

College of Agriculture and Life Sciences

CALS

magazine



**CALS
COMBATS
COVID**

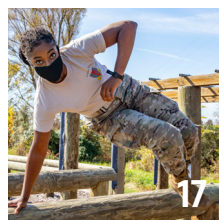


COLLEGE OF AGRICULTURE
AND LIFE SCIENCES
VIRGINIA TECH.

2021

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from the
dean

Greetings,

This is a challenging time for us all.

From the wide-ranging impact of COVID-19 to the social unrest that has swept our nation, we have all felt the ground shifting beneath our feet. One thing has remained constant: the role our college plays in addressing the most pressing issues of the day and working collaboratively to help our communities thrive.

In this issue of the CALS Magazine, you will read about how the college is working around the world to combat the pandemic through research and education. You can also read stories that show how the diversity of the faculty, staff, students, and alumni contributes to the work being done at Virginia Tech and across the globe. Nothing makes me prouder of the college than seeing how we come together to help solve the biggest challenges of our time.

Through our combined resilience and our dedication to each other, we know we face a brighter future. This is why during all of this, we continued to craft a bold strategic plan that charts a path for our college in the coming years. The plan was released in fall 2020 and I encourage you to read it on the CALS website to see how we can partner today and in the years to come.

Thank you for being part of the CALS family. Stay safe and be well.

AROUND THE AG QUAD



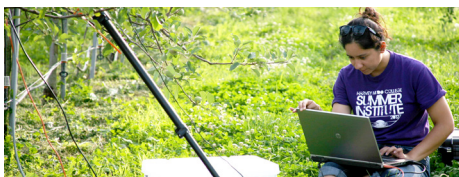
BREWING UP FIGHTIN' HOKIES

Virginia Tech's roots in agricultural research sparked a new partnership with Hardywood Park Craft Brewery in Richmond, Virginia, resulting in a licensed Virginia Tech beer – Fightin' Hokies Lager.

Virginia Tech's brewhouse and malting system are cornerstones of the Department of Food Science and Technology's Innovation Collaboratory, a space where industry meets research. In 2017, the department's fermentation program was one of the first programs in North America to earn recognition from the Master Brewers Association of the Americas.

Fightin' Hokies Lager is a classic Munich-style Helles lager with a balance between pleasant malt sweetness and herbal noble hop character. At five percent alcohol by volume, it is clean, crisp, and refreshing.

The bright, golden beer will be distributed in the spring of 2021 and future beers stemming from the partnership are brewing.



COMPUTING INNOVATION FELLOW WILL WORK TO ADVANCE THE INDUSTRY

Agriculture has always been in Brianna Posadas' blood. Her family immigrated to the United States through the Bracero Program from Mexico and her abuelos and tios were field workers.

Posadas joined the Department of Agricultural, Leadership, and Community Education in January as a prestigious Computing Innovation Fellow – one of only 59 selected across the country. The program is a career-enhancing bridge experience for recent and soon-to-be Ph.D. graduates in computing.



NEW CALS LEADERS

A number of leaders assumed new roles across the college this year. Stella L. Volpe ('87 and '91) was named head of the Department of Human Nutrition, Foods, and Exercise, and Dwayne Edwards was named the head of the Department of Biological Systems Engineering. Renee Boyer ('03 and '06) was named interim head of the Department of Food Sciences and Technology after Joe Marcy stepped down. Across the commonwealth, Mark Reiter ('01, above) was named director of the Eastern Shore AREC.



RESEARCHERS WORK TO PRESERVE OUR MOST VALUABLE RESOURCE: WATER

More than two million Americans live without access to safe drinking water or adequate sewer sanitation, according to a 2019 study by the U.S. Water Alliance. The biggest chunk, though – around 1.4 million people – are United States residents who live in homes that don't have proper plumbing or tap water.

Leigh-Anne Krometis ('02 and '04), an associate professor of biological systems engineering, is one of the foremost experts on Appalachian water quality and availability. In the past three years, Krometis has authored a series of studies of water quality and availability in the Appalachian region. In 2017, she published the journal article "Tracking the Downstream Impacts of Inadequate Sanitation in Central Appalachia."

"The technologies that are best practices in Africa or Southeast Asia are not used in the United States. That's unacceptable because we're a developed country," she said. "But in my mind, if you have somebody who's impoverished and doesn't have access to clean water, that's a problem that we need to address."



3D IMAGING EXPANDS ACCESS TO RARE INSECT COLLECTION

In the unassuming basement of Seitz Hall, a 130-year-old history of Virginia's insect biodiversity is carefully preserved and documented. The Virginia Tech Insect Collection of more than 500,000 specimens represents the rich insect diversity of the Appalachian region and is an exceptional repository of endangered insects, pollinators, and many native species once common but now disappearing from habitat loss.

