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FEATURES

DEPARTMENTS

ON THE COVER: The Moss Arts Center, which offers galleries, a performance hall, and other innovative spaces, features a visually stunning interior. Photo by Richard Boyd.
(at right) Students cheer on the Hokies during the Homecoming football game.

PRESIDENT'S MESSAGE

SUPPORT NETWORK: Catharine and Preston White, President of the Class of 2024 Colin Roberts, and President Tim Sands were on hand to celebrate the formal launch of the Virginia Tech Advantage, an initiative to help undergraduate students from Virginia overcome the financial barriers to higher education this fall.

FORWARD MOMENTUM

Over the next few weeks, Virginia Tech will wrap up a very active and enjoyable 2023 fall semester.

This season has given us many reasons to be proud of the talent and creativity found on our campuses. The Moss Arts Center is celebrating 10 years of attracting world-class artists and performers to Blacksburg (page 32). The Fralin Biomedical Research Institute at VTC recently received a $50 million gift from the Red Gates Foundation to support its transformative research (page 20), and we are emerging as leaders in the critical effort to expand domestic semiconductor research and manufacturing (page 24).

Coming off her election into the National Academy of Engineering, Linsey Marr, the Charles P. Lunsford Professor in Civil and Environmental Engineering, has been named a 2023 MacArthur Fellow, a highly prestigious award also called a "genius grant."

If you returned to Blacksburg for Homecoming (page 54), you might have noticed some changes to the campus. This season saw the opening of the new Corps Leadership and Military Science Building, the Upper Quad Residence Hall, and the Data and Decision Sciences Building. The Cook Counseling Center relocated to a space that allows staff to offer expanded resources for students. We also dedicated the new Quillen Spirit Plaza (page 18) and completed renovations to Dietrick Hall. These spaces support our vision for an educational experience that prepares students for a lifetime of success and well-being.

Our accomplishments over the last year were recognized in September, when Virginia Tech was named a top 20 public university in the 2024 U.S. News & World Report Best Colleges rankings, a three-spot jump up from last year.

These achievements also move us closer to our aspirational goals: elevating the global standing of the university and ensuring that even more students can take advantage of the many opportunities available at Virginia Tech.

We took an important step toward meeting the latter goal in October as we formally launched Virginia Tech Advantage, an initiative to help undergraduate students from Virginia overcome financial barriers that impact their educational experience.

Nearly every day, we see firsthand examples of the big things that happen when students come together with world-class faculty, hands-on learning, and a community that fosters personal growth and service.

During this season of gratitude, I am thankful to have the opportunity to work with this great university and the people like you who have been a part of its continued growth and success. ■

Tim Sands is Virginia Tech's 16th president.

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SOMETHING TO SAY?

Send us a message at vtmag@vt.edu.

LETTERS

TO THE EDITOR

REDUCE, REUSE, RECYCLE

Hi, VT Magazine! I enjoyed reading the latest issue (summer 2023) with lots of interesting articles about sustainability. Then I got to wondering: Is the magazine itself recyclable? The paper feels coated, so I'm hesitant to put them in the recycling bin. Could you include recycling information so recipients know how to dispose of them correctly?

Thanks for your input—it's appreciated!

Lynne Warburton, Hokie parent
Frederick, Maryland

EDITOR'S NOTE: Virginia Tech Magazine is printed on paper that has been Forest Stewardship Council (FSC) Mix certified, which means that it is made with a mixture of materials from FSC-certified forests, recycled materials, and FSC-controlled wood. Although the paper is considered a coated paper, it is recyclable.

Thank you for the suggestion to include a recycling mark. We are exploring options on how to do that correctly. In the meantime, we hope our readers will share their copies of the magazine with a prospective Hokie family or someone with an interest in the topics covered.

WELL CONNECTED

I thoroughly enjoyed your summer issue. Learned so much about microplastics and all the research being done at Virginia Tech.

I am a member of the Blacksburg community, and it is nice to learn about what's happening at Tech.

Marilyn Rio
Blacksburg, Virginia

LIQUID ASSETS

The article "Researching sea-level rise in Virginia" (summer 2023, p. 11) hit home with me and will hopefully uncover some cause/effect relationships.

One aspect of the research hypothesis that really resonates with me regards the value of marshlands. They have proven their worth to me for almost 25 years, as waterfront property I've owned has weathered several hurricanes, tropical storms, and "king tides." The marshes serve as protective buffers against wind-driven storm surges; without them severe erosion would certainly have occurred.

Nature does a great job of self-managing, if we just let it. No spraying for mosquitoes or horseflies. No lawn fertilizer, no weed killer. Foxes control the muskrat population.The entire property is diverse, but wonderfully interconnected: mature oak woodlands, open fields, and the marsh. It is a blessing to live here and a privilege to do my best as a caring steward.

Phil Putnam '80
Hartfield, Virginia

CORRECTION

The microplastic sample featured as the cover image of the summer edition of Virginia Tech Magazine was collected and prepared for viewing by Austin Gray, assistant professor of biological sciences.


FLAMMA

A CLEAN OUTCOME: A team of Virginia Tech researchers, led by Guoliang "Greg" Liu, has developed a new method for upcycling plastics into soap and detergents.

AROUND THE DRILLFIELD

NEWS

TURNING PLASTICS INTO SOAP

A TEAM OF VIRGINIA TECH RESEARCHERS HAS DEVELOPED a new method for upcycling plastics into soap, detergents, and more.

Guoliang "Greg" Liu, associate professor of chemistry in the College of Science, and Ph.D. chemistry students Zhen Xu and Eric Munyaneza built a small, oven-like reactor that heats polyethylene enough to break down polymer chains but keep them from breaking down into gaseous molecules. The process leaves a residue, which, after additional steps, can be turned into soap.

The upcycling method also works on polypropylene, another common plastic. Liu's method can be used on both plastics at once—an advantage over other methods that require careful sorting of plastics to avoid contamination.

"Our research demonstrates a new route for plastic upcycling without using novel catalysts or complex procedures," Xu said. "In this work, we have shown the potential of a tandem strategy for plastic recycling."

For upcycling to be effective on a large scale, the final product must be valuable enough to cover the costs of the process and make it more economically attractive than alternative options. Soaps are worth double the price of plastics when compared by weight, and the demand is comparable to plastics. ■

CD

PURSUING A PURPOSE: A group from Virginia Tech is teaming with SPC4Life, a Southside Virginia nonprofit organization, to help determine the future of St. Paul's College, a historically Black college that closed in 2013.

REIMAGINING A HISTORICALLY BLACK COLLEGE

VIRGINIA TECH IS TEAMING UP WITH a Southside Virginia nonprofit organization to reimagine the future of St. Paul's College, a historically Black college in Lawrenceville that was closed in 2013.

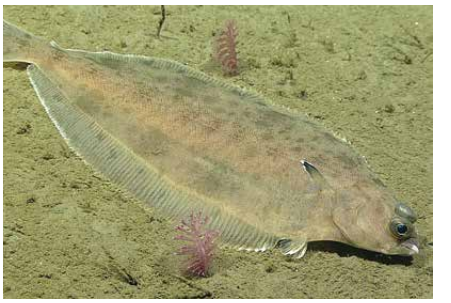
Scott Tate, associate director for community innovations with the Virginia Tech Center for Economic and Community Engagement (CECE), part of Outreach and International Affairs, is leading a transdisciplinary effort to develop recommendations for whether and how St. Paul's could re-enter the higher education market.

"This sort of engagement is who we are at Virginia Tech," Tate said. "In the true spirit of *Ut Prosim*, we are committed to fostering collaboration between Virginia Tech and communities across the commonwealth, building connections between urban and rural, and creating a Virginia full of economic vitality."

Tate leads the CECE research team that is studying demographics, economic conditions, and more. Three students in the Pamplin College of Business are analyzing the data, and the College of Liberal Arts and Human Sciences' Institute for Policy and Governance has been meeting with SPC4Life, the nonprofit group, to determine a vision on how to serve the community.

The next phase of the project involves sorting through the viewpoints and implementing recommendations. ■

FINDING FLOUNDER



A $300,000 FEDERAL GRANT FROM the National Oceanographic and Atmospheric Administration and Virginia Sea Grant funded research this summer that explored the population dynamics and distribution of summer flounder, a fish valued by those in the recreation and fishing industries.

The project between Virginia Tech, government agencies, and fisheries stakeholders aimed to understand how summer flounder are adapting to a changing environment and how those adaptations could impact flounder supplies.

"The summer flounder stock used to be mostly off Virginia and North Carolina, and those two states were given the biggest share of the commercial fishing quotas that were established in the 1990s," Holly Kindsvater, a professor in the Department of Fish and Wildlife Conservation, said. "But because of warming waters, summer flounder have shifted their ranges northward toward Long Island, where the quota share of northern states like New York and New Jersey are much smaller. This mismatch between biology and policy have changed the economics of the commercial fishery."

The goal is to collaborate with the seafood industry, sharing information to increase sustainability of fishing resources. ■

DIANE DEFFENBAUGH, PHOTO COURTESY OF NOAA FISHERIES

PAMPLIN DIVERSITY PROGRAM TAKES STUDENTS THROUGH EUROPE

IN JUNE, THE PAMPLIN COLLEGE OF Business' Office for Diversity, Equity, Inclusion, and Belonging (DEIB) implemented its first international experiential learning program, DEIB Around the World, taking 26 underrepresented and underserved undergraduate students on a 10-day trip through parts of Switzerland and Italy.

Students gained knowledge about the challenges international firms face when engaging in cross-border business, learned practical skills to create organizational value through international market expansions, and applied concepts from Pamplin's international business course.

DEIB Around the World is the first program of its kind to offer students the opportunity to travel abroad without the stressor of finances. All expenses were covered for students.

"DEIB Around the World was created to offer diverse students the opportunity and access to experience learning abroad and all it has to offer," Janice Branch Hall, associate dean for DEIB, said. "We are actively working to create a more sustainable model for this experiential learning program. ■

Riva San Vitale, Switzerland

PHOTO COURTESY OF RYAN KEVERLINE.

STOPPING THE BOOM OF BLOOMS: Virginia Tech researchers are working to develop the first automated, real-time lake phytoplankton forecasting system that hopefully can lead to stopping toxic blooms and improving water quality.

RESEARCHERS DEVELOPING SYSTEM TO FORECAST TOXIC BLOOMS

MEETING THE NEED FOR A BETTER understanding of when and where toxic algae blooms will emerge spurred Virginia Tech researchers to start developing the first automated, real-time lake phytoplankton forecasting system.

Working with the University of Florida, Virginia Tech faculty have been awarded a $2.2 million National Science Foundation grant as one of 12 projects funded by the foundation's new Using the Rules of Life to Address Societal Challenges program.

"If managers had forecasts of phytoplankton blooms, they could preemptively act to mitigate water quality impairment (e.g., apply algaecides, adjust water treatment), thereby decreasing costs and improving drinking water safety," said Cayelan Carey, professor of biological sciences and lead principal investigator.

Increasing water temperatures and nutrient pollution are transforming the freshwater environments where phytoplankton live, causing large proliferations of phytoplankton, or blooms, in numerous lakes and reservoirs.

Carey will lead four Virginia Tech researchers spanning three colleges and five departments and one researcher at the University of Florida in integrating cutting-edge lake ecosystem models and statistical software to create daily forecasts. The forecasts then will be provided to local water managers, whom researchers will be working with in tandem. ■

STUDY SHOWS VEGETABLES PROTECT THE BRAIN


C. Kathleen Dorey

A NEW STUDY THAT PUBLISHED IN the Journal of Alzheimer's Disease by a Virginia Tech Carilion School of Medicine faculty member shows that higher dietary levels of lutein, zeaxanthin, lycopene, and vitamin E, antioxidants found in vegetables, lead to better cognitive functions and lower risk for dementia or Alzheimer's disease.

"This study, for the first time, demonstrates deficits in important dietary antioxidants in Alzheimer's brains," C. Kathleen Dorey, professor in the Department of Basic Science Education at the medical school, said. "These results are consistent with large population studies that found risk for Alzheimer's disease was significantly lower in those who ate diets rich in carotenoids (antioxidants found in colorful plants) or had high levels of lutein and zeaxanthin in their blood or accumulated in their retina as macular pigment. Not only that, but we believe eating carotenoid-rich diets will help keep brains in top condition at all ages."

Research also has shown that the retina selectively accumulates lutein and zeaxanthin from the diet, enhancing vision. This accumulation allows researchers to estimate the concentration of both antioxidants in the brain.

Lutein is abundant in kale and spinach, and zeaxanthin is highest in corn and orange peppers. ■

NEWS

VIRGINIA TECH VIDEOGRAPHERS HAVE BEEN HARD AT WORK CAPTURING THE UNIVERSITY'S NEWS AND EVENTS. CHECK OUT THIS SAMPLING AND MANY OTHERS AT NEWS.VT.EDU/VIDEOS.

Linsey Marr leads collaborative project to mitigate flu

Marr, University Distinguished Professor in the Charles E. Via, Jr. Department of Civil and Environmental Engineering, is leading a team from the University of Michigan, University of Pittsburgh, Emory University, and Georgetown University.

Research continues to increase driver safety

The Virginia Tech Transportation Institute continues decades-long research on naturalistic driving patterns and driver reactions in and around vehicular crashes.

Tracking trees in Virginia

Faculty and students are increasing the care and appreciation of trees across the commonwealth through the Virginia Big Tree Program. To learn more, including how to nominate a tree, visit bigtree.cnre.vt.edu.

Students, faculty, and industry come together at TurboLab

It's not uncommon to find undergraduates working side by side with industry sponsors at Virginia Tech's TurboLab, a propulsion-focused research facility that began in the 1970s.

DIANE DEFFENBAUGH, PHOTO COURTESY OF HAILEY CONRAD.

RA

Living-Learning PROGRAMS

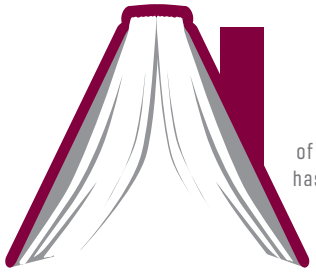
GIVING NEW MEANING TO HOME

When Virginia Tech President Tim Sands and the Board of Visitors identified Virginia Tech Advantage, an initiative to help undergraduate students from Virginia overcome financial barriers, as a leading priority for the university, they found a ready partner in a well-established and respected tradition for on-campus students: Living-Learning Programs (LLPs).

Living-Learning Programs at Virginia Tech are organized around a particular concept, interest, or population. Students live together in a dedicated residence hall space with staff and resources dedicated to each community. Participants delve into special academic and co-curricular programming designed especially for them.

"Students in Virginia Tech LLPs report high levels of finding social relationships that are supportive and rewarding, a better knowledge of resources that can help them succeed, feeling valued as a community member, feeling welcomed and that they belong, and finding meaningful relationships and involvement at Virginia Tech," said Jamie Penven, director of Living-Learning Programs.

Virginia Tech hosts three residential colleges that bring together undergraduates from all class years with live-in faculty to explore topics of interest across the broad spectrum of a liberal arts education. Virginia Tech also offers nearly 20 living-learning communities. These communities are typically for first-year students and focus on a specific theme or student population, such as engineering or first-generation students.



86%
of students believe living in an LLP has helped them develop a sense of belonging at Virginia Tech

76.1%
believe their community helped them get involved on campus

75.5%
of LLP students believe their community helped them succeed in their coursework

70%
believe their community has helped them gain leadership skills

ACCORDING TO NATIONAL RESEARCH STUDIES, LLPs RESULT IN:

- Better grades
- Stronger retention
- Smoother transition from home to college
- Reduced binge drinking
- Greater appreciation of cultural diversity
- Enhanced sense of civic engagement
- More frequent interaction with faculty members outside of class
- Greater peer interaction, including studying together, going to social or co-curricular events together, and attending diversity-related activities together

OPEN HOUSE

Learn more about Living-Learning Programs at news.vt.edu/magazine.

*Virginia Tech data was taken from the fall 2022 Residential Experience Survey.

Alumnus Jeff Midkiff (at center) plays his mandolin concerto with the Boston Symphony Orchestra.

NOTHING BETTER

> AS A KID OR YOUNG PERSON, IF YOU WERE TO SAY, 'IMAGINE THE GREATEST THING THAT COULD EVER HAPPEN TO YOU PROFESSIONALLY,' I DOUBT I COULD HAVE COME UP WITH **ANYTHING BETTER THAN THIS."**
>
> Jeff Midkiff '85

JEFF MIDKIFF '85—A CELEBRATED composer, conductor, musician, and educator—performed his three-movement mandolin concerto "From the Blue Ridge" with the Boston Symphony Orchestra at Tanglewood Music Center in Lenox, Massachusetts, on July 23.

Performing with one of the world's greatest orchestras and collaborating with Maestro Thomas Wilkins, principal conductor of the Hollywood Bowl Orchestra and the Boston Symphony's artistic advisor, are not merely additional accolades on Midkiff's extensive bio, but a "wonderful dream" finally realized.

"You can imagine how humbling it must be standing with Wilkins in front of the Boston Symphony. As a composer, there could be no greater experience," Midkiff said. "As a soloist, it was thrilling!"

As a self-producer, Midkiff has sent emails to conductors of orchestras all over the country, and he rarely receives a response. However, in December 2022 while checking email from his car outside a hardware store, Midkiff noticed an email from the Boston Symphony Orchestra in his inbox.

"It was from the artistic administrator saying that the conductor, Thomas Wilkins, would like to have me play my mandolin concerto with the Boston Symphony on July 23 at Tanglewood. Would I be interested?" Midkiff said.

At a loss for words and overcome by "shock and panic," Midkiff ran to his wife who was perusing paint samples and wordlessly thrust his phone in her face. He used the drive home from the hardware store to figure out how to professionally craft a response that said, "YES!"

"As a kid or young person, if you were to say, 'Imagine the greatest thing that could ever happen to you professionally,' I doubt I could have come up with anything better than this, being able to, as a composer and as a soloist, to have my music played by the Boston Symphony. It's difficult to put into words, but I'm humbled to say the least," said Midkiff.

"From the Blue Ridge" was composed for the Roanoke Symphony and Music Director David Stewart Wiley and premiered in 2011. Midkiff has performed it more than 20 times across the United States with several symphonies.

The composition blends music from the region with Midkiff's classical music education from Virginia Tech, where he received a bachelor's degree in music education, and Northern Illinois University, where he received a master's degree in clarinet performance.

Midkiff is currently the orchestra director at Patrick Henry High School. In addition, he received the Yale Distinguished Music Educator award in 2017. ■ *LB*

COMMISSIONED CONCERTO

Jeff Midkiff composed "From the Blue Ridge" for the Roanoke Symphony. Learn more at news.vt.edu/magazine.

PHOTO COURTESY OF THE BOSTON SYMPHONY ORCHESTRA.

FORWARD MARCH: Cadet Sarina Heron leads Echo Company onto the Drillfield for the New Cadet Parade this August.

PHOTO BY KATIE MALLORY

CELEBRATING 50 YEARS OF WOMEN IN THE CORPS

WHEN THE CORPS OF CADETS admitted women into its ranks in 1973, Virginia Tech became the first university to venture into the unknown territory for collegiate military schools. Serving as true trailblazers in the corps and for the nation, the women in L Squadron paved the way for women to follow in their footsteps for decades.

Cheryl Butler MacDonald '76, the corps' first Black female cadet and L Squadron commander in 1974, said, "The first year, I didn't feel like we were that much a part of the corps. The next two years, I think everyone else was more used to us being there, so we weren't an afterthought like we were the first year."

In 1979, women were integrated into the historically male-only companies and by the fall of 1987, the corps named its first female regimental commander.

"I was incredibly fortunate to feel welcomed in the corps from day one. I never had the experience of feeling somehow different because I was a woman. My male buds, many of whom remain good friends to this day, were supportive and treated me with the same respect with which they treated one another," said Denise Shuster Greenfield '88, who served as the highest-ranking cadet from 1987-88.

Fifty years later, 21 percent of the 1,200-plus cadets in the regiment are women.

"In my four years, I never felt I was at a disadvantage due to my gender. I was evaluated on both my academic and leadership abilities in the same way as everyone else, and never once felt like my gender played a role," said Eleanor Franc '19.

"It seems to me we incorporated women into the Corps of Cadets, and into leadership positions, without a whole lot of fanfare. That speaks volumes about the way we approach the business of creating leaders. That's certainly not to say we haven't had to learn and adapt, but we seemed to do so with the expectation that we were always going to succeed. That mindset creates a culture of leadership, inclusion and belonging that becomes part of the DNA of the organization," said Greenfield. ■

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

HOOKED FOR THE HOKIES

THE SUMMER OF 2023 ALWAYS will be memorable for Hunter Cattoor.

The Virginia Tech men's basketball player lowered his golf handicap to the 5-6 range, spent seven days in Switzerland and Italy with the men's basketball team as part of a preseason exhibition tour, and got engaged to longtime girlfriend Chloe Brooks, the daughter of women's basketball coach Kenny Brooks.

"It was kind of an eventful summer," Cattoor admitted. "I'm blessed to be in the situations I've been in and blessed to just have fun and enjoy life."

Selecting a venue, picking a florist, and sampling caterer options, though, will have to wait. These days, Cattoor is wedded to helping the Hokies bounce back from a disappointing 2022-23 season.

Virginia Tech won 11 of its first 12 games, but finished with a 19-15 record. As defending ACC champions, the Hokies failed to make the NCAA Tournament and bowed out of the National Invitation Tournament with a first-round loss to Cincinnati.

The Hokies' season arguably turned when Cattoor suffered an elbow injury shortly after Christmas that caused him to miss four games. The Hokies lost all four and never recovered.

"It was tough," Cattoor said. "We started off so strong. We were ranked, and it was my senior year, and we were on such a high. Then after the injury, and mentally and physically pushing through that to get back to playing, I just don't think we ever got back on track consistently.

"It's not like we weren't trying. It's not like it was a lack of effort. It was just things weren't clicking consistently like we needed for them to, and that's part of life. Sometimes, it's just not going to work out. You've got to take a step back. You've got to take a couple jabs and get knocked down, and I think—and I hope—guys take that as motivation. I know I am."

Cattoor, who averaged almost 11 points per game and led the ACC in 3-point field goal percentage at 42.4 percent, decided to return for another year shortly after last season ended. He took advantage of an NCAA rule that grants an extra season to those who had a season impacted because of the COVID-19 pandemic.

The Orlando, Florida, native had been contemplating trying to play professionally either in the United States or overseas, but a combination of factors led to his return.

"You kind of feel like, 'All right, I've done my time. I've been here for four years. It's time to move on,'" Cattoor said. "But also, you feel like sometimes you're not ready to leave something so special, and so I think that was just the big thing of coming back for another year. The people I was around and the frustrations we had last year, it's hard to go out on that note. I don't know if I could live with myself being like, 'All right, that was it. I think that was good enough.' I felt like there was something more, that there was more of a mark I could leave on Virginia Tech."

"I wanted him back for a lot of reasons," Virginia Tech coach Mike Young said. "Not the least of which is just what he's meant to me and Virginia Tech basketball throughout his time. We're fortunate that it worked out. I think the world of him, and I'm thrilled to have the opportunity to coach him for a fifth year." ■ *JR*

HOKIE HERO: Hunter Cattoor was the ACC Tournament Most Valuable Player in 2022 after helping lead the Hokies to the conference title and he hopes to do so again in his final season.

QUESTION

CAN YOU TRAIN YOUR BODY NOT TO FALL?

TRACKING A TRIP: Youngjae Lee works with Jon Passic, who is equipped with sensors that track his movements and response to a trip.

JORDI SHELTON

THAT'S THE QUESTION A STUDY LED

by the Madigan Biomechanics Group in the Grado Department of Industrial and Systems Engineering is exploring.

Professor Michael Madigan and Ph.D. candidate Youngjae Lee are researching how an innovative balance training regimen could potentially reduce injuries from trip-induced falls in adults over 65.

"How we move our body in response to a trip makes all the difference in the world in terms of whether we will fall or be able to recover our balance. What we're doing with this training is trying to improve that response, so we can do it effectively without thinking about it," said Madigan.

Over the course of three weeks, Lee and other graduate students meet with participants twice per week to go through progressive stepping exercises that mimic the movements necessary to regain footing during a fall. Once participants are comfortable stepping, the training extends to balancing the upper body and learning to balance the torso. At the end of their training program, participants harness up and test their balance recovery skills in the lab.

"Youngjae's research is allowing people to practice these movements over and over in a safe, controlled environment," Madigan said. "We're able to put people in body postures similar to what they would experience if they tripped and then allow them to practice these critical movements that we, and others, have identified as the movements you need to complete to recover your balance."

In addition to the balance training, participants wear the sensors that record body movements on their shoes and underneath their clothing outside the lab for three weeks after training. Lee checks the wearable sensors weekly to ensure they're working properly and collecting data. Participants also use voice recorders to describe any incidents of trips and falls and subsequent response.

"The data from the wearable sensors shows us if there are differences in responses to slips and trips from people who have completed the training," Lee said.

Lee plans to defend his dissertation at the end of the year. Pending results, researchers hope to partner with organizations and recruit even more participants to continue learning about mitigating trip-induced falls. Eventually, the goal is for balance training to occur in spaces widely used by older adults, such as retirement communities and senior centers.

To recruit participants for the study, Lee and Madigan partnered with Virginia Tech Center for Gerontology, the Virginia Tech Lifelong Learning Institute, local senior centers in Christiansburg and Blacksburg, and Warm Hearth Village. ■

Jordi Shelton is the communications manager for the Grado Department of Industrial and Systems Engineering.

BALANCING ACT

Read more about balance training research and watch a video about the project at news.vt.edu/magazine.

OLOGY

a subject of study

ol·o·gy
äləjē

A MATHEMATICAL ADVANTAGE

NATIONALLY RANKED PICKLEBALL player Trish Hammer, alumna and associate dean for faculty affairs in the Virginia Tech College of Science, utilizes her mathematical training to give her an edge over the competition.

"One big application of math in the calculus courses I teach is optimization, and for me, pickleball presents itself as one big optimization problem—I am trying to maximize output based on the variables I can control," said Hammer. "Maximizing means winning, and I'm always thinking about adjusting the variables to beat an opponent."

In pickleball, variables include techniques, shot selection, game strategies, conditioning, diet, and instruction.

In addition to analyzing the game through a lens of optimization, Hammer uses angles and margins of error to determine shot placement. If an opponent is standing in the back of the court, hitting a tighter angle is usually a more effective shot but it also comes with a greater margin of error. According to Hammer, the goal is to find the "sweet spot" between angle and margin error.

"Take into account how quickly your opponent moves in different directions," said Hammer. "An opponent may move more slowly side to side, and if so, it may be more effective for me to hit it a little closer to them by their side which has a smaller margin of error."

Permutations in pickleball expand the mathematical possibilities according to the player's skill level. Take the dink shot, for example. Players hit the ball softly back and forth with their opponents at the no-volley zone.

At a very basic level, there are three places for a player to hit the dink: straight across the court, toward the center of the court, or diagonally across the court. A rally might involve three shots, which means with three choices for each shot, there would be 27 ways to sequence three shots. However, an advanced player is also considering placement, speed, and spin.

"The idea is you want to consider these permutations in a way that optimizes your chances for success," said Hammer.

Pickleball comes down to patterns, and mathematics describes those patterns.

"People don't think that there's math around them, that they never use it, but we all do without realizing it," said Hammer. "I'm aware of it and the more aware of it I can be, this becomes a strength of my game." ■ *LB*

Trish Hammer

DO THE MATH: Trish Hammer, alumna and associate dean for faculty affairs in the Virginia Tech College of Science, said her mathematical training gives her a competitive advantage on the pickleball court.

REPLAY

Read more about the mathematics of pickleball and watch a video at news.vt.edu/magazine.

STEVEN MACKAY

HOW TO:

UNLEASH SOME **PAW-SOME** PHOTOS

PETS HOLD A SPECIAL PLACE IN OUR hearts, but capturing their adorable antics and unique personalities through photography—although a popular and cherished pastime—can be tougher than imagined because of pets' unpredictable behavior. Here are some tips for taking memorable photos.

1. **Patience is key.** Animals have their own schedules and moods, so it's crucial to observe and understand their behaviors. Allow your pet to release some energy beforehand if needed and connect with your pet before picking up your camera. Bonding will not only help you capture your pet's true essence but also create a relaxed atmosphere for both of you. Nobody having fun? Try again another day.
2. **Create a pet-friendly environment.** Select a place where your pet is comfortable, and if you're taking photos outside your home, make sure you let your pet acclimate to the environment. Of course, know and follow all local leash laws and regulations as well.
3. **Lighting matters.** Early morning or late afternoon, when the sun is softer, are often excellent times for warm, glowing pet photos. Flash photography should be used sparingly unless your pet is comfortable with the flash.
4. **Focus on the eyes.** They say they're the windows to the soul, and this rings true in pet photography as well. Consider experimenting with different focusing techniques, such as using a shallow depth of field, to make the eyes stand out.
5. **Capture your pet's unique personality.** Be patient, waiting for those moments when your pet's individuality shines through.
6. **Experiment with perspective and composition.** Don't be afraid to try different angles and compositions, consider close-ups, and get down to eye level to shoot from the animal's perspective.
7. **Treats and toys.** These can sometimes help in getting your pet's attention and keeping them engaged.
8. **Capture candid moments.** Candid shots evoke powerful emotions and tell a compelling story.
9. **Take lots of photos.** Digital photography means you can easily delete photos and keep only the best ones.
10. **Post-processing.** Editing—using many free and subscription apps and programs—can elevate your photos to the next level.

Grab your camera, show your pet some love, and launch an photographic journey that will forever preserve precious moments with your pet. ■

Margie Christianson is the Virginia-Maryland College of Veterinary Medicine's communications manager and photographer.

SNAP HAPPY

Find out more about how to take a great photo of your pet and see more examples at news.vt.edu/magazine.

MARGIE CHRISTIANSON

BIRDS OF A FEATHER

A BIRD'S EYE VIEW: (above) On Sept. 20, Virginia Tech held a special event to dedicate the Quillen Spirit Plaza. (top right) Each of the HokieBird designs incorporates traditions and symbols that reflect the Quillens' connections to and experiences with the university. Artist Heather Gearhart helped bring the ideas to life.

A TRIO OF HOKIEBIRDS WELCOMES visitors and members of the Virginia Tech community to the Quillen Spirit Plaza.

Located between Dietrick Hall and Washington Street, the plaza transforms and modernizes a central campus gathering place that connects residential spaces to athletics via Dietrick Lawn.

The Spirit Plaza and its HokieBirds are a testament to the Quillens—parents, Mike Quillen '70 and Sherry Quillen '71, and their children, Chris Quillen '98, Hunter Quillen Gresham, and Matt Quillen '06—their history with Virginia Tech, and their commitment to make it a better place for students. A collective gift from the children—one of the largest in Student Affairs' history—funded the plaza.

FULLY FLEDGED

To watch videos about the installation and dedication of the HokieBirds and to read more about the Quillen Spirit Plaza and the family behind it, visit news.vt.edu/magazine.

CIRCLE OF TRADITIONS

Twenty-six paving stones installed on the Quillen Spirit Plaza represent the 26 miles Addison Caldwell walked to be the first student to enroll at Virginia Tech. These pavers flow from west to east in a historical timeline from 1872 to the present.

THIS IS HOME

A new HokieBird statue, named "This Is Home," celebrates Hokie traditions. It carries a lunch pail, wears a class ring, and features a tattoo on its bicep.

"This is Home" also highlights the varied logos and taglines used by the university since 1872. And it contains clues to a variety of Virginia Tech traditions incorporated into the Circle of Traditions.

HEAVY METAL

Standing 10 feet tall and weighing in at 1 ton, the bronze HokieBird that formerly stood in Cassell Coliseum now roosts in the center of the circle on the east side of the plaza.

SPIRIT OF TECH

Sherwood “Sherry” Payne Quillen ’71 was one of the first to commission a custom HokieBird from the Blacksburg Partnership’s Gobble de Art civic art project in 2006. She designated it as a salute to past, present, and future spirit squads and HokieBird mascots.

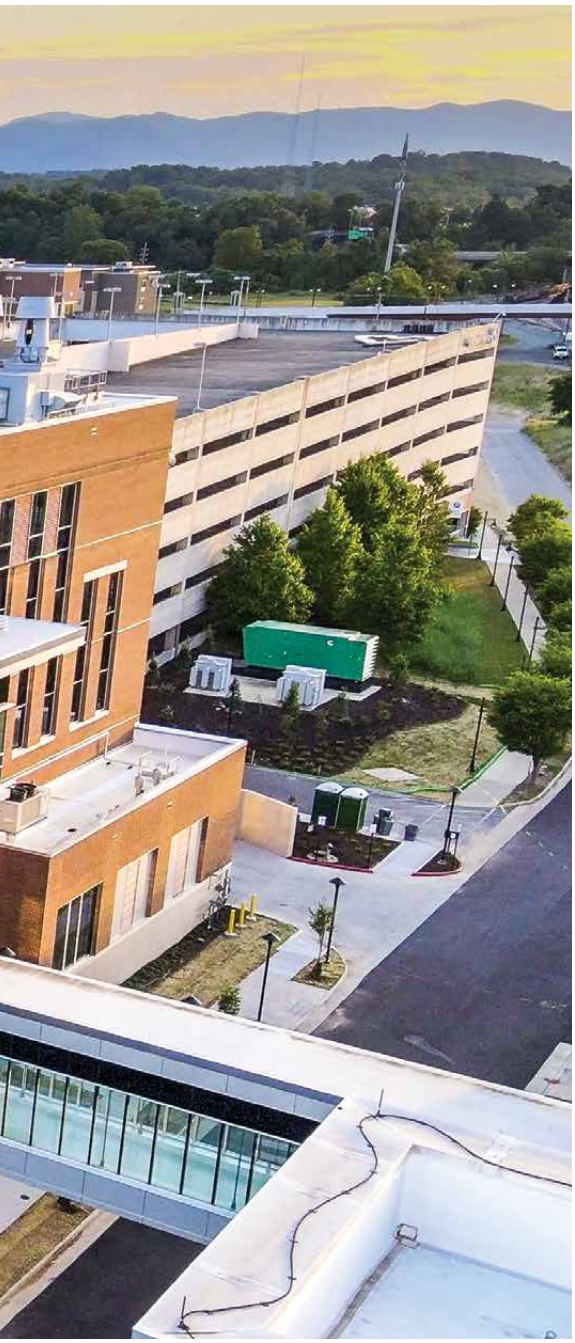
The "Spirit of Tech" formerly stood in a prominent position in Squires Student Center’s main entrance.

RM, HUNTER GRESHAM, LF

LANDMARK $50 MILLION GIFT

TO DRAMATICALLY EXPAND HEALTH SCIENCES RESEARCH AT VIRGINIA TECH

FUELING HEALTH RESEARCH: The Fralin Biomedical Research Institute at VTC continues to rise as an innovative hub for translational brain, heart, and cancer research. Boosted by a $50 million gift from the Red Gates Foundation, the institute will hire 14 new faculty and embark on six research projects.



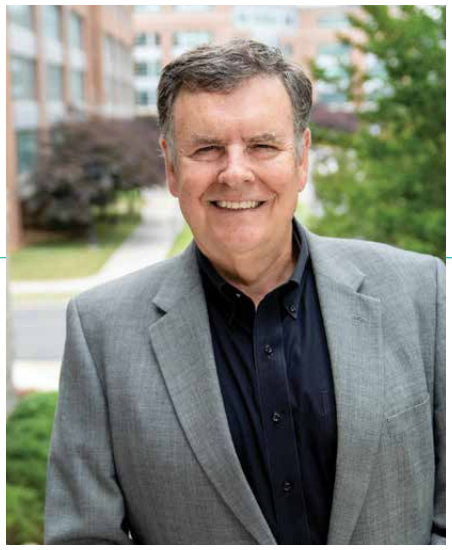
RYAN ANDERSON

THE RICHMOND-BASED RED GATES Foundation has committed $50 million to the Fralin Biomedical Research Institute at VTC to accelerate health sciences research at Virginia Tech. The gift is among the largest ever made to the university.

"The Red Gates Foundation is committed to funding innovative research that has the potential to make a real difference in the world," said Jeff Galanti, the foundation's executive director. "The Fralin Biomedical Research Institute is a world-renowned research institution that pushes the boundaries of what is possible. We are confident that their nimble approach to research, which is focused on the intersections of science, medicine, engineering, and data analytics, will help them make significant breakthroughs that benefit humanity in the years to come."

The Red Gates Foundation was created by the estate of Hunter Goodwin in 2020. The foundation's overarching mission is to usher in transformative change by supporting innovative programs and community-driven initiatives that boldly tackle seemingly insurmountable challenges.

"At the heart of the Red Gates Foundation's philosophy is a recognition that genuine progress requires more than just financial resources; it demands a commitment to innovative thinking, collaborative partnerships, and a profound understanding of the unique needs of those it seeks to help," the organization said in a statement.



MICHAEL FRIEDLANDER is the vice president for health sciences and technology at Virginia Tech and executive director of the Fralin Biomedical Research Institute at VTC. He has built the institute's research programs to over $170 million in value with more than 35 research teams and over 450 investigators and students since its opening in 2010.

"We are grateful for this extraordinary gift from the Red Gates Foundation supporting Virginia Tech's commitment to health and biomedical sciences," said university President Tim Sands. "As we work to significantly increase the impact of our biomedical research, this gift will accelerate our timeline and help recruit world-leading researchers to join us in fighting diseases that impact millions of people worldwide."

Added Sands,"It is a powerful endorsement of the Fralin Biomedical Research Institute's rapid rise as one of the nation's most innovative and productive enterprises in translational brain and heart research, and its emerging focus on sim-

ROBERT GOURDIE'S research project is creating a new therapeutic approach to reducing side effects of radiation treatment in cancer patients. He is a senior member of the National Academy of Inventors.

JENNIFER MUNSON will explore a new technique that targets and destroys invasive brain cancer cells. Munson is a co-director of the Virginia Tech Cancer Research Alliance.

WARREN BICKEL'S research project will focus on a remotely delivered smartphone application that helps the brain consider future events to reduce smoking and incidence of lung cancer.

ilar innovation in cancer research under the leadership of founding Executive Director Michael Friedlander."

Friedlander, who is also Virginia Tech's vice president for health sciences and technology and who has led the development of the partnership with the Red Gates Foundation, said, "We are incredibly grateful to the Red Gates Foundation and are excited to now be able to do more to address two of the major categories of health challenges that affect millions of people worldwide—cancer and brain disorders. This transformational gift will create new opportunities for our already highly successful neuroscience research programs at the institute and across the entire Virginia Tech campus. It will also serve as a major foundational launch pad for growing our cancer research programs and accelerating the transition of the Virginia Tech-wide Cancer Research Alliance to a more potent and integrated alliance while also building stronger bridges with our clinical partners at Carilion Clinic and Children's National Hospital."

A majority of the gift will go toward recruiting 14 researchers focused largely on cancer, but also on neuroengineering and computational neuroscience. A third of the gift will support six major research projects, directed toward cancer and brain disorders in adults and children. Each of the six projects will be led by a senior Fralin Biomedical Research Institute faculty member based in Roanoke, Virginia.

Expanding the international scope of the university's research enterprise and elevating the university's global standing is a principal objective of Virginia Tech this decade. The Red Gates Foundation gift, which equals the two largest ever made to the university, will help a great deal by allowing the university's premier health sciences research institute to increase by roughly one-third the number of faculty-led research teams.

The six immediate projects led by senior researchers at the institute that will be made possible by the Red Gates Foundation gift are the following:

- A new therapeutic approach to reducing side effects of radiation treatment in cancer patients in a project led by Robert Gourdie
- A new technique that targets and destroys invasive brain cancer cells in a project led by Jennifer Munson
- A remotely delivered smartphone app that helps the brain consider future events to reduce smoking and incidence of lung cancer among veterans in a project led by Warren Bickel
- Combination therapies and delivery routes that target mitochondrial dysfunction in nerve cells to slow and prevent Parkinson's disease progression in work led by Anthony-Samuel LaMantia with collaborator Read Montague
- New machine learning applications to rapidly measure neurochemicals in the brain for precision diagnosis and tracking of effective therapeutics to treat

ANTHONY LAMANTIA'S research project (with collaborator Read Montague) will explore combination therapies and delivery routes that target mitochondrial dysfunction to slow and prevent Parkinson's disease progression.

READ MONTAGUE'S research project involves new machine learning applications to rapidly measure neurochemicals in the brain for precision diagnosis and tracking of effective therapeutics to treat epilepsy in children.

ZHEN YAN is developing a compound that mimics exercise for promoting health and preventing and treating non-communicable diseases, including cancer.

epilepsy in children in work led by Montague

- Development of a compound that mimics exercise for promoting health and preventing and treating non-communicable diseases including cancer in work led by Zhen Yan with collaborator Webster Santos

"These six projects will each provide important new scientific insights and take critical steps to advance those insights to evaluation of effective diagnostics, preventatives, and treatments for cancer and brain disorders," said Friedlander. "This gift from the Red Gates Foundation makes possible a carefully designed plan to enhance our cancer research and our research enterprise overall, building on our strengths in neuroscience, our relationships with researchers across several Virginia Tech colleges, and our partnerships with Children's National Hospital and Carilion Clinic."

In 2007, the Commonwealth of Virginia, Virginia Tech, and Carilion Clinic joined together to announce an advanced biomedical research institute and medical school in Roanoke. Fueled by investment by the commonwealth, the university, and Carilion and bolstered by philanthropy, the institute has helped Virginia Tech dramatically expand its health sciences research over the past decade.

Heywood Fralin, a Roanoke businessman and health care executive who made the major gift that named the research institute in 2018, said ongoing investment in biomedical research is a wellspring to enrich Virginia's economy.

"All at the research institute thank the folks at the Red Gates Foundation for their support and confidence in the research occurring here in Roanoke," Fralin said. "This investment will allow Mike Friedlander and his team to hire more world-class research teams at a faster pace. This quality research will contribute to the greater good and advance public health around the world."

Added Fralin, "It's the sort of thing that gets me up every morning. All the research that the colleagues here are doing is exciting and of great quality that leads to the betterment of humankind. Additionally, this research will continue to greatly enhance economic development in this region and throughout the Commonwealth of Virginia. Thanks, again, to the Red Gates Foundation for investing in this game-changing research."

New hires enabled by the gift will include 11 tenured or tenure-track faculty. The gift will also support the hiring of three non-tenure-track research faculty.

The gift enhances the university's emerging partnership with Children's National Hospital, consistently rated one of the top five children's hospitals in the U.S., by facilitating the hiring of several additional research teams located at the new Children's National Research & Innovation Campus in Washington, D.C., in addition to cancer research faculty hired through additional university support to work in Virginia Tech labs at that campus. ■ *AR*

SQUEAKY CLEAN: Students in the College of Engineering fabricate semiconductors in a clean lab. The lab uses a special yellow UV light and enhanced air filtration systems.

VIRGINIA TECH IS SATISFYING THE CRAVING FOR

SEMICONDUCTOR ADVANCEMENT

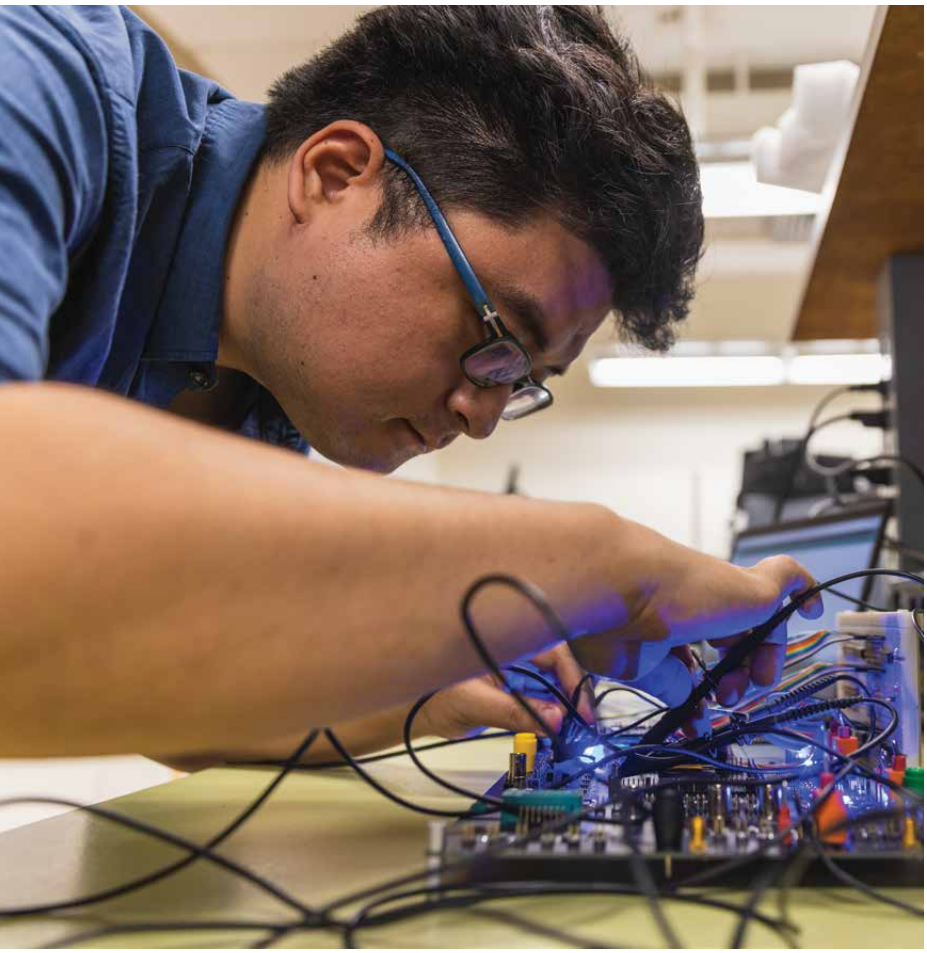
COURSE BY COURSE

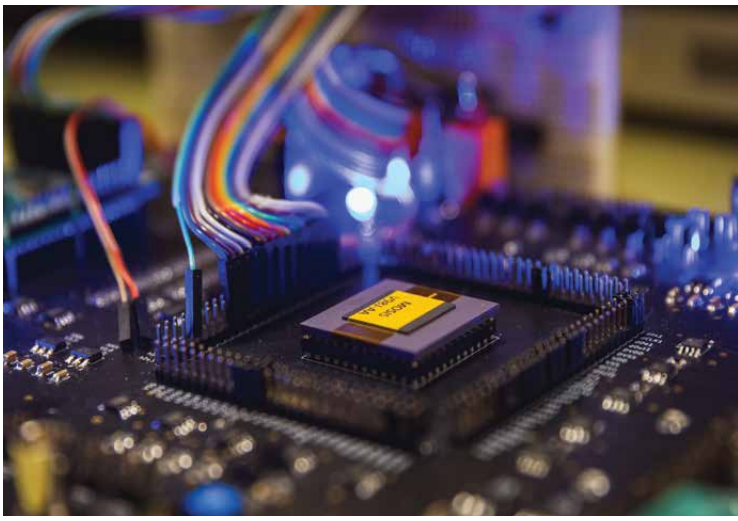
By Travis Williams with Chelsea Seeber

Amrita Chakraborty, graduate student

Semiconductors, or chips, are tiny electronic devices that are integral to economic and national security. These devices power tools as simple as a light switch and as complex as a fighter jet. Semiconductors power our consumer electronics, automobiles, data centers, critical infrastructure, and virtually all military systems. They are also essential building blocks of the technologies that will shape our future, including artificial intelligence, biotechnology, and clean energy.

Given the variety of applications for semiconductor technology, the career opportunities also have a wide range, from manufacturing and engineering to research and development. By increasing opportunities through the development of new majors and professional programs for lifelong learning, Virginia Tech is securing a pipeline of talent to continue to support the semiconductor industry in the commonwealth, around the nation, and across the globe.





SET IN MOTION: (at left) Honghao Zheng, an electrical and computer engineering graduate student, works in the Multifunctional Integrated Circuits and Systems Lab. (opposite page) The chips are fabricated in a clean lab that uses a special yellow ultraviolet light and enhanced air systems.

SOMETIMES THE BURRITOS SHOW UP BEFORE THE CHIPS.

In the case of Virginia Tech's major in chips-scale integration, 50 homemade breakfast burritos helped draw faculty to a Cinco de Mayo-themed meeting in 2016. Anchoring the agenda: a vote on a new curriculum for the Bradley Department of Electrical and Computer Engineering (ECE). The potential revamping, which included the new semiconductor-focused major and 13 others, would be the department's first major curriculum shift since 1989, nearly three decades earlier.

That pivotal meeting took place six years before semiconductors, or chips as they are commonly called, and the critical hardware components' manufacturing became a national focus. So universal buy-in for the new curriculum was far from a given.

"At one point during the meeting, Fred Lee stood up, and it goes totally quiet," said Luke Lester, head of the department and co-creator of the new curriculum. "I remember thinking this is either going to be really good or really bad."

A University Distinguished Professor Emeritus, Lee endorsed the new curriculum and capped the roughly two-month sprint of Lester and his colleagues to reimagine it in ways that better reflected real-world needs and more effectively communicated possibilities in the field to future students.

"I went 'Hallelujah' in my head," Lester said.

The successful vote that day helped propel the chips-scale integration major into existence, and the effort was boosted by receiving a National Science Foundation Revolutionizing Engineering Departments grant just a few months later.

Since its inception, the chips-scale integration major has recorded a sevenfold increase in the number of students declaring and graduating with a specialization in chips and is among the factors that have positioned Virginia Tech to play a key role in the United States' effort to onshore semiconductors today.

"Back then, we surely weren't predicting the CHIPS and Science Act, but work-

ing with our advisory board and faculty, we were forecasting that this was needed and began encouraging more and more students toward the major," Lester said. "We're excited to be in this position now because our faculty and students not only get to be part of this national priority to become more globally competitive in the semiconductor space, they're going to change the world and make other people's lives better."

Signed into federal law in August 2022, the term "CHIPS" in the CHIPS and Science Act stands for Creating Helpful Incentives to Produce Semiconductors, while "chips" also serves as a common term for semiconductors.

It's true what they say about chips, you can't just have one. In fact, about 1,500 of these critical hardware components are needed to outfit a single automobile.

It's also true that there isn't just one Virginia Tech effort helping to find viable solutions to meet the growing demand for research, development, and manufacturing of chips in the United States. The land-grant university is leading in multiple ways, not only in classrooms and labs, but across the state, country, and even around the globe.

Faculty are advancing cutting-edge research ranging from examining semiconductors' potential to help reduce greenhouse gas emissions to exploring the role of artificial intelligence in semiconductor configurations and efficiency. To help cultivate work-ready graduates, the researchers include students throughout the process.

This spring, Virginia Tech was named the anchor institution for the Virginia Alliance for Semiconductor Technology (VAST) and Virginia Tech's Masoud

"WE'RE EXCITED TO BE IN THIS POSITION NOW BECAUSE OUR FACULTY AND STUDENTS NOT ONLY GET TO BE PART OF THIS NATIONAL PRIORITY TO BECOME MORE GLOBALLY COMPETITIVE **IN THE SEMICONDUCTOR SPACE, THEY'RE GOING TO CHANGE THE WORLD AND MAKE OTHER PEOPLE'S LIVES BETTER."**

Luke Lester, professor and head
Bradley Department of Electrical and Computer Engineering

LH

WORKING KNOWLEDGE: (far right) Professor Christina DiMarino uses equipment in Center for Power Electronics Systems Packaging Lab.

Agah its founding director. Bringing together numerous higher education institutions, government entities, and industry partners, the initiative will create a statewide network to advance research, capitalize on economic opportunities, and cultivate a robust and diverse workforce. This effort is bolstered by the university's designation both as a founding member of the 21-institution, Micron-formed Northeast University Semiconductor Network and the 11-university network Upwards for the Future, which was designed to cultivate a more diverse and robust talent pipeline for the semiconductor workforce that spans the U.S. and Japan, this year.

And in July, just weeks shy of the CHIPS Act's one-year anniversary, Virginia Tech hosted more than 100 leaders from higher education, industry, and government to discuss the collaboration needed to onshore semiconductor manufacturing during the CHIPS for Virginia Summit. Held in conjunction with Northrup Grumman Corp. at its headquarters in Falls Church, Virginia, the summit showcased the university's unique capability to serve as a conduit to support Virginia's efforts to become a leader in semiconductors.

"None of us can do it alone and, for me, this has been the foundation for orchestrating the formation of the Virginia Alliance for Semiconductor Technology, or VAST," said Agah, the Virginia Microelectronics Consortium Professor of Engineering at Virginia Tech, during the event. "If there is a group of leaders positioned to help shape the future of semiconductor technology in Virginia, it is the esteemed group of stakeholders gathered here today."

CHARGING ACROSS TRADITIONAL BOUNDARIES

Sheena Deivasigamani's senior design project provided hands-on experience while also helping her get a foot in the door with an industry partner.

Deivasigamani, who graduated with a degree in chip-scale integration in 2023, worked alongside engineers from Micron Technology Inc. and ECE faculty to attempt to make a more flexible and organic version of random-access memory cells.

"It was great getting real feedback from our industry mentor at Micron," she said. "Our team kept Micron up to date on our progress, and we even had a chance to visit the facility in Manassas in person to present our work thus far."

The experience helped land Deivasigamani a summer internship with Micron where she focused on data analysis to optimize chip functionality.

Offering undergraduate students opportunities for real-world, hands-on experience while learning from faculty and industry experts is a priority for the chips-scale integration major, for the department, and for Virginia Tech. Moving the educational experience beyond the bounds of textbooks helps jump-start students' careers.

LH

Graduate students yearning to learn more about the semiconductor industry are also well positioned at Virginia Tech's Blacksburg and greater Washington, D.C., metro area locations.

Danielle Lester, a master's student in electrical and computer engineering and graduate research assistant, is learning from some of the most accomplished researchers in the field through the Center for Power Electronics Systems at Virginia Tech. Since 1998, when the center was established as a National Science Foundation Engineering Research Center, researchers there have contributed to some of the most cutting-edge power and energy advancements in history.

Working directly with Assistant Professor Christina DiMarino at the lab in Arlington, Virginia, Danielle Lester is helping to improve the yield of high-voltage power modules with advanced packaging techniques through fabrication refinements. This technology can be applied in spaces like renewable energy and all-electric transportation.

"I love power electronics packaging because I love solving a problem at its core," said Danielle Lester, who has no relation to Luke Lester. "And at the core of every electrical system, and every converter, is a package. Extracting all of the benefits from a semiconductor depends a lot on how you package them."

DiMarino said that while about 10 percent of semiconductors are made in the U.S., only about 3 percent of the necessary packaging takes place domestically.

"While it is important to increase semiconductor manufacturing in the U.S., we also need to consider the packaging of the semiconductors as that is a critical step in the chip ecosystem and our manufacturing capability that we are also lacking domestically," DiMarino said.

DiMarino is one example of faculty whose research intersects with workforce development. As the assistant director of the Center for Power Electronics Systems, she helps shape the future of packaging chips, while also introducing high school students to power electrics through internships and education programs.

DiMarino also works with researcher Yuhao Zhang, assistant professor in ECE, to advance and improve current semiconductor technologies. Zhang, DiMarino, and two more ECE researchers are improving efficiency and reducing the environmental impact of electronically driven power switches to make the multibillion-dollar industry a little greener.

"The power semiconductor market has reached $40 billion and is forecasted to more than double that amount by the year 2030," said Zhang. "Innovation in power semiconductors is a driver for energy savings in data centers, electric vehicles, and the electric grid. Therefore, it holds the key for realizing the unprecedented cuts in carbon dioxide for a greener and more sustainable environment."

With similar potential to revolutionize the semiconductor industry, Associate Professor Jeff Walling has partnered with Professor Paul Ampadu and Associate Professor Cindy Yi to create artificial intelligence (AI)-enabled wireless circuits and systems.

Having received a $500,000 grant from a National Science Foundation program in partnership with Taiwan's National Science and Technology Council, the group aims to create a healthier ecosystem for semiconductor technology innovation.

"AI-enabled millimeter wave circuit design is revolutionizing the semiconductor research landscape and driving significant advancements in U.S. chip design and fabrication," said Yi. "By harnessing the power of AI and machine learning algorithms, researchers and engineers can rapidly explore a vast design space and identify optimal circuit configurations with unparalleled efficiency."

Virginia Tech was one of six U.S. universities selected for the program, which will allow Ph.D. and master's students from Virginia Tech and Taiwan universities to cross-train in both countries for an enriched research environment designed to accelerate progress in the realm of semiconductor chip design and fabrication.

Luke Lester said one of the key aspects of the chips scale integration, and all of ECE's 14 majors, is allowing the faculty's cutting-edge research to inform the curriculum.

There is, perhaps, no better example of that than Agah, whose research has focused heavily on the biomedical usage of semiconductors. Agah recently received a National Science Foundation award to develop a novel skin sensor using semiconductor technology that provides insight into an individual's health. For years, Agah has served as the faculty lead for the Micro Electro-Mechanical Systems Lab, where he has mentored dozens of graduate students.

"After a Ph.D. student's first year, I try to keep a safe distance from them," Agah said. "They probably don't know why, but I want to give them a sense of ownership. They're not doing it [the research] for me, they're doing it for themselves—and that's when creativity kicks in."

After decades of helping students explore a wide range of opportunities in the field of semiconductors, Agah is now also focusing his efforts on the opportunities in the semiconductor space across the commonwealth.

VAST OPPORTUNITIES

For more than five years, Agah worked toward establishing a network of higher education institutions, industry partners, and government agencies with the joint mission of semiconductor research, manufacturing, and workforce development.

In April, that vision was made public when Virginia Gov. Glenn Youngkin announced a Growth and Opportunity for Virginia (GO Virginia) award of $3.3 million would fund the establishment of VAST and the accompanying adult learning program for continuing professional development, Fast Track to Semiconductor Careers. Roughly three months later, it was made official with the signing of a memorandum of understanding during the CHIPS for Virginia Summit.

"Virginia is a great home for chips, microelectronics, and technology," Agah said. "There is a lot we can do regionally, and together we can do a lot more. This alliance leverages our collective strengths and mobilizes partners throughout the state."

Headquartered at the Virginia Tech Research Center—Arlington, VAST will include nodes

MEETING OF THE MINDS: (above, left) A memorandum of understanding for the Virginia Alliance for Semiconductor Technology was signed during the CHIPS for Virginia Summit held in July. (above, right) (from left) Roshan Roeder, corporate vice president and president of Northrop Grumman's defense systems sector, moderated a conversation with Kathy Warden, chair, chief executive officer, and president of Northrop Grumman, and Virginia Tech President Tim Sands during the CHIPS for Virginia Summit.

COURTESY OF NORTHROP GRUMMAN

at George Mason University, the University of Virginia, Virginia Commonwealth University, Norfolk State University, and community colleges across the state while also working with Virginia Tech's Blacksburg campus. The effort will benefit from partnerships with a range of state and local organizations, including the Virginia Innovation Partnership Corporation and the Virginia Economic Development Partnership. And it will utilize support from industry, which was led by Micron's initial monetary commitment and includes companies such as BAE Systems and Northrop Grumman.

Along with multisector collaboration, Fast Track to Semiconductor Careers, the adult learning program, is a key component of VAST. The 10-week, certificate-based program will enroll about 300 students each year, with preference given to U.S. military veterans and underrepresented populations. The program expects to train 600 adult learners, award 550 certificates, and create 100 internships during the full two-year grant.

Kevin Crofton, a 1983 Virginia Tech graduate with more than 30 years of experience leading companies and partnerships in the semiconductor industry, said the industry really has two needs—research and development and access to talent. He believes both are opportunities for the newly established alliance to greatly impact the state.

"The member universities in VAST have an opportunity to satisfy some of those needs in a big way and as such, represent a draw for companies to come to Virginia Tech," said Crofton, the namesake of Virginia Tech's Kevin T. Crofton Department of Aerospace and Ocean Engineering. "It's as simple as that."

Agah said he not only sees opportunities for the state with VAST, but also for many departments across Virginia Tech to engage with the network in ways that keep curricula current.

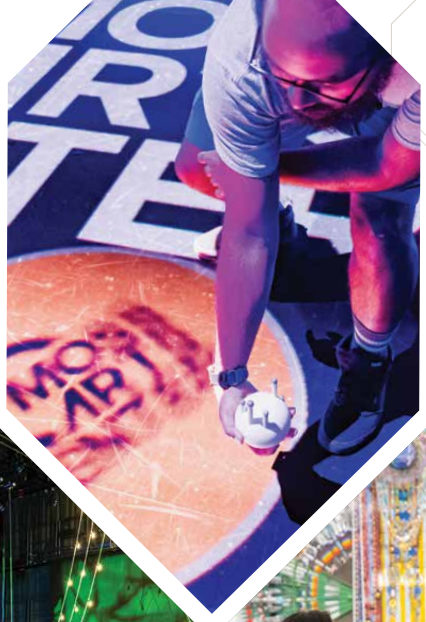
"If industry is thinking about it, and the university is doing research about it, then we can start to think about creating courses or modules within courses around things that are going to happen five, 10 years from now," Agah said. "This can help us stay at the forefront of educating students so when they graduate, they'll be able to make the fast and necessary changes that industry requires."

As a person who has seen first-hand Virginia Tech's growth in the semiconductor arena, Agah said the key for future success is to continue moving forward.

"We were ahead of the game, primarily because we already have the chips-scale integration major, but the game never ends. It's never over," Agah said. "That's the nature of research, it never stops and it's always opening doors. We have to remain adaptable and willing to evolve so we don't become static because if you become static, you can't make contributions."

ALL THAT AND A BAG OF CHIPS

Listen to a podcast, watch a video, and read more at news.vt.edu/magazine.



THE STATE OF *the arts*

By Susan Bland
Photos courtesy of the Moss Arts Center

Positioned at the edge of the Blacksburg campus, the Moss Arts Center stands as a bridge between Virginia Tech and the surrounding community. Through performances and exhibitions, the center connects students and faculty with individuals and families from around the region.

"The Moss Arts Center has introduced a decade of excellence in programming for not only the immediate community, but as a beacon for cultural opportunities throughout the New River Valley and Southwest Virginia," said David Rotenizer, executive director, Blacksburg-Christiansburg-Montgomery County Regional Tourism. "As a Destination Marketing Organization, we are so fortunate to have such a tremendous asset to help define our community and the quality of life. Beyond doubt, the Moss Arts Center is a key signature venue and arts facility—so much, that I now refer to it as one of our arts and culture pillars."

Designed by the internationally renowned architecture firm Snøhetta, the building was named for Virginia artist and philanthropist Patricia Buckley Moss.

"The arts can change people's hearts, change their minds, and change their lives," Moss said. "I was lucky enough to find them at a young age, and they opened up so many learning avenues and professional opportunities for me. That is why I am so excited about the impact this wonderful facility will make on thousands of people, young and old, across this entire region of our state."

For more than 10 years, the Moss Arts Center has done that and more.

In tandem with Virginia Tech's School of Performing Arts, School of Visual Arts, and numerous arts-oriented student organizations and activities, the Moss Arts Center creates opportunities for students and the greater community to experience the work of world-class artists and performers in Blacksburg. Also, the center serves as a catalyst to create connections between research, technology, and creativity.


Mohammed Seyam

When Mohammed Seyam arrived in Blacksburg in August, 2013, he took note of an impressive building situated prominently at the corner of Virginia Tech's Blacksburg campus and the downtown area. Sayem, who was adjusting to a new culture and community more than 6,000 miles from home, had traveled from Egypt to attend graduate school at the university, and he immediately felt a connection to the new construction emerging at the edge of campus.

Over the next two months, he kept watch as the finishing touches were added to the building, which he learned would be the home of a new arts center at Virginia Tech.

Work on the new building had begun in 2010 and was slated for completion in fall 2013. Named for artist Patricia Buckley Moss, who signs her paintings, P. Buckley Moss, the 150,000-square-foot facility would include a 1,260-seat performance hall, visual arts galleries, amphitheater, four-story experimental Cube, multiple studios, and more.

To celebrate the building's completion, a week of opening events were offered at the end of October 2013, and Sayem was front and center—even attending the inaugural performance in the 1,274 seat Anne and Ellen Fife Theatre, a concert featuring the Philip Glass Ensemble.

"So keep in mind, it was like two months for me moving from my own country to be here, so getting to realize the potential of this place and what I can get out of attending these shows was incredible," said Seyam. "I loved that day, and everyone was excited. The spirit was amazing."

Seyam has since earned both a master's degree and a Ph.D. from Virginia Tech's College of Engineering. He has raised his children in Blacksburg and received his first post-graduate job at the university. Now a collegiate assistant professor in the Department of Computer Science, Seyam measures his time in Blacksburg using the Moss as his guide.

This fall, they both celebrate their 10th anniversary in the community.

What Seyam didn't realize a decade ago was what a pivotal role the arts would play in his life as an engineering student.

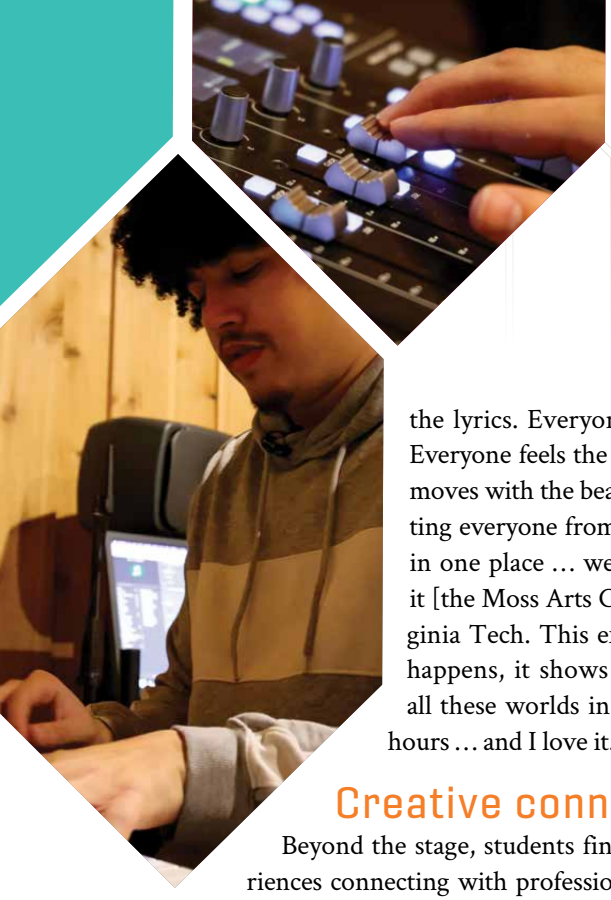
Seyam's experience at that first performance drew him to the Moss again and again—for performances as well as gallery visits, artist talks, and other special events. A graduate student with limited funds, he signed up for free tickets through the center's rush ticket program for Virginia Tech students, which introduced him to artists he might have never known otherwise.

When presented with an opportunity to contribute meaningfully to the center, Seyam didn't hesitate. He joined a committee of faculty, students, and community members committed to offering ideas and input related to the future programming at the Moss Arts Center. The group helped conceive and plan the Islamic World's Festival in 2015, paving the way for Salaam: Exploring Muslim Cultures.

A multiyear project, Salaam was supported through a grant from the Association of Performing Arts Presenters to strengthen cross-cultural understanding by engaging Virginia Tech students and other communities in Southwest Virginia with the diversity of Muslim cultures through an exploration of stories, images, sounds, and perspectives. The Moss Arts Center was one of only five grantees in the nation to receive this funding.

Salaam culminated in a performance showcasing the voices and creative work of Virginia Tech students and community members, who collaborated with visiting artists to explore Muslim cultures through dance, music-making, visual art, hip-hop, spoken word, and poetry.

"It was an eye-opening experience," Seyam said of the performance. "I started to realize how different people speak different languages, but when they are here [at an arts event], everyone is having fun, despite the fact that we don't really understand



NOTEWORTHY: Recent graduate Kieran Casey dreamed of becoming a composer when he first came to Virginia Tech. Engaging with professional artists inspired him and introduced him to the varied career opportunities available to composers.

the lyrics. Everyone feels the music. Everyone feels the dancing. Everyone moves with the beats. The idea of getting everyone from around the world in one place … we are lucky to have it [the Moss Arts Center] here at Virginia Tech. This experience, when it happens, it shows the unification of all these worlds in one place for two hours … and I love it."

Creative connections

Beyond the stage, students find invaluable experiences connecting with professional artists through master classes, workshops, question-and-answer sessions, and class visits connected to events at the Moss.

"The Moss Arts Center provides visibility and elevates the importance of the arts not only to Virginia Tech's community of students, faculty, and staff, but to the local and regional community. But it's more than that because it is very much connected with the educational and scholarly mission of the institution," said Cyril Clarke, executive vice president and provost. "I can think of many occasions when a performer or a group doesn't just come to perform at the center. They spend time with students. They spend time with faculty. They're having interactions with students that really allow them to grow intellectually and in their appreciation for art."

When Kieran Casey '23 came to Virginia Tech as a first-year student, he dreamed of becoming a composer. He also worried about the career challenges he might face if he followed that dream. His experiences at Virginia Tech over the next four years—many of them outside his regular class schedule—convinced him that his dream was attainable and sustainable. Engaging with professional artists inspired and introduced him to the varied career opportunities available to composers.

A recent graduate with a degree in music education and composition from the School of Performing Arts in the College of Architecture, Arts, and Design, Casey took advantage of every opportunity that crossed his path, building a professional network and partnerships that he's now leveraging as he looks to future opportunities.

Casey participated in workshops and master classes organized through the center that enabled him to connect directly with working artists. Ultimately, these interactions led to lasting relationships with the artists whom he now describes as mentors and colleagues.

Casey recalled sharing a score he was working on with musician and composer Huang Ruo.

Known for his inventive musical voice and diverse compositional works, Ruo was in Blacksburg for a performance of his music theatre work "Books of Mountains and Seas" at the Moss Arts Center. Casey worked with the artist during a composition master class offered in conjunction with the visit. Ruo advised the aspiring composer on orchestrating his work and exploring the various voices of music.

Also, Casey developed a kinship with bassoonist and composer Joey Guidry, who spent time with Virginia Tech students during a residency hosted by the School of Performing Arts. Guidry inspired Casey to make more music, to discover his own voice, and to seek out and build meaningful relationships with other musicians and artists.

Following Guidry's advice, Casey connected with Kevin Newton, a French horn player for the Grammy-nominated wind quintet Imani Winds. The ensemble performed at the Moss in October 2021 and offered a composition master class for students during the visit.

Later, Casey composed an original piece for Newton at the ensemble's annual chamber festival. Although Casey is revising the work, Newton loved the initial iteration so much that he has expressed an interest in recording it for a future album.

But Casey's growing network of possibilities didn't end there.

An interdisciplinary team of Virginia Tech researchers organized by Virginia Tech's School of Visual Arts and led by one its faculty members commissioned Marcus Norris, a composer based in Los Angeles and Chicago, to create a score for "Monuments Dissected," a documentary initiative centered on a growing collection of interviews about the past, present, and future of confederate and colonial monuments in the United States.

Celebrated for bringing innovative twists to contemporary classical music, Norris has composed for orchestras across the country,

developed film scores, and founded the South Side Symphony. Norris' genre-blending style even resulted in a collaboration with Beyoncé.

When Norris came to campus, Casey knew that he needed to meet him.

"Everyone says, 'Connections, connections, connections,'" Casey said. "I just picked his brain. It's really important. It helps students immensely when these artists come, but the students have to take the opportunity to actually engage with them."

Casey and Norris talk regularly and are now working together.

"He does exactly what I want to do—he teaches, he has his own symphony, he scores films, he does it all," Casey said.

The diversity of the guest artists with whom Casey worked added another dimension to his educational experiences. He credits Charles Nichols, associate professor of composition and creative technologies, for his thoughtful curation.

"It was absolutely amazing to be working with people of color," said Casey. "It was important to Dr. Nichols that I was receiving feedback from artists that come from different backgrounds. Working with these people brought a comfort that I didn't really know I wanted until working with them, so I am very grateful to Dr. Nichols for his initiatives with visiting artists."

"These connections our students have with artists are so varied and sometimes so personal," said Ruth Waalkes, associate provost for the arts and executive director of the Moss Arts Center. "To have someone talk to you directly about their own experiences and be able to relate to you one on one, someone who understands. That's invaluable."

Human-centered power skills

The arts also shape the Virginia Tech experience through more informal routes.

"Our students here at Virginia Tech embrace the arts in so many important ways—taking part in student acapella groups, leading the XYZ Gallery, or being part of step dance clubs or the many thriving cultural groups for visual arts, theatre, and music," said Waalkes. "They gravitate to those opportunities because it is important to have those outlets as human beings. It is an important, essential, part of who they are, and also how they build their own community. It's how they understand and express who they are as individuals, learn to collaborate, and develop leadership skills."

CREATIVITY AND INNOVATION

The Moss Arts Center is part of Virginia Tech's Creativity and Innovation District. Featuring a 232,000-gross-square-foot residence hall, this district on the eastern edge of the Blacksburg campus brings innovators, inventors, and makers together to strengthen their work through cross-curricular collaboration.

In the Creativity and Innovation District, Virginia Tech promotes student coursework and spaces that blend academics, social interactions, and research studies to support the bold thinking that will lead to real solutions for global challenges. Poets and scientists, engineers and artists, and chemists and historians live, work, and play in the district, emphasizing the combined strengths of science, technology, business, and the humanities.

Within the district, there are three living-learning communities–Studio 72, Innovate, and Rhizome–where students can connect their academic and co-curricular experiences. The living area is surrounded by creation and innovation centers:

- **Moss Arts Center**
- **Institute for Creativity, Arts, and Technology**
- **Theatre 101**
- **School of Performing Arts**
- **School of Visual Arts**
- **Squires Student Center, featuring Haymarket Theatre and Perspective Gallery**
- **XYZ Gallery**
- **Newman Library**
- **Graduate Life Center at Donaldson Brown**

Virginia Tech offers 12 performance spaces within the Creativity and Innovation District, giving students room to grow in their disciplines and share their expression with others. Combined with studio spaces and design labs in Blacksburg and Alexandria in Virginia as well as the Steger Center for International Scholarship in Riva San Vitale, Switzerland, Virginia Tech nurtures and celebrates the creative spirit of its students. These students transition into the world as alumni equipped to influence the communities they choose to serve.

PERSONAL PERSPECTIVE: A graduate student studying industrial and systems engineering, Atlas Vernier (at left) says different perspectives and experiences inform their experience at Virginia Tech. Vernier is currently a graduate research assistant for the Institute for Creativity, Arts, and Technology and is entering their fifth year as a Marching Virginian.

Atlas Vernier '23 is a lifelong musician and didn't want to lose their connection to music when they came to Virginia Tech to study engineering. Joining the Marching Virginians provided an artistic outlet for Vernier and became one of their most treasured university experiences. Now a graduate student studying industrial and systems engineering, Vernier is entering their fifth year as a Marching Virginian and has found it complements their academic experiences.

"You have everyone who's from all these different realms of study," said Vernier. "You have architects alongside physicists, alongside musicians, alongside engineers. A lot of the dynamics that exist inside the band, they only work because we have different backgrounds."

Different perspectives and approaches, Vernier said, only enhance the band experience. Vernier noted this was also true in the classroom and working on research teams, where they found inspiration collaborating with artists, designers, and historians. As a graduate research assistant for the Institute for Creativity, Arts, and Technology (ICAT), Vernier recognizes how the arts augment Virginia Tech's research landscape.

"There are research projects that would not happen, would be impossible, and you'd never see if you just locked a bunch of engineers into a room. You need to have this element of the arts—you need to have storytellers and historians."

Vernier's appreciation for humanity, arts, and culture has informed their problem-solving methods.

"I know that I have a very different approach to solution finding and systems thinking because I have these other experiences that inform the way I interact with things and the way that I know other people interact with things," Vernier said. "The way we design and the way we choose to have those interfaces really changes when you consider who is going to be using it."

According to Ben Knapp, executive director of ICAT, this kind of empathetic approach to work is a critical skill for recent graduates heading into the workforce. Previously known as soft skills, the characteristics related to creativity, communication, and emotional intelligence have been rebranded as power skills to reflect their importance in the workplace. These kinds of skills are cultivated and strengthened through arts-related experiences.

"That's really been the theme of ICAT, human-centeredness," Knapp said. "That integral connection we're forging is really essential and isn't something a student can get from one class. It grows through experience. If our students aren't getting those power skills—empathy and critical thinking—then they're not going to survive and succeed. It's not a 'nice to have,' it's a 'have to have.'"

In the classroom, research lab, data center, studio, residence hall, and all spaces in between, student life at Virginia Tech is infused with the arts.

"It is essential that creative thinking, diverse cultural experiences, and artistic exploration are part of every student's experience here at Virginia Tech," said Waalkes. "These opportunities broaden their perspectives and lead to conversations that expand their thinking, their sense of identity, and how best to live in the world. We owe all students chances to experience creative arts and expand their knowledge of diverse perspectives while they are here at Virginia Tech." ■

MOSS ARTS CENTER

10TH ANNIVERSARY & OPEN HOUSE

The Moss Arts Center marked its 10th anniversary with a free community celebration on Saturday, Aug. 26. Featuring hands-on arts activities for all ages, community performances, music making, learning opportunities, giveaways, food trucks, and more, the event culminated with a free outdoor concert by the Grammy-winning Lost Bayou Ramblers.

BY THE **NUMBERS**

MOSS ARTS CENTER

67 ***SOLD OUT EVENTS***

including unforgettable performances by Yo-Yo Ma, Dance Theater of Harlem, David Sedaris, Kristin Chenoweth, Bela Fleck, and the always popular annual "Holiday Pops" performance by the Roanoke Symphony Orchestra.

194,759

total tickets have been sold to Moss performances.

104

visual arts exhibitions and installations have been presented.

281

guest artists presented throughout the Moss Arts Center seasons.

41,191

Virginia Tech students have attended Moss performances.

The Moss Arts Center is a member of Major University Presenters,

a consortium of university-affiliated performing arts centers and programs created to support and advance the work of leading arts presenters at major research universities across the country. The center is one of only 21 institutions in the country on the roster, joining leading university arts presenters that include the University of Illinois' Krannert Center for the Performing Arts, Penn State's Center for the Performing Arts, and Stanford University's StanfordLive! Program and Bing Concert Hall.

The Moss Arts Center has 4,200 square feet

of total visual art gallery space designed with an emphasis on versatility. The Ruth C. Horton Gallery, Miles C. Horton Jr. Gallery, Sherwood Payne Quillen '71 Reception Gallery, and Francis T. Eck Exhibition Corridor were created to support not only traditional two-dimensional and three-dimensional art, but also virtual, digital, live, and performance art. Moveable walls, a variety of lighting options, room darkening capabilities, and more help make these spaces adaptive.

22,534 Virginia Tech students

have participated in free Moss engagement activities, including exclusive access to master classes and other special on-campus engagement events with renowned artists and ensembles.

22,558 school-aged children

have participated in free Moss engagement programs, such as school-day matinee performances and in-school workshops with artists.

1,296 engagement events offered

That's an average of 130 events each year that are in addition to the center's performances and exhibitions offerings. These free experiences offer deeper connections with artists, ideas, and community members, including pre- and post-performance talks with artists and Virginia Tech faculty members on timely topics.

Hokie™ Cheer

Holiday Gift Guide

VIRGINIA TECH

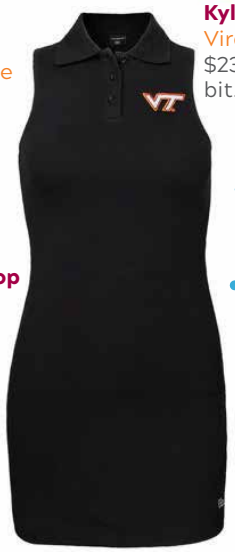
Gifts for Her

Fanatics
Women's Cutter & Buck Orange Virginia Tech Hokies Rainier Full-Zip Puffer Jacket
$240.99
bit.ly/3ZyVyf9

Alumni Hall
Virginia Tech Antigua Women's Comfort 1/4 Zip Pullover
$75.00
bit.ly/3LGQSOI

Kyle Cavan
Virginia Tech Bundle
$230.00
bit.ly/48AdLwP

Campus Emporium
Virginia Tech Women's Tennis Dress by Hype & Vice
$74.99
bit.ly/3LMjm9s



Fanatics
Women's Columbia Maroon Virginia Tech Hokies Darling Days Raglan Fleece Pullover Hoodie
$84.99
bit.ly/46wO8uW

Virginia Tech Hokie Shop
Virginia Tech Columbia Ladies Full Zip Fleece Jacket: Primary Institutional Mark
$75.00
bit.ly/48Ei4r6

Virginia Tech Hokie Shop
Virginia Tech 11" x 14" Classic Diploma Frame
$180.00
bit.ly/3M0vt34

Alumni Hall
Virginia Tech Apple Watch Silicone Sport Band 38mm
$30.00
bit.ly/3PWfDst

Fanatics
Virginia Tech Columbia Women's Fire Side Sherpa Full Zip
$89.99
bit.ly/3RH5npe

Kyle Cavan
Virginia Tech Garnet Bar
$155.00
bit.ly/3ZRjASR

Fanatics
Maroon Virginia Tech Hokies Competitor Steel AnoChrome Color Bezel Watch
$104.00
bit.ly/46zcHaU

LogoBrands
Virginia Tech Luxe Dreams Throw
$79.99
bit.ly/46z7ekd

Gifts for Him

Alumni Hall
Virginia Tech
Johnnie-O Diaz 1/4 Zip
$125.00
bit.ly/48MfpvF

Fanatics
Men's Maroon
Virginia Tech Hokies Cufflinks
$77.00
bit.ly/3rB4YtW

Kyle Cavan
Virginia Tech Organic Cufflinks
$175.00
bit.ly/48ChJF5

Fanatics
Men's Nike Black
Virginia Tech Hokies
AV-15 2.0 Slim Fit Pullover Hoodie
$89.99
bit.ly/3tjdE8B

Fanatics
Fossil Virginia Tech Hokies
Machine Smoke
Stainless Steel Watch
$249.99
bit.ly/3RGQl2K

Virginia Tech Hokie Shop
Virginia Tech Classic Crew
Knit Socks by Sideline
$20.00
bit.ly/3rzwibV

Fanatics
Men's Cutter & Buck Black Virginia Tech
Hokies Big & Tall Pike Banner Print Polo
$99.99
bit.ly/3ZA82TC

Alumni Hall
Johnnie-O Seymour
Striped Polo
$120.00
bit.ly/3tiQkb6

Campus Emporium
Virginia Tech Men's Floral
Lush Camp Shirt: Maroon
by Tommy Bahama
$168.00
bit.ly/46z6Ge9

Alumni Hall
Virginia Tech
Decanter Chest Set
$250.00
bit.ly/45e210a

Campus Emporium
Virginia Tech Men's Woven Performance
Long-Sleeved Dress Shirt:
Orange by Horn Legend
$120.00
bit.ly/48yFwG1

Fanatics
Men's Cutter & Buck
Heather Orange Virginia Tech Hokies
Forge Stretch Polo
$99.99
bit.ly/3tAyv7Q

Gifts for the Kids

Vive La Fete
Virginia Tech Hokies
Maroon Boys Fashion Football
T-Shirt
$46.90
bit.ly/3Q5R2Ii

Fanatics
Girls Toddler Garb White
Virginia Tech Hokies
Caroline Cap Sleeve Polo Dress
$54.99
bit.ly/468ONmN

Vive La Fete
Virginia Tech Hokies Girls Game Day
Sleeveless Tank Dress
$32.90
bit.ly/3PJbE0Z

Campus Emporium
Virginia Tech Toddler
Heart to Heart Jacket
$48.00
bit.ly/3ZIJYhp

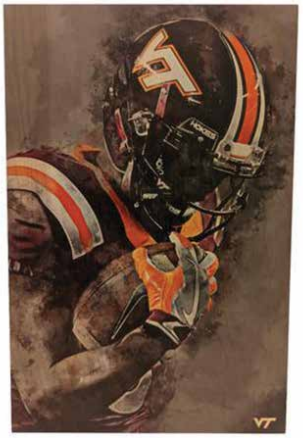
Virginia Tech Hokie Shop
Virginia Tech 6" Plush Toy
$20.00
bit.ly/3PXkKss

Fanatics
Chad & Jake Virginia Tech Hokies
30" x 40" Personalized Baby Blanket
$60.00
bit.ly/3EXpb0a

Virginia Tech Hokie Shop
Personalized Hokie Stone Block
with University Logo
$128.00
bit.ly/3EWpzfd

YETI
Virginia Tech Coolers
$300.00
bit.ly/3ZGv9vP

LogoBrands
Virginia Tech 24 oz
Iridescent Studded Tumbler
$24.99
bit.ly/3Q0poWJ



Mascot Grills
VT Hokie Grill
$399.00
bit.ly/48GpPfZ

Campus Emporium
Virginia Tech Alumni
Steel Tumbler 20 oz.
$33.99
bit.ly/3F1wPGP

Fanatics
DreamSeat
Virginia Tech Hokies
Gaming Chair
$209.99
bit.ly/48AO13g

Alumni Hall
Virginia Tech Wood Watercolor
Football Player Sign
$55.00
bit.ly/46pqmkG

Patina Products
Virginia Tech Fire Pit
$340.00
bit.ly/3RLhaTw

Gifts for the House

It's your license...
to do good!

$15 of each plate sale goes directly to funding Virginia Tech student scholarships.

Thank you from the new generation of Hokies!

VIRGINIA TECH

vt.edu/plates

Catharine and Preston White

AROUND THE HOKIE NATION

A CHAMPION FOR EDUCATION

FIFTY-SEVEN YEARS AGO, PRESTON WHITE MADE THE BOLD decision to leave a steady job estimating projects and start his own concrete contracting business.

He started with one excavator and three employees. They helped him, figuratively and literally, lay the foundation for Century Concrete, a firm that employs over 500 people today.

His first three employees were three middle-aged Black men, B.C. Cross, Earl Carter, and Sylvester Riddick. Unlike White, they had no diplomas on their resumes. Very much like him, they were always ready to work hard, day in, day out, together. Riddick was on their team for five years. Cross and Carter stayed with Century Concrete until they retired.

"I ate lunch with them, worked with them, took them home and picked them up," White said. "I got to know them pretty well, but never thought about the fact that I had a college degree and they didn't have high school degrees. It was just where we were in life. They were hard workers and never missed a day and put a lot into it. I never really thought a lot about it—until my wife and I got to talking."

White and his wife, Catharine, got to talking after they sold Century Concrete a year and a half ago. They talked about how they could make a difference by helping others with a sizeable gift from their family foundation.

"We started thinking about where the success of the business came from, rolled it all the way back to day one with those three

FAMILY MATTERS: Members of the White family, including (from left) Matthew Carrington, Katie Cartwright, Preston White, Catharine White, and Mason Carrington, gathered for a special event at The Grove this fall.

> I LOOK AT THE DIVISIONS OF ALL THE PEOPLE IN THIS COUNTRY AND THE WORLD, AND A LOT OF IT COMES FROM LACK OF EDUCATION, PROBABLY THE BULK OF IT. **IF WE CAN EDUCATE EVERYBODY, THINGS WILL CHANGE."**
>
> Preston White '63

men and a lot of others along the way that played a part in the success of our company and our financial success," she said. "We thought, if we give back, why not give back to honor people who never had the same opportunities we did? They went to school before integration, and certainly before college was as welcoming to them as it might be now. If any one of those guys had had the opportunity to go to college on a scholarship, they might not have been concrete workers."

The Whites decided to give $10 million to Virginia Tech to create the Preston and Catharine White Endowed Diversity Scholarship.

The Preston and Catharine White Endowed Diversity Scholarship eventually will provide scholarships of $5,000 to $7,500 to roughly 70-80 students each year. Nine recipients benefit from it this initial semester, including Elroi Elias, a first-year student in the College of Engineering's computer science program.

"The scholarship is a big help," said Elias, who grew up in Fairfax, Virginia. "Being a first-generation student and the oldest sibling, I'm something of a guinea pig for my family when it comes to college. I don't want to leave a big burden, and this scholarship allows me to just focus hard on school. My biggest fear was to be in debt, and this scholarship eases that. I'm really grateful for all it does to help me with my path in college."

Champion for education

Preston White is a longtime champion of education. He has served on the Virginia Tech Board of Visitors and the Christopher Newport University Board of Visitors, where he was rector for three years. He now serves on the Board of Visitors for Eastern Virginia Medical School and the E3 School, an innovative, mixed-income, year-round model school for children ages 1 to 5 in Norfolk, Virginia.

"I look at the divisions of all the people in this country and the world, and a lot of it comes from lack of education, probably the bulk of it," White said. "If we can educate everybody, things will change."

Along with his family, White has given over $21 million to the university, directed to a wide range of programs including the Myers-Lawson School of Construction, the Blackwood Department of Real Estate, and Virginia Tech Athletics. The Whites' most recent and largest gift sets up a scholarship program that will help the university build on efforts around diversity and ensuring a more welcoming community for all, which have been recognized multiple times in recent years.

The Preston and Catharine White Endowed Diversity Scholarship gives priority to in-state applicants who have participated in or been identified through Virginia Tech's Black College Institute, an academic summer enrichment program for rising high school juniors and

TC

seniors that is open to students from any race who wish to participate.

The scholarship also has preferences for students who demonstrate an interest and commitment to the African American student experience by participating in organizations such as, but not limited to, the Black Student Alliance, Black Organizations Council, Student African American Brotherhood at Virginia Tech, Student African American Sisterhood at Virginia Tech, NAACP, or similar officially recognized registered student organizations.

Students in programs from the College of Engineering, including its Myers-Lawson School of Construction, are particularly encouraged to apply, as are students in programs from Pamplin College of Business' Blackwood Department of Real Estate.

The scholarship does not have a preference for GPA, which White said was very intentional, based on his own experience having had to leave Virginia Tech and later re-enroll after he "flunked out" his first year.

"When I first went to Tech, I thought I wanted to be an architect," he said. "I learned I wasn't a good enough artist to be an architect. There were all these Van Goghs and I was drawing stick figures."

Following a conversation with William Favrao, who founded the university's building construction program and headed it until 1977, White left school for a year.

"Bill told me I had what it took to make it, but if I came back to go into building construction," White recalled. "I stayed out a year, worked in the day and went to night school, and next year, I came back. I look at that as a big turning point."

A member of the Class of 1963, White served in the Coast Guard Reserve for eight years, remaining on call while focusing on building his construction industry career.

While still in school, he worked on projects such as construction of the Chesapeake Bay Bridge Tunnel. A few years into his career, he recognized the potential for concrete contracting to become more important in large-scale projects due to technological developments.

"The world started to change," White recalled. "Technology and equipment were coming into play to allow concrete work to be done on a larger scale. I saw an opening there, and I took it. There was really nobody else to go to work for in the concrete industry at that point, so I had to do it myself."

While the process wasn't always smooth, Century Concrete hit its stride in the early 2000s, specializing in larger-scale construction like airport paving, seawalls, water treatment plants, high-rise buildings, data centers, and tilt-wall warehouses. Today, the company president is still a Hokie, Mike Hauser '84, whose hiring White cites as one of his best decisions.

"The president's a Hokie, our vice president of operations is a Hokie, and I would say half of our project managers are Hokies," White said. "We recruit heavily at Virginia Tech."

Tireless advocate

Asked how he likes to unwind now that he's theoretically retired, having sold his company, White said of his family: "We like to travel. And I like hard work. I still have a big farm on the Eastern Shore and go there to mow fields and work on the tractor. I don't sit still very easily."

A tireless advocate for education, White continues to work on behalf of Virginia Tech and other schools, drawing on his numerous relationships, and building new ones, to share his belief in the power of learning to change lives.

He shows no sign of slowing down. In December 2020, at the height of the COVID-19 pandemic, he was a key speaker at a virtual event to urge fellow Hokies to donate in support of the Beyond Boundaries Scholars matching gift program and get involved in Boundless Impact: The Campaign for Virginia Tech, even though he was wearing a neck brace after cervical vertebrae fusion surgery.

In October, the university launched Virginia Tech Advantage, an expansive multiyear commitment to remove financial barriers and improve student success for those with financial need. The Preston and Catharine White Endowed Diversity Scholarship is a shining example of a Hokie family stepping forward in support of the university's commitment to meeting the needs of its students—and White traveled to Blacksburg to help champion the Virginia Tech Advantage initiative at its launch event.

"This extraordinary gift will make it possible for students with financial needs to fully benefit from the Virginia Tech experience and the long-term value of their degrees," Virginia Tech President Tim Sands said of the White's decision to create the Preston and Catharine White Endowed Diversity Scholarship. "We are extremely grateful to Preston and his family for establishing this generous scholarship, and their enthusiastic support for our university." ■ *AR*

CLOSE THE GAP

Learn more about the Virginia Tech Advantage and how you can help at vt.edu/advantage.

VIRGINIA TECH ALUMNI ASSOCIATION BOARD

NEW STRUCTURE

THE VIRGINIA TECH ALUMNI Association Board has 11 new members and a new structure aimed at supporting presidential priorities and drawing on the deep expertise of engaged alumni who want to serve the university.

"With more than 260,000 living alumni, we have a network of talent we must draw on to be successful. It's important that our decisions are informed by an alumni voice. More of our alumni must be involved strategically as we move forward," said Charlie Phlegar, senior vice president for advancement and executive vice president of the alumni association board. "Our new members and new board organization will advance the vision of President Tim Sands and the Board of Visitors."

The changes come after a task force review last year that examined the Virginia Tech Alumni Association Board. The task force included the board's executive committee, current and former members of the Virginia Tech Board of Visitors, Virginia Tech Foundation board of directors, the Virginia Tech Campaign Steering Committee, and the Virginia Tech Alumni Association.

The board's new committee structure focuses on high level topics and priorities. The structure is intended to elevate the top presidential priorities, including the Virginia Tech Advantage and the aspiration to advance the global standing of the university. The committees are:

- Executive Committee: Governance, Membership, and Diversity, Equity, and Inclusion
- University Strategic Priorities and Issues Committee
- Engagement Committee
- Development Committee
- Communications and Marketing Committee

New alumni board members have a valuable role to play and bring to the table a crucial breadth of experiences and expertise. Alumni recruited to the board best fit the new structure and are prepared to engage in impactful work.

"I am thrilled to welcome our newest board members," said Nathan Lavinka '11, president of the alumni board. "They are among our most passionate Hokies and bring with them deep experience in business, industry, and leadership. I know they will bring an important perspective to the table to help shape the university." ■ *AM*

NEW MEMBERS

Eleven new members were elected to the board in June and will serve July 1, 2023-June 30, 2026. They are:

Nelson Chu '88
College of Engineering

Lynne Doughtie '85
Pamplin College of Business

Jake Lutz '78
Pamplin College of Business

Sharon Martin '83, '88
College of Engineering

Robby Moser '97
College of Engineering

Seyi Olusina '18
College of Agriculture and Life Sciences

Debbie Petrine '78
Pamplin College of Business

Mike Quillen '70, '71
College of Engineering

Ray Smoot '69
College of Liberal Arts and Human Sciences

Horacio Valeiras '80
College of Engineering

Minoka Yonts '13
College of Liberal Arts and Human Sciences

HOKIE NETWORK

To learn more about the Virginia Tech Alumni Association Board and its members, visit alumni.vt.edu/about/virginia-tech-alumni-association-board.

CLASS NOTES

Alumni, we want to hear what you've been doing. Mail career, wedding, child, 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 **online at vtmag.vt.edu/submit-classnote.php,** where photos may also be uploaded for consideration. For assistance, call 540-231-6285.

'61

CAREER **Richard G. Rice**, Punta Gorda, Fla., co-authored a textbook, "Applied Mathematics and Modeling for Chemical Engineers," along with Duong D. Do and James E. Maneval '82.

'67

CAREER **Richard W. Haynes**, Beaverton, Ore., was a 2022 Marcus Wallenberg Prize winner for groundbreaking economic models for integrated analysis of the forest sector.

'68

CAREER **Douglas S. Wright Jr.**, Hagerstown, Md., was recognized for nearly 35 years of service to the Hagerstown Planning Commission.

'70

CAREER **Thomas L. Muller**, Newark, Del., retired from Veolia North America on Dec. 31, 2022, as an engineering fellow with more than 51 years of service.

'72

CAREER **Philip A. Shucet**, Norfolk, Va., earned a master's degree from the Columbia University School of Journalism in New York City in 2022 and is collaborating with the Virginia Center for Investigative Journalism at WHRO to report, write, and produce a monthly series.

CAREER **Darrel Tillar Mason**, Manakin Sabot, Va., is the 2023 recipient of the Edward L. Chambers Jr. Lifetime Bar Service Award.

'73

CAREER **Gary S. Forrest**, Stanardsville, Va., a volunteer tour guide at Rapidan Camp in Shenandoah National Park, hiked the West Highland Way in Scotland, and finished hiking the Appalachian Trail in August 2021.

Brenda Dingus Long, Richmond, Va., was awarded the Virginia Association for Career and Technical Education Lifetime Achievement Award and was inducted into the association's hall of fame.

Franklin "Budd" Titlow, San Diego, Calif., has published five books, 500 magazine-newspaper photo essays, and 5,000 photographs. His latest book is titled "Coming Full Circle—A Sweeping Saga of Conservation Stewardship Across America."

'74

CAREER **Linda Roszak Burton**, Ellicott City, Md., presented a 2022 TEDx Talk, "Gratitude—The Power to Heal the World and published Gratitude Heals—A Journal for Inspiration and Guidance on Amazon."

John R. Shaffer, Luray, Va., retired from Luray Caverns Corp. after 46 years. He will remain on the board of directors.

'77

CAREER **Edward G. Aguirre**, Raleigh, N.C., retired after 46 years as a professional geologist, but says he's still looking for gold.

Fredrick S. Najjar, San Francisco, Calif., the 2020-22 international chair of the board of directors of the Association for Healthcare Philanthropy,

received the Si Seymour Award in recognition of accomplishments made to improve health, raise significant support to help communities, and lead on the international stage.

'78

CAREER **Richard L. Ford III**, Salt Lake City, Utah, retired as associate dean in the College of Science at Weber State University. He is currently serving as president to the Utah Geological Association and as the national secretary-treasurer of Sigma Gamma Epsilon.

Julie T. Lusk, Milford, Ohio., has published six books. The latest was released on Audible as an audiobook.

'79

CAREER **Howard K. Hagy**, Scottsville, Va., was awarded the 2021 Jerome F. Lederer Award by the International Society of Air Safety Investigators for outstanding lifetime contributions to technical excellence in aviation accident investigations. He retired as director of engineering and air safety for the Airline Pilots Association International on Aug. 1 after 44 years in aviation and earned a Distinguished Service Award for chairing the Flight Safety Foundation International Advisory Committee.

'81

CAREER **James L. Smith**, Salem, Va., was presented with The Nature Conservancy's first Compass Award.

'82

CAREER **Robin A. Willett Cormier**, Fernandina Beach, Fla., was named executive director of the Story & Song Center for Arts & Culture, Amelia Island, Fla.

James E. Maneval, Lewisburg, Pa., co-authored a textbook, "Applied Mathematics and Modeling for Chemical Engineers," along with Duong D. Do and Richard G. Rice '61.

'88

CAREER **Erica F. Sunshine**, Blacksburg, Va., is an associate at Thompson & Litton Inc.

James L. Swecker II, Clendenin, W.Va., retired from Union Carbide / The DOW Chemical Co. after a 34-year career supporting UNIPOL plastics in design, research, and manufacturing.

'89

CAREER **Michelle L. Hoff Attreed**, Manassas, Va., was recently appointed to the board of the Virginia Public Building Authority by Virginia Gov. Glenn Youngkin.

'90

CAREER **Vinitha Aliyar "Vini" Nathan**, Auburn, Ala., was named Auburn University's provost and senior vice president for academic affairs.

'91

CAREER **John N. Thayer**, Lascassas, Tenn., is executive vice president, building division, for Bell Construction. .

'93

CAREER **Jeffrey S. McKay**, Chesterfield, Va., has been promoted to vice president of AMT Engineering.

Donovan E. Owens, Newport News, Va., is president U.S. Fresh Pork Smithfield Foods.

Heather Miller Pierce, Virginia Beach, Va., was appointed general manager for the global orthopedics, trauma, and craniomaxillofacial franchise at LifeNet Health, a nonprofit, global leader in regenerative medicine and life sciences.

Tom P. Shen, Falls Church, Va., was appointed to the Global Race and Diversity Committee at Gensler in April.

'94

CAREER **Sandee Chapluk Cheynet**, Blacksburg, Va., is associate vice president for human resources at Virginia Tech.

Aaron Hall, Ashburn, Va., was appointed adjunct professor in the Virginia Tech Pamplin College of Business MBA program.

'95

CAREER **Sanjay Chopra**, Gibsonia, Pa., executive officer of Cognistx in Pittsburgh, was named a director at the Pittsburgh Branch of the Federal Reserve Bank of Cleveland.

'96

CAREER **Keith Almoney**, Blacksburg, Va., is an associate with Thompson & Litton Inc.

Gary A. Bruce, Christiansburg, Va., is president and chief operating officer of Froehling & Robertson Inc.

Photo by Jennifer Quam-Howell

1. VOLUNTEER LEADERS. Dozens of alumni volunteers came to campus in August for the annual Volunteer Leadership Summit. The summit provided training, fun, and behind-the-scenes tours including of the Human and Agricultural Biosciences Building I.

2. CUTE COMPANIONS. Cornerstone Alumni got a chance to meet Ringo, the Virginia Tech Police Department's miniature pony, and Derek, a Virginia Tech therapy dog, during an event earlier this year.

3. CHEERS TO HOKIE BEERS! In July, Hokies in Richmond celebrated the launch of Fightin' Hokies Hefeweizen at Hardywood Park Craft Brewery ahead of its fall launch.

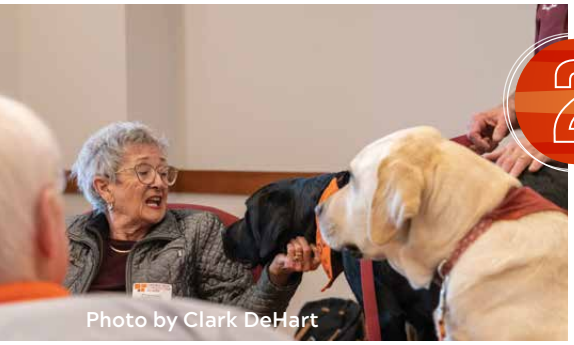


Photo by Clark DeHart


Photo by Clark DeHart

Photo courtesy of the Richmond Hokies

ALUMNI in FOCUS

Photo courtesy of the Richmond Hokies

Photo by Will Trent

Photo by Travis Carr

4. FLYING SQUIRRELS. Dozens of Hokies attended Virginia Tech Night at the Richmond Flying Squirrels.

5. WELCOME, HOKIES! Each year, chapters across the country host Welcome to the City events so Hokies new to an area can meet fellow alums.

6. MEETING OF THE MINDS. Brooke Corson '01 and his Mutts With A Mission brought Hudson, a service dog in training, to Old Dominion University as the football team's official ambassador. Before the Monarchs faced off against the Hokies, the Virginia Tech Corps of Cadets' ambassador Growley gave him a warm welcome.

Gordon Todd Whitcomb, Jacksonville, Fla., joined Jacksonville, Florida-based Bachara Construction Law Group as counsel.

'98

CAREER **James W. Barnes**, Suwanee, Ga., is chief technology officer at Primerica.

Lal M. Harter, Chantilly, Va., president-elect of the Washington D.C. Chapter of the Association of Governmental Accountants, was awarded the Department of Homeland Security U.S. Citizenship and Immigration Service Office of the Chief Financial Officer Excellence Award for exceptional performance as an auditor.

'00

CAREER **Jennifer J. Moore**, Bristol,Tenn., is an associate with Thompson & Litton Inc.

'02

CAREER **Lara Call Gastinger**, Charlottesville, Va., presented work as part of Mirabilia naturae (Wonders of Nature), a group exhibition at Second Street Gallery.

Jennifer C. Riley Havens, Blacksburg, Va., was named director of the Center for Business Analytics at the Pamplin College of Business.

'03

CAREER **Sana U. Hoda**, Alexandria, Va., recently published a children's book about the Indian festival of Diwali.

Karey L. Malyszko, Norfolk, Va., is vice president of plant operations at Huntington Ingalls Industries' Newport News Shipbuilding Division and will manage waterfront support services, facilities, security and environmental health and safety initiatives.

'04

CAREER **Donald T. Atwell**, Indialantic, Fla., celebrated his brewery's 10-year anniversary in October.

Emily H. Pelton, Afton, Va., is the head winemaker of Veritas Vineyard, Afton, Va. She also partners with the Winemakers Research Exchange to support studies that are leading to more sustainable grape varieties and growing practices in the commonwealth.

'05

CAREER **Keli J. Ratcliffe**, Pearisburg, Va., is an associate with Thompson & Litton Inc.

'07

CAREER **Barry H. Collier**, Dublin, Va., is an associate with Thompson & Litton Inc.

'08

CAREER **James F. Carilli**, Land O'Lakes, Fla., released a book, "Program Management Redefined: Techniques to Improve Organizational Agility."

Amy W. Spain, Alexandria, Va., was named partner at Ain & Bank.

CHILDREN **Marc A. Greene**, Morrisville, N.C., a son, 4/11/23.

'09

CAREER **Yu-Li Alice Shen**, Evansville, Ind., premiered an original full-length play, "Magical Thinking," at Bristol Valley Theater in Naples, N.Y.

'10

CAREER **Heather C. Robertson**, Port Jefferson, N.Y., has been nominated for the Educator of the Year Award from Transitional Services of New York Inc., a nonprofit organization that provides rehabilitation and employment services as well as housing programs to people living with mental illness.

'11

CAREER **Daniel J. Bounds**, Falls Church, Va., was featured on the front page of the Washington Post news.

Danielle M. Jakubowski, Philadelphia, Pa., started a new career as a project architect in the Sports + Entertainment Studio at EwingCole.

CHILDREN **Michael Encinas**, Midlothian, Va., a son, 5/27/23.

'12

WEDDING **Zachary T. Oman**, Norfolk, Va., and Emily Georgiades, 7/16/23.

'13

WEDDING **Lindsay Clark Farensbach**, Raleigh, N.C., and Jarrod Farensbach, 4/7/23.

CHILDREN **Ty T. Hodges**, Williamsburg, Va., a daughter, 6/30/22.

'14

CAREER **Joshua T. Smith**, Dallas, Texas, an attorney at Bell Nunnally, was named to the 2023 Texas Rising Stars List.

Courtney E. Souter, Fairfax Station, Va., was selected for the U.S. Department of State's Foreign Affairs Information Technology Fellowship.

WEDDING **Connor J. Durham**, Shawsville, Va., and Tori Radday, 5/19/23.

'15

WEDDING **Ursula R. Gerson**, Coral Gables, Fla., and Ben Norton, 7/01/23.

'16

CAREER **Lindsey B. Luxton**, West Palm Beach, Fla., is assistant hotel manager, The Breakers, Palm Beach Florida.

Brittney McClain Powell, Riverdale, Md., joined the Leadership Council on Legal Diversity's 2022 class of fellows and has been elevated to partner with Fox Rothschild LLP.

WEDDING **Trey Phillips**, Pembroke, Va., and Summer Woodard 6/23/23.

'17

CAREER **Subhradeep Roy**, New Smyrna Beach, Fla., received the National Science Foundation CAREER award.

Paul L. Dean, Burke, Va., is associate vice president at Dewberry.

WEDDING **Mitchell Huston** and **Caroline N. Fountain Huston '18**, Springfield, Va., 6/10/23.

CHILDREN **Tyler Dotson**, Pulaski, Va., a son, 3/27/23.

'18

CAREER **Candace D. Devito**, Chatham, N.J., earned a Doctor of Chiropractic from University of Bridgeport School of Chiropractic and a Master of Science in acupuncture from University of Bridgeport Acupuncture Institute.

Harrison L. Talton, Richmond, Va., received the 2023 TAPPI Young Professional of the Year Award in the pulp and paper industry for research contributions in sustainability of consumer packaging.

'20

CAREER **Thomas B. Lawson**, Bristol, Va., is a regional planner with the Lenowisco Planning District Commission in Duffield, Virginia.

WEDDING **Taylor C. Young**, Hagerstown, Md., and Bryce Hinton, 3/20/23.

'21

CAREER **Lukas J. Purasson**, Bloomsbury, N.J., is a mechanical engineer with Stanley Black & Decker's DeWalt division in Towson, Md., working on power drills. He is enjoying residing in the Mount Vernon neighborhood of "The Charm City."

WEDDING **Samantha L. Richard** and Dwight Dean, South Hill, Va., 10/1/22.

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.

FROM EAR TO EAR: Ed Reynolds was all smiles after he and his team conducted a successful–and important–mission in September 2022.

JUST IN TIME

WHEN HE GRADUATED FROM VIRGINIA Tech in 1985 with a degree in electrical engineering and applied for a position at the Johns Hopkins Applied Physics Laboratory, Ed Reynolds never expected to spend the next nearly four decades studying space.

And he certainly never expected to be overseeing a team charged with potentially saving Earth from destructive collisions with asteroids, comets, and other space debris.

A successful deflection of an asteroid this past fall—the genesis of the United States' first planetary defense system—led to Reynolds being named one of the 100 Most Influential People of 2023 by TIME magazine.

"It was a wonderful surprise," Reynolds said of his reaction to making the prestigious list. "We have many, many people on this project, and I was the project manager. TIME was recognizing the leader of the team, but there were so many people who had such an important contribution."

"The TIME 100 list is all about influence, impact, and, in no small measure, excellence," Jeff Kluger, editor at large at TIME, said. "We look for people who have helped shape the world in a meaningful and powerful way. It was hard to argue with the idea that Ed Reynolds' work of both shaping the world and protecting it from cosmic calamity shouldn't earn him a spot on the list. We're all a little safer for the work Mr. Reynolds did —and we all owe him a debt of thanks."

Asteroids and other space debris buzz Earth continuously and could potentially cause devastation if they struck the planet. So, NASA and the Johns Hopkins Applied Physics Laboratory teamed on a test called DART—Double Asteroid Redirection Test.

A team of scientists and engineers essentially built a small spacecraft designed to collide with a small, nonthreatening asteroid named Dimorphos to see if the impact could slow the asteroid's orbital speed around a larger asteroid. Neither asteroid posed a risk to Earth, making them perfect for this test case. Scientists wanted to determine if a small spacecraft could deflect a similar piece of space debris heading toward Earth.

The team conducted the test in September 2022, and the collision slowed Dimorphos' orbit by 33 minutes, vastly exceeding expectations.

According to foundational principles learned in Virginia Tech's Bradley Department of Electrical and Computer Engineering in the College of Engineering set him up for career success.

"Virginia Tech was excellent in emphasizing engineering principles like tolerance and design uncertainty and design margin," said Reynolds. "One of the things you learned very quickly with all your designs was you need to put margin in to deal with uncertainty."

Reynolds, whose daughter graduated from Virginia Tech with a degree in architecture in May, doesn't plan on lightening his workload despite DART's success. He is working on a proposal to send a spacecraft to Io, a moon of Jupiter, to study volcanic activity and plans to remain involved in planetary defense projects. ■ *JR*

STAR QUALITY

Read more about Ed Reynolds at news.vt.edu/magazine.

PHOTO COURTESY OF JOHNS HOPKINS APL

HOMECOMING

1 Highty-Tighty alumni march on field alongside current students during the Homecoming football game.

2 Cornerstone Alumni enjoy a parade watch party Friday night on Alumni Mall kicking off Homecoming Weekend.

3 Students cheer on the Hokies during Homecoming's Maroon Effect game against Wake Forest.

4 Hokies gather at the Pride Center Open House with the Ex Lapide Alum and Ally Society. Virginia Tech's inclusive alumni societies hosted student and alumni socials and open houses in all five of the cultural and community centers during Homecoming Weekend.

5 The Homecoming Parade culminated in a Sprit Rally on the Drillfield followed by fireworks.

6 The HokieBird poses with fans ahead of the Homecoming football game.

7 The Corps of Cadets march through downtown Blacksburg during the Homecoming Parade.

8 Hokies at the Homecoming Tailgate send off the Virginia Tech football team as they head to the stadium.

9 President Tim Sands and Laura Sands (center) at the Homecoming Tailgate with Saonee Sarker, dean of the Pamplin College of Business (left), and Horacio Valeiras, alum (right).

LEAVING THEIR MARKS

PRISCILLA ALVAREZ

REPORTER TAKES A LOVE OF JOURNALISM TO CNN

Priscilla Alvarez graduated with a degree in multimedia journalism in 2014. She took the skills she learned at Virginia Tech to CNN, where she works as a White House reporter.

Alvarez joined CNN to cover immigration during the Trump administration. A U.S.-born Argentinian, she has covered U.S. immigration policy, border crises under the Trump and Biden administrations, and the ins and outs of the White House.

She's currently based in Washington, D.C., where she's also on the board of the National Association of Hispanic Journalists' Washington, D.C., chapter. She started her career in newspapers and worked at the National Journal and The Atlantic before moving to CNN in 2019.

Alvarez came to Virginia Tech knowing she wanted to pursue a career in journalism. She joined the Collegiate Times, the student newspaper, and became the editor-in-chief from 2013-14.

While her academic studies in what is now the School of Communication taught about things such as Associated Press style used by most media, different communication laws, and broadcasting classes, she also had the chance to see the multimedia journalism program expand, including the addition of a broadcasting studio on the Blacksburg campus in 2013.

"I was piecing everything I learned together like a puzzle as I was going through school, and it was great to be there at the time because it felt like they [the faculty] were just starting to add more opportunity and gave me a better sense of all the different areas of multimedia journalism," said Alvarez.

SAMANTHA PERRY

TEAM COMPETES AT WESTMINSTER MASTERS AGILITY CHAMPIONSHIP

Samantha Perry DVM '19 has tuned into the Westminster Kennel Club Dog Show since she was a child, but she didn't need a television to watch this year.

Perry and her golden retriever Dallas were among 350 Masters Agility Championship competitors at the show in New York in May.

Perry started dabbling in agility in high school using equipment she built with her father, in their backyard, but she didn't start competing in the sport until after

ALVAREZ – PHOTO COURTESY OF CNN PERRY – PHOTO BY ANDREW MANN FOR VIRGINIA TECH

she entered veterinary school at Virginia-Maryland College of Veterinary Medicine.

"There's just nothing like that feeling of being able to say, we trained, and we got this accomplishment," she said of completing her first agility trial. "This $2 ribbon just meant the world to me then."

For Perry, becoming involved in dog sports while training as a veterinarian—she's a small animal practitioner in Roanoke, Virginia now—was a fun and enriching experience. "It helped me realize there's a whole world of veterinary sports medicine, and it's grown so much in recent years," she said.

Perry's main goals at Westminster were to have fun and maybe earn a qualifying ribbon as a memento, but Dallas exceeded expectations. In their first run, he charmed the crowd by "saying hi" and wiggling up next to the judge mid-course, resulting in enthusiastic applause.

Their second run, however, presented a more significant challenge. Dallas had a tendency to excitedly leap from his favorite obstacles, which sometimes can lead to disqualification. Despite the pressure, Perry and Dallas delivered a solid performance, earning their second qualifying run and securing a coveted purple and gold Westminster ribbon.

CARTER BROWN

FROM CLASSROOM TO COURTSIDE

Virginia Tech women's basketball capped off a historic season this spring, winning the ACC championship and reaching the Final Four for the first time in school history. While the attention was largely focused on the playmaking happening on the hardwood, there was another key member of the team dishing out assists behind the scenes.

Carter Brown '17 serves as the primary media relations contact for the women's team. He sets up interviews with the student-athletes and coaches, helps manage the team's social media accounts, and updates the website with news about the team.

"The whole nation was watching and watching our brand of basketball," Brown said. "They saw coach [Kenny] Brooks on display and our great student-athletes, too. It just fills me with pride to be associated with that team in this athletics department at this university. I care so much how they do, how we do, how we look. It's a game changer."

In his role as the director of creative communications for the Virginia Tech Athletics Department, Brown uses media relations techniques that he cultivated as a public relations major in what is now the School of Communication. In fact, Brown's venture into a media relations or sports information role bloomed because of an assignment in Dale Jenkins' Media Writing class.

The assignment called for students to interview someone in a job they found interesting. Brown interviewed Bill Dyer, then Virginia Tech men's basketball sports information director. Dyer described his journey, and Brown said he was hooked.

"I think the assignment was 20 minutes, and we talked for 60 minutes," Brown said. "It piqued my interest. He told what a day is like, how cool it is, what he gets to see and do. It seemed like exactly what I was interested in." ■

BROWN – COURTESY OF CARTER BROWN

HEATHER C. JOHNSON PHOTOGRAPHY

1

FAMILY

1 "Passing along a special 'Hokie Hy' to the Virginia Tech community from the newest member of our family." –Marc Adam Greene '08, M.S. '09, Morrisville, North Carolina, who welcomed a son, Riley Seth Greene, 4/11/23.

2 "We met one month before COVID hit, but never questioned if we were going to continue seeing each other. The morning after our first date he tweeted, 'When you know, you know.' He was right." –Lindsay Clark Farensbach '13, Raleigh, North Carolina, who married Jarrod Farensbach, 4/7/23.

3 "Summer and I were married in the gazebo at the Hethwood Pond in Blacksburg, the same location where I proposed a year earlier." –Trey Phillips '16, M.S. '17, Pembroke, Virginia, who married Summer Woodard Phillips, 6/23/23.

4 "When Ben and I got married in Fairfax, Virginia, the Virginia Tech lunch pail was in attendance signifying resilience and commitment." –Ursula Gerson '15, Coral Gables, Florida, who married Ben Norton, 7/1/23.

5 "Theo has his game face on and is excited to cheer on the Hokies!" –Tyler Dotson MBA '17, Pulaski, Virginia, who welcomed a son, Theo William Dotson, 3/27/23.

6 "I am pleased to announce the birth of my son. Weighing 6 pounds, 9 ounces and measuring 19.5 inches long, he is a perfect addition to my family. Looks like we have a future Hokie!" –Michael Encinas '11, Midlothian, Virginia, who welcomed a son, Wyatt Drake Encinas, 5/27/23.


BRETT & JESSICA PHOTOGRAPHY

2


TRAVIS CARR

3

TIMELESS PHOTO + VIDEO

4


CARLI DOTSON

5


ERIKA MACCORMAC

6

STILL LIFE

IT'S A BUG'S LIFE

On Oct. 7, bugs, like this photogenic grasshopper, and bug enthusiasts came together for Hokie BugFest at Virginia Tech. The free, one-day festival celebrated the science of entomology with science, technology, engineering, art, and math activities for all ages. Participants enjoyed more than 30 exhibits from Virginia Tech labs, local museums, and community groups, as well as live arthropods, hands-on science activities, and the Dan Capps Insect Collection. The 2023 event also featured a 4-H insect collection contest. Sponsors for Hokie BugFest included the College of Agriculture and Life Sciences through Virginia Cooperative Extension, Virginia Tech Department of Entomology, Virginia Tech Pesticide Programs, and the W.B. Alwood Entomological Society, as well as many community partners.

To learn more about Hokie BugFest, go to hokiebugfest.org.

IN MEMORIAM

Listing includes notices shared with the university from April 1 through June 30, 2023.

'43

William B. Gwathmey, Walkerton, Va., 3/14/2023.

'44

Rutherford B. "Ford" Thompson Jr., Sanford, Fla., 11/15/2022.

'46

Bert J. Sherwood, Los Angeles, Calif., 3/12/2023.

'47

Ridgway M. Dunton, Onancock, Va., 4/26/2023.

Mercedes Fuenmayor Tuggle, North Chesterfield, Va., 12/2/2022.

'48

Charles L. Legg, Roanoke, Va., 10/23/2022.

'49

Wilbur "Lewis" Bradford, Roanoke, Va., 3/25/2023.

Charles W. Moore, Martinsville, Va., 4/6/2023.

'50

Wilber "Gene" Corson, Newport News, Va., 4/22/2023.

Marvin A. Stahl, Bedford, Ind., 5/10/2023.

William H. Sutherland, Saint Paul, Va., 4/1/2023.

'51

Robert A. Hemm, Pelham, N.Y., 4/29/2023.

Leon B. Ufkes, Pasco, Wash., 5/7/2023.

William P. Varson, Pound, Va., 6/3/2023.

'52

Delaney C. Black, Suffolk, Va., 1/27/2023.

Thurman Graham Copeland Jr., Franklin, Va., 3/4/2023.

Dorphus M. Hambrick, Waynesboro, Va., 2/20/2023.

June Maile Hardy, Durham, N.C., 7/14/2022.

Charles M. White, Fort Mill, S.C., 3/9/2023.

'53

Emily Booton Weitz, West Des Moines, Iowa, 1/7/2023.

Robert L. Detterman, Thousand Oaks, Calif., 12/28/2022.

Michael H. Kelly, Manassas, Va., 4/12/2023.

Paul C. Reynolds, Charlotte, N.C., 5/20/2023.

Helen Wulf, Lakewood, N.J., 5/22/2023.

'54

Leroy A. Beach Jr., Rockville, Md., 3/27/2022.

Fred Thomas Craig, Birmingham, Ala., 5/6/2023.

Lenoir H. Lewis Jr., Lady Lake, Fla., 3/10/2023.

William H. Martin, Simpsonville, S.C., 4/22/2023.

'55

Albert H. Barnes Jr., Knoxville, Tenn., 3/16/2023.

Robert R. Cromer, Nokesville, Va., 11/20/2022.

Royer K. Lewis Jr., Springfield, Va., 2/27/2023.

John E. Mocha, Walterboro, S.C., 4/14/2023.

'56

William Onico Barker, Dallas, Texas, 3/25/2023.

Alexander "Terrell" Baskerville, Orange, Va., 5/14/2023.

Charles D. Bowman, Cary, N.C., 4/2/2023.

John H. Cunningham, Youngsville, N.C., 5/19/2023.

John R. "Skip" Little Jr., Lugoff, S.C., 2/22/2023.

Arlen T. Powers, Dacula, Ga., 2/23/2023.

James D. Ramsey Jr., Glen Allen, Va., 3/15/2023.

John M. Richardson Jr., Martinsville, Va., 5/10/2023.

John B. "Whitt" Whitmore Jr., Roanoke, Va., 6/7/2023.

'57

Grady M. Brown, Colonial Heights, Va., 4/17/2023.

Robert L. Dowdy Sr., Henrico, Va., 5/29/2023.

John H. Hash, Nashville, Tenn., 6/20/2023.

Robert M. McEachern, Richmond, Va., 5/10/2023.

Carl T. Meyertons, Houston, Texas, 3/17/2023.

Carl W. Mullenax Jr., Westminster, Md., 5/1/2023.

James L. Swecker, Monterey, Va., 1/12/2023.

'58

Joseph V. Crowling, Rixeyville, Va., 1/5/2023.

Ralph L. "Abe" Lincoln Jr., Kingsport, Tenn., 3/30/2023.

Charles W. Seaver, Abingdon, Va., 5/3/2023.

'59

Godwin P. "Earl" Dunn Jr., Kingsport, Tenn., 5/4/2023.

Thomas E. Ellers, Clearwater, Fla., 4/23/2023.

Walter "Lew" Gallion, Forest, Va., 5/29/2023.

'60

George W. Moore III, Josephine, Texas, 11/14/2022.

Henry C. Page Jr., Valrico, Fla., 5/25/2023.

Brian B. Zittrain, Mechanicsville, Va., 6/22/2023.

'61

Maynard Sexton Burkett, Lebanon, Va., 2/26/2023.

Merrill W. Crews, Cutler Bay, Fla., 5/18/2023.

John S. Crute Jr., Roanoke, Va., 5/14/2023.

Larry A. Davis, Lynchburg, Va., 3/31/2023.

Robert M. Harrison, Clayton, Ga., 5/16/2023.

David M. McCahon, Chagrin Falls, Ohio, 3/27/2023.

Roger K. Oakes, Bedford, Va., 5/26/2023.

Robert V. Peterson, Boone, N.C., 5/2/2023.

'62

William A. Haug, Baton Rouge, La., 5/10/2023.

John Richard Hebel, Shrewsbury, Pa., 6/1/2023.

Edward M. "Mack" Henderson, Dickinson, Texas, 3/18/2023.

John F. Sage, Bland, Va., 3/26/2023.

James Y. Shen, Irvine, Calif., 2/15/2023.

'63

Ronald W. Coiner, Greensburg, Pa., 5/13/2023.

Daniel Goldmintz, Charleston, S.C., 5/1/2023.

Stanley B. Gosney, Danville, Va., 2/23/2023.

James L. Hall, Daleville, Va., 5/9/2023.

'64

Roger D. Bengtson, Provo, Utah, 5/8/2023.

John D. Bolton, Midlothian, Va., 1/28/2023.

Russell H. Coats, Houston, Texas, 2/1/2023.

Robert G. Greene, Nickelsville, Va., 3/28/2023.

'65

Charles "Randy" Climpson, Ocean Isle Beach, N.C., 2/9/2023.

Kenneth Crabtree, Jonesville, Va., 2/24/2023.

Barry E. Crotty, Winston Salem, N.C., 6/8/2023.

Lewis P. Fulcher Jr., Bowling Green, Ohio, 5/9/2023.

Roger A. Pruhs, Littleton, N.C., 2/23/2023.

John A. "J" Tice, Raleigh, N.C., 5/31/2023.

'66

William L. Baker III, Edenton, N.C., 3/18/2023

'67

George W. Galloway III, Dublin, Va., 5/21/2023.

John R. "Bob" Krezel, Moseley, Va., 4/26/2023.

Elonza T. Turner, Wirtz, Va., 5/30/2023.

'68

Reese V. Bean III, Finksburg, Md., 3/3/2023.

Charles E. Evans, Chesapeake, Va., 6/18/2023.

George A. McConnell, Pulaski, Va., 5/25/2023.

John A. Roberts Jr., North Chesterfield, Va., 6/6/2023.

'69

Garry W. Barnard, Niceville, Fla., 5/14/2023.

Warren H. Charlton, Greenville, N.C., 3/16/2023.

Merle T. Dishon, Hiwassee, Va., 6/15/2023.

Danny R. Franklin, Roanoke, Va., 4/7/2023.

Jerry L. Gay, Prince George, Va., 5/5/2023.

James R. Pagans Jr., Salem, Va., 6/17/2023.

Don K. Robinson, Venice, Fla., 7/16/2022.

Thomas H. Shore, Danville, Va., 6/8/2023.

'70

Donald B. Allen Jr., Hampton, Va., 6/10/2023.

Steven T. Anderson, Martinsville, Va., 5/30/2023.

John E. Creager, United Arab Emirates, 3/29/2023.

Benjamin F. Dyer Jr., Midlothian, Va., 4/3/2023.

John G. Shaw, Etlan, Va., 4/6/2023.

'71

Leonard L. Ashby, Washington, N.C., 4/27/2023.

Gary R. Fravel, Indianapolis, Ind., 6/5/2023.

Robert D. Rice Jr., Culpeper, Va., 3/19/2023.

George "Ken" Robey, Matthews, N.C., 3/18/2023.

Allen L. Wiles, Danville, Va., 5/6/2023.

'72

Stephen N. Bell, Savannah, Ga., 5/2/2023.

David W. Campbell, Falls Church, Va., 4/25/2023.

Charles W. Greene Jr., Newport News, Va., 3/6/2023.

Dean A. Haledjian, Bristow, Va., 5/15/2023.

Roger M. Hill, Concord, N.C., 5/11/2023.

'73

Gregory S. Frazier, Atlanta, Ga., 3/15/2023.

Pamela L. Greenway, Vinton, Va., 2/8/2023.

Charles V. Key, Williamsburg, Va., 5/2/2023.

Lawrence N. McNair II, Valparaiso, Ind., 5/16/2023.

Judy A. Painter, Martinsville, Va., 6/12/2023.

Michael R. Snyder, Sykesville, Md., 12/8/2022.

John E. Thomas, Rochester, N.Y., 6/18/2023.

'74

Susan Englehart Folckemmer, Cockeysville Hunt Valley, Md., 6/26/2023.

Lloyd W. Hofer Jr., Ocala, Fla., 2/25/2023.

'75

Bobby R. Bailey, Bristol, Va., 3/18/2023.

Pamela Buchanan Lawson, Hampton, Va., 5/1/2023.

'76

Patricia Neal Altvater, Waterville, Ohio, 5/5/2023.

Lee G. Boyajian, Flower Mound, Texas, 5/21/2023.

Dwight P. Macock, Oceanport, N.J., 5/10/2023.

John W. Skeen, Clintwood, Va., 5/3/2023.

'77

Steven M. Carroll, Covington, Va., 2/7/2023.

Ronald C. Davis, Woodbridge, Va., 5/12/2023.

Kenton F. Gambill, Strasburg, Va., 3/14/2023.

William J. McCorkindale IV, Norfolk, Va., 5/10/2023.

Nancy R. Phillippi Scott, Wytheville, Va., 4/29/2023.

Benjamin L. Sikes, Port Washington, N.Y., 2/19/2023.

'78

Rufus Knight Jr., Rustburg, Va., 4/16/2023.

Peter F. Senger, Farmville, Va., 4/13/2023.

Stuart K. Sutphin, Chatham, Va., 3/23/2023.

Paul N. Wilson, Boyce, Va., 4/4/2023.

Guy L. Yolton Jr., Richmond, Va., 5/10/2023.

'79

Kelly Conners Brunson, Camden, S.C., 4/4/2023.

Paul L. Campbell, Cleveland, Va., 5/5/2023.

Karen Duke Goff, Damascus, Md., 4/17/2023.

Michael A. Lipford, South Boston, Va., 6/11/2023.

Sheila S. Reyna, Blacksburg, Va., 5/27/2023.

Roger W. Shipley, Baltimore, Md., 6/5/2023.

'80

Mary Beth Davis Cipollina, New Smyrna Beach, Fla., 4/24/2023.

Jennie Lee Dietz, San Antonio, Texas, 2/4/2023.

Karen J. Dunbar, Smyrna, Ga., 3/25/2023.

James C. "Jimbo" Fox Jr., Wilmington, N.C., 2/5/2023.

Michael K. Starling, Elkview, W.Va., 6/13/2023.

'81

Philip E. Culpepper, Chapel Hill, N.C., 4/29/2023.

Jolene "Jodie" Moyer Griffith, Saint Augustine, Fla., 5/12/2023.

Gregory D. Schnepp, Atlanta, Ga., 3/30/2023.

M. L. Sheehan, Tybee Island, Ga., 6/1/2023.

Debra S. Starr, Palmetto, Fla., 5/8/2023.

'82

Kenneth J. O'Grady, Littleton, Colo., 4/9/2023.

Barbara Markey Silver, Mohnton, Pa., 5/7/2023.

'83

John R. Brewer, Roanoke, Va., 3/23/2023.

Edith F. Kelsey, Augusta, Ga., 6/4/2023.

Joseph H. Morrison, Poquoson, Va., 5/19/2023.

'84

Gary S. Anderson, Newport News, Va., 2/24/2023.

'85

Armando Garza, King George, Va., 2/3/2023.

Mary Dullaghan Miller, Waynesboro, Va., 4/4/2023.

Terrence E. Rawn, Canal Winchester, Ohio, 2/7/2023.

'86

J. C. "Curtis" Boyd, Richmond, Va., 2/7/2023.

Robert "Scott" Gahn Sr., Houston, Texas, 5/19/2023.

Daniel C. Houston, Shelby, N.C., 3/29/2023.

Cynthia Hunt Morris, Cumberland, Va., 5/7/2023.

Carmelita M. Peters, Bluefield, W.Va., 6/9/2023.

Robert G. Powell Jr., Canton, Miss., 2/18/2023.

Branwen Wright, Christiansburg, Va., 3/31/2023.

Kimberly Wyatt Young, Mechanicsville, Va., 5/22/2023.

'87

Thomas Scott Fletcher, Great Falls, Va., 2/12/2023.

Wanda Dillard McKirahan, Blacksburg, Va., 5/13/2023.

Daniel J. Malyevac, Denver, N.C., 2/17/2023.

Eric R. Michaels, Hickory, N.C., 3/12/2023.

Kathleen June Tooke Mullins, Blacksburg, Va., 5/30/2023.

'88

Kenneth G. Hatch, Midlothian, Va., 1/22/2023.

Linda N. "Lynn" Kemerait, Bostic, N.C., 3/7/2023.

David Kirk, Martinsville, Va., 5/9/2023.

Richard R. Widell, Winchester, Va., 2/15/2023.

'89

Michael G. Broaddus, Bowling Green, Va., 4/6/2023.

Xuong M. Chung-Trans, Lorton, Va., 2/28/2023.

Wendy A. Landgraff Richmond, Centreville, Va., 2/5/2023.

Thomas A. Pollock, Ashburn, Va., 3/20/2023.

'90

Roger S. Askew, Houston, Texas, 2/2/2023.

Michael S. Gallier, King George, Va., 6/20/2023.

'92

Linda M. Hoover, Wilmington, N.C., 12/15/2022.

'93

Marc C. Jarvis, Easton, Conn., 5/20/2023.

'94

David Bryan Allman, Columbia, Pa., 2/21/2023.

Rigoberto Canales, Richmond, Va., 3/28/2023.

James A. Whiticar, Greensboro, N.C., 4/1/2023.

'95

Robert A. King, Collinsville, Va., 4/28/2023.

'96

Julie Galloway Walter, Centreville, Va., 2/15/2023.

'99

Mary L. Predny, Floyd, Va., 5/1/2023

'01

Bryan C. Beasley, Roanoke, Va., 4/13/2023.

Gregory G. Evans, Orlando, Fla., 2/21/2023.

Steven J. Hughes, Beaverton, Ore., 3/16/2023.

'02

Matthew L. Lang, Shallotte, N.C., 6/21/2023.

'05

Joanne M. Nagurny, Oak Hill, Va., 2/25/2023.

Shanna M. Preston, Dumfries, Va., 5/13/2023.

'06

Carolyn M. Potter, Alexandria, Va., 4/5/2023.

'07

Lauren E. Benishek, Baltimore, Md., 3/11/2023.

'10

Kwang W. "Nick" Kim, Minnetonka, Minn., 2/14/2023.

'15

Alexandra Rife, Fort Wayne, Ind., 4/24/2023.

'16

Travis C. Cruz, Poquoson, Va., 3/7/2023.

'17

Lisa A. Harding, Eighty Four, Pa., 4/10/2023.

'18

Joseph A. Anderson II, Virginia Beach, Va., 3/26/2023.

OBITUARIES

FACULTY/STAFF

Jack Allen Cranford, associate professor emeritus of biological sciences in the College of Science, died Aug. 29. Cranford, who joined the university in 1977, achieved international recognition for his research in the field of ecology of small mammals. He was awarded the biology department's Most Influential Professor Award by the Class of 2004, the University Alumni Undergraduate Advising Award in 2004, and the National Academic Advising Association Faculty Academic Advising Award in 2005.

Mark Virgil Crisman, a professor at the Virginia-Maryland College of Veterinary Medicine from 1987-2010, died May 20. Crisman was known for his application of acupuncture in some clinical cases. He was certified by the International Veterinary Acupuncture Society.

Norman Eiss, professor emeritus of mechanical engineering, died June 12. Eiss, taught at Virginia Tech for more than three decades. During his time at the university, he authored numerous papers related to polymer wear mechanisms and surface topography characterization. He was named the George R. Goodson, Jr. Professor of Mechanical Engineering in 1989 and retired in 1998.

George Flick, University Distinguished Professor Emeritus of Food Science and Technology, died June 3. Flick joined Virginia Tech in 1969 and made significant contributions to the fields of seafood processing and technology, aquaculture, and risk management. He was a fellow of the American Association for the Advancement of Science and the Institute of Food Technologists Flicked received numerous awards over the course of his career, which culminated in his induction into the Virginia Tech College of Agriculture and Life Sciences Alumni Hall of Fame.

John Wallace "Wally" Grant II, who taught in the College of Engineering for more than 30 years, died July 12. He was the Kevin P. Granata Faculty Fellow Emeritus of Engineering Science and Mechanics. Grant joined Virginia Tech in 1981 and helped establish the School of Biomedical Engineering, where he later served as the director and department head. An accomplished researcher and engineer, Grant was twice awarded a Certificate of Teaching Excellence from the college and received the Frank J. Maher Award for Excellence in Engineering Education. He retired in 2012.

James Robert Lang, who served as Strickler Professor of Entrepreneurial Studies in the Pamplin College of Business, died Aug. 1. Lang, who joined Virginia Tech in 1980, co-founded and was the inaugural director of the Business Leadership Center. During his tenure, he also served as acting department head for the Department of Management, as department head of hospitality and tourism management, and as director of graduate studies for management.

Michael Anthony Ogliaruso, professor emeritus of chemistry, died Feb. 11. He joined Virginia Tech as an organic chemist in 1967. Ogliaruso's research was in the area of carbocation chemistry. He rose through the academic ranks and served as an associate dean of what was then the College of Arts and Sciences. He was inducted into Virginia Tech's Academy of Teaching Excellence in 1979 and received the university's William E. Wine Award for Teaching Excellence in 1984.

Richard "Dick" Saacke, professor emeritus of dairy science, died on Aug. 20. Saacke joined the faculty of what is today the College of Agriculture and Life Sciences (CALS) in 1965, devoting his career to excellence in research, teaching, and mentoring graduate students in the field of bovine reproductive physiology and artificial insemination. Saacke was inducted into the CALS Hall of Fame in 2016.

Michael Sporakowski, professor emeritus of human development in the College of Liberal Arts and Human Sciences, died June 9. Sporakowski joined Virginia Tech in 1970, serving as a professor and eventually department head in the Department of Family and Child Development. He also worked with Cooperative Extension, served as a marriage counselor, and was elected president of the National Council on Family Relations.

William G. "Bill" Sullivan, professor emeritus in the Grado Department of Industrial and Systems Engineering in the College of Engineering, died June 27. Sullivan joined Virginia Tech in 1989. He made research contributions in engineering economic analysis, activity-based and parametric-cost estimating, multi-attribute decision modeling, environmentally conscious engineering, and the microeconomic aspects of lean and agile manufacturing. Sullivan was a two-time recipient of the Eugene L. Grant Award for the best paper in the Engineering Economist. In 2018, Pearson Publishing awarded him the National Engineering Economy Teaching Excellence Award.

END NOTE

DOUBLE THE IMPACT: INSIGHTS FROM VIRGINIA TECH'S NEW DEANS

LU LIU: BUILDING AN ATTITUDE OF UNCONVENTIONAL COLLABORATION

The assignment I had in my first year as an undergraduate industrial design student seemed straightforward enough—design a flashlight that was not only functional, but ergonomic and beautiful as well.

At first, it felt relatively simple as I thought through how a hand holds a flashlight, and I realized I wanted to incorporate a curve to accommodate the natural bend of a human wrist. But in doing so, I needed to change where the on/off switch was located, and I quickly ran into the limits of my electrical engineering expertise. I needed a collaborator with a different skill set and training than my own.

That project—and the help I got from an engineer who lived in my residence hall—was not only the foundational lightbulb that went off in my head for a career of collaboration in industrial design, but also helps guide my vision as the new dean of the College of Architecture, Arts, and Design.

I believe that we do our best work—and we can have the greatest impact on society—when we are working across disciplines to solve the grand challenges facing our world. And I believe our newly formed college, which uses studio-based learning to address these issues, can be a leader in cultivating this attitude of unconventional collaboration. Our college combines the Schools of Architecture, Design, Performing Arts, and Visual Arts under one collaborative roof.

There already are countless examples of how this is coming to life in Blacksburg and around the planet. A recent art display in a Richmond museum included a piece about architects and interior designers teaming up with veterinarians to create living spaces for researchers studying chimpanzees in Africa. One of our industrial design professors and our students spent this summer in Malawi with biomedical engineers on a project to fight breast cancer. Last fall, we saw performing artists team up with computer engineers to create music from afar in collaboration with an Argentinian cohort. This work not only advances the college, but also the university as it charts its path to become a global university destined to make a difference across the globe.

During my first few whirlwind months as the new dean, I have heard time and time again that the impact and value of our newly created college lies in our unique position to create this culture of collaboration guided by an interdisciplinary attitude. This isn't just inspired by my own flashlight I designed all those years ago; this will be our college's contribution to Virginia Tech and the fields of architecture, arts, and design for years to come.

Lu Liu is the dean of the College of Architecture, Arts, and Design.

LH, CD,, TONI PITTS

SAONEE SARKER: ADAPTABLE MINDS FOR A CHANGING BUSINESS WORLD

My first business teacher was none other than my father.

As a child, I looked at him in awe as he deftly led global marketing efforts as the vice president of a multinational pharmaceutical company. When I saw him working with the media, hosting conferences, and jetting around the world to introduce his product into new markets, I knew this was the path for me.

When I finished my undergraduate degree, I landed a job with South African Airways leading the Indian ground operations. Coming right at the end of apartheid, the role exposed me to a dynamic opportunity to break down cultural barriers in the business world. An MBA came soon after, followed by a job leading marketing for a software startup. Because it was a startup, we all wore many hats and I had some technical proficiency, so I was soon dabbling in the software's user interface. When I landed at another software startup, I dove headlong into the technology and became deeply involved in information systems.

I was surrounded by people who had doctorates, so a Ph.D. in information systems was the next logical step. Soon after graduation, I entered academia as a tenured professor and then a department head.

Now, I have the privilege of serving as dean of the Pamplin College of Business.

Unlike my father, my journey through the business world was a circuitous one, and one that illustrates the demands of a modern business education.

I believe this ability to evolve and work in every facet of a company is more important than ever—and encompasses the ethos of a holistic, interdisciplinary, and adaptable business degree that I hope to foster during my time at Virginia Tech. We are already well underway in this endeavor.

The new Data and Decision Sciences Building that opened this fall will have our business students working alongside engineers and computer scientists who will not only collaboratively solve the big challenges facing the world today, but also boost the reputation of our college and the university. As our college's leadership develops a strategic plan in the coming months, I want us to focus on reputational growth—which dovetails into the university priority of becoming a leading global institution.

I have a great source of inspiration to achieve this goal: the legion of eager, smart, energetic Pamplin students whom I have the privilege of interacting with daily. I think of how developments like artificial intelligence will change their world and how we need to prepare them by helping them develop adaptable minds that are ready to tackle the unknown challenges and opportunities that lie ahead. We may not always know what is coming, but we can always prepare ourselves to thrive when we get there. ■

Saonee Sarker is the dean of the Pamplin College of Business.

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