OUT

More than 275 community members, partners, and friends joined Virginia Tech and Whiting-Turner Contracting Co. on Feb. 7 to celebrate the next milestone for the Virginia Tech Innovation Campus—the topping out ceremony. The event featured a program inside the first floor of the Virginia Tech Innovation Campus construction site and the ceremonial lifting of a steel beam to the highest point—the 11th story—of Academic Building One.

Virginia Tech broke ground on the Innovation Campus in September 2021, and construction is on schedule for a fall 2024 opening. For more information about the Innovation Campus, go to vt.edu/innovationcampus.



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Before Virginia Tech blew out the candles on the university's Sesquicentennial celebration last year, efforts were already underway to create, implement, and execute bold plans for the university's next 150 years. What's next for Tech?

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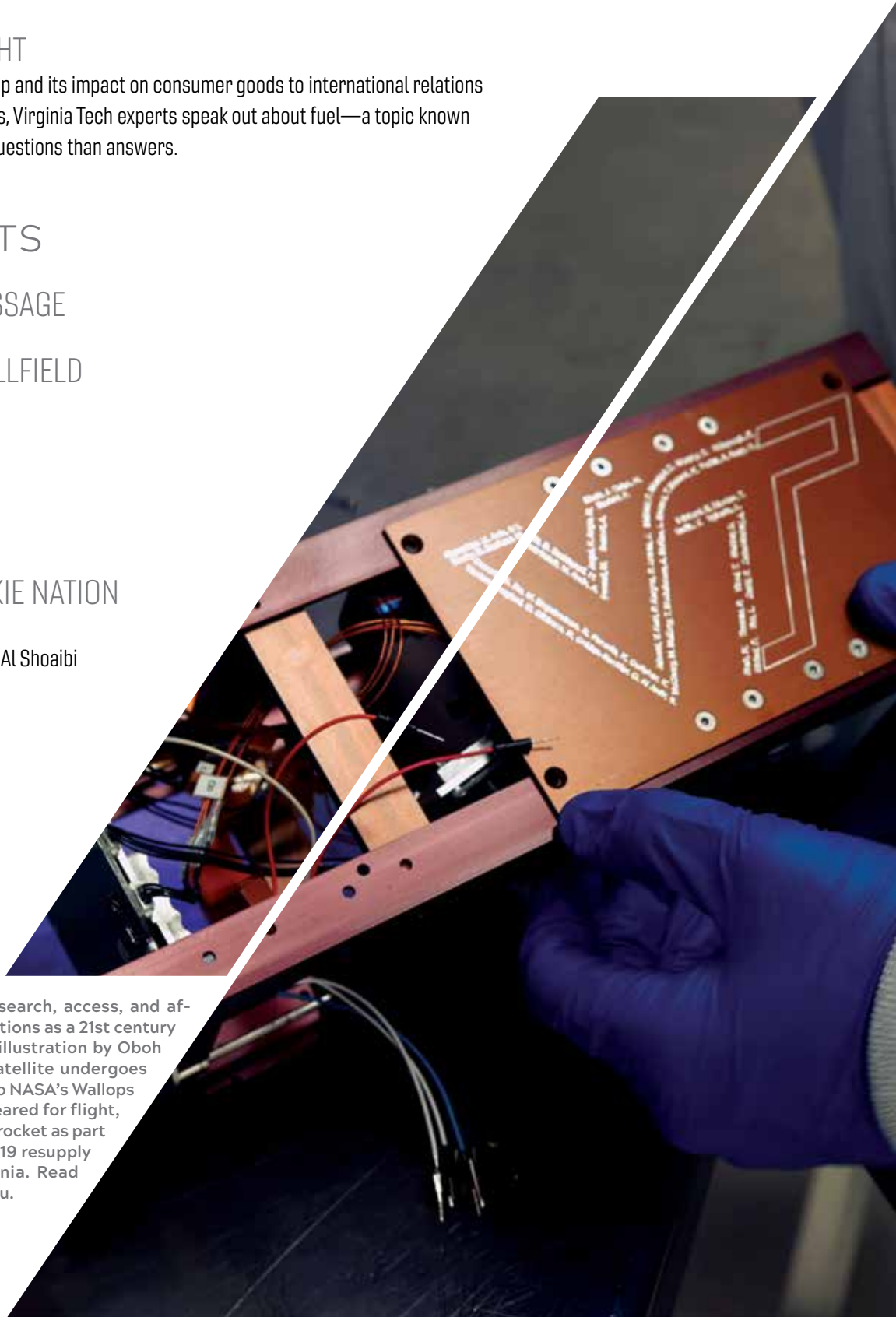
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FUTURE FOCUS: (on the cover) Research, access, and affordability top Virginia Tech's aspirations as a 21st century global land-grant university. Cover illustration by Oboh Moses. (at right) A student-built satellite undergoes final modifications prior to delivery to NASA's Wallops Flight Facility. The satellite, once cleared for flight, is scheduled to launch on an Antares rocket as part of Northrop Grumman's Cygnus NG-19 resupply mission from Wallops Island, Virginia. Read more about the satellite at vtx.vt.edu.



PRESIDENT'S MESSAGE

LOOKING FORWARD: Virginia Tech President Tim Sands attends the topping out celebration for the first academic building of the Innovation Campus.



A FOCUS ON THE FUTURE

Welcome to the beginning of Virginia Tech's next 150 years! For Hokies, 2023 is a year to focus on the future and the exciting opportunities that lie ahead.

Seven years ago, we published *Beyond Boundaries: A 2047 Vision* to serve as a "North Star" to guide our continuous strategic planning. We have made remarkable progress, documented in the pages of this magazine and in Virginia Tech's impact on the commonwealth and the world.

As I noted in January's State of the University address, two primary aspirations have emerged: becoming a top-100 global research university and making Virginia Tech accessible and affordable for all qualified Virginia students who face financial challenges.

Attaining top-100 status is an indicator of excellence that will help us in our global competition for the world's most talented faculty, students, and partners. It will help us better serve our communities by attracting the world's best talent and partners to the commonwealth.

Taking steps to improve access and affordability will help ensure that all our students can participate in the full Virginia Tech experience without having to take on burdensome levels of debt or substantial part-time work that is not aligned with career opportunities. Achieving these aspirations will elevate

the impact of Virginia Tech on the people of the commonwealth, the nation, and the world.

As our direction comes into focus, we are refining our goals to support these aspirations. I have asked three outstanding university leaders to help guide our next steps. Julie Ross is our dean of engineering and last year's Outstanding Woman Leader in Virginia Higher Education. Sylvester Johnson is the founding director of the Virginia Tech Center for Humanities and executive director of the Tech for Humanity initiative. France Bélanger is the R.B. Pamplin Professor in the Pamplin College of Business and a University Distinguished Professor.

Together they will work to update the North Star that will guide our university forward. I have also asked Dean Ross to serve as special advisor to the president and help review and guide Virginia Tech's presence in the greater Washington, D.C., metro area.

Our future success will depend on key partnerships, as illustrated by this edition's articles about the fuel and energy industry and Virginia Tech's National Security Institute. Perhaps our most important partnership is our strong connection with engaged and loyal alumni like you, who helped propel us to yet another milestone during this year's Giving Day. Thank you to all who participated and for everything you do to support Virginia Tech. ■

Tim Sands is Virginia Tech's 16th president.

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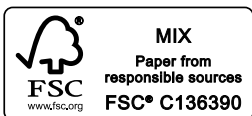
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SOMETHING TO SAY?

Send us a message at vtmag@vt.edu.

LETTERS

FROM THE EDITOR



ON BEING A HOKIE

With more than 260,000 living alumni, Virginia Tech is home to people with diverse backgrounds and experiences. Hokies hail from all corners of the world and pursue interests and careers in fields from education and engineering to business and construction. But regardless of class year, major, or geographic location, there are some common threads that unite Hokies across the miles and the generations.

Last spring, then-student writer, Gabby Taylor '22, asked a few of her classmates what it means to be a Hokie today.

Here's what she learned:

There's a special connection between Hokies.

You've felt it, right? Go nearly anywhere in the world in Virginia Tech gear, and another Hokie comes over to say hello and strike up a conversation.

It's magical and meaningful.

That sense of community, of family, of place only grows stronger each year. Just ask some of the Hokies who recently graduated or are still working on their degrees.

Q: What does it mean to be a Hokie today?

"Being a Hokie to me means working every day to support others and build up your community."

-Andrew Brown '22, who earned a degree in civil engineering

"To me, being a Hokie means being a member of a larger community that serves, learns, and has fun together. Virginia Tech is home to so many

Hokies and everyone is proud to wear their maroon and orange."

-Jaimie DeDea, a student majoring in landscape architecture

"A Hokie means that I am one of a kind. I am a part of people that are filled with so many differences, but we're all working to be our best selves. I am a Hokie because it means being the best version of me that I can be."

-Breanne Williams, a student majoring in agribusiness

"To me, it means knowing I can go anywhere in the world and know I can always have a place to call home and people to call family. I love being a Hokie."

-Sarah Whittington '22, who earned a degree in childhood pre-education

"A Hokie means you are adaptable and curious. Seeking the far unknowns, knowing you have support from everyone around you, while discovering support and strength inside of yourself."

-Caroline Orlowski, a student majoring in interior design

"Being a Hokie to me means family. My entire family is in Blacksburg, and I have always felt like home here. Everyone is so kind and willing to help whenever."

-Emilie Short '22, who earned a degree in communication science and social inquiry



TOUCHING A NEW WORLD: A team of Virginia Tech researchers recently used robots to study ways that young children at a Montgomery County elementary school process technical information.



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NEWS

CHILDREN BEFRIEND ROBOTS IN AFTER-SCHOOL PROGRAM

A TEAM OF VIRGINIA TECH RESEARCHERS IS STUDYING THE ways that children process technical information while learning the fundamentals of robotics. But there's more than just technology on the table.

At the end of the 13-week program, students performed a theatrical production for their families, using the robots as acting companions. The program, in partnership with the Boys and Girls Clubs of Southwest Virginia, included sections that allowed the students to act, dance, draw, and listen to music.

"We wanted to help children exercise their creativity and have fun while learning about robots," said Koeun Choi, assistant professor of human development and family science at Virginia Tech and one of the leaders of the project. "My main goal is to better understand development happening earlier in life and how we can use the digital environment to support children's learning."

The idea for a robot theater program started with Myounghoon "Philart" Jeon, an associate professor in the Grado Department of Industrial and Systems Engineering at Virginia Tech. Jeon previously worked on a similar project with robots and children at Michigan Tech.

In 2021, Jeon brought the program to Virginia Tech, working with mostly schools in rural and underserved areas. He recruited Choi to help. ■



Saonee Sarker



Tsai Lu Liu

VIRGINIA TECH NAMES NEW COLLEGE DEANS

PAMPLIN COLLEGE OF BUSINESS

Saonee Sarker, professor in the Department of Informatics in the School of Economics and Management at Lund University, has been named dean of the Virginia Tech Pamplin College of Business.

Saonee (pronounced Sha-o-nee) Sarker will step into her new role on July 1, succeeding Roberta “Robin” Russell, who has served as interim dean since July 2022.

Sarker, who has been a professor at Lund University since 2021, is also a visiting professor at the London School of Economics.

Following an 11-year tenure at Washington State University, Sarker joined the University of Virginia McIntire School of Commerce from 2013-21, where she held many roles including senior associate dean for academic affairs, area coordinator of IT, Rolls Royce Commonwealth Commerce Professor, and professor of IT.

Sarker brings a wealth of research experience to the role. Her research interests include smart infrastructure and sustainability, health care information technology and technostress, and technology-enabled collaboration. She is director of diversity, equity, and inclusion for MIS Quarterly and senior editor of the Journal of the Association for Information Systems.

Sarker earned a bachelor’s degree from Lady Brabourne College (Calcutta University), an MBA from the University of Cincinnati, and a Ph.D. from Washington State University.

COLLEGE OF ARCHITECTURE, ARTS, AND DESIGN

Tsai Lu Liu, who has served as the head of the Department of Graphic Design and Industrial Design at NC State University since 2012, has been named dean of the College of Architecture, Arts, and Design at Virginia Tech.

Dean Liu (pronounced “Lee-yoo”) begins his new role at Virginia Tech on July 1, following Rosemary Blieszner, who has served as interim dean. Liu will also serve as a professor of industrial design in the college’s School of Design.

At NC State, Liu fostered a culture of faculty and student research, established corporate-sponsored research and partnerships, and enhanced faculty and student diversity.

Liu spent the first 13 years of his career in private industry. He earned his bachelor’s of Science from National Cheng Kung University in Taiwan and co-founded a company to design and produce emergency medical service products.

Liu has an MBA from Georgia State University and a Master of Industrial Design from Auburn University. He joined Auburn as an assistant professor in its School of Industrial and Graphic Design in 2004. Liu was a recipient of the Southern Governors’ Association’s Innovator Award and numerous awards for outstanding teaching and service. ■

VIRGINIA TECH EARNS BEST WORKPLACE FOR COMMUTERS DESIGNATION

VIRGINIA TECH WAS DESIGNATED

by The Center for Urban Transportation Research as one of the 2023 Best Workplaces for Commuters in offering outstanding commuter programs to students and employees.

The Virginia Tech Sustainable Transportation Department, formerly known as Alternative Transportation, offers the campus community a range of commuter benefit options and programs:

- Free access to the Blacksburg Transit bus system with a Virginia Tech ID.
- The Hokie Bike Hub, a free, self-service bike repair and maintenance facility for students, faculty, and staff.
- A carpool-matching program and Emergency Ride Home program through RIDE Solutions.
- Free bus service between the Blacksburg campus and the Fralin Biomedical Research Institute at VTC in Ronaoke.

The department promotes safe cycling by offering cycling safety classes, hosting events, and providing educational materials throughout the year. It also runs the Heads Up Hokies safety campaign to encourage Hokies and community members traveling across campus on foot, by bike, e-scooter, bus, or car to keep their heads up, act predictably, and pay attention to their surroundings. ■



HISTORIC HOKIES: The Virginia Tech women's basketball team beat Miami, Duke, and Louisville over a three-day span to claim the program's first ACC Tournament championship.

VIRGINIA TECH WOMEN'S BASKETBALL WINS 2023 ACC TOURNAMENT



THE VIRGINIA TECH WOMEN'S basketball team made history on March 5 in the Greensboro Coliseum, defeating Louisville 75-67 to claim its first ACC Tournament title.

"I'm so proud," Kenny Brooks, women's basketball head coach, said in his

postgame press conference. "So proud to be associated with this group, this university, this athletic program. The resiliency that these kids showed throughout the year, the support that we got from Hokie Nation all year long.

"I knew when these kids came and they committed to us, I knew eventually we were going to be playing for different things, and they proved me right."

Georgia Amoore secured 25 points and Elizabeth Kitley added 20 to lead the Hokies to the tournament crown and clinch an automatic bid into the NCAA Tournament.

Kitley was named the ACC Player of the Year for the second season in a row, while Amoore and Taylor Soule were first- and second-team all-league picks, respectively. In addition, Amoore was

tabbed the event's most valuable player after scoring 65 points and draining 14 three-pointers over Tech's three games, setting a new record for made triples in the tournament.

In March, Brooks, was named a 2023 Werner Ladder Naismith Women's College Coach of the Year semifinalist. ■

EDITOR'S NOTE: At the time of printing, the Hokies had earned a top seed in the women's NCAA Tournament.





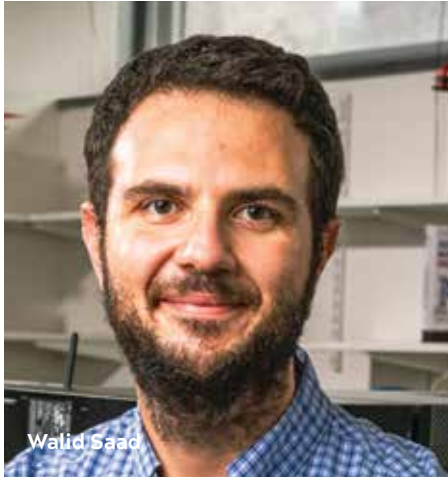
Georgia E. Hodes



Wenjing Lou



Lina Quan



Walid Saad



Viswanath Venkatesh



Zheng Xiang

VIRGINIA TECH RESEARCHERS MAKE CLARIVATE'S HIGHLY CITED LIST

FOR RESEARCHERS, SCHOLARSHIP and achievement aren't quantified or evaluated strictly by funding dollars earned or number of research projects, but also by citations—the number of times other scientists have referenced a researcher's findings in their own academic papers.

The higher the number of citations, the better. Citations are an indication that a particular work is influential in moving the field forward.

Six Virginia Tech researchers have been named to Clarivate's Highly Cited Researchers 2022 list for demonstrating significant influence in their fields or across multiple fields through the publication of multiple highly cited papers during the past decade.

"I am extremely proud of the Virginia Tech researchers who have been named on this list for their dedication to scholarship and research, placing them among

top researchers from around the world," said Dan Sui, Virginia Tech's senior vice president for research and innovation.

The six researchers are:

- **Georgia Hodes**, assistant professor of neuroscience, was cited for studies that cross multiple fields with research examining sex differences in the peripheral and central immune system and how immune mechanisms interact with brain plasticity to drive behavioral differences in susceptibility and resiliency to stress.
- **Wenjing Lou**, the W.C. English Endowed Professor of Computer Science, has made innovative and widely cited research contributions in a diverse set of challenging security and privacy contexts.
- **Lina Quan**, assistant professor of chemistry, was cited for studies that cross multiple fields, focusing on the optical and electronic properties of emerging semiconductors such as perovskites for

use in next-generation optoelectronic applications.

- **Walid Saad**, professor of electrical and computer engineering, was cited for research at the intersection of wireless systems, artificial intelligence, game theory, and cyber-physical systems.
- **Viswanath Venkatesh**, the Verizon Professor in the Department of Business Information Technology, has published 140 journal articles in various fields, including human-computer interaction, information systems, organizational behavior, psychology, marketing, medical informatics, and operations management.
- **Zheng Xiang**, associate professor and head of hospitality and tourism management, was cited for research that includes travelers' use of information technology, digital marketing strategies, emergent technologies, and social media analytics. ■

TURNING FOOD WASTE INTO BIODEGRADABLE BIOPLASTICS

IN JANUARY, RESEARCHERS IN THE College of Agriculture and Life Sciences received a \$2.4 million grant from the U.S. Department of Agriculture to create bioplastics from food waste diverted from landfills.

The three-year grant will test the scalability and feasibility of the conversion of these wastes into bioplastics, with the target of keeping costs for the produced bioplastics as low as possible.

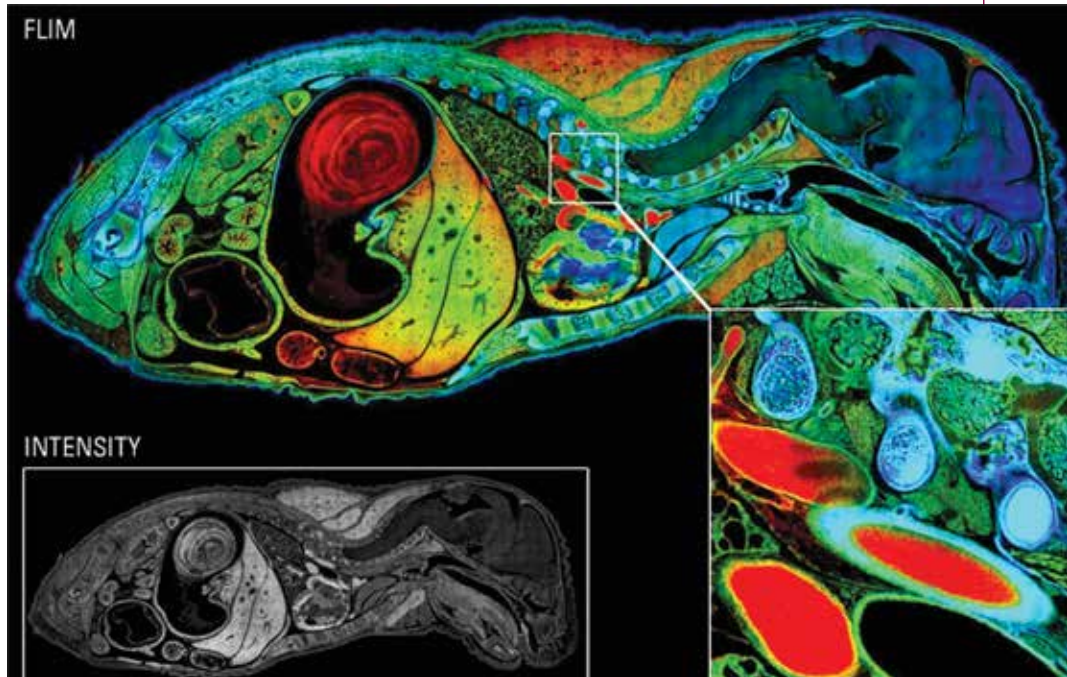
Nearly 40 percent of food produced in the United States ends up in landfills, accounting for the single largest component of municipal waste in the country. This project will develop and demonstrate an affordable modular bioprocessing system to produce biodegradable bioplastics from food waste.

“This pilot project is a watershed moment in the production of plastics,” said Zhiwu “Drew” Wang, the principal investigator, an assistant professor in the Department of Biological Systems Engineering, and director of the Center for Applied Water Research and Innovation.

Wang is working with Haibo Huang, an associate professor in the Department of Food Science and Technology, and Young Kim, an associate professor in packaging systems and design in the Department of Sustainable Biomaterials within the College of Natural Resources and Environment. ■



Zhiwu “Drew” Wang
Xueyao “Kira” Zhang



┌ **\$1 MILLION MICROSCOPE:** The new microscope, seen here analyzing a mouse, uses fluorescent dyes to provide researchers with more in-depth images of cells and complex biological systems. └

GRANT PROVIDES NEEDED MICROSCOPE

RESEARCHERS ENJOYED AN EARLY Christmas gift in December when the Fralin Biomedical Research Institute at VTC took delivery of a microscope that can enhance data quality and precision.

The FLIM-FRET (fluorescence lifetime microscopy and Förster’s resonance energy transfer) fast-imaging system enables researchers to better analyze the structure and function of complex biological systems.

The microscope’s capabilities apply to several of the institute’s research areas. In neuroscience, for instance, the tool can help investigators map brain functions and track signaling pathways using light. It has been used to deepen scientists’ understanding of how neurons contribute to decision-making, learning, feeding, addiction, and behavior.

The equipment will be added to the suite of cellular and molecular imaging facilities that is part of the core services available to researchers at the Fralin Biomedical Research Institute, Virginia Tech, and the wider community of health scholars.

The acquisition was made possible by a \$1 million grant through the Health Resources and Service Administration, an agency of the U.S. Department of Health and Human Services. ■



EXTRA, EXTRA! READ ALL ABOUT IT.

For additional details, images, and videos related to the stories featured in Drillfield, go to vtx.vt.edu/magazine.



PROMOTING DIVERSITY: A new Virginia Tech chapter of the National Association of Black Veterinarians is working to provide education and promote inclusion in a profession that tends to be predominantly white.

PROMOTING DIVERSITY WITHIN VETERINARY MEDICINE

STUDENTS AT THE VIRGINIA-MARYLAND College of Veterinary Medicine have established the newest chapter of the National Association of Black Veterinarians, working to provide education and promote inclusion within an overwhelmingly white field.

According to a 2021 report by the Bureau of Labor Statistics, only 1.2 percent of veterinarians in the United States are Black. Thus, support and mentorship can be hard to find, and many Black veterinarians deal with clients who react negatively when they learn the person treating their animal is Black.

These challenges motivated chapter vice president Takia “Kia” Williams, a veter-

inary student, to open dialogue about diversity in veterinary medicine.

“In the food animal industry, there are not a lot of people who look like me,” Williams said. “I look forward to breaking down the barriers not only within food animal medicine, but also within veterinary medicine as a whole and having open conversations about diversity and inclusion amongst all.”

The chapter plans to hold social events for fundraising and community building. Its members plan on visiting local schools to get students excited about veterinary medicine and to show diversity in the field. ■

PARTNERING TO PRODUCE LIFESAVING BACKPACKS



A HANDFUL OF HOKIES HELPED others carry their worlds on their shoulders.

Six third-year industrial design students spent a Friday afternoon in December helping UTS Systems LLC manufacture 50 military-grade backpacks that were given to people struggling with substance use disorder and housing insecurity in Roanoke.

A collaborative design between the students and the company, the waterproof bags include an attached waterproof tarp with grommets that allow it to be hung to provide shelter. The bags also come with personal hygiene supplies, seasonal clothing, information about community resources, and medical kits designed by the students.

This was the third version of the backpack that students from the College of Architecture, Arts, and Design’s industrial design program helped bring to life. Since December 2019, more than 1,400 backpacks have been distributed.

Martha Sullivan, chair of the industrial design program, said the project has become a legacy within the program. ■

HELMET LAB RELEASES EQUESTRIAN RATINGS

OVER THE PAST TWO YEARS, researchers from the Department of Biomedical Engineering and Mechanics have analyzed more than 100 videos of riders falling off horses, along with measuring of the hardness of various surfaces and simulating different falls.

They then used that data to assess 40 equestrian helmets from different manufacturers, and in December, they released the first set of equestrian helmet ratings from the Virginia Tech Helmet Lab. This is the lab's ninth major ratings release since researchers began rating helmets in 2011.

"The ratings show consumers which helmets are better than others," said Stefan Duma, the Harry Wyatt Professor of Engineering and the Helmet Lab's founder. "But the real key is that this provides a framework for manufacturers to make better helmets."

Equestrian sports account for 50,000 trips to the emergency room for concussions and other brain injuries each year—more than any other sport in America.

Of the 40 equestrian models included in this initial set of ratings, two earned the top score of five stars. The results can be found online at helmet.beam.vt.edu. ■



┌ FISHING FOR A SOLUTION: John Palmore (at right) is leading a team of researchers attempting to control the movement of invasive Asian carp by using sound waves. ┐

DETERRING INVASIVE CARP WITH SOUND

HOW DO YOU STOP AN ARMY OF CARP from invading the Great Lakes? Two Virginia Tech researchers are joining an effort to put up a defensive barrier made of sound waves.

John Palmore, assistant professor in the Department of Mechanical Engineering, has received \$340,000 from the Army Corps of Engineers' Engineer Research and Development Center to create new tools using sound waves to control the movement of invasive species of Asian carp. Palmore's group includes co-investigator and Assistant Professor Nathan Alexander in the Kevin T. Crofton Department of Aerospace and Ocean Engineering.

Asian carp threaten the balance of aquatic life in lakes and rivers through-

out the U.S., gobbling up food and resources needed by other species. This threatens not only the fish that are going without, but also fishing industries.

Considerable effort has been put into stopping the spread already, particularly to safeguard the \$7 billion-yearly Great Lakes fishing industry. Nonlethal protective measures include underwater electrical barriers, columns of bubbles, and sounds played through the water. Palmore's team is diving into the efficacy of sound barriers when used in canal locks.

"Out of all those technologies, acoustic deterrents are potentially the best in the sense that they are the most customizable," Palmore said. ■

SHARKS, SPATIAL DATA, AND A CONSERVATION SUCCESS STORY



RESEARCHERS FROM THE COLLEGE of Natural Resources and Environment are among a group of scientists who used temporal and spatial comparisons to reveal that extinction risks for sharks and rays can be reduced by having effective fisheries management and policies in place.

The group's findings show a positive trajectory for shark populations where regulations have been put in place, with large species such as the great white, tiger, and great hammerhead shark—which are elsewhere endangered—all showing signs of population recovery in the northern Atlantic Ocean.

"You can see it in the data," said Holly Kindsvater, an assistant professor in the Department of Fish and Wildlife Conservation. "Even in places where fishing intensity is high, but management exists, the regional status of these endangered species is improving significantly."

Sharks and rays still face challenges. The group's finding demonstrates that coastal populations in the southern Atlantic remain critically threatened, and the demand for shark meat and fins can provide lucrative livelihoods to fishers despite international treaties. ■

EXPONENTIALLY MORE VIDEOS

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.



'Good Morning America' visits VTTI

"Good Morning America" stopped by the Virginia Tech Transportation Institute for a segment on the Sharing the Road program, designed to educate drivers about traveling around large vehicles.



The Green Labs Program at the Fralin Biomedical Research Institute

The goal of the Green Labs Program at the Fralin Biomedical Research Institute at VTC is to create a culture of sustainability in the research institute community by exploring ways to reduce the environmental impact of research.



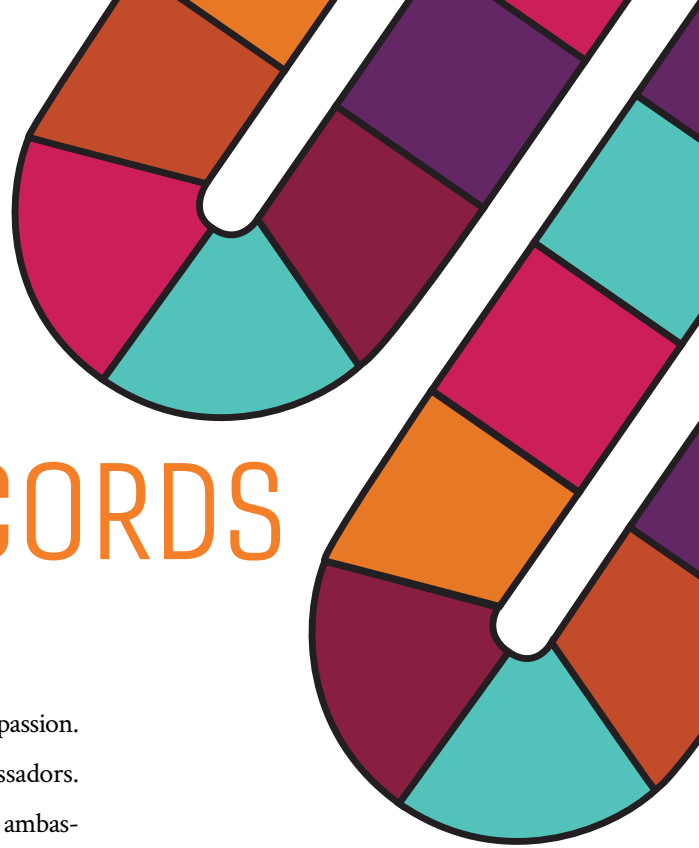
Student pursues passion in film scoring

Kieran Casey, a music education and composition major, has always been passionate about film scores. At Virginia Tech, he has found new ways to create opportunities in a field that he loves.



Augmented reality aids search and rescue research

Ph.D. students Matthew Wilchek and Matthew Corbett, along with faculty advisors Feras Batarseh and Kurt Luther, are researching the impact that augmented reality can have on emergency operations like search and rescue.



2023 BREAKS RECORDS

THANKS TO THE ENTHUSIASM AND generosity of Hokies around the world, Giving Day 2023 shattered records. A total of 16,841 Hokies participated, raising more than \$9.6 million. The totals crushed last year's numbers of 15,787 and \$8.4 million.

For 24 hours, the university community showed up big, giving to programs, departments, student organizations, teams, and more. The fun and games started at noon Feb. 15 and wrapped up at noon Feb. 16.

"Thank you to all the Hokies who stepped up and made a difference," said Ann Bolton, director of annual giving. "It is thrilling what Hokie Nation can do together in 24 hours. The generosity of our community never surprises me, but it does inspire me. What we've been able to do together is nothing short of amazing. This giving is transformative for our university. It will be felt for decades to come and help countless future generations of Hokies."

Because of generous gifts, students will learn more, discoveries will be made, and teams will be even better equipped.

Here's a look at what Hokies accomplished together:

- **1,476:** Ambassadors shared their passion.
- **9,859:** Gifts brought in by ambassadors.
- **\$912,535:** Dollars raised through ambassadors.
- **Australia:** Location of our farthest gift.
- **38:** Countries with participating Hokies.
- **50:** States with participating Hokies.
- **298:** Students who rocked the Giving Day Scavenger Hunt.
- **210:** People who attended Giving Day parties in D.C. and Richmond.
- **Pamplin College of Business:** Winner of the Most Donors and Most Amount Raised leaderboards.
- **Institute for Creativity, Arts, and Technology:** Winner of the Beat Your Best Donors leaderboard. ■ AM



16,841 HOKIES GOT IN THE GAME AND MADE A GIFT ON GIVING DAY

\$9.6 MILLION RAISED

Learn more by visiting givingday.vt.edu.

NEW TRI-CHAIRS APPOINTED AS VIRGINIA TECH'S FUNDRAISING AND ENGAGEMENT CAMPAIGN PASSES \$1.248 BILLION MILESTONE

BOUNDLESS IMPACT



THE UNIVERSITY RECENTLY NAMED new tri-chairs of Boundless Impact: The Campaign for Virginia Tech. Deseria Creighton-Barney '86, J. Pearson '87, and Liz Lazor '15 have recently stepped forward as the campaign continues toward its 2027 conclusion with an expanded fundraising goal of \$1.872 billion.

Through late February the campaign, which was announced in October 2019 and also has a goal to engage 100,000 Hokies, had raised \$1.249 billion and engaged 88,220 alumni.

Creighton-Barney, Pearson, and Lazor follow Morgan Blackwood Patel '03, Lynne Doughtie '85, and Horacio Valeiras '80, who served as tri-chairs during the initial public phase of the campaign.

"As we welcome Deseria, J., and Liz as new tri-chairs of our Boundless Impact Campaign Steering Committee, we thank Morgan, Lynne, and Horacio for their generous and effective service during the first portion of the campaign," said Virginia Tech President Tim Sands. "Thanks to their leadership and the thousands of generous alumni, partners, and friends who joined them, the most ambitious fundraising and engagement campaign in Virginia Tech history is on pace for success."

Creighton-Barney, of Chesterfield, Virginia, is a past president of the Alumni Board of Directors and serves on the Alumni Advisory Board of the College of Liberal Arts and Human Sciences. She has also served on the Virginia Tech Foun-

dation Board. She earned her bachelor's degree in communication and now works as director of people development for WayForth, a moving solutions company whose mid-Atlantic operations are headquartered in Richmond. Along with her Virginia Tech degree, Creighton-Barney holds certificates in diversity and inclusion for human resources from Cornell University and a certificate in diversity, equity, and inclusion from the University of South Florida. She was co-recipient of the Ut Prosim Award at Virginia Tech's 2018 Black Alumni Reunion.

In addition to her involvement with Virginia Tech, she is a member of the Henrico County Alumnae Chapter of Delta Sigma Theta Sorority Inc. She is also a

COURTESY OF DESERIA CREIGHTON-BARNEY, J. PEARSON, AND LIZ LAZOR

volunteer for the Richmond Chapter of the American Heart Association and is a nominee for the Women of Impact.

J. Pearson, of Fort Myers Beach, Florida, was named one of the University's Foremost Benefactors in 2022 and is a namesake of the Corps of Cadets residence halls Pearson Hall East and West on the Blacksburg campus' Upper Quad. He is also a namesake of the James A. and Renae C. Pearson Collegiate Faculty Fellowship, which is tied to the Kohl Agribusiness Center. Pearson earned his bachelor's in agricultural and applied economics in 1987 and a commission as lieutenant in the Virginia Army National Guard. He founded Carry-On Trailer in Virginia before becoming an operating partner of a private equity firm. Pearson is chairman of the Virginia Tech Corps of Cadets Alumni Board and is serving on the advisory board and as a professor of practice for the Department of Agri-

cultural and Applied Economics within Virginia Tech's College of Agriculture and Life Sciences.

Lazor is a Northern Virginia native who earned her bachelor's in finance and is a certified financial planner. In 2018, she joined a financial startup called Grove, which was later acquired by Wealthfront. Lazor now lives in Palo Alto, California, and manages strategic partnerships at Wealthfront. While enrolled at Virginia Tech, she served as a resident advisor, class treasurer, and student body president.

"The enthusiastic support and profound insights of our Boundless Impact Campaign Steering Committee help a great deal as we look to engage Hokies from around the world," said Angela Hayes, associate vice president for advancement and director of the campaign. "This campaign will play a major role in our university's future accomplishments. We deeply

appreciate our committee members for their generosity and leadership." ■ AR



PASSING THE TORCH: (from left) Morgan Blackwood Patel, Horacio Valeiras, and Lynne Doughtie served as the first tri-chairs of Boundless Impact: The Campaign for Virginia Tech.

PHILANTHROPIC HIGHLIGHTS FROM 2022

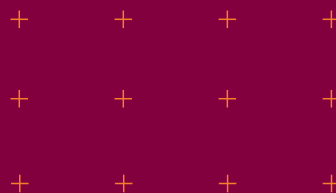
Virginia Tech's growing culture of philanthropy is crucial to the drive to become a top-100 global research university that remains accessible to talented students from all sorts of communities.

Over the course of FY 2022, thousands of Hokies stepped forward to make their first gifts, while many others continued a tradition of generosity they embraced years ago. Here are just a few highlights from the year.

- Undergraduate alumni giving reached 22 percent, more than doubling the participation rate from the end of FY 2016.
- Virginia Tech Athletics passed the halfway mark for its most ambitious fundraising campaign ever, Reach for Excellence.

- Northrop Grumman became a key strategic partner of the Virginia Tech Innovation Campus by making a \$12.5 million commitment to support research and teaching in quantum information science and engineering.
- Virginia Tech's Blackwood Program in Real Estate was named to recognize \$10 million in giving to the real estate program by alumni couple Willis Blackwood '72 and Mary Nolen Blackwood '73, and their children, Morgan Blackwood Patel '02 and Nolen Blackwood '10.

For more information about philanthropy, including detailed stories from throughout the year, visit give.vt.edu.





PRAYER AND HOPE

“

BUT FOR THAT MOMENT IN TIME WHEN SHE WAS GOING THROUGH HER SHOEBOX, IT FELT LIKE SHE WAS ABLE TO BE A KID AGAIN FOR A WHILE.”

Elizabeth Henry Groff '17

RETURN TRIPS TO HER NATIVE Ukraine always bring conflicting feelings for Elizabeth Henry Groff '17, and her recent journey created a cauldron of joy, sadness, worry, and hope.

A national spokesperson for Operation Christmas Child, Groff was chosen to travel to the war-torn country in mid-January with a team from Christian-based Samaritan's Purse to deliver Operation Christmas Child's 200 millionth shoebox.

Each year, volunteers worldwide fill shoeboxes with gifts, school supplies, and hygiene items for underprivileged children across the world.

Groff grew up in an orphanage in Ukraine before being adopted by a Williamsburg, Virginia, couple at the age of 13. She remembered the hope those gifts provided her, and she expected to see that same hope in the eyes of the Ukrainian orphans in Lviv during a special distribution event where the 200 millionth shoebox would be handed out.

But Groff received more when she helped an 8-year-old girl named Natalya open that milestone shoebox. The child expressed joy over a wind-up flashlight—because the gift would help her move safely through the dark to the basement

when the lights go out during Russian air raids or when the city loses power.

“She’s not allowed to be a child right now because of what is going on in Ukraine,” Groff said. “So that was really sad.

“But for that moment in time when she was going through her shoebox, it felt like she was able to be a kid again for a while.”

Groff felt trepidation about returning to Ukraine. She hadn’t visited since the end of 2021, when she reunited with her younger sister and brought her to the United States as part of the Uniting for Ukraine program.

But seeing the people there taking care of each other during the toughest of times inspired her—and brought her hope.

“A colleague of mine had mentioned Revelations 12:11, and the verse says, ‘And they overcome him by the blood of the Lamb and by the word of their testimony,’ and that stuck with me,” Groff said. “While we have won the battle, the suffering will not stop, and the pain and violence tempts us to lose hope. But we are called to be triumphant through the word of our testimonies. So I am planning to continue to share not just my testimony of me receiving a shoebox and what God has done here with my sister, but also my trip to Ukraine and what I saw God doing there in real time.” ■ JR



PHOTO OP: (from left) Brig. Gen. Kelly Dickerson '95, Col. Trina Rice '96, Assistant Alumni Director Lt. Col. Edie Fairbank '95, and Alumni Director Cmdr. Nate Brown '98 pose with the cadet HokieBird statue in Lavery Hall during reunion breakfast.

A LIFELONG EXPERIENCE

IN 2022, A RECORD NUMBER OF ALUMNI and their families returned for Corps of Cadets events on campus. The annual Corps Reunion weekend, linked to the Military Appreciation football game each year, saw a 6 percent increase in alumni participation in part due to enhanced experiences offered to returning Hokies.

During the three-day event, alumni mingled with current cadet organizations—some of which may not have existed during their times at Virginia Tech—and took tours with cadets to hear about the present-day corps experience. Last Call at Lane Hall, an evening event held on the porch of the iconic building, offered food trucks, coffee, adult beverages, and a casual space for Hokies to reconnect.

Corps alumni events are purposely designed to have something for every-

one. Young alumni with small children were provided kid-friendly activities such as coloring pages, while those wanting to reminisce about early morning formations had a chance to salute the flag and march with current cadets to breakfast.

Corps Reunion isn't the only opportunity for corps alumni—or anyone—to engage on Upper Quad. Highty-Tighty Reunion occurs during Homecoming weekend, and each semester, the corps hosts its Leaders in Contact panel, which invites corps alumni to share their professional leadership experiences with cadets and students. And of course, alumni are encouraged to make the alumni office in Lane Hall their first stop on any trip to campus.

"Next fall, the corps will celebrate the 50th anniversary of women cadets. We get to lead the charge on celebrating this

milestone many years ahead of the other military colleges. That and our new infrastructure on Upper Quad has us excited about even higher participation in our events this coming year," said Cmdr. Nate Brown, the corps alumni director.

Brown continued, "The Hokie experience doesn't end upon graduation. Being a student is only the beginning. There are more memories to make at alumni events. Whether you were in the corps or not, the corps is part of your Virginia Tech history. We welcome all alumni and friends of Virginia Tech to visit Upper Quad to learn about our newest changes and our favorite traditions from the past 150 years. Our goal is to enable folks to continue their lifelong Hokie experience." ■

Katie Mallory is the communications director for the Corps of Cadets.

ATHLETICS

'THE BEST CARE POSSIBLE'

MOMENTS AFTER BUFFALO BILLS safety Damar Hamlin collapsed onto the field at Paycor Stadium in Cincinnati during a regular-season football game between the Bills and Cincinnati Bengals on Jan. 2, members of the Virginia Tech Athletics Department's sports medicine staff started exchanging text messages.

They watched in angst as a group of medical personnel huddled around Hamlin, performed CPR, and seconds later, applied the automated external defibrillator (AED).

"You've got about a 5 percent chance of surviving that," said Mike Goforth, associate athletics director of sports medicine.

Nine days after suffering the cardiac arrest, Hamlin was discharged and returned home. He lives today only because of the training and actions of the Bills athletic training staff.

CRITICAL TRAINING

Hamlin's cardiac arrest placed a spotlight on athletic training and its importance. In the Virginia Tech Athletics Department, Goforth, along with Head Team Physician and Chief Medical Officer Mark Rogers, oversees a staff of more than 20, with at least one full-time certified athletic trainer devoted to each of the school's varsity sports. Each trainer needs to know CPR, how to use the AED, and how to administer first aid to be certified. Certifications are renewed annually.

They also need to know everything from preseason physicals to emergency care, injury treatment and diagnosis, clinical examinations, therapeutic interventions, when and how to refer, and more. Athletic trainers must complete an accredited curriculum and pass a national certification exam to become certified.

The athletics department partners with Carilion Clinic, the Edward Via College of Osteopathic Medicine (VCOM), and local first responders. Goforth taps into these relationships often, specifically with the VCOM staff.

"We have things throughout the semester and throughout the year that we do with our VCOM physicians," Goforth said. "We practice taking off equipment, practice airway management, practice spine boarding ... things like that. We make a commitment to provide the best care possible, and training, practicing is a part of that."

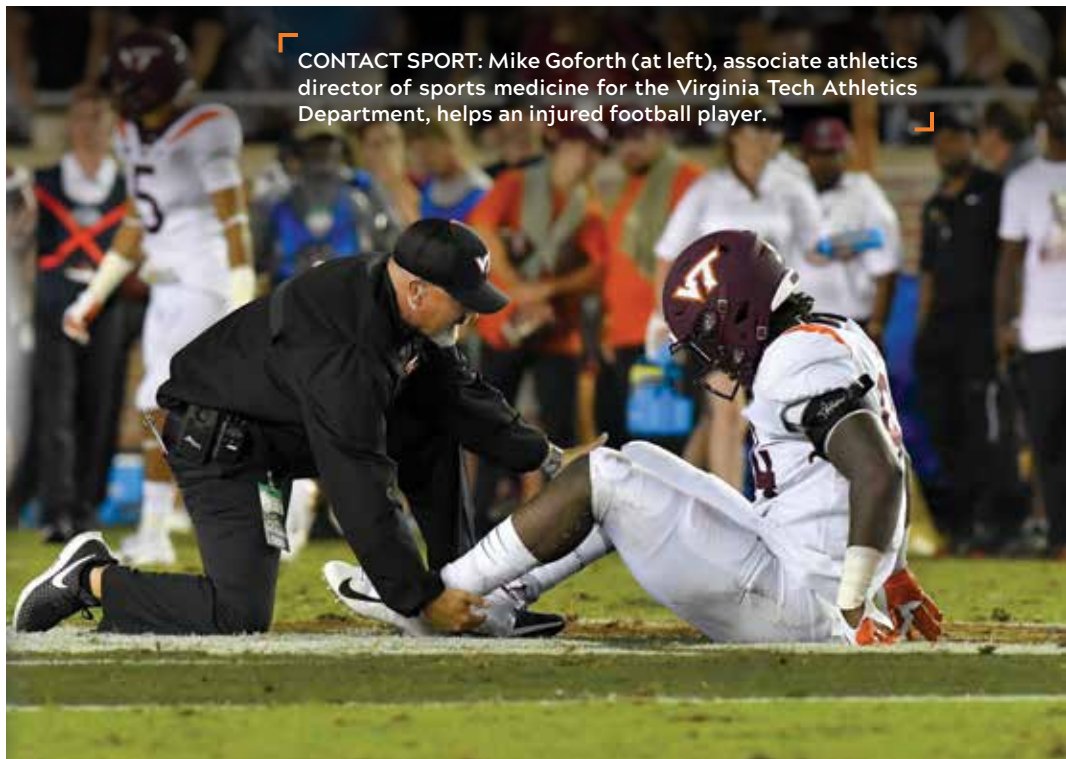
ACTION PLANS

Athletic trainers in the Virginia Tech Athletics Department also oversee the department's emergency action plans if a student-athlete suffers an injury that requires a hospital visit. These plans exist

LENDING A HAND: Elizabeth Canfield '22 benefitted from working as a graduate assistant with the sports medicine staff during her time in Blacksburg.



CONTACT SPORT: Mike Goforth (at left), associate athletics director of sports medicine for the Virginia Tech Athletics Department, helps an injured football player.





PROVIDING AN ASSIST: Hisham Ziyout '19 (kneeling at right) checks on Hunter Cattoor during a game at Clemson, as the head athletic trainer for the men's basketball team, while Casey Mendel (below) takes care of all the medical needs for the Virginia Tech men's and women's tennis teams.

for each of the athletics department's venues—game venues, practice facilities, weight rooms, meeting rooms, etc.

The plans are thorough and include input from people with local emergency medical services. For practices, athletic trainers must know exactly where an ambulance can enter onto the field or park at an indoor practice facility.

"I think a lot of people think when the athletic trainer goes out to practice, we're just thinking about ankles and knees, but we're always surveying to see 'OK, is there a truck blocking this gate?'" said Brett Griesemer '12, the head football athletic trainer. "You might not notice it, but we're all looking around.

"That's something that we think about constantly. ... If this happens, what's going to be our plan?"

VIRGINIA TECH STUDENTS PROVIDE AN ASSIST

Training sessions and daily work performed under supervision serve as educational opportunities for the more than 80 students who volunteer in the sports medicine office each year.

Students aid full-time athletic trainers for each varsity sport. They vary between part and full time, but all are required to be certified in CPR and first aid.

"Our students are paying to come to school here and work for us," Goforth said. "They don't get paid. ... We couldn't do it without them."

Many of the undergraduate students come from the Department of Human Nutrition, Foods, and Exercise within the Col-

lege of Agriculture and Life Sciences. This model fits with Virginia Tech's institutional philosophy that encourages experiential learning.

"If they want to be athletic trainers, it really prepares them to go into that profession," said Renee Eaton, the department's undergraduate program director. "When students go out and do traditional job shadowing, they're not allowed to do a lot of the things that Mike and his staff allow them to do. They really can learn and practice, so there's a significant hands-on portion that is just so valuable."

FUTURE TRAINERS

The demand for athletic trainers outweighs the supply. In addition to working in collegiate and professional sports settings, athletic trainers are hired by high schools, clinics, and military academies.

"I see athletic training significantly growing in the non-sports domains and in the mil-

itary," Eaton said. "They've found that athletic trainers can help with performance, injury reduction, and lost work time. Some of the new areas for athletic trainers include private corporations, occupational health, performing arts, and public safety."

Virginia Tech is trying to help with the labor shortage. Eaton is organizing committee of people from various colleges within the university to explore offering a master's degree in athletic training—a multistep, multiyear process.

Athletic training as a career does offer certain perks.

One may even get to be a hero, though as the Damar Hamlin incident showed, one in this profession needs to be ready.

"We're very thankful something like that has never happened to us," Goforth said. "We pray it doesn't happen to us—and we pray that we'll be ready for it if it does."

■ JR



OLOGY

a subject
of study

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ACTION PLAN

AS THE WARMER WEATHER OF SPRING beckons a return to the outdoors, many people look to invigorate exercise routines or even introduce new activities. According to Zhen Yan, whose research highlights the benefits of exercise in improving health and preventing disease, science supports that choice.

Exercise really is the best medicine according to Yan, a professor at the Fralin Biomedical Research Institute at VTC and director of the Center for Exercise Medicine Research.

“Exercise is a wake-up call to your body, saying you can do it, and you need to improve,” Yan said. “Your body will respond to that signal and become better prepared for the next challenge. If you can deal with the challenge coming from exercise, you know your body is also ready to fight other challenges.”

Yan’s work connects to health span, which he explained is the period of time when people are generally healthy.

“Much of the effort in the past 50 years has been invested in developing drugs to treat various diseases,” Yan said. “Lifespan has increased in the United States by at least 10 years. However, if you look at our health span, it has not lengthened, and because of that, you have more sick people who gradually become more isolated.”

Yan’s research provides scientific support for the role of exercise and its effect on mitochondria, which are critical to maintaining health. He has found con-

nections between malfunctioning mitochondria and cardiovascular disease, metabolic disease, cancer, and cognitive decline. In Oct. 2022, Yan was awarded the prestigious Jacobæus Prize from Novo Nordisk Foundation for extraordinary achievements in medical research.

Among his research findings:

- Exercise can protect both muscles and nerves before surgery and restore blood flow for medical conditions such as heart attack or stroke.
- Regular exercise can produce a powerful antioxidant that can reduce the risk of acute respiratory distress syndrome.
- Those who exercise during pregnancy may reduce their children’s chances of developing diabetes and other metabolic diseases later in life.
- Resistance training leads to functional improvements such as balance, strength, mobility, and glucose metabolism through muscle adaptation, insulin sensitivity, and improved cellular turnover.

“Our body undergoes adaptations in response to exercise, not only to improve physical performance, but also to induce many other health benefits,” Yan said. “Physical activity and regular exercise are the best measures we have to promote good health and prevent disease.” ■

Leigh Anne Kelley is director of communications for the Fralin Biomedical Research Institute at VTC.



BILL OF HEALTH: For more about Zhen Yan and his exercise research, visit fbri.vtc.vt.edu.



THERE IS ONE SPECIAL BOX AT VIRGINIA Tech that didn't get opened during the holiday season. In fact, it won't be opened for another 50 years.

On Dec. 13, 2022, administrators, faculty, staff, students, and friends of Virginia Tech gathered on the Drillfield to dedicate the university's first time capsule.

The event marked the culmination of more than two years of collecting, sorting, digitizing, and referencing historic publications and documents, Hokie memorabilia, and related items, which will be opened in 2072, the university's bicentennial year.

The 3-by-2-by-1-foot rectangular metal capsule holds more than 160 items; thousands of pages of digitized documents, maps, photos and videos; and letters from Virginia Tech President Tim Sands and the time capsule committee. Filled, it weighs nearly 150 pounds.

The capsule was sealed in a Hokie Stone bench wall constructed to the right of Burruss Hall, near the symbolic center of the Blacksburg campus. The structure was designed to complement Alwood Plaza to the left of the building.

Among the items sealed in the time capsule are:

- A copy of the first Bugle, which was printed in 1895.
- Copies of Virginia Tech Magazine related to significant points in the university's history, including the three issues printed during the sesquicentennial year.
- A 2022 class ring.
- A statue of Frank Beamer.
- A signed copy of "Don't Blow Yourself Up," by Homer Hickam '64.

The committee also worked with Special Collections and University Archives

in the University Libraries to digitize photos, videos, and thousands of documents from the past 150 years. In anticipation of changes in technology, a DVD player was enclosed in the capsule. ■ ES

GIFT OF TIME: (top left) Representatives from Special Collections and University Archives in the University Libraries digitize materials to include in the time capsule. (above) Laura Wedin, Tom Tillar, and Clara Cox, members of the time capsule committee, organize items prior to packing them inside the capsule. (below) The time capsule is sealed in a stone bench.



ALL IN GOOD TIME

Watch a video about Virginia Tech's first time capsule at vtx.vt.edu/videos.



HOW TECH TICKS

CHILL OUT

“

WHEN BUILDINGS INTENDED FOR DIFFERENT PURPOSES ARE CONNECTED TO THE SAME LOOP, **YOU’RE ABLE TO PROVIDE THE SAME COOLING TO ALL BUILDINGS WITH LESS TOTAL ENERGY.**”

Paul Ely
associate director
of capital construction

IN 2019, VIRGINIA TECH EMBARKED ON a two-phase project to upgrade its chilling operations to improve the energy and operational efficiency of buildings across the Blacksburg campus. Phase II of the project was completed during 2022.

The chilled water system is a vital component of campus infrastructure. Through the renovation project, three state-of-the-art 3,000-ton chillers were installed in both chiller plants. The new equipment meets all Leadership in Energy and Environmental Design (LEED) refrigerant requirements for environmental responsibility.

The upgraded equipment and centralized network will help expand operating

capacity to support enrollment growth as well as construction and renovation priorities.

The environmental impact avoidances as a result of the Chiller Plant Phase II’s completion are substantial. Since construction began, it has reduced the output of 8,479 metric tons of carbon dioxide equating to 21,046,244 miles driven by an average gasoline-powered passenger vehicle. The new loop helps foster a reduction in building energy consumption, a step toward the university’s goal of achieving carbon neutrality by 2030. ■

Meghan Marsh is the director of communications for the Division of Campus Planning, Infrastructure, and Facilities.

GREEN SPACE: (above left) The western wall of the Southwest Chiller Plant incorporates space for live, ivy-like plants. (above right) Most of the piping used in the project measured 30 inches in diameter.



WAY COOL DETAIL

More than 4 miles of new underground chilled water pipes were installed across campus to connect both plants. Most of this piping is extremely large with a diameter of 30 inches.



COOL CONNECTIONS

Buildings constructed with independent chillers were connected to the chilled water loop and their independent chillers shut down—saving operations and maintenance costs. Now, nearly 40 percent of the air-conditioned buildings on the Blacksburg campus are part of the same continuous loop serviced by two chiller plants.

COOL DOWN

Although the finished product is mostly unseen, the chilled water infrastructure project is felt by most of the university community.

The chilled water network provides cold water to air handling units in buildings across campus to provide air-conditioning. After passing through the air handling units, the resulting warmer water is recycled to the chiller plants for re-cooling and recirculation.



A COOL MILLION

Since the chiller plant project began in 2019, electricity consumption for chilled-water generation in fiscal year 2022 fell by 54 percent, when compared to the pre-construction five-year average annual consumption, for a cumulative reduction of 19.6 million kilowatt hours. This equates to an energy cost avoidance of approximately \$1.8 million.

The Southwest Chiller Plant, finished in 2013, earned a LEED Silver Certification. It was designed with potential for expansion to meet future demand. The western exterior wall of that plant can be removed or expanded and incorporates a “green wall” of live, ivy-type plants to help it blend visually into the environment.





CAN THE FUNGUS FROM 'THE LAST OF US' REALLY

CREATE ZOMBIES?



THE HBO TELEVISION SERIES, "THE Last of Us," a tale of survival in a zombie apocalypse that was already a hugely popular video game before it invaded our screens this year, imagines a zombie plague caused by a fungal infection that exists in nature.

Jordan Metzgar, curator of the Massey Herbarium at Virginia Tech, answered a few questions about what humankind should realistically fear from the millions of species of fungi that live on our planet.

Q: THE GAME AND SHOW "THE LAST OF US" IMAGINE HUMANS BEING SUSCEPTIBLE TO A TYPE OF FUNGUS THAT IN REAL LIFE DOES NOT AFFECT PEOPLE. WHAT IS THIS FUNGUS AND HOW DOES IT CREATE "ZOMBIES" IN NATURE?

"The cordyceps fungi are a group of fungi that target insects as their prey. They are classified in the genus Ophiocordyceps with about 140 different species worldwide. These fungi are horrifically fascinating to us because they survive by invading the bodies of insects and can take control over the insect's behavior.

Q: HOW CAN THIS FUNGUS CONTROL AN INSECT?

"If a spore from the fungus lands on a caterpillar, it can begin to grow thread-like mycelia that penetrate the caterpillar's body. The caterpillar will reach a zombie-like state when the fungus has grown all the way into the caterpillar's head. The cordyceps infection can then change the caterpillar's behavior and force the insect to find a high, open spot like a branch tip. The fungus can then release spores from the caterpillar's dead body to find a new generation of victims."

Q: DO CORDYCEPS POSE DANGER TO HUMANS?

"Fortunately, they do not. Ironically, cordyceps fungi are actually used in traditional Chinese and Tibetan medicine to enhance our immune

systems. Since cordyceps has evolved to prey on insects, it can't survive in our toasty mammalian bodies.

Q: ARE THERE ANY FUNGI THAT CAN BE HARMFUL TO HUMANS?

*"There are other fungal diseases that afflict humans today. These range from mild ailments like athlete's foot to the potentially fatal drug-resistant yeast *Candida auris*.*

Q: ARE FUNGAL DISEASES REALLY ALL THAT BAD?

*"Another danger posed by fungi is the misidentification of poisonous species. We have lots of great edible species like morels, chanterelles, chicken of the woods, and many others. But we also have some species that can be lethal! *Amanita bisporigera* is a species of destroying angel mushroom found in the region around Virginia Tech. As its name suggests, you don't want to mess with it! The destroying angel and some other native fungi can sicken or even kill people, so it is very important to be able to identify any wild mushrooms correctly before eating them.*

"Overall, fungi are a huge help to humanity. We eat morel mushrooms, we use fungal-produced medicines like penicillin, and we bake bread leavened by baker's yeast. Fungi in the environment also help nourish plants worldwide through underground connections and help break down dead organic matter and recycle it into soil." ■ MA

CHEESE, PLEASE!



Writing essays and taking exams are an essential part of any finals season. But at Virginia Tech, the smell of warm grilled cheese wafting through Newman Library is just as recurrent.

For years, library employees have provided snacks, baked goods, and drinks to students studying during finals week. In 2011, the University Libraries started Cheesy Nights—using volunteers from across the university to cook up thousands of free grilled cheese sandwiches for Hokies during this stressful time of year.

The fall 2022 Cheesy Nights was Dec. 8-12. From delicious sandwiches, fruit, and drinks to a space for students to receive support and encouragement, Cheesy Nights has become a finals week necessity. ■ CM

> THE NEXT CHEESY NIGHTS IS MAY 4-8 BEGINNING AT 7:30 NIGHTLY. If you would like to get involved, follow @VTLibraries on Instagram or Twitter to learn more about volunteering or supporting the initiative.

“

I APPRECIATE THE ATTENTION AND CARE THAT VIRGINIA TECH GAVE ME THROUGHOUT FINALS WEEK. **THAT LITTLE PICK-ME-UP GAVE ME THE EXTRA BOOST I NEEDED IN ORDER TO GET THROUGH MY LATE-NIGHT HOURS OF STUDYING.**”

Darya Tavazoei
a senior studying microbiology

CHEESY NIGHTS

4 NIGHTS

ALMOST 6,000 SANDWICHES

200 POUNDS OF CHEESE

450 LOAVES OF BREAD

300 POUNDS OF BANANAS

200 POUNDS OF APPLES

60-PLUS VOLUNTEERS



Sgt. Micah Pasquarell,
Virginia Tech Police Department

COURTESY OF CHASE PARKER





THE NEXT TECH

DRIVING PROGRESS, LEADING RESEARCH, BUILDING FUTURES

BY ERICA STACY AND TRAVIS WILLIAMS

ILLUSTRATIONS BY OBOH MOSES

Before Virginia Tech blew out the candles on the university's Sesquicentennial celebration last year, efforts were already underway to create, implement, and execute bold plans for the university's next 150 years.

In January, President Tim Sands unveiled two emerging aspirations during the State of the University address:

1. Become a top-100 global research university.
2. Make a Virginia Tech education accessible and affordable for all students without sacrificing meaningful experiences, particularly for those in Virginia.

"When I came here eight years ago, we made a commitment to pursue a 21st century land-grant mission for the commonwealth," Sands said. "We resolved to remain true to our agricultural, mechanical, and military heritage while also exploring new frontiers in science, technology, health, the humanities, the arts, and the human impact of a diverse and inclusive education."

Virginia Tech accomplished that and even more.

The university is preparing to make an even bigger impact on the greater Washington, D.C., metro area with the official opening of the Virginia Tech Innovation Campus in 2024. And today, the Virginia Tech community is on pace to drive progress, lead research, and build futures ... taking tremendous steps toward the next Tech.



“

Virginia Tech research has a strong foundation of researchers who thrive in a culture of collaboration, and that includes working with students. As we strive toward new heights—from national excellence to global eminence—we realize the critical role their inclusion plays in our success today and preparing them for the world tomorrow.”

DAN SUI, VIRGINIA TECH SENIOR VICE PRESIDENT FOR RESEARCH AND INNOVATION

REAL RESULTS

R

aymond Triggs' favorite movie is “2001: A Space Odyssey.”

Born on April 8, 2007, the 15-year-old lives with his mother, who is originally from Kansas City, Kansas, at 5839 Parkside St. in Detroit, Michigan.

Like a lot of people, Raymond is no stranger to signing up for all kinds of stuff on the internet, which often requires sharing his personal information. That information then has the potential to be used in all kinds of nefarious ways, which could cause real problems for Raymond.

That is, if Raymond was real.

Raymond Triggs is one of 100,000 fake identities Virginia Tech faculty and students are creating as a part of the Use and Abuse of Personal Information research project in the Virginia Tech National Security Institute. The project, which is also supported by the Commonwealth Cyber Initiative (CCI), uses these identities to perform one-time online interactions and to study how the information provided is being used across email, SMS text, and voicemail modalities. The end goal is to create a real-time, public-facing dashboard that tracks the shared information.

“At the end of the day, I think we’re going to have a large real-world, open-source intelligence collection engine,” said Alan Michaels, principal investigator and professor in the Bradley Department of Electrical and Computer Engineering. “We’ll

have real data to answer some of the political science or economic questions more confidently.”

The engine driving much of this work is a group of 38 paid undergraduate students who span nearly a dozen majors across the university. As one of the National Security Institute’s Vertically Integrated Projects, the multiyear project also brings together students from varying class years.

“One of the big takeaways from the Vertically Integrated Project is that undergraduates are extraordinarily capable, and they can bring a lot of value that supports the faculty member and the research,” said Michaels, who has led 138 research projects worth more than \$170 million during his career. “The students are exceedingly sharp. When you point them in a direction and give them a charter, even if it’s something you don’t know how to complete, they’re quite good at figuring it out.”

The Use and Abuse of Personal Information project is an example of work taking place at the intersection of two emerging aspirations for Virginia Tech: becoming a top-100 global research university and increasing accessibility and affordability for students.

President Tim Sands addressed the goals during his State of the University address in January, noting that paid research experiences support both. He also shared that a university survey reported undergraduate students who work as paid researchers are 40 percent more likely than their peers to successfully find a first destination—employment, admission to graduate school, or military commissioning, for example—within six months of graduating.

In fall 2022, the Use and Abuse of Personal Information project was one of more than 400 sponsored projects at Virginia Tech that paid undergraduates to work. It serves as both an example of undergraduates engaging in potentially world-changing research and an illustration of research and work-based learning’s role as a pillar of the university experience.

“Virginia Tech research has a strong foundation of researchers who thrive in a culture of collaboration, and that includes working with students,” said Dan Sui, Virginia Tech’s senior vice president for research and innovation. “As we strive toward new heights—from national excellence to global eminence—we realize the critical role their inclusion plays in our success today and preparing them for the world tomorrow.”

Launched in September 2021, the National Security Institute is helping to work toward both university aspirations, while also

addressing critical workforce needs by prioritizing paid research experiences for undergraduate students.

“What we’re doing that I think is so unique is we are truly bringing undergraduate students into the research experience,” said Eric Paterson, executive director of the National Security Institute. “We’re bringing them in with a real focus on developing the workforce for the Department of Defense, the intelligence community, and all of the government contractors they work with. That’s a huge ecosystem.”

The institute is one of the many Virginia Tech vessels that helps prepare students for future careers in the intelligence and defense communities. It works in collaboration with CCI, the Virginia Tech Applied Research Corporation, and many other departments and units across the university.

Building on the Ted and Karyn Hume Center for National Security and Technology’s emphasis on workforce development, Paterson said about 800 undergraduate students are currently involved with the institute. Many of those are not only being





paid for their work, but also are able to become employees of companies, begin obtaining government clearances, and even earn credit toward retirement.

“There’s such a critical shortage of talent that companies are investing significant amounts of money so that we can pay students to work on these projects,” said Paterson, who is the Rolls-Royce Commonwealth Professor of Marine Propulsion. “We know students having opportunities for work-based learning experiences in their field has a real impact on their career opportunities, and a lot of our work is contract-based, so they’re working with real deliverables.”

Such funding helped the institute achieve \$25 million in research expenditures in 2022, a 40 percent increase from the previous year, and has helped put it on pace for another major increase this year.

Laura Freeman, deputy director of the National Security Institute, said getting students involved in such important research is not only critical to increasing their future opportunities, but also to showing them first-hand the possibilities that exist in the national security field.

“We have a lot of really interesting and hard problems to solve, and I’m a firm believer that if you expose students to those problems, they’re going to want a career in national security. They’re going to see they have the potential to have so much impact,” said Freeman, who also is the assistant dean of research for the College of Science in the greater Washington, D.C., metro area and a faculty member with CCI. “These are really hard challenges you aren’t going to get in your typical sophomore-level computer science classes, and we have real sponsors looking for answers. It’s a very fun area to work in.”

Some of that work includes figuring out how to best test and evaluate such high-tech, high-dollar government tools as drones, stealth fighters, submarines, and satellites, which can include aspects of machine learning and artificial intelligence. Adding real-world problems to the students’ classroom experience helps elevate their educational experience, Freeman said.

“When you show them real data and ask them a question a senior leader needs answered from it, there’s this ah-ha moment of, ‘Oh, I have to do a lot more. I have to think about the credibility of the data. Does it need to be cleaned? Are there typos?’” Freeman said. “That process of putting together what they’re learning in class to actually solve a problem they’ve never been exposed to in traditional curriculum is my absolute favorite part of working with undergrads.”

“

We have a lot of really interesting and hard problems to solve, and I’m a firm believer that if you expose students to those problems, they’re going to want a career in national security. They’re going to see they have the potential to have so much impact. These are really hard challenges you aren’t going to get in your typical sophomore-level computer science classes, and we have real sponsors looking for answers. It’s a very fun area to work in.”

LAURA FREEMAN, DEPUTY DIRECTOR OF THE NATIONAL SECURITY INSTITUTE, ASSISTANT DEAN OF RESEARCH FOR THE COLLEGE OF SCIENCE IN THE GREATER WASHINGTON, D.C., METRO AREA AND A FACULTY MEMBER WITH CCI

Virginia Tech research projects helping bring to life classroom studies is something Keri Swaby is accustomed to witnessing. The director of undergraduate research, Swaby said students having opportunities to apply what they have learned in class to real-world problems is often an eye-opening and profound experience.

“I’ve worked with students who were not doing the best based on their GPA or were not connecting to the material, and when they got involved in research, it was like a light bulb went off,” Swaby said. “It was like, ‘Now I can see where this degree might take me.’ To me, I think that’s one of the most impactful things we can offer to undergrads.”

The Office of Undergraduate Research connects and supports both students and faculty. The office manages a small number of competitive scholarships and fellowship programs and provides students guidance with the presentation of their work following a research project. The office recorded about 3,500 interactions with students during the 2021-22 academic year.

Swaby said she’s seen a rise in undergraduate students taking part in research, which she attributes to both a cultural shift at Virginia Tech and students sharing their experiences with others. She hopes the increase will continue as more students realize that any Hokie can find a place in the university’s research community.

“Anybody can do it and benefit from it,” Swaby said. “Students often remove themselves from the equation. They think, ‘Oh research is not for me. I don’t have the skills or experience or grades.’ But a lot of faculty who want to work with students aren’t looking for the 4.0s [GPA]. They want people who are resilient and won’t get scared if something doesn’t work because research typically doesn’t work at first.”

Eli Levi didn’t see himself being involved in research when he began as an undergraduate student, but these days, it’s hard to imagine his Virginia Tech experience without it.

After attending the Ted and Karyn Hume Center for National Security and Technology’s open house in fall 2021, Levi applied to join the Use and Abuse of Personal Information project. It’s been a part of his life ever since.

“I was a little skeptical at first because I wasn’t too interested in cybersecurity, but the project sounded really interesting,” said Levi, a junior studying computer engineering. “I’ve really enjoyed the project since then. And the skills I’ve learned, the communication skills, the presentation skills, I think will be carried through to any future job.”

Similarly, Mary Nerayo said taking part in undergraduate research wasn’t on her radar until this project was suggested to her by Michaels, for whom she was working as a student assistant.

“I never ever thought I would be in research, but I’m so glad I am now,” said Nerayo, a junior studying business information technology. “It’s allowed me to explore my creativity and bounce ideas off others. This experience has given me a lot of space to have the confidence to just throw ideas out there.”

When Levi and Nerayo began working with the Use and Abuse of Personal Information project, it consisted of about 15 people figuring out the first basic concepts to explore. Today, the project is attracting new team members and generating new ideas at an almost overwhelming pace.

“It keeps growing by the week, honestly,” Nerayo said. “We have weekly meetings, and every time there’s at least one undergrad who comes up with a new way to take the role they have and make it even more exciting.”

Michaels credits the project’s positive environment to its purposeful inclusion of students from both STEM and non-STEM programs. He said by combining different majors, students are able to capitalize on their varying interests and skill sets in ways that multiply their impact.

“The biggest thing is they then get to address real-world problems,” said Michaels, who is also the associate director for research and innovation for the Southwest Virginia node of CCI. “If I ask a political science student to predict the election, they can rely on subjective information like opinions or polls, but they may not have the skill set to do the computing required to aggregate open source intelligence and put it all together. But if I can pair them with a computer science student, they can work together on a real problem with real data.”

As the project has expanded, it has attracted students, as well as faculty interested in key elements of the research, such as Chris Phelps from the Office of Export and Secure Research Compliance. Phelps has helped guide the project’s inclusion of phone lines, which aims to scale up to 2,000 active phone lines by May.

One recent assignment tasked Levi with creating a chatbot that would interact with a phone scammer in order to keep them on the line. Levi completed the project, giving the bot a voice and the name “Lenny” in stunningly quick fashion.

“I thought it [the assignment] was going to take months and we might even end up having to buy a commercial product,” said Madison Boswell, a project manager for the National Security

Institute. “A week later, I said, ‘Eli, how’s it going, what have you learned?’ And he said, ‘Oh, would you like to call Lenny?’ Lenny answered the phone by name. I was blown away.”

While the Use and Abuse of Personal Information project does include thousands of fabricated characters, it’s also one of many Virginia Tech research projects producing very real results. That’s true for both the student experience and its potential to help the entire internet community.

“The students are getting a multidisciplinary experience that is much more like the real world than pretty much any of their classes, and at the end of the day, we’ll have real actionable data to answer a lot of important questions,” Michaels said.

BY THE NUMBERS

Although fragments of data can’t illustrate the full scope, statistics do offer a snapshot of the effects of the studies conducted by the nine colleges, seven research institutes, and hundreds of centers and laboratories that contribute to Virginia Tech’s research enterprise.

2,097 new awards in FY 2022.

Ranked No. 54 National Science Foundation’s Higher Education Research and Development Survey.

Top 6 percent in the nation, research expenditures.

Nearly \$600M research expenditures in FY 2022.

Approximately 200 postdoctoral scholars.

4,000+ faculty researchers.

Learn more about research at Virginia Tech by visiting research.vt.edu.

SOLVING CHALLENGES EMERGING IN A RAPIDLY CHANGING WORLD

Virginia Tech invests in major research initiatives that bring together expertise that crosses traditional discipline boundaries. In partnership with industry, government, and foundations, the university targets four focus areas to help create a better world for all.

These strategically focused areas are Virginia Tech Research Frontiers.

THE ARTIFICIAL INTELLIGENCE FRONTIER builds on expertise in AI and data science, systems engineering, neuroscience, human factors, immersive visualization, and education, among others, to accelerate human-technology partnerships, ethically and sustainably.

THE HEALTH FRONTIER shifts the focus from disease and symptoms to one of whole health, integrating intersections of animal, environment, and human health in building communities and systems to empower well-being.

THE SECURITY FRONTIER helps to ensure that communities are prepared to face global threats, from climate change to cybersecurity to national defense, through advances in preparation defense, mitigation, and recovery.

THE QUANTUM FRONTIER works to accelerate the integration of quantum technologies across society, realizing unprecedented computing and communication capabilities and restructuring our social framework.

To learn more about the frontiers, [visit research.vt.edu](https://research.vt.edu).



“

A Virginia Tech education can be life-changing for graduates and their families and have a positive impact on their communities and the commonwealth. Making this experience more accessible and affordable, especially for those who are underrepresented and underserved, is a foundational part of our land-grant mission to provide a quality educational experience that prepares graduates for service and success.”

TIM SANDS, VIRGINIA TECH PRESIDENT

THE COSTS AND BENEFITS OF HIGHER EDUCATION

Each spring anxious high school seniors across the commonwealth and nation eagerly check and double-check their computers and mailboxes in anticipation of acceptance letters from their colleges of choice. Soon, thoughts of “Did I get in?” and “Where will I go?” will be replaced by queries into financial aid packages and calculations that predict actual cost of attendance.

Between 1980 and 2020, the average price of tuition, fees, and room and board for an undergraduate degree increased 169 percent, according to a recent report from the Georgetown University Center on Education and the Workforce. And U.S. News and World Report notes that the average debt incurred as a student pursues an undergraduate degree remains at about \$30,000.

When Laryssa Arms’ financial aid package arrived in 2017, it warranted both a second and third opinion.

“I read it and I read it and I read it, and I thought, I don’t think my 17-year-old brain is comprehending this correctly,” said Arms, who earned a degree in psychology in 2021. “I asked my mom to read it, and she was like, ‘No, you’re right Laryssa,’ and I didn’t believe her. So I took it to my high school guidance counselor, who said, ‘No, you’re right. That’s a big scholarship.’”

That fall, Arms was one of 85 Hokies selected for the Presidential Scholarship Initiative, a four-year, full scholarship program designed to recognize and reward academically talented and dedicated Virginians with significant financial need.

Today, Arms is a Virginia Tech financial aid advisor, and, as of summer 2022, the scholarship that helped her get there has been expanded to 95 students per cohort, bringing the total number of Hokies enrolled in the program to 340 undergraduates.

The Presidential Scholarship Initiative is just one example of the university's efforts to remove many of the traditional barriers to higher education.

In October 2022, Virginia Tech President Tim Sands launched an initiative to dramatically improve the university's access and affordability for Virginia students.

"A Virginia Tech education can be life-changing for graduates and their families and have a positive impact on their communities and the commonwealth," Sands said. "Making this experience more accessible and affordable, especially for those who are underrepresented and underserved, is a foundational part of our land-grant mission to provide a quality educational experience that prepares graduates for service and success."

Virginia Tech's graduation rates, mid-career salaries, and loan repayment rates are among the highest in the nation, but tui-

tion and fees at public institutions in Virginia are higher than national medians for similar institutions. In addition, the scholarships and grants Virginia Tech provides to reduce the cost of attendance for students and families are lower than the university's peers, especially for low- and middle-income students.

"Virginia Tech provides a rich educational experience with opportunities for learning, research, and discovery inside and outside of the classroom. However, students who are financially stressed and disadvantaged may not benefit from all that the university has to offer," said Sands.

Additionally, students who struggle financially often do not have the time or resources to devote to networking and work-based learning such as internships and undergraduate research, which in turn, affects their success after graduation. Often, they work multiple jobs in fields not unrelated to their course of study to help close the financial gap.

Sometimes even that is not enough.

"We saw the impact of financial fragility during the pandemic—a small unexpected expense is enough to make a student interrupt their education or leave the university entirely," Sands said during his State of the University address in January. "Some are not able to participate in paid internships or study abroad because of opportunity costs associated with relocating. They often have not established the networks that wealthier students take for granted. Some take on too much debt and are then limited in choices when they graduate."

The new access and affordability initiative seeks to ensure that the Virginia Tech experience is financially within reach for everyone, regardless of income.

Sands named Menah Pratt, vice president for strategic affairs and diversity, and Matt Holt, professor and head of the Department of Agricultural and Applied Economics, to lead the initiative.

"In order for Virginia Tech to continue to be a destination for talent, we have to offer competitive financial aid packages, particularly for our most financially vulnerable families," said Pratt. "Our support should not be limited to scholarships that cover tuition and fees. We should also provide support to cover transformational experiences during the course of their time at Virginia Tech."

In the fall 2022 semester, the university reached a signature milestone in the president's Beyond Boundaries vision for a diverse and inclusive environment. Underrepresented and underserved students made up 40 percent of the incoming class. Yet, the 40 percent milestone also offers the university a com-



petitive challenge in “yielding” prospective students, or moving them from acceptance to enrollment. Reducing unmet financial needs will help Virginia Tech retain accepted Virginia students who receive competitive financial aid and scholarship offers from other schools.

“Land-grant universities such as Virginia Tech were designed to provide educational opportunities to all members of the communities that we serve, including those prospective students who are financially challenged,” said Executive Vice President and Provost Cyril Clarke, who co-sponsors the initiative with Sands. “By providing financial aid to students in need, we enhance the diversity of the student population, thereby enabling delivery of an enriching learning experience for all students. This allows us to also recruit, develop, and deploy the breadth of talent necessary to advance the economic development of the commonwealth and the nation.”

Currently, Virginia Tech supports a variety of ongoing programs to offset the cost of attendance. In June 2022, for example, the Board of Visitors allocated an additional \$5.1 million to undergraduate financial aid programs, raising total institutional support for students to more than \$39.4 million for this academic year.

The increase benefits programs such as Funds for the Future, which provides 100 percent protection from tuition and fee increases for returning students with a family income of up to \$100,000. In fall 2021, 90 percent of Virginia’s counties and municipalities were represented by students in the Funds for the Future program.

The Presidential Scholarship Initiative also benefits from the additional funding, which will help provide even more high-achieving Hokies from Virginia with transformational scholarship aid.

“I didn’t even know about it [the scholarship] until I was chosen for it,” said Levi Shoates, a sophomore studying creative technologies and a Presidential Scholar. “It was definitely a big part of my decision to come to Tech. I applied to like 20 schools, so it was really hard, but choosing Tech is probably the best decision I’ve ever made.”

Coming to Virginia Tech helped Shoates expand his studies to include not only a major in art, but also a minor in human-computer interaction. Being a part of the Presidential Scholars Initiative enabled Shoates to expand his college experience and step out of his comfort zone.

“I’ve enjoyed the fact that we have to go on campus for events because it encouraged me to go out and do things I normally



“

I didn’t even know about it [the scholarship] until I was chosen for it. It was definitely a big part of my decision to come to Tech. I applied to like 20 schools, so it was really hard, but choosing Tech is probably the best decision I’ve ever made.”

LEVI SHOATES, A SOPHOMORE STUDYING CREATIVE TECHNOLOGIES AND A PRESIDENTIAL SCHOLAR

wouldn't do," Shoates said. "I went to some events that were focused on careers and one on budgeting, which was really helpful."

Likewise, five years after learning she had been awarded a spot in the program, Arms said the enrichment activities and guidance she received were critical to her success in college and beyond.

"It really helped round me out beyond the scholarship dollars," said Arms. "The support and community Presidential Scholars Initiative has built, that was very encouraging during times I really needed it."

The infrastructure for the access and affordability initiative, which is scoped to be a three year effort, already is taking shape.

Pratt and Holt are guiding a process to set goals for the initiative and to engage stakeholders from across the university, including such areas as academic affairs, enrollment management, financial aid, government and corporate relations, communications and marketing, finance and budget, and advancement.

To date, university leaders have established a steering committee, a financial feasibility working group, and a student experience working group. These groups will generate ideas for projects, programming, and other actions to support student success in areas that range from student retention and graduation rates to closing the financial gap.

In recent years the university has made strides to enhance its ability to meet the financial needs of students and to implement strategies to improve the student experience through measures such as time-to-degree and retention. Still, Pratt and Holt said that university leaders are eager to develop new and robust strategies that meet the needs and aspirations of every student ... one by one.

"This initiative is a tremendous opportunity to shape and fulfill our approach to meeting this key facet of our land-grant aspirations," said Holt. "We look forward to the universitywide collaborations—and to enhance access and affordability for all Virginia students and their families." ■

A CONVERSATION ABOUT ACCESS AND AFFORDABILITY

During his Jan. 18 State of the University address, President Tim Sands talked with two Virginia Tech students about access and affordability:

Amanda Leckner, a junior majoring in national security and foreign affairs, noted that as she was preparing to enroll, "I saw that there were Hokies First peer mentors. And I said, 'I definitely need a first-generation sister or brother. And then I met my Hokies First mentor, and she changed my college experience completely. And so after that, I decided to become a Hokies First peer mentor. There's something we say in first-generation student support. We say, 'Embrace your first-generation superpower.' I couldn't [do that] without the funding and the support that I received through the Presidential Scholarship Initiative."

O'Brian Martin, a first-year student who serves in the Undergraduate Student Senate as vice president for equity and inclusion, reflected on what drew him to Virginia Tech.

"The vision, the thought, and the idea that I can come to Blacksburg and receive a world-class education and still be called to answer that higher calling of service to others was fascinating to me and something I could not find anywhere else. And today, in my particular role in the realm of equity and inclusion, I have the important task of ensuring that each student feels like they belong on this amazing campus. Nothing is more important than a strong sense of belonging and to feel like you have the tools, the resources, and the support you need to create and to be the best version of yourself."

Read more about Amanda Leckner and O'Brian Martin and watch a video of their conversation with President Tim Sands at vtx.vt.edu.

FUEL

FOR THOUGHT

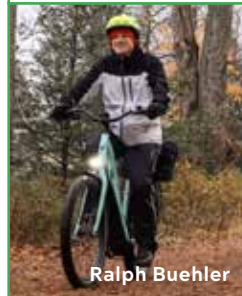
STORY BY
TRAVIS WILLIAMS

GAS IS FUELING PLENTY OF CONVERSATIONS THESE DAYS.

From the price at the pump and its impact on consumer goods to international relations and environmental threats, fuel is a topic that extends to almost every area of life. It's a factor in decisions about everything from family vacations to the infrastructure of communities. And it's a concern known for generating far more questions than answers.

What if you could pose those questions to researchers and experts from a variety of areas impacted by the future of fuel? What if you could pick their brains about their concerns, their hopes, and their forecasts in a way that felt more like a conversation at a cookout than a classroom lecture?

Virginia Tech is home to an array of individuals with such expertise, so we connected with a handful of them to explore such casual conversations around this complex topic. They couldn't provide all the answers, but they shared plenty of fuel for thought.



Ralph Buehler



Bo Boylan



Mike Gordon



Andy Scerri



Feng Lin



Hesham Rakha



Bill Hopkins



Ralph Hall



“The downside to the automobile is that it has created a dependence on itself. Once we spread things out and sped things up, we became dependent on the car. So while cars create freedom, if you’re not careful, they can also take it away.”

RALPH BUEHLER
PROGRAM CHAIR AND PROFESSOR
OF URBAN AFFAIRS AND PLANNING

RALPH BUEHLER, *program chair and professor in the Department of Urban Affairs and Planning*

The future of fuel will likely require us to rethink our relationships to automobiles, our communities, and what it really means to be free.

“The car is always presented as part of this idea of freedom,” Buehler said. “If you look at commercials, cars are never in congestion. They are always somewhere very free, and the car is giving you [the driver] options of where you can go. And of course, part of this is correct because if you have a car, you can go where you want. But we’ve created a landscape where most people don’t have a choice—they have to drive for almost every single trip.”

Buehler said the transportation sector historically has been stubborn compared with other industries in terms of reducing its dependency on fossil fuels. In the United States, this has been exacerbated by a history of comparatively affordable gas, subsidies for roadway construction, and the development of settlement structures adapted to cars—typically with a minimum supply of free parking required by local government. Buehler points to decades of building neighborhoods of single-family homes miles away from township centers and the decline in alternative transportation options as key contributors.

“So there’s huge potential in reducing the reliance on fossil fuels in the transportation sector. ... It’s ripe for some changes,” he said.

Those changes will hinge on rethinking both automobiles and infrastructure.

Buehler said efforts related to rethinking automobiles can generally be divided into those seeking an alternative, affordable fuel to run in existing gas-powered engines or transitioning to an electric fleet. The latter effort is navigating many questions from driving range and charging station infrastructure to the recyclability of batteries and the possible hinderance of charging cords across sidewalks. The increased weight generally associated with the batteries of such vehicles also raises questions related to safety of pedestrians and cyclists, especially as their capacity for speed increases.

In terms of rethinking infrastructure, converting towns and communities to more of a mixed-use design, bringing residences and amenities together, can decrease the need for the

day-to-day use of automobiles. Adding or enhancing elements that make other forms of transportation safer and more reliable, such as protected bike lanes or dedicated bus lanes, can also greatly decrease reliance on individual vehicles.

Buehler said such efforts may be on the horizon and may help shift the collective public mindset about transportation.

“The downside to the automobile is that it has created a dependence on itself. Once we spread things out and sped things up, we became dependent on the car. So while cars create freedom, if you’re not careful, they can also take it away,” Buehler said.

ANDY SCERRI, *associate professor and director of graduate studies in the Department of Political Science*

The effect of efforts to decrease fossil fuel dependence for average people often comes down to one thing—politics.

“It almost entirely depends on the degree to which average people make demands on their local, state, and national officials to not be left behind and how effective these demands are,” Scerri said. “A lot of provisions in the IRA [Inflation Reduction Act] grew out of local, state, and national activists making demands on representatives.”

The IRA, which has been touted as an attempt to curb climate change, provides elements of hope and caution for middle- and low-income Americans, according to Scerri.

Among the positives are increased incentives to transition to more sustainable power, such as solar panels and batteries with the additional impetus to purchase American-made products and technologies. Scerri said this is beneficial from both a purchasing standpoint and an onshore job creation standpoint as well as possibly increasing alternative energy enough to help stabilize gas prices.

“If you’ve got enough solar and wind adding enough energy back into the grid, when the price of gas suddenly spikes, the solar and wind can dampen the spike. They help address volatility in the market and make utility requests to their states for rate increases less credible,” Scerri said.

Chief among Scerri’s concerns is the IRA’s lack of support for the expansion of public transportation and simultaneously, reining in what is most often called “low-density sprawl.”

“I feel it’s an Achilles heel,” Scerri said. “The lack of support for public transport infrastructure is not going to address average people’s needs to move around. All of these activities we take for granted because gasoline, heating oil, and gas for home appliances are heavily subsidized and so cheap. Those continue to benefit from massive direct and indirect subsidies, especially related to automobiles.”

Scerri said the current situation is going to encounter two big issues in the near future.

“Driving your personal vehicle the vast distances we all need to in the NRV [New River Valley] is going to become prohibitively expensive if that vehicle is powered by gasoline. And it will be very difficult to convert the entire automobile fleet into electric vehicles without even bigger subsidies and massive environmental destruction,” he said. “Shifting subsidies from one energy source to another without substantive changes in how we live merely puts off solving the problems associated with ‘sprawl.’ Living so far apart in what would otherwise be compact towns and cities just wastes huge amounts of energy in an increasingly energy-constrained world.”

Regarding both the concerns and benefits of the IRA, Scerri advises people to first and foremost stay informed.

“If people really want to get something out of this bill, and if fairness is a goal, everyday people need to read over the IRA and media reporting on it. They need to know what’s coming down the pipeline, and they need to petition their federal, state, and local representatives to ensure they and their fellow community members can benefit from implementation of the concrete policies which are now being designed and rolled out,” Scerri said.

HESHAM RAKHA, *the Samuel Reynolds Pritchard Professor of Engineering and director of the Center for Sustainable Mobility at the Virginia Tech Transportation Institute*

If you’re considering the purchase of a new automobile, \$4 might be worth your consideration.

“What we found is once the gasoline price reaches \$4 and above, it’s cheaper to buy an electric vehicle in the long run, which is about 10 years,” Rakha said.

Rakha’s research focuses on how the electrification of an area’s vehicle fleet might impact the carbon footprint. It’s recently

resulted in a public-facing tool for comparing the costs between electric and fossil fuel-powered vehicles.

“One thing we’ve noticed is that electric vehicles are more efficient at low speeds and stop-and-go conditions, which means they thrive in congestion,” Rakha said.

According to Rakha, the optimum speed for efficiency in a gas-powered automobile is 55 mph. That number drops to 15 mph in an electric car, which creates the challenge of balancing efficiency with increased travel time for passengers.

Other challenges include those related to the potential for increased stress on electrical grids from a large electrical fleet and the availability of charging stations. The latter can make longer trips a challenge for drivers with older or more affordable electric vehicles, and it often leads Rakha to offer some practical advice for car shoppers.

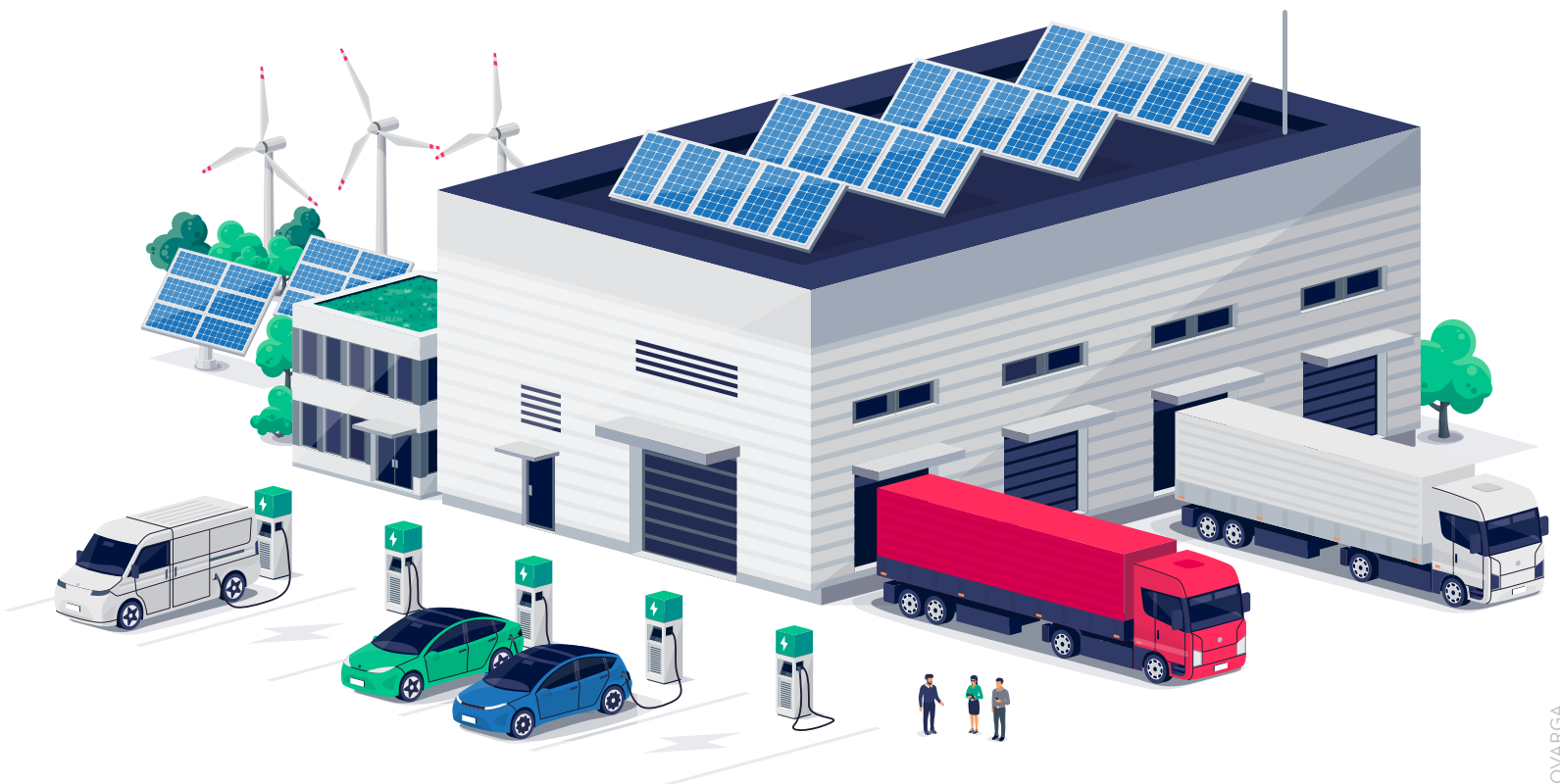
“What I say to people now, you might be better off getting a plug-in hybrid,” Rakha said. “You could then be using the car most of the time as an electric vehicle, but then you could go on a long trip without having to worry.”

RALPH HALL, *associate professor in the Department of Urban Affairs and Planning and director of undergraduate studies in the School of Public and International Affairs.*

Generating solar power alongside growing vegetables and grazing cattle may soon help provide a more sustainable future in Virginia.

The concept of dual-use solar, also known as agrophotovoltaics or agrivoltaics, relates to using the same area of farmland for both solar energy production and agricultural activities. The approach focuses on adjusting the height under and distance between solar panels to allow spaces for growing produce or keeping livestock. These adjustments allow light to reach crops and animals at different times of the day, while providing needed shade at other times, but its full impact on crops and herds is now the subject of a growing body of research.

“At Virginia Tech, we are beginning to develop a network of faculty and researchers who can study this carefully and work with external partners who are looking to deploy solar or dual-use solar projects,” Hall said. “We are approaching this effort as



a research-driven and engagement project because it's relatively new in Virginia. Put simply, we need the research and data to identify what types of agrivoltaic configurations might work in what locations to provide farmers and communities with the data they need to make informed decisions about the approach."

The topic of agrivoltaics was the focus of an Environmental Policy and Planning studio that ran during the fall 2022 and was led by John Ignosh, a Virginia Cooperative Extension specialist in the Department of Biological Systems Engineering, and Ron Meyers, an associate professor of practice in the Department of Fish and Wildlife Conservation, with support from Hall. The studio allowed students to not only seek answers to these pressing real-world questions, but also give them access to agrivoltaic experts in academia, government, and industry. During the studio, students formed teams and focused on a broad range of planning, permitting, financing, implementation, environmental impact, and management issues that might accompany an agrivoltaic project.

"Learning how to rapidly study an emerging field of research and sector of the economy is a really important skill to learn," Hall said.

Rethinking the use of farmland is a part of a more widescale reimagining of our communities, which is needed if more sustainable and environmentally friendly energy is a goal. Designing infrastructures to be more accommodating to walking, cycling, and public transportation all play a role, as does the possibility of alternative energy sources. The lifecycle of the hardware needed for such transitions, as well as the feasibility for average people to take part in such movements, open many topics for future research.

"The big question is the impact of all this transition over a lifetime," Hall said. "Is it a wash or will it be transformative? That's the question we need to put front and center of our research."

BO BOYLAN, *affiliated faculty member of Pamplin College of Business with more than 30 years of various industry experience, including serving as the chief commercial officer of Solidia Technologies, a global sustainable building materials startup*

Developing more sustainable practices is very much a part of the bottom line for most businesses these days, according to Boylan.

"From a business perspective, there's no more of this choosing between the environment or the bottom line—those days are gone," said Boylan. "It's not either/or. It's doing good while doing well."

Boylan said the business world is currently abuzz with environmental and social governance (ESG), which is a framework for considering risks and opportunities outside of most traditional financial models. More than 90 percent of Fortune 500 companies publish some form of ESG report.

Boylan said that no matter if the motivation stems from environmental concern or is driven by the cost-benefit of waste reduction, becoming more sustainable is top of mind for almost everyone.

"The good news is, if you reduce waste, companies make more money and we're better stewards of our raw materials and we're polluting less," Boylan said. "Oil and gas are very much trying to do that now."

Boylan compared the shift in focus to the move most companies made to get online during the late 1990s and early 2000s.

"It's mainstream now. It's not a fringe thing or a liberal versus conservative thing. It's grown way beyond that from a business perspective," Boylan said.

MIKE GORDON, *assistant professor of business information technology, Pamplin College of Business*

Fuel affects the price of consumer goods in more ways than one, especially considering the global nature of the current marketplace.

"Most products we buy are taking very long routes to get to us," Gordon said. "T-shirts, for example. They've traveled the world before they've gotten to us. Typically, cotton is harvested in America, often in Texas, then shipped to places such as China or the Dominican Republic to be turned into textile. And then it might go somewhere else where it's stitched and then back to America where it's sold."

Obviously, a higher cost for the transport of goods will most likely be passed on to consumers, but volatile markets also can impact that bottom line. Market factors can lead to changes in the decisions producers make on everything from the type of products they create to the types of shipping containers they use. This can not only affect the price of goods, but also availability to consumers.

“The risk and uncertainty make decision-making much more difficult,” Gordon said. “On one end, inventory may not get to you when you need it, and on the other, there’s the price of holding too much inventory. The increased risk changes the inputs into how a company makes or weighs decisions.”

In the United States, one change Gordon believes people might notice in the coming decades is how items are shipped across the country. He said it’s possible that fleets of tractor-trailers using GPS to run bumper to bumper to reduce wind resistance and fuel costs might very well become the norm.

Becoming more sustainable as a culture, however, will take more time and will require individuals to prioritize it in their day-to-day purchasing.

“I think it really just comes down to, in this global environment, understanding the global situation versus just looking at how it’s affecting you,” Gordon said. “Just thinking about the thing we consume and recognizing that little changes can make a big difference whether it’s to your own bottom line or helping in an environmental sense. Moving toward a better version of you and what you’re doing, that really does make a difference.”

FENG LIN, *associate professor in the Department of Chemistry, researcher of renewable energy storage, and the Leo and Melva Harris Fellow for the College of Science*

Powering a collective shift to electric vehicles greatly depends on the source of the power itself.

“The concept of electric vehicles works 100 percent,” Lin said. “The issue right now is how to get every household an electric vehicle, and that’s very tough.”

Lin said finding ways to make batteries more affordable, longer-lasting, reliable, and faster-charging would be critical to a mass transition. He is currently working with a team of students and postdoctoral researchers at Virginia Tech to explore different materials and battery constructions to meet those needs.

“Right now, electric vehicles are quite expensive for most people, including me. It’s largely due to the high cost of the battery,” Lin said.

Some of the elements currently used to make batteries, such as cobalt and nickel, are costly and difficult to obtain because of the locations of their deposits, Lin said. Cobalt can be especially

troubling because deposits are mostly available in a very few countries, such as the Democratic Republic of Congo, which has questionable working conditions at best. The battery community is seeing problems with nickel as well.

Lin said finding ways to extend battery life is critical to motivating the average person to invest in an electric vehicle.

“People complain about their cellphone batteries not being able to hold a charge after a while. For cellphones that’s mostly fine because we might change our phones every few years, but with vehicles, we’re talking at least 10, 15 years, and we also want to have the ability to sell them as second-hand cars,” Lin said.

A battery’s ability to electrify transportation also will need to be complemented by technologies that allow for fast recharging and an infrastructure that makes it widely accessible.

“Ideally, we should have something that can charge in minutes and cars that can drive 300, 400 miles per charge,” Lin said. “And people who don’t have single-family homes would have to charge in public or shared charging stations, which would probably need to operate kind of like gas stations. I mean, fast-charging capability is key.”

Finding solutions to these issues, among others, is the driving force behind Lin’s research.

Lin said he’s seen some promise in elements such as manganese and iron, but a breakthrough discovery would take support from a variety of sectors to create an alternative widely accessible for the battery industry.

BILL HOPKINS, *professor of fish and wildlife conservation, director of the Global Change Center at Virginia Tech, and associate executive director of the Fralin Life Sciences Institute*

According to Hopkins, a crystal ball is unnecessary when it comes to recognizing the relationship between the natural environment and fossil fuel consumption.

“People don’t need to look to the horizon for changes. They are happening in real time, right now,” Hopkins said. “Climate change caused by our emissions of carbon is altering ecosystems in frightening ways that affect both biodiversity and our access to critical resources like clean water.”

One clear example: Warmer temperatures have combined with land-use changes that increase nutrient runoff to create

ideal conditions for harmful algal blooms. The overgrowth of microscopic algae can be lethal to fish and make water unsafe for humans.

Another area of critical concern related to the loss of biodiversity exists within our food systems, specifically the intersection of animals and our dependence on agriculture.

“If we lose pollinators, natural competitors and predators of invasive pest species, and organisms that influence the health of soils and nutrient cycling, our agricultural systems—and thus our food security—are in extreme jeopardy,” Hopkins said.

While Hopkins believes decisions made now to transition to lower- to no-carbon emitting energy sources will help alleviate some pressures on biodiversity, he said they won’t be a cure-all because one of the underlying problems is our collective appetite for energy. And this is especially true for developed, wealthy nations such as the United States.

“The energy transition is critical, but it’s important to remember that windfarms can kill birds and bats. Solar farms require lots of land, which can be important wildlife habitat. Hydroelectric dams disrupt fish migrations and reproduction. Our electronics and batteries use elements that require mining. Science can continue to innovate and develop more sustainable energy solutions, but there’s no free lunch if our energy consumption continues unabated,” Hopkins said.

And while the loss of biodiversity is tragic, he is hopeful that its tangible nature serves as a powerful motivation for energy transitions and other strategies to slow climate change.

“Much like increased intensity and frequency of fires, droughts, storms, and floods have served as tangible wake-up calls about climate change and the importance of sustainable energy solutions, losing unique wildlife can capture the attention of people of all ages,” Hopkins said. “If we can connect over these impending losses, it can be one more tool to better communicate about the future of energy and its implications for the natural world that we rely on.” ■



FUEL UP

For more about fuel, visit vtx.vt.edu/magazine.



POWERING UP

In recent years, efforts to develop effective alternatives to fossil fuels have also put a spotlight on the electrical infrastructure across the United States.

CHRISTINA DIMARINO, an assistant professor in the Bradley Department of Electrical and Computer Engineering, is leading a team that received \$2.9 million from the U.S. Department of Energy (DOE) to tackle power grid sustainability, innovative approaches to power conversion, and related technologies.

“The power grid technology in the United States is more than 100 years old. Because of this outdated grid technology, it’s more susceptible to power outages – especially as we experience more and more extreme weather,” said DiMarino.

The DOE recognizes improvements are necessary to create a more efficient and advanced system in the future.

DiMarino’s team is working to combine the functionality of power electronics and the power density benefits of high-voltage cables. SCALED, or Substation in a Cable for Adaptable, Low-cost Electrical Distribution, could put the U.S. back on track for leading the way in energy-efficient grid technology. The enhanced grid technology will apply to all forms of energy—wind, solar, and “whatever else may come,” she said.

Virginia Tech electrical and computer engineering faculty Khai Ngo, Guo-Quan “G.Q.” Lu, and Yuhao Zhang are serving as co-principal investigators on the project, and the National Renewable Energy Laboratory and the University of Connecticut are also partners.





AROUND THE HOKIE NATION

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INTERNATIONAL AMBITION

THE BENEFITS OF GETTING INTERNATIONAL EXPERIENCES

before entering the workforce in today's global economy are clear. Facilitating such experiences are a priority for many universities that want to equip their students to thrive, including Virginia Tech.

However, ambitious students from nations around the world have been traveling far to learn for many decades. Suhayl Abdul Mohsin Al Shoaibi did so more than half a century ago, when he came from the Middle East to the United States in the early 1950s to earn a bachelor's degree in engineering at the University of Southern California. A few years later, he returned to complete two degrees from Virginia Tech. Al Shoaibi earned a bachelor's degree in architectural engineering in 1961 and a master's degree in architecture in 1964.

Over decades in business, Al Shoaibi has leveraged technical know-how and a keen eye for emerging opportunities to build a thriving business headquartered in Al Khobar, Saudi Arabia, where he now lives. In theory, he's retired, but he's still likely to be found several days a week in the offices of the Shoaibi Group. The private company Al Shoaibi established in the late 1960s is now managed by his three sons, Walid, Khalid, and Faisal. Over the years, the Shoaibi Group has partnered with multiple international firms doing business in Saudi Arabia. Al Shoaibi was honored in 2002 with the Commander Medal of Merit by the president of Italy for enhancing and developing economic relations between Italy and Saudi Arabia. Excerpts from a recent interview in which he shared his story follow.



“

I BELIEVE THAT BEING INDEPENDENT AND TRAVELING IS THE BIGGEST EDUCATION IN LIFE. I THINK THAT’S THE BIGGEST ADVICE THAT I WOULD GIVE.”

Suhayl Abdul Mohsin Al Shoaibi ’61, M.S. ’64

WORLD VIEW: (above) Suhayl Abdul Mohsin Al Shoaibi in front of his sons Faisal, Khaled, and Walid. (at right) International entrepreneur Suhayl Abdul Mohsin Al Shoaibi (second from left) earned Virginia Tech degrees in 1961 and 1964. In 2002, he received the Commander Medal of Merit from Italy’s president.

WHERE DID YOU GROW UP AND HOW DID YOU WIND UP STUDYING IN THE UNITED STATES AND EVENTUALLY AT VIRGINIA TECH?

I was born in Basra, Iraq, but left my hometown at around 11 years old to study at International College/American University of Beirut, Lebanon. My father was a businessman in Basra, but my family used to spend their summer holidays in Beirut, and there was a better standard of education there than in my country at that time.

I went to the University of Southern California in 1952 and earned a bachelor’s in civil engineering. After that, I went back home and worked as a junior civil engineer, building houses for the Basra Petroleum Co. After spending two years at the company, I realized I needed more architectural background for my career. I learned Virginia Tech’s program in architectural engineering could help me

realize my goals. I didn’t want to study just architecture, but something to deal with housing.

WHAT DO YOU REMEMBER MOST ABOUT YOUR TIME AT OUR UNIVERSITY?

I liked the limestone and all the buildings there and the Drillfield. It’s such a beautiful campus with all the native limestone. I remember Burruss Hall and Newman Library where I would go to study, especially since we had a baby at home. And the [football] stadium, of course. I used to go there to cheer our Hokies!

HOW DID YOU LAUNCH YOUR CAREER AFTER FINISHING YOUR DEGREES IN BLACKSBURG?

After getting my degrees, I went back to a neighboring country, Kuwait. It had been a dependent country of the British Empire, but recently became independent and was setting up its own govern-

ment. They hired me as a consultant for the planning commission.

I stayed there 10 years, but then thought I needed to start my own business. Another neighboring country, Saudi Arabia, which was the birthplace of my grandfather, was in a big economic boom in the 1970s. I thought it would be the right place and the right time to move there and start my business.

I was drawn to manufacturing because there was not much of that there. I started a company to do chain link fencing since there was big demand from government and agencies that wanted to fence their properties. That was the first venture I started.

OVER THE DECADES SINCE THEN, YOUR COMPANY HAS DIVERSIFIED INTO A VARIETY OF AREAS, INCLUDING ENERGY AND CONTRACTING, MANUFACTURING, AND PROPERTY DEVELOPMENT. HOW DID YOU DECIDE WHEN TO EXPAND, AND HOW DO YOU DO THAT NOW?

The term “business” in Saudi Arabia is not really limited to just one certain thing. We tend to do several things at the same time, and one of the first ways we did that was with hardware. There were no hardware retail stores so we started one.

Another thing I recognized was that here in Saudi Arabia the hot season is seven to eight months long. So I thought air conditioning manufacturing was a good idea. But that idea was a bit too advanced at the time, so I first started manufacturing parts, like the grills and the diffusers and all kinds of devices needed in the air conditioning industry. Eventually, I went into manufacturing the air conditioning

equipment itself, and we become one of the leaders in the country manufacturing that equipment.

Another activity in which we expanded our business was real estate. We recognized there were a lot of foreign people coming to Saudi Arabia working to help the Saudi economy, and they needed housing, so we went into housing and the building construction business.

If you can imagine the time, when I started my business in Saudi Arabia, the country needed so many things because it was just starting to take off. And with me spending a few years studying in the U.S., I got enlightened with so many ideas.

WHAT WOULD YOU CONSIDER TO BE THE BEST CAREER DECISION YOU EVER MADE?

I think being an employee is something people get used to and then they spend all their lives being employed by others. I think, for me, the best decision would be two things: first, to start my own business; and second, to come to Saudi Arabia, which was a booming country.

WHAT STILL EXCITES YOU ABOUT COMING INTO YOUR OFFICE?

I am retired, but I come to the office two to three times a week, depending on how I feel. I have my grandsons now. They are in college, but they still come and join us here sometimes. I think seeing the example of their grandfather still vying to be active is a good example for them to follow and develop their abilities so that we can continue to keep the family business moving from one generation to another.

WHAT ADVICE WOULD YOU GIVE TODAY’S HOKIES WHO HOPE TO EQUIP THEMSELVES TO HAVE A FULFILLING CAREER?

I believe that being independent and traveling is the biggest education in life. I think that’s the biggest advice that I would give. Academics is something to train you for a certain activity, but things like traveling and managing yourself have to be learned through personal experience, being on your own and managing struggles or solving problems yourself. ■ AR



BAR 23 AWARDS

Nine exceptional Hokies will be honored at this year's Virginia Tech Influential Black Alumni Awards.

The awards highlight the achievements of outstanding Black or African American alumni. From starting businesses and nonprofits to contributions to their communities to dedication to education to fighting for social justice, these individuals embody the spirit of Black excellence and what it means to be part of the Hokie Nation.

The ceremony will be held during Virginia Tech's Black Alumni Reunion, which traditionally takes place every two years. This year will mark the first time the event has been held in person since 2018.

The following individuals will receive awards at this year's event. Visit alumni.vt.edu/bar-awards to read more about their contributions to the Virginia Tech community and beyond.

THE BLACK ALUMNI REUNION:

Living Our Legacy will be held in Blacksburg April 14-16. In addition to the Virginia Tech Influential Black Alumni Awards, the fun and memorable reunion will be a time to commemorate milestones, meet current students, and enjoy camaraderie with fellow Hokies. Learn more at alumni/vt.edu/bar.



Athlete of the Year Award: Michael Vick '03

Recognizes a former Virginia Tech athlete who has contributed greatly to their profession, community, and/or Virginia Tech.



Career Achievement Award: Bevelee Watford '81, M.S. '83, Ph.D. '85

Recognizes an individual who has made sustained, outstanding, and significant contributions to their field.



Educator of the Year Award: Casey M. Roberts '06

Recognizes an alum who has contributed significantly to the field of education. Nominees may teach or serve as faculty/staff/administrator at any level.



Entrepreneur of the Year Award: Maurisa Potts '95

Recognizes an alum entrepreneur who has grown or owns a thriving business and who has been a pioneer or significant contributor to industry leading changes.



Icon Award: Laurie Brogdon '04, M.S. '11

Recognizes a current or former faculty or staff member, who is also an alum, who has made a meaningful, historical, and widely recognized impact on the Virginia Tech Black student and alumni community through advocacy, support, outreach, or other contributions.



Outstanding Recent Alum Award: Hollis Brown '21

Recognizes an alum who has graduated within the last 10 years, demonstrated substantial accomplishments, and who has made positive impacts in their profession.



Philanthropy Award: Ted King Jr. '72, M.A. '74

Recognizes an alum for their generous and meaningful financial support of Virginia Tech.



Social Justice Award: Blair Durham '05

Recognizes an alum who seeks to increase fairness and equity for those systematically disenfranchised and least served politically, economically, or socially. They demonstrate compassion, courage, leadership, and commitment to promoting social justice in our communities and beyond. Their contributions have a direct impact on civil rights, public health, environmental justice, and other areas.



Ut Prosim Award: Meta Mickens-Baker '85

Recognizes an alum who embodies the spirit of *Ut Prosim* (That I May Serve), as demonstrated by their commitment to serving the university and/or their community.



Traveling HOKIES™

CONNECT. LEARN. EXPLORE.

GO ON A JOURNEY WITH FELLOW HOKIES. LET VIRGINIA TECH BE YOUR GUIDE WITH TRIPS FOR ALL EXPERIENCE LEVELS AND BUDGETS. OUR TOURS ARE OPEN TO ALL VIRGINIA TECH ALUMNI, FRIENDS, AND FAMILY. HERE'S A LOOK AT WHAT'S COMING UP.

Jewels of the Rhine with Lucerne
(July 7-16)

Cape Cod and the Islands
(July 29-Aug. 5)

Secrets of the Duoro with Lisbon
(Aug. 10-19)

Great Trains and Grand Canyons
(Sept. 24-30)

Radiant Spain and Italy
(Oct. 10-20)

Albuquerque Balloon Festival
(Oct. 11-17)

Greek Isles and Turkish Riviera
(Oct. 24-Nov. 3)

 [ALUMNI.VT.EDU/TRAVEL](https://alumni.vt.edu/travel)

For more information about this trip and other travels tours, go to alumni.vt.edu/travel.

If you've traveled alongside Hokies, you know how special our trips are. Share your memories and photos with us, and we'll spotlight some of your experiences in an upcoming issue of Virginia Tech Magazine. Email us at alumni@vt.edu.



VIBRANT VISION

IN DOWNTOWN ROANOKE, BEHIND a door sandwiched between two long-standing restaurants, is an antique wooden staircase. Up this staircase resides the collaborative artists' enclave known as Gallery 202. At the rear of the main gallery, one of Roanoke's most prolific painters, Terry Lyon, sits at an easel.

Lyon published his first drawing at 5 years old in *Highlights for Children*. His interest in the arts continued throughout his youth, and he was named an Outstanding Senior in Art at William Byrd High School in 1962. He studied at the Roanoke Fine Arts Center before enrolling at Virginia Tech.



Inspired by his father's time as a pilot in World War II, Lyon was accepted into the Air Force ROTC and aeronautical engineering program at the university. A year in, he transferred to building construction.

"The reason I switched is simple: I didn't like chemistry. Ironical that I went on to work for a big chemical company," he said.

After graduating in 1967, Lyon joined Hercules, a government contractor overseeing operations at the Radford Army Ammunition Plant in Radford. He remained there until his retirement in 1998.

Today, Lyon largely paints works with oil on canvas in the representational impressionist style, creating bright, evocative landscapes and snapshots of everyday life through quick, bold brushwork and stark color contrast. Lyon's son, Jimmy Lyon, currently a director of finance analysis at Virginia Tech, has watched his father's style evolve over his lifetime.

"He's gotten much looser with his strokes and in the amount of paint he puts on the actual canvas, creating some very impressive visual effects," Jimmy Lyon said.

Terry Lyon's work, which has sold nationwide, is often on exhibit at art shows in North Carolina and Virginia.

One of Terry Lyon's recent exhibitions featured a series of day in the life paintings depicting work at the Norfolk and Western roundhouse in Crewe Virginia, where his father, Capt. W.S. Lyon, was a foreman. He based the art on slides photographed by his father in 1958.

Although Terry Lyon changed his career path, he never lost his fascination with combat planes, and another art series included several paintings of his father with his plane in World War II.

For him, "art" is much more than brushstrokes on canvas. This perspective emerged as he was building his own home by hand over a five-year period in the 1970s and 1980s.

"I got to thinking, everybody is into some form of art. There's journalism, the art of writing. Multiplying higher order numbers. There's waiting on tables at the restaurant. If there's something you can make, you can say there's an art to it." ■ JS



BIG PICTURE

Read more about Terry Lyon and view a gallery of images of his work at vtx.vt.edu.

CORNERSTONE ALUMNI like Terry Lyon are Virginia Tech's most engaged and passionate alumni who have served as the foothold of the university for more than 50 years.

The group is comprised of alumni who graduated 50 or more years ago. They represent the foundation of our university and its motto, *Ut Prosim* (That I May Serve), and their legacy will be felt for years to come.

To learn more, visit alumni.vt.edu/groups/cornerstone-alumni.



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; or submit the news online at vtmag.vt.edu/submit-classnote.php, where photos may also be uploaded for consideration. For assistance, call 540-231-6285.

'60

CAREER **Peter R. Kurzhals**, Fountain Valley, Calif., retired as director of systems and software with Boeing Space Systems and is currently serving as president of the Sigma Xi Orange County Chapter and as programs chair for the American Institute of Aeronautics and Astronautics's Orange County Section.

'61

CAREER **Fred E. Sanford**, Santa Barbara, Calif., recently completed building his fourth airplane and is starting on the fifth.

'62

CAREER **James "Tom" Roberts Jr.**, Savannah, Ga., who was awarded "rock star" status by the commanding general, 3rd Infantry Division, in recognition of service as a volunteer soldier mentor, was appointed to serve on the U.S. Army Retiree Council's Southeastern Region sub-council for a three-year term.

'64

CAREER **William F. Marley Jr.**, Troy, Va., published a book, "68th North Carolina State Troops: Guerillas and Bandits? Or State Defenders?," describing the history of the regiment during the Civil War.

'70

CAREER **Michael E. Guy**, Marion, Va., published a book of essays, "Standing on a Spinning Ball."

'71

CAREER **Terry R. Rakes**, Pearisburg, Va., the William C. and Alix C. Houchens Professor of Business Information Technology in the Pamplin College of Business at Virginia Tech, has been conferred the title of William C. and Alix C. Houchens Professor Emeritus by the Virginia Tech Board of Visitors.

'74

CAREER **Gary E. Skaggs**, Hardy, Va., professor of educational research and evaluation in the College of Liberal Arts and Human Sciences at Virginia Tech, has been conferred the title of professor emeritus by the Virginia Tech Board of Visitors.

'78

CAREER **Christopher E. Mandel**, College Grove, Tenn., was appointed adjunct professor in the George Mason University Executive Development's Chief Risk Officer certificate program, a program he helped create. He also serves on its advisory board.

Jacob A. Lutz III, Midlothian, Va., was named to the Steger Center's Ferrari Foundation Board in 2022.

'79

CAREER **Kay Payne Hunnings**, Blacksburg, Va., former associate dean of administration in the Pamplin College of Business at Virginia Tech, has been conferred the title of associate dean emerita by the Virginia Tech Board of Visitors.



FEEDING THE COMMUNITY

After retiring from a 30-year career as a chemical engineer at Hercules, Dick Commander '65 was looking for productive ways to occupy his newfound free time. He cited his experience as a member of E Company in the Corps of Cadets while at Virginia Tech as the source of the drive to continue achieving even after retirement.

A friend referred Commander to Hopewell Food Pantry, whose director was looking for a successor. At the time, Hopewell supported roughly 2,500 individuals and families each year.

Now, the food pantry sees over 13,000 clients a year.

Commander has guided the food pantry through several crises over the last 15 years, including the housing bubble collapse and the COVID-19 pandemic, adjusting operations as needed to provide clients with the support they need.

"Our goal is to never turn anyone away," he said.

Edwin J. Jones, Blacksburg, Va., professor of wildlife sciences, former associate dean in the College of Agriculture and Life Sciences at Virginia Tech, and former director of Virginia Cooperative Extension, has been conferred the title of professor, associate dean, and director emeritus by the Virginia Tech Board of Visitors.

Ruth Harry Lytton, Radford, Va., professor of financial planning in the Pamplin College of Business Department of Finance at Virginia Tech, has been conferred the title of professor emerita by the Virginia Tech Board of Visitors.

Saad A. Ragab, Blacksburg, Va., has been conferred the title of professor emeritus by the Virginia Tech Board of Visitors.

'80

CAREER George "Eddie" Adkins Jr., Annapolis, Md., received the American Institute of CPA's highest award in the area of tax service, given nationally to one CPA each year to recognize career-long, outstanding leadership in the profession.

'81

CAREER Bevlee A. Watford, Blacksburg, Va., a Virginia Tech faculty member since 1992, has been selected by President Joe Biden to serve on the National Science Board.

'83

CAREER J. W. "Bill" Austin, Morgantown, W.Va., has been elected to the Association of Metropolitan Planning Organizations 2023 board of directors.

'84

CAREER Patricia Graham Amateis, Blacksburg, Va., associate professor of chemistry in the College of Science at Virginia Tech, has been conferred the title of associate professor emerita by the Virginia Tech Board of Visitors.

Scott B. Harrison, Lorton, Va., was inducted as a fellow by the International Concrete Repair Institute.

'85

CAREER Christine M. Gagne-Werner, Maryville, Ill., professor, retired from the Saint Louis University Physician Assistant Program in January.

'86

CAREER Matthew R. Heffernan, Spartanburg, S.C., is vice president, Broadcast Hub Services with Nexstar Media Group Inc.

John F. Ambrosone, Shawsville, Va., associate professor of lighting design and head of the Lighting Design and Technology Program at Virginia Tech, has been named the faculty chair of the Theatre and Cinema Program in the School of Performing Arts.

'88

CAREER Jacqueline A. Porta Trischman, San Diego, Calif., is dean of the College of Science, Technology, Engineering and Mathematics at California State University San Marcos.

Eileen Morton Van Aken, Blacksburg, Va., professor and department head in the College of Engineering's Grado Department of Industrial and Systems Engineering, is president-elect for the Institute of Industrial and Systems Engineers.

'91

CAREER Kimberly Hillenburg Nelson, Raleigh, N.C., was inducted into the National Academy of Public Administration as a fellow.

'92

CAREER Kelly C. Chambliss, Chicago, Ill., was recently named one of the 2022 Most Influential Women Executives in Corporate America in Women Inc.

'93

CAREER Tom P. Shen, Falls Church, Va., who received Washington Business Journal's 2021 Diversity in Business Award, was appointed to serve on the Management Committee at Gensler in 2023.

Barrett F. "Bart" Warner, Bedford, Va., was elected to the Executive Board of the Virginia Local Government Management Association.

'95

CAREER Kerry A. Newberry, Portland, Ore., recently co-authored "Oregon Wine + Food: The Cookbook," which charts the history of the region's terroir through the stories of winemakers and recipes from chefs across the state.



SAVE THE DATES

JUNE 8-11
ALUMNI WEEKEND
Come back home this summer!
Registration is open now.



OCT. 14-15
HOMECOMING WEEKEND
Join colleges and groups
at the Homecoming tailgate!

Return home this fall for our **HOMECOMING WEEKEND** celebration. Enjoy the parade downtown and a tailgate Saturday morning before the Hokies take on Wake Forest. Registration for the fall celebration will open this summer.

In the meantime, check out our other upcoming events in Blacksburg and in your area.

Visit alumni.vt.edu/events.

'96

CAREER John E. Whitley, Alexandria, Va., received the 2022 Larry D. Welch Award for Best External Publication from the Institute for Defense Analyses.

Caty B. Borum, Arlington, Va., published a book, "The Revolution Will be Hilarious: Comedy for Social Change and Civic Power."

Bret W. Hrbek, Front Royal, Va., was elected president of the Zeta Beta Tau Foundation. He is a previous president of the Delta Xi Chapter at Virginia Tech and has served Zeta Beta Tau in various volunteer positions since graduation.

George J. "Jim" Pflieger Jr., Tempe, Ariz., was promoted to associate fellow at Verizon.

'97

CAREER Kendall Taney Cummings, Gaithersburg, Md., finished a rigorous two-year training program and examination to become an American Veterinary Dental College fellow in oral and maxillofacial surgery, a distinction held by fewer than 20 veterinarians worldwide.

Chad E. Duty, Loudon, Tenn., has been named CEO of IACMI, a leader in advanced composites design, manufacturing, technical innovation, and workforce development.

Corey D. Hall, Easton, Pa., is strategic planning lead in the Strategic Technology Investment Office at DEVCOM Armaments Center, Picatinny Arsenal, N.J.

'98

CAREER Matthew E. Hackworth, Oxford, Miss., was ordained to Christian ministry in the Presbyterian Church (USA) with a call to serve in national leadership for the disabilities nonprofit, L'Arche USA.

John W. Ingram, Roanoke, Va., published a book about Old Dominion University baseball, "Monarchs," and all proceeds from its sale will benefit a scholarship.

Steven M. Sikes, Williamsburg, Va., was named dean of students at Virginia Tech.

'00

CAREER Nathan P. Tetlow, Pittsburgh, Pa., is vice president, corporate development and investor relations of Equitrans Midstream Corporation.

'01

CAREER Feride Daku, Blacksburg, Va., was named director of finance and administration at the Virginia Tech Innovation Campus.

Todd T. Lowe, Blacksburg, Va., was named fellow of the American Society of Mechanical Engineers.

Michael D. Morgan II, Onley, Va., was awarded the Silver Snoopy Award, which is one of the highest honors a NASA employee can receive.

'03

CAREER Lauren L. DeSomma, Burke, Va., is vice president for Knutson Companies, Brambleton, Va.

'04

CAREER Katherine Wood La-Forest, Pittsburgh, Pa., became a part owner of the architecture and interior design firm, mossArchitects.

Zakariah D. Miller and Shawna C. Miller, Napa, Calif., own Earthshine Wines, one of the top winemakers in the country.

Emily A. Sarver, Blacksburg, Va., was named Stonie Barker Professor of Mining and Minerals Engineering at Virginia Tech.

'05

CAREER Carrie A. Meadows Davenport, Penhook, Va., was named to the Top 100 Most Influential People in the Meetings Industry.

WEDDING Carrie A. Meadows Davenport, Penhook, Va., and **Benjamin Davenport**, 10/29/22.

CHILDREN Joseph Michael Derlaga and Anna Pearl Blevins Derlaga '09, Yorktown, Va., a son, 3/30/22.

'06

CHILDREN Patricia Ricketts Walker, Alton, Virginia, a daughter, 5/7/22.

'07

CHILDREN John Flores and Molly Flores, Ramsey, N.J., a daughter, 3/28/22.

'08

CAREER Justin E. Lerner, Golden, Colo., counsel in the Denver office of Brownstein Hyatt Farber Schreck, has been promoted to shareholder.

CHILDREN Jonathan A. Clifton, Chesterfield, Va., a son, 10/5/22.

'09

CAREER Anna Pearl Blevins Derlaga, Yorktown, Va., graduated from University of North Texas with a Master of Science in library science in December.

Nathan R. Johnson, Fairfax, Va., was selected as Naval Facilities Engineering Systems Command Washington Project Manager of the Year.

Shannon M. Mury, Blacksburg, Va., was named First Steps 2022 Early Childhood Champion Awards in September.

Bruce W. Strickland Jr., Chesterfield, Va., is a senior project manager in Timmons Group's Water Infrastructure team and is a new shareholder at Timmons Group.

'10

CAREER Harpreet Singh Dhillon, Blacksburg, Va., professor in the Bradley Department of Electrical and Computer Engineering at Virginia Tech, has been named a fellow of the Institute of Electrical and Electronics Engineers for his contributions to heterogeneous cellular networks.

CHILDREN Collins Mehfoud and Kathryn M. Slaughter Mehfoud '13, Shepherdsville, Ky., a son, 8/10/22.

'11

CAREER Nicholas J. Soucie, Henrico, Va., has more than a decade of experience leading project teams to deliver public and private transportation projects across the Richmond, Va., region and is a new shareholder at Timmons Group.

Michael A. Edwards, Richmond, Va., is a senior project manager on Timmons Group's Geospatial Technology Asset Management team and is a new shareholder at Timmons Group.

'12

CAREER Paul L. Holloway, Roanoke, Va., recently joined the Raleigh, N.C., office of Hanson Professional Services Inc.

WEDDING Daniel Lin and Liana C. Bayne-Lin '13, Rockingham, Va., 09/23/22.

CHILDREN Peter Stafford Firey and Lauren Lemieux Firey '13, Arlington, Va., a son, 3/28/22.

'13

CAREER Emily S. Mawyer White, Henrico, Va., was named events manager for Make-A-Wish Greater Virginia in Richmond, Va.

CHILDREN Gina L. Latimer, North Chesterfield, Va., a daughter, 03/27/22.

Sean C. Reid, North Chesterfield, Va., a daughter, 03/27/22.

Emily S. Mawyer White and Eric Alton White '20, Henrico, Va., a son, 5/12/22.

'15

CAREER Ursula R. Gerson, Coral Gables, Fla., was named to the Institute of Real Estate Management 30 Under 30. Gerson and her team also earned designation as Community of the Year Mid-High Rise and Best Community Amenities of the Year by the Southeast Florida Apartment Association for the Residences at Thesis.

WEDDING Elizabeth Mullins Baldwin, Luray, Va., and Benjamin Baldwin '20, 5/14/22.

CHILDREN Lindsay A. Steward Deely and Colin Michael Deely, Fairfax, Va., a son, 08/22.

'20

CHILDREN Jacob D. Pilkins, Tazewell, Va., a son, 10/17/22.

STAY CONNECTED

Make sure the university has your up-to-date mailing address, phone number, and email address. You can easily check your information online and make updates. Visit alumni.vt.edu/contact.

You can also email your updates to alumnidata@vt.edu. Make sure you include your full name and class year in the email.

SET UP FOR SUCCESS

REBEKAH SLABACH AN AGENT FOR AGRICULTURE



Rebekah Slabach '16 knew she wanted to work in agriculture after graduating from Virginia Tech with a degree in agriculture, but she refused to limit herself to a specific title or career.

She let a higher power work things out—and she landed a job as an Agriculture Extension agent in Halifax County, Virginia, her home county.

“He [God] closed all the other doors with job offers, and this position in Halifax was open,” Slabach said. “I was from the community ... but then I also went to Tech and realized my degrees, internships, and experiences gave me new perspective and skills that I could bring to my home area. I saw the good that people here were doing, and I was able to help farmers and the local agriculture be even more productive, profitable, and meaningful.”

Slabach works in many realms—including soil health, forage management, crop rotation, livestock, agribusiness—and all have different challenges. She facilitates grant proposals, works with local agricultural boards, and coordinates research opportunities between local producers and Virginia Tech. She advocates for needs, educates producers on issues, and foreshadows challenges that need support.

Slabach's experiences at Virginia Tech, specifically an internship with Virginia Cooperative Extension, a study abroad course in Costa Rica devoted to sustainability in agriculture, and a year serving as a state officer in the Virginia FFA Association, prepared her for such challenges.

“So much of agriculture is not just memorizing facts or staying in a comfort zone,” she said. “It's outside, it's having to think, communicate, pivot, problem solve, and work with people. Not all my experiential learning was things I had done before. That's why I was open to doing them. With the encouragement of mentors, I saw new experiences as opportunities for growth. I am a better person and extension agent because of those four years at VT.”

Slabach is open to the future and career opportunities, but she loves Extension, and she fully expects to stay in agriculture.

“My personal philosophy is to not just go after job titles,” she said. “I believe in using my passions and gifts to meet needs,

opportunities, and people around me. Through the waves of life, I know that I will always be found helping people work together, making agriculture better, and advocating for needs and empowering producers to speak up, listen, and always learn from one another.”

JAY IVES AMONG FORBES' 30 UNDER 30



In the early months of 2020, as COVID-19 left many small- and medium-sized businesses struggling in its wake, Virginia Tech Pamplin College of Business alumnus and Jives Media founder Jay Ives saw an opportunity to serve his local community.

“Businesses were hurting, and I wanted to do everything in my power to support them,” Ives said.

What Ives couldn't have foreseen is how taking this opportunity to serve would,

over the course of just two years, rapidly transform his career and earn him a spot on Forbes' 30 under 30 list among the world's top marketers.

The 29-year-old entrepreneur and CEO started his professional journey as a marketing management major at Virginia Tech, completing his undergraduate degree in 2016. After working for a short time, Ives ultimately enrolled in the Master of Science in Business Administration with a concentration in business analytics program offered by the Center for Business Analytics within Pamplin.

This one-year, hands-on degree program gave Ives the necessary skills and training to complement his career trajectory. After graduating from the program, Ives was flooded with new opportunities. He eventually moved to Silicon Valley to work with high-growth startups.

He led the lifecycle marketing team for Poshmark. While leveraging his newfound skills in data analytics, he helped generate tens of millions of dollars of revenue growth and set a strong foundation for the company's initial public offering. He later moved on to join the Thumbtack lifecycle marketing team, where he increased revenues and utilized data to enhance the experience of both customers and service professionals utilizing the marketplace.

But when the COVID-19 pandemic hit in early 2020, Ives found a renewed passion for serving small- to medium-sized local businesses. Seeing firsthand how his favorite local businesses were struggling, he decided to jump into action and reached out to offer his services. Over the course of just a couple of months, Ives received enough business to leave his 9-to-5 position and go all in on the mar-

keting agency he founded: Jives Media.

Today, Jives Media has grown exponentially into a team of 25 spread across the United States. The team has completed 5,000-plus client projects and continues to receive numerous accolades and awards.

"It has been an absolute joy bringing the skills and training that I acquired at Virginia Tech to help empower businesses across the globe," Ives said.

TREVOR CONE

TEEING IT UP



Only moments after securing his PGA Tour card, Trevor Cone took a shower.

The suds flowed over his head, across his shoulders, and down his back. He further soaked in their glory by consuming several gulps and came to an undeniable conclusion that beer showers are better than traditional ones.

Cone earned the right to partake after he obtained his PGA Tour card by finishing in the top 25 of the Korn Ferry Tour points standings at the conclusion of that tour's season this past August.

Cone, who graduated in 2015 with a degree in marketing from the Pamplin

College of Business, made his PGA Tour debut Sept. 15 at the Fortinet Championship in Napa, California. He became just the fourth Virginia Tech player ever to play on the PGA Tour, joining Johnson Wagner, Brendon de Jonge, and Tim Collins Jr.

After earning his PGA card, he reached out to Wagner, who lives near Cone in the Charlotte area.

"He's super down to earth and always been happy to help me," Cone said. "I just kind of picked his brain a little bit and he didn't tell me anything super revelatory, but it's been nice to have someone who's obviously had a really good career out there and still playing to a pretty high level—and being a Tech alum, that's always nice."

Cone, who was an All-American at Virginia Tech in 2014 and the 2015 ACC champion, played in four PGA events this fall and shot under par in three of them, making the cut twice. This spring, he missed the cut in his first two events, but the 29-year-old spent a lot of time preparing and feels ready to compete with the game's best.

"My expectations are pretty high," Cone said. "I would like to win because I think I have the game to do it. It's just putting it all together."

"Obviously, the main goal is to just play well enough to keep my card as a rookie. I think that's a tough task for most guys in their first year, but the biggest goal is just having a good mindset and good attitude out there, just enjoying it. ... I think any golfer would tell you that whenever they're having the most fun and being carefree and laid back out there is when they're playing their best golf, so that's the biggest goal." ■



TURNING OVER A NEW LEAF: The Henderson lawn sycamore, which had stood since before the university's founding in 1872, was removed in July 2010 because of severe decline. John Seiler, professor of forestry, demonstrates the cutting (at top) and rooting (at middle) process used to clone the tree. (at right) The cloned sycamore, planted in 2013, continues to grow in the original location of its historic predecessor.

ROOTED IN HISTORY

IN 2010, THE BELOVED HENDERSON Lawn sycamore was laid to rest. It was in poor health after suffering root damage and a fungal infection, and it posed a falling risk to downtown buildings, cars, and pedestrians. The difficult decision was made to remove the tree, but not before Virginia Tech forestry scientists John Seiler and Eric Wiseman worked to clone the tree.

The scientists took cuttings from healthy parts of the tree, stripping them of leaves to prevent them from drying out. Seiler then dipped the end of each one in rooting powder. "The cuttings have undiffer-

entiated cells, like human stem cells, and that powder tells them to turn into root cells," Seiler said.

The cuttings that rooted would grow in a greenhouse until they could survive in the ground, and a decade ago, on Earth Day in 2013, the sycamore was replanted in its original home. A second clone was planted near Cheatham Hall.

Since then, the sycamore has seen regular maintenance, including repairing damage from a wind storm. "We performed a full crown reduction, pruning the crown into

a 'small sail' in the wind," said University Arborist Jamie King. To reduce the likelihood of further injury, the tree will be pruned every three to five years.

In addition, the care plan for the young sycamore includes decompacting and amending the soil around the roots using compressed air, which will increase resilience to pests and disease.

The clone will grow identically to its parent, but with this planned care and attention, King said, "it could grow back even bigger than the original." ■ JS

FAMILY



MATT SCHWACHTENBERG

1



4

DEELY FAMILY

1 “After working at the Collegiate Times together from 2009 to 2013, we’ve been writing the story of life together ever since.” —Liana Bayne-Lin ’13, Harrisonburg, Virginia, who married Daniel Lin ’12, 9/23/22.

2 “It’s a ... Hokie.” —Kathryn Mehford ’13, Shepherdsville, Kentucky, who along with Collins Mehford ’10, welcomed a son, Joseph Edward Mehford, 8/10/22.



2

KATHRYN AND COLLINS MEHFORD



5

JAYNA M. PHOTOGRAPHY

3 “Madelyn is learning all about VT and the HokieBird from her older sisters, Sophie and Eleanor.” —John Flores ’07, Ramsey, New Jersey, who along with Molly Flores ’07, welcomed a third daughter, Madelyn Grace Flores, 3/28/22.

4 “My husband and I welcomed our first son this year. We wanted to share the news with the Hokie Nation!” —Lindsay Deely ’15, Fairfax, Virginia, who along with Colin Deely ’15, welcomed a son, Brooks Deely, 8/22.



3

MOLLY FLORES



6

BELLA BABY

5 “Our newest Hokie made his grand entrance into this world.” —Jacob Pilkins ’20, Carthage, New York, who welcomed a son, Andrew Cole Pilkins, 10/17/22.

6 “With big siblings Maeve and Neil, our L, M, N, O, P family is as Hokie as can be!” —Lauren Lemieux Firey ’13, who along with Peter Firey ’12, welcomed a son, Owen Asher Firey, 3/28/22.



IN MEMORIAM

Listing includes notices shared with the university from May 16 through Nov. 20, 2022.

'41

William S. Cross Jr., Greensboro, N.C., 8/25/2022.

'44

Raymond M. Wright Jr., Springfield, Va., 8/16/2022.

'47

John P. Williams II, Chatham, N.J., 10/24/2022.

'48

Sidney O. Dewberry, Arlington, Va., 7/16/2022.

Andrew Robeson, Blacksburg, Va., 7/10/2022.

'49

Wilton L. Hall Jr., Prince George, Va., 5/1/2022.

Ferris D. Portner Jr., King George, Va., 5/20/2022.

James W. Sites, Harrisonburg, Va., 6/24/2022.

'50

George T. Blume, Blacksburg, Va., 8/7/2022.

Jack D. Garman, Greensboro, N.C., 8/4/2022.

Branch R. Hammock, Waynesboro, Va., 10/8/2022.

Arthur "A.W." Shelby Jr., Chester, Md., 5/10/2022.

Charles K. "Dub" Whitescarver Jr., Blacksburg, Va., 5/31/2022.

'51

Jack H. Markley, Port Angeles, Wash., 9/9/2022.

Merritt L. Raiford, Courtland, Va., 5/10/2022.

William "W.T." Tucker, Maidens, Va., 8/2/2022.

Jean T. Wood, Victoria, Texas, 7/21/2022.

'52

Samuel "Daley" Craig Jr., Charlottesville, Va., 9/21/2022.

Lucian F. Draper Jr., Boykins, Va., 8/4/2022.

Frederick P. Griffith Jr., Falls Church, Va., 8/5/2022.

Ross "Frank" Hawkins Jr., Suffolk, Va., 5/18/2022.

James M. Stevens, Gainesville, Va., 10/18/2022.

'53

Nicholas J. Andre, Poquoson, Va., 6/26/2022.

William "W.F." English Jr., Oakland, Calif., 6/11/2022.

W. David Fletcher, Bristol, Va., 5/17/2022.

James F. Hawes, Catonsville, Md., 7/11/2022.

Thomas N. Waller, Virginia Beach, Va., 7/1/2022.

'54

Joel H. Bell, Carolina Beach, N.C., 6/12/2022.

William "W.D." Edwards Jr., Saluda, Va., 8/28/2022.

Charles S. Elton, Leesburg, Va., 10/28/2022.

James E. Stockman Jr., Hendersonville, N.C., 4/1/2022.

L. Robert Vaughan, Fincastle, Va., 5/27/2022.

'55

L. Gardner Brannon Jr., Galax, Va., 6/28/2022.

Montie T. Ratcliffe, Austin, Texas, 4/16/2022.

Billy E. Sample, Honaker, Va., 9/3/2022.

Robert R. Schmidt, Blacksburg, Va., 10/16/2022.

William W. Watkins Jr., Ashford, Ala., 5/4/2022.

'56

Floyd E. Adams Jr., Richmond, Va., 8/2/2022.

Charles "Irvine" Cather Jr., Winchester, Va., 7/3/2022.

Louis S. Maifeld, Irvine, Calif., 4/9/2022.

Lynn R. Wolfe, Winchester, Va., 9/23/2022.

'57

Glenn M. Ayers, Moneta, Va., 6/27/2022.

William H. Baker, Aiken, S.C., 6/13/2022.

William "W.D." Ballard Jr., Elgin, Texas, 8/7/2022.

James "J.W." Bloxson, Virginia Beach, Va., 8/12/2022.

Robert F. Brandt, Anchorage, Alaska, 9/28/2022.

William C. Britts Sr., Playa del Rey, Calif., 5/10/2022.

Lowell K. Coffelt, Edinburg, Va., 9/11/2022.

Alton O. Crawley Jr., Ellicott City, Md., 6/26/2022.

Robert N. Crittenden, Evans, Ga., 4/25/2022.

Allie L. Harmon Jr., Knoxville, Tenn., 5/22/2022.

William I. Jenkins, Wakefield, Va., 7/13/2022.

Sidney R. Sewell, Niceville, Fla., 8/16/2022.

'58

William K. Barlow, Smithfield, Va., 9/21/2022.

Lee J. Himes, Reston, Va., 7/10/2022.

John T. Rogers, High Point, N.C., 10/12/2022.

Frank J. Trapp Jr., Arlington, Va., 7/20/2022.

George M. Ware, Hampton, Va., 2/16/2022.

William Carl Wingfield, Collinsville, Va., 11/2/2022.

'59

E. Ashby Baum, Midlothian, Va., 7/12/2022.

'60

Luther Randolph Luton, Chesapeake, Va., 9/17/2022.

Donald F. Morrison, Newtown Square, Pa., 7/11/2022.

N. G. Orndorff Sr., Manassas, Va., 7/31/2022.

Randolph B. Peters, Ridgeway, Va., 5/20/2022.

William O. Slade, Princeton, W.Va., 8/3/2022.

'61

Ronald G. Arritt, Covington, Va., 5/15/2022.

Robert L. Brugh, Athens, Ga., 7/29/2022.

Don R. Musselman, Dothan, Ala., 7/6/2022.

Walter L. Sanders, Greenville, S.C., 7/13/2022.

Kenneth C. Scarce, Dry Fork, Va., 9/17/2022.

'62

C.R. Gardner Jr., Christiansburg, Va., 4/30/2022.

Reginald F. Rose, Tupelo, Miss., 7/31/2022.

Jack W. Sisk, Tazewell, Va., 6/5/2022.

Roy S. Stephenson, Saltville, Va., 7/17/2022.

Robert C. Wales, Riverside, Calif., 8/12/2022.

James E. "Wilkie" Wilkinson Jr., Lynchburg, Va., 8/25/2022.

'63

Alvin A. Akers, Lawrence, Pa., 7/12/2022.

Stephen E. Collins, Sumter, S.C., 7/8/2022.

Richard N. Green, Fairfield, Ohio, 9/26/2022.

Vernon C. "Bud" Gross Jr., Ooltewah, Tenn., 5/22/2022.

Daniel "Howard" Hanchey, Fredericksburg, Va., 5/17/2022.

Wayne V. Modisett, Harrisonburg, Va., 9/23/2022.

Albert "A.B." Moore, Mechanicsville, Va., 4/30/2022.

Henry A. Morris, Cumberland, Va., 7/17/2022.

Richard E. Rush Jr., Waynesboro, Pa., 4/30/2022.

Glenn H. Updike Sr., Newsoms, Va., 5/28/2022.

'64

Gilbert L. Alexander, Suffolk, Va., 8/23/2022.

Richard A. Giesen, Ferrum, Va., 4/5/2022.

Byron J. Meredith Jr., Carolina Beach, N.C., 8/12/2022.

Harold "Tom" Pettit, Springfield, Va., 8/17/2022.

Charles F. Scott, Spring, Texas, 4/21/2022.

George R. Webb, Norfolk, Va., 10/19/2022.

'65

Fred R. Dejarnette, Raleigh, N.C., 5/2/2022.

Roger T. Eubank, Louisa, Va., 7/1/2022.

John M. Inman, Newport News, Va., 9/19/2022.

Eric B. Larsen, Bethesda, Md., 10/8/2022.

Elmer C. Lineberry Jr., Ashburn, Va., 9/25/2022.

William H. Parcells Jr., Topeka, Kan., 5/16/2022.

Richard M. Williams Jr., Suffolk, Va., 8/1/2022.

John N. Zeigler, Indianapolis, Ind., 7/18/2022.

'66

Herschell A. Cashion, Dallas, Texas, 4/16/2022.

Tim W. Forrest, Kernersville, N.C., 8/8/2022.

Ronald W. King, Chesterfield, Va., 5/31/2022.

Wanda Suthers Orr, Suffolk, Va., 8/3/2022.

'67

Guy M. Bishop Jr., Pulaski, Va., 7/23/2022.

Raymond L. Claterbaugh Jr., Clifton Forge, Va., 7/31/2022.

Charles W. Ferst III, Blacksburg, Va., 5/20/2022.

Herbert H. Gilliam III, Charlotte, N.C., 6/16/2022.

Richard L. Townsend, Pearisburg, Va., 5/12/2022.

'68

John B. Babbs Jr., Alexandria, Va., 10/21/2021.

Joseph R. Cologgi, Knoxville, Tenn., 10/27/2022.

Wayne Elliott, Christiansburg, Va., 12/21/2021.

Robert G. Hall, Greer, S.C., 7/19/2022.

Barry J. Jefferson, Union Hall, Va., 5/24/2022.

'69

Michael R. Ball, Honaker, Va., 11/4/2022.

Dale "D.V." Goodman, South Hill, Va., 7/6/2022.

Edward "Hop" Meeler Jr., Lebanon, Ohio, 7/3/2022.

William A. Still Jr., Cascade, Va., 9/4/2022.

'70

Alvin G. "Pete" Alderson, Lecanto, Fla., 7/10/2022.

Camilla A. Brooks, Upper Marlboro, Md., 1/23/2022.

Charles L. Horner, Pilot, Va., 5/18/2022.

Joseph F. Hunt, San Antonio, Texas, 8/31/2022.

Roger E. McClurg, Bear, Del., 10/19/2022.

Paul "P.J." Post, Covington, La., 4/19/2022.

Lawrence W. Wuensch, Rockledge, Fla., 10/1/2022.

Daniel S. Yates, Mechanicsville, Va., 1/14/2022.

'71

Thomas D. Dudley Jr., Arvada, Colo., 8/1/2022.

Reece A. Lester, Dalton, Ga., 8/2/2022.

John H. Puzanski, Bristol, Tenn., 8/10/2022.

Dale Todd Revell, Mechanicsville, Va., 7/22/2022.

'72

George E. Clark III, Richmond, Va., 9/25/2022.

David R. Clifford, Falls Church, Va., 10/22/2022.

Robert V. Phillips, Norfolk, Va., 9/9/2022.

Millard "Al" Rice, Phenix, Va., 10/16/2021.

Aylmer "Lee" Stallard, Jeffersonville, Ind., 5/17/2022.

Billy J. "Steve" Stephenson Jr., Georgetown, Texas, 10/4/2022.

'73

George Christopher Adams, Warminster, Pa., 5/4/2022.

Robert B. Altizer Sr., Tazewell, Va., 9/4/2022.

Don G. Benner, Woodland Park, Colo., 8/14/2022.

James "Griff" Lilly, Beaver, W.Va., 10/6/2022.

Thomas P. Perry, Harrisonburg, Va., 9/19/2022.

'74

David L. Dale, Prosperity, S.C., 8/31/2022.

James M. Dunlap, Raleigh, N.C., 10/4/2022.

Owen "Ken" Hall Jr., Roanoke, Va., 10/11/2022.

Richard E. Hynes, Chesapeake, Va., 5/27/2022.

Chris C. Mason, Millville, N.J., 11/3/2022.

Maston R. "Mac" McCorkle Jr., Roanoke, Va., 9/30/2022.

Donna Baker Meeks, Amherst, Va., 9/27/2022.

William B. Wrenn, Athens, Ala., 5/10/2022.

'75

Allen E. Fisher, Ocean Springs, Miss., 9/1/2022.

Donatus C. Ohanehi, Blacksburg, Va., 4/14/2022.

David W. Schuster, New Market, Va., 7/19/2022.

Alfred D. Torrence Jr., Staunton, Va., 7/20/2022.

Gerry F. Weisgerber Sims, Winchester, Va., 4/20/2022.

'76

Steven D. Gaines, Vienna, W.Va., 10/31/2022.

Norma J. Black Graham, Christiansburg, Va., 10/24/2022.

Margery Seabough Hathorn, Arden, N.C., 4/17/2022.

Johnnie L. Hudson, Mocksville, N.C., 4/27/2022.

Shawn T. Reynolds, Rustburg, Va., 10/15/2022.

Susan M. Angelina Ritchie, Waldorf, Md., 7/2/2022.

Marjorie McCarter Stevens, Hurricane, W.Va., 5/24/2022.

'77

Brenda Marshall Armstrong, Austinville, Va., 6/24/2022.

Martha Holsinger Callaham, Richmond, Va., 7/28/2022.

Robert A. Heineck, Anderson, S.C., 11/3/2022.

Robert H. Mattox III, Tampa, Fla., 5/16/2022.

Diane Tolley McLane, Richmond, Va., 4/26/2022.

George G. Morris, Salem, Va., 7/11/2022.

Gary L. Reynolds, Penhook, Va., 5/19/2022.

Michael G. Pinion, Mechanicsville, Va., 10/14/2022.

Karen H. Troutman, Blacksburg, Va., 10/23/2022.

Paul C. Valder, Concord, N.C., 8/3/2022.

John P. Wisman, Wytheville, Va., 9/2/2022.

'78

Richard L. Harness, Bristol, Va., 8/1/2022.

Susan S. Helbert, Genoa, Nev., 7/12/2022.

Janice Fletcher Lawrence, Saint Albans, W. Va., 5/8/2022.

James R. Lawson, Illwood, W. Va., 11/9/2022.

William Linwood Northern, Martinsville, Va., 5/12/2022.

Margaret Ikenberry Rauck, Daleville, Va., 7/27/2022.

Beatrice R. Smith, Chantilly, Va., 10/15/2022.

'79

Susan Law Ali-Clark, Roanoke, Va., 8/28/2022.

Doris Good Bomberger, Harrisonburg, Va., 5/14/2022.

Douglas W. Burks, Midlothian, Va., 9/8/2022.

Harry S. Murray, Mullica Hill, N.J., 10/11/2022.

Andrew Thomas Jr., Charlottesville, Va., 7/1/2022.

Francis E. Zehr, Ridgeway, Va., 7/29/2022.

'80

Charles H. "Chip" Forbes IV, Richmond, Va., 5/28/2022.

Benson L. Hall, Richmond, Va., 8/27/2022.

'81

Scott P. Allen, Pompano Beach, Fla., 5/26/2022.

David A. DeBernard, Hartsville, S.C., 8/23/2022.

Iris Wall Johnson, Henrico, Va., 7/6/2022.

'82

John R. Craynon, Morgantown, W. Va., 4/16/2022.

Patricia Carol Musick Harrison, Greensboro, N.C., 10/12/2022.

Susan Hastings Keesee, Chapel Hill, N.C., 11/1/2022.

'83

Thomas A. Henry, Seaville, N.J., 5/20/2022.

Timothy L. Patterson, Newport News, Va., 7/22/2022.

Edward W. Yankowich, Longwood, Fla., 9/6/2022.

Jan Webster Yowell, Raphine, Va., 2/17/2022.

'84

Bobby G. Beamer, Keswick, Va., 5/15/2022.

Kathryn E. Kuhn, St. Louis, Mo., 7/10/2022.

David J. Natale Jr., St. Anthony, Minn., 8/12/2022.

David D. Seal, Moneta, Va., 5/9/2022.

'85

Charles "David" Atkins, Mechanicsville, Va., 4/22/2022.

Marianne G. Bundren, Herndon, Va., 7/3/2022.

Edwin L. Smith, Baltimore, Md., 10/3/2022.

Sharon L. Weatherly, Punta Gorda, Fla., 5/8/2022.

'87

David S. Dadd, West Chester, Pa., 6/8/2022.

Susan Kingma Day, Livermore, Calif., 7/25/2022.

'88

Robert W. Layne, Cedar Bluff, Va., 6/25/2022.

Brian D. Marx, Baton Rouge, La., 11/25/2021.

Shannon J. Smith, Richlands, Va., 9/10/2021.

'89

Peng-yin Chen, Fayetteville, Ark., 8/1/2022.

Frederick L. Funk, Baltimore, Md., 5/12/2022.

Laten C. Walker, Alderson, W. Va., 9/30/2022.

'90

Mary Ellen F. Prier, Norfolk, Va., 6/10/2022.

'91

Thomas H. Fitzgerald III, Arrington, Va., 5/9/2022.

Manette Monroe, Kissimmee, Fla., 8/8/2022.

Karen Newton Pendleton, Roanoke, Va., 8/30/2022.

Christopher N. Schwartz, Silver Spring, Md., 4/23/2022.

'93

Jason M. Campbell, Oak Ridge, Tenn., 9/14/2022.

Marjorie A. Florence, Woodbridge, Va., 8/14/2022.

'94

Mark A. Burger, Lake Mills, Wis., 5/22/2022.

Andrew J. Harmon, Columbus, Wis., 10/17/2022.

Eric J. Rzepecki, Ocala, Fla., 4/24/2022.

'95

James P. Pirkey, Columbus, Ohio, 6/29/2022.

'96

Douglas A. Kern, Manchester, Conn., 8/12/2022.

'97

Gregory N. Bailey, Salem, Va., 5/25/2022.

'98

Megan Debranski Kelhart, Alexandria, Va., 8/19/2022.

Marda R. Lacy, Boyce, Va., 5/12/2022.

'99

Richard W. Bryant Jr., Monroe, Va., 7/7/2022.

Joseph W. Cooke, Midlothian, Va., 5/3/2022.

Joseph A. Stanton, St. Petersburg, Fla., 9/19/2022.

'01

Thomas L. Webb III, Virginia Beach, Va., 6/30/2022.

'02

Thomas E. Ramskill, Edgewater, Md., 6/3/2022.

'03

Mary W. Garrison, Moseley, Va., 4/26/2022.

'07

Wesley A. Sanders, Penhook, Va., 5/1/2022.

'10

Brian S. Mc Elraft, Imperial, Mo., 7/23/2022.

'12

Jose C. DaSilva Guerreiro, Manassas, Va., 8/26/2022.

'13

Claire E. Blevins, Providence, R.I., 8/6/2022.

'14

Pamela J. Koretz, Westfield, Mass., 6/25/2022.

'15

Jeffrey D. Morris, Blacksburg, Va., 6/8/2022.

'16

Mary S. Lucado, Belspring, Va., 5/4/2022.

'17

Connell R. Pettit, Blacksburg, Va., 5/4/2022.

OBITUARIES

NOTABLE ALUMNI

Bill Latham '55 died Nov. 7, 2022, leaving behind a legacy of service and philanthropy to his alma mater. In 2007, Latham received the William H. Ruffner Medal, Virginia Tech's most prestigious honor awarded annually to recognize individuals who have performed notable service to the university. He also was presented the Alumni Distinguished Service Award in 1996. Latham twice served on Virginia Tech's Board of Visitors and sat on numerous university boards and committees, often alongside his wife, Betty. The Lathams' generosity is evident in scholarships, research, and physical spaces, such as the agriculture research building and The Inn at Virginia Tech's Latham Ballroom.

Cecil R. "Max" Maxson Jr. '52, who served 12 years on Virginia Tech's Board of Visitors, died Dec. 8, 2022. In 2001, Maxson was awarded the William H. Ruffner Medal and the Alumni Association's Distinguished Service Award. He was a member of the Ut Prosim Society, the William Preston Society, Endowed Golden Hokie member, and the Legacy Society. Maxson also served on the Alumni Association Board of Directors from 2003-09.

Nicholas Street '53, a namesake of the Street and Davis Performance Hall within the Moss Arts Center, died on Feb. 4. Street was a member of the Corps of Cadets and served in the U.S. Air Force in both active and reserve roles. He later earned a law degree from the University of Richmond and established the Street, Street, & Street firm with his brothers, H.A. and Eugene. He was a founding partner in United Coal Company and later The United Company before retiring in 2009. Street served on Virginia Tech's Class of '53 Reunion Committee, the Virginia Tech Athletic Fund Board of Directors, and the Corps Leadership and Military Science Committee, among other volunteer leadership roles. Along with his family, he generously supported the university. Street and his wife, Fay Street, were among the inaugural group of Foremost Benefactors. In May 2022, Street was honored with the Ut Prosim Medal.

FACULTY/STAFF

Gertrude "Trudy" Becker, a senior instructor of history, died Aug. 26, 2022. Becker joined Virginia Tech in 1991. She was associate chair of the history department from 2011-16 and served as an affiliate with the classical studies program in the Department of Modern and Classical Languages and Literatures.

James R. "Jim" Craig, a professor emeritus of economic geology and chair of the Virginia Tech Department of Geosciences from 1990 to 1994, died Dec. 23, 2022. His career as a university professor and research scientist spanned 35 years. Craig earned numerous awards for teaching excellence, including the prestigious Virginia Outstanding Faculty Award, the commonwealth's highest honor for faculty at Virginia's public and private colleges and universities.

Walling R. Cyre, associate professor emeritus of electrical and computer engineering, died Feb. 19. Prior to joining Virginia Tech in 1989, he was a consultant for Control Data Corporation. His experience in industry allowed him to bring important practical insights into the classroom and into his research. Cyre was a pioneer in electronic design automation and authored nearly 50 scholarly publications during his time at Virginia Tech. He was one of the co-inventors on the department's cognitive engine patent.

Howard Feiertag, hospitality and tourism management icon, longstanding faculty member, and namesake of the Howard Feiertag Department of Hospitality and Tourism Management in the Virginia Tech Pamplin College of Business, died March 3. Feiertag joined the Virginia Tech faculty in 1989. He was member of the President's Circle within Virginia Tech's Ut Prosim Society of donors. His many honors include the university's Award for Excellence in Outreach, an honorary lifetime membership in the Virginia Tech Alumni Association, and the Student Choice Award.

Reza Mirzaeifar, associate professor in the Department of Mechanical Engineering, died Oct. 19, 2022. Mirzaeifar joined Virginia Tech in 2014. He established the Future Materials Laboratory, and its work focused on developing new classes of materials with unprecedented mechanical properties as well as finding solutions for resolving long-standing problems in the mechanical properties of classical materials. In 2021, Mirzaeifar was named the John R. Jones III Faculty Fellow.

Dennis L. Price, a professor emeritus of industrial and systems engineering at Virginia Tech, died Jan. 8. Hired as an assistant professor in Virginia Tech's industrial systems engineering department in 1974, he advanced to become a full professor, director of the Safety Projects Laboratory, and coordinator of the Human Factors Engineering area before retiring in 1996.



A close-up photograph of a steel bridge structure, featuring a large, rusted 'V' shape. The background is blurred, showing more of the bridge's framework and some greenery.

STILL LIFE

STEEEL LIFE: In May 2022, Virginia Tech welcomed hundreds of engineering students from across North America to its Blacksburg campus for the National Student Steel Bridge Competition. The university also entered its own steel bridge team, made up of five Charles E. Via Jr. Department of Civil and Environmental Engineering students who competed and several others who helped behind-the-scenes planning and designing. The team incorporated the athletics logo into its design.

The competition challenges student teams to develop a scale-model steel bridge. Once built, the bridges are load-tested and weighed. The competing teams are judged in seven categories: construction speed, lightness, aesthetics, stiffness, cost estimate, economy, and efficiency.

“The steel bridge competition is a unique growing experience for students because it presents them with an uncomfortable problem to solve, one which their professor does not have the answer to,” said Zachary Coleman, a graduate student who helped organize the event.



END NOTE

DEFINING THE FUTURE IN D.C.

MY PATH TO A CAREER IN ENGINEERING started in high school in Indiana. My teachers told me that I should think about pursuing engineering. I didn't know any engineers or know much about engineering, but I decided to give it a try.

I grew to love the problem-solving part of it, doing something tangible and seeing the benefit. Today, as the dean of the College of Engineering at Virginia Tech, I see that same love in the students who walk across the Drillfield to classes and labs with missions of making a difference.

Our students inspire and motivate me. I love being around them, whether they're driving the Baja car around campus or playing with Corps of Cadets ambassador Growley III. When you're in an administrative position, you can get a little isolated from the reality of what students are experiencing. If I'm going to do the best job I can, I need to hear from and understand them. I feel that makes me better with my own decision-making.

When I see those students, I see Virginia Tech's future. That has me

excited about an opportunity recently granted to me by President Tim Sands.

In February, President Sands asked me to oversee a steering committee to guide Virginia Tech's future in the greater Washington, D.C., metro area. To be the university that we all want, we need to think deeply about what we want to do in this region, how that presence can help differentiate us as a land-grant institution from all the others, and how we can use the opportunity strategically to move us toward the president's top-100 global research institution goal.

I truly believe if we get the D.C. area right, we're going to meet that goal quickly. Not everybody sits adjacent to the nation's capital, so we need to be smart about what we choose to do there and leverage the opportunity in ways that others can't because they're not located where we're located. We're at a point where it makes sense to do this work.

A lot of past planning has been done. We need to understand all that's been achieved, bring our newer committee members up to speed, and determine

what of that work remains relevant today. We then need to frame a vision and define how we want to get where we want to be.

As a young woman in high school, I embraced an opportunity thanks to the encouragement of those around me. Now, I'm excited about being a part of this latest opportunity, one of utmost importance for the future of our university. If we get this right, then so many of the things that we aspire to for the university become easier—and well within our grasp. ■

Julie Ross is Virginia Tech's Paul and Dorothea Torgersen Dean of Engineering and a special advisor to President Tim Sands.



COLLEGE PREP: A high school student talks with Dean Julie Ross (right) following a presentation for the Black College Institute Pre-College Program in 2018.

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- Dinner and fireworks on the Drillfield
- Campus tours and exploration
- Happy hours with friends

ALUMNI.VT.EDU/WEEKEND