Thanks to a 2019 Digitizing Hidden Special Collections and Archives award from the Council on Library and Information Resources funded by the Andrew W. Mellon Foundation, there will be a two-year project to preserve 15,000 specimens through two-dimensional digitization. They will also create three-dimensional digital models of 300 more using photogrammetry.



4-H GOES VIRTUAL FOR THE 2020 4-H CONGRESS

Virginia 4-H partnered with Extension agents, volunteers, and 4-H'ers from around Virginia to provide a month-long leadership development event called "Congress Across the Commonwealth." During July, more than 300 4-H youth and adult volunteers participated in virtual learning experiences and state-level competitions during the COVID-19 pandemic. Special events also included a statewide virtual Virginia 4-H All-Star welcome, a virtual 4K run/walk, and more than 200 hours of specialized teen leadership programming.



Read more on our water efforts and the rest of the Ag Quad stories at

magazine.cals.vt.edu





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Stay social with CALS

CICADAS, MARTIAN SAND, AND #STINKYPHIL, OH MY!



College of Agriculture and Life Sciences
Published May 28, 2020

They're big, they're noisy, and a touch destructive. What's not to love about cicadas? Last year, as the alien-like wail of the insect world emerged from the deep, more than 200 people submitted photos to the #VTCALS cicada photo contest. Winners were selected not just for the prettiest photo, but also for the ugliest. Because, you know, cicadas.



70

23 Comments 335 Shares



Virginia Cooperative Extension
Published May 14, 2020

Wondering what you should be feeding the birds in your backyard? Trying to attract specific birds to your feeders? Putting up a bird feeder for the first time?

With digital publications, experts, and workshops, Extension is here to help with anything you need!



101

14 Comments 79 Shares



Virginia Cooperative Extension
Published March 3, 2020



Virginia Cooperative Extension showed the world one way to prevent the spread of COVID – the proper way to wash your hands. Throughout the pandemic, VCE has shared valuable #COVID19 resources across social media to help the community stay safe.

14

2 Comments 105 Shares



Virginia 4-H
Published October 1, 2020

Mission to Mars! The 2020 #4HSTEMChallenge, Mars Base Camp, explored the idea of sending people to the red planet. The #4HSTEMChallenge kits were designed by the National 4-H Council, Virginia 4-H, and Virginia Cooperative Extension, with help from Google. Youth explored computer science, space agriculture, and more in four hands-on activities. Check out the out-of-this-world fun on the Virginia 4-H social media pages.



13

2 Comments 38 Shares



College of Agriculture and Life Sciences
Published June 7, 2020

After five odorless years, #StinkyPhil bloomed again and filled the greenhouses with his unique fragrance. We couldn't take a scratch-n-sniff picture, but imagine some trash and a few fish sitting outside on a humid summer day and you may just recreate #StinkyPhil's legendary stench. We livestreamed his short, smelly life on social media.



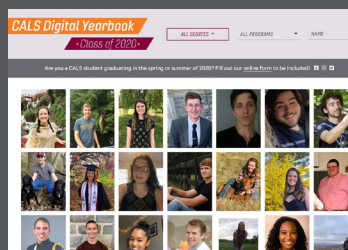
162

12 Comments 38 Shares



College of Agriculture and Life Sciences
Published May 12, 2020

Spring Commencement was held virtually for the first time ever and more than 340 #VTCALS graduates jumped into the fun by participating in an online yearbook that celebrated the accomplishments and resiliency of the Class of 2020. #iamVTCALS



59

3 Comments 14 Shares

Students in the Meraki living-learning community take a break from studying in the Payne Hall lounge.



"We are all here for each other."
-Eliza Brooks

A COMMUNITY FOR THE MIND AND BODY

By Max Esterhuizen

On a cool October night, a crackling bonfire spit sparks and smoke over Blacksburg with each new log that was added to the blaze. For Eliza Brooks and the other students huddled around the fire, this was a chance to connect and relax outside of the norms of college life, a chance to sit under the stars and fully appreciate the community known as Meraki that got them through a turbulent time.

Fall 2020 was no ordinary semester. Social distancing and other guidance designed to hinder the spread of COVID-19 made people seek out creative ways to have fun. For Brooks and the other 87 members of Meraki, one of Virginia Tech's newest living-learning communities, this meant altering their traditional activities. In the warmer months, everything that could be moved outside was. In the cold, it meant finding ways to stay warm, such as this bonfire that danced in the night.

As s'mores gave way to conversations, Brooks

realized that all the work she put in as a resident advisor and co-president of Meraki was worth it. She looked around as everyone chatted about the successes they shared over the last semester, and, perhaps more importantly, the challenges. Brooks realized that over the last few months, she witnessed Meraki become a family.

"We are one of the only communities that directly targets health. A lot of living-learning communities have that aspect to it, but I feel like Meraki is the only one that has that as its core purpose. We are well-positioned to handle any challenge. We are all here for each other," Brooks said.

Formed in 2019, Meraki is one of the newest stars in Virginia Tech's constellation of living-learning communities. These residential halls provide valuable experiences both inside and outside of the classroom. Each community possesses its own theme or academic specialization. At Meraki, the goal is to help students become the best versions of themselves by being dedicated to the well-being of mind and body.

meraki

[may-rah-kee]

Greek-adjective

1) the soul, creativity, or love put into something

'I FOUND MY PEOPLE.'

Ryan Breedlove was nervous when he came to college and wanted to find a group of people where he could belong.

"I've always been more introverted and didn't know if I'd ever really find my people, but those worries disappeared instantly when I joined Meraki. Everyone was extremely sweet and welcoming," said Breedlove, a second-year student studying human, nutrition, foods, and exercise. "Meraki is a family. It helps you become a better person, a better student, and it prepares you for what life is like at college. I found my people."

The community helped Breedlove prepare for classes by creating a personalized schedule that still gave him time for his favorite activities, and also by being around others that encouraged academic success.

Beyond those preparations for students, Meraki hosted a plethora of events that promoted physical health and mental wellbeing. While following COVID-19 guidelines, students ate dinner together on campus, watched movies, and had vital face-to-face interactions.

Led by Kevin Wogenrich, program director of Meraki, and Sarah Lynn, a Ph.D. candidate in human nutrition, foods, and exercise, the pair created events that allowed students to grow safely and responsibly.

"Students need to be healthy on all levels. It is our mission to ensure that students have the best possible experience and the best resources to make that happen, even during COVID-19," Wogenrich said. "Students in living-learning communities show greater academic success, greater involvement, greater development, and are more responsible. Never has this been more important and valuable. At Meraki, we are dedicated to our students' success inside and outside the classroom."

BLEACHERS AT LANE, HIKES AT CASCADES

From yoga and running the bleachers at Lane Stadium to outdoor meditation and the Friendsgiving meal that capped the challenging fall semester, there was something for everyone.

"We want to focus on building relationships that can not only support us through challenging situations, but also through our entire time at Virginia Tech and beyond," said Brooks, a sophomore in the Department of Animal and Poultry Sciences. "This was done for me when I joined this community in fall 2019, and we wanted to make sure that the incoming students had the same experience in fall 2020."

Some of those special moments have been created on the weekly Saturday hikes around the mountains that envelope Blacksburg. From trips to Cascade Falls that feature picturesque cliffs of water to the views that make people understand how the Blue Ridge Mountains got their name, Meraki students spent plenty of time in the splendor that envelops Virginia Tech.

For Nia Salway, a first-year member of the Meraki family, a socially-distanced football game on the Drillfield and a trip to the Cascades were some of her favorite memories. As water incessantly pounded the rocks at the waterfall, Salway saw the beauty of nature. The existential moment of peace and clarity in a turbulent world and gave a small sense of normalcy for 2020.

But the most impactful part of Meraki for her is Brooks, her resident advisor.

"Eliza has helped our community feel close while taking all the necessary precautions COVID-19. From the check-ins over Zoom to the socially distant outdoor interactions, Eliza does everything she can to show us that she cares," Salway said. "And we all love her for that. She's planned so many activities for all of Meraki."

That closeness wouldn't have been possible without the ongoing efforts of Wogenrich, Lynn, Brooks, and others who worked tirelessly to ensure that the Meraki family would remain the same during COVID-19.

As Meraki finished a socially distant Friendsgiving, they said goodbye — for now. Their transformational experience in Meraki prepared them for a virtual end to the 2020 semester and for the road that lies ahead.

Top: Nia Salway enjoys a relaxing walking meditation at the Duck Pond. Center: Shreya Ananth uses yoga to gain a healthy mind and body. Bottom: Kristen Chang gives a food demo at the 2020 Meraki "Friendsgiving" event

Meraki is a partnership between The Cook Counseling Center; the Department of Human Nutrition, Foods, and Exercise; Hokie Wellness; Housing and Residence Life; Recreational Sports; Schiffert Health Center; Services for Students with Disabilities; and Student Affairs Well-Being.



"Students need to be healthy on all levels."
-Kevin Wogenrich



DREAMS²DEGREES



Rising senior builds website to help minorities with inequalities during college application process

By Max Esterhuizen

Jesika McDaniel always knew she was going to college. She was constantly motivated by her mother, who infused McDaniel with the message that she would do great things in life. She assumed that everyone's parents are like that.



But when she worked with local kids as a teenager at a rec center in her hometown of Greensboro, North Carolina, she found that wasn't always the case. The kids were intelligent but didn't get positive encouragement at home or school, which often resulted in academic struggles. When she worked with them, she noticed that they not only understood what she taught, but that they loved it.

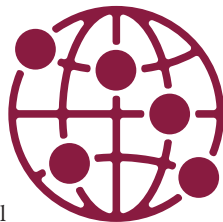
"They started talking about their aspirations and their dreams coming from the Black community," said McDaniel, now a senior in biological systems engineering, which is both in the College of Agriculture and Life Sciences and the College of Engineering. "A lot of parents and a lot of our people don't push college that much unless they have the privilege to be in an education system or a county that encourages our students to go to college, or sometimes even graduate from high school."

Those inequalities inspired McDaniel to change that.

After her summer internship was canceled due to the COVID-19 pandemic, she sat at home and thought about how she could help others. Then the idea came to her: create a website that offers guidance on choosing colleges, helps navigate the application process, and reviews college essays.

Dreams2Degrees was born.

The website is dedicated to providing information for high school and middle school students — especially for minorities, first-generation, and low-income students that want to pursue higher education.



"I want to make everything easy to understand. I want them to be aware of everything they will face on their journey to a degree," McDaniel said. "Parents often don't know where to begin to help, and I want to make the process easy for both the parents and the kids."

She wants to encourage students during the college application process, something that was missing for McDaniel outside of her immediate family. Her high school counselor advised her against graduating early — something McDaniel did anyway at age 16.

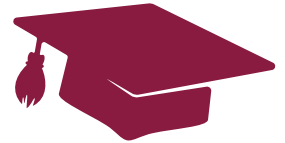


"I want them to know that no matter what, your dream is your journey. You go ahead and do what you need to do. I set up the website to make things look very simple for students — and especially for parents," McDaniel said.

McDaniel's high school was in a heavily white and rural area where she was surrounded by high-achievers.

"The kids were really smart and all vying to be top in their class. They would always talk about going to college or where they had been accepted. They came from families with multiple degrees," McDaniel said. "My mom has that, too. But I realized that not everybody has those same advantages."

She realized that there can be a disconnect with kids from different backgrounds and that she could challenge and push them forward.



"I needed to encourage these students by reminding them that they do belong in college — that they could make it there," McDaniel said. "There were so many times after telling people I wanted to go to college or be an engineer that they would tell me I couldn't do that because I'm a girl or because I'm Black. I thought to myself 'OK, that's fine.' So, I did it for that reason — to show I can do this. I can be successful and then also bring that back to other students. I grew up and look where I'm at now — at a premier university."

The website, in some aspects, is an evolution of a group in which she participated during high school called Greensboro Youth Leadership. McDaniel visited high schools and helped kids understand their career options.

"A lot of the kids who are Black need to know they can go to school for more than just playing sports. There are thousands of other career options that they need to be introduced to," McDaniel said. "It only takes one time for a kid to fall in love with something."

While visiting a school, McDaniel started speaking with a young high school girl as they worked on a science project together. As the pair worked, the girl started talking about how much she wanted to be an architect, but her mother kept telling her that construction is for boys.

"I told her there is so much you could do with architecture. Math, science, communication, and design skills are all part of the field," McDaniel said. "At the end of that day, you don't want someone to not do something because they were told not to even try. I want to tell students to go after their dreams, because if they're not, who else is going to?"



Visit Dreams to Degrees at www.dreams2degrees.com

CALS COMBATS COVID

By Max Esterhuizen, Zeke Barlow, and Alex Hood

HOW THE COLLEGE OF AGRICULTURE AND LIFE SCIENCES, VIRGINIA COOPERATIVE EXTENSION, AND 4-H HELPS COMMUNITIES THRIVE THROUGH COVID-19

When COVID-19 took over the globe and changed virtually every aspect of our lives, CALS did exactly what it has done since Virginia Tech was founded nearly 150 years ago – find solutions to the most pressing issues of the day.

Researchers called upon decades of expertise to develop responses to food security challenges during the pandemic. Professors pivoted their teaching methods to continue providing the world's best education. Virginia Cooperative Extension agents sewed face masks to keep their communities safe. 4-H leaders innovated new ways to engage and educate the next generation of leaders. Alumni shared the knowledge that they had gleaned at the college with the world.

Just like the rest of society, life has been fundamentally altered for the CALS family during COVID-19. But our mission to help our communities thrive never wavered, and became stronger than ever.



CALS GETS CREATIVE TO DELIVER COURSES

“Although we have had to change the way we teach, that doesn’t mean we’ve had to compromise the quality or experiential learning components of our courses.”

-Susan Sumner

Associate dean and director,
Academic Programs

Although this academic year has been anything but normal, CALS faculty and graduate students pivoted the way they taught in order to continue to deliver a world-class education. Some even said the shift to COVID-compliant courses helped them improve their teaching methods.

During Herbert Bruce’s First-Year Experience class, he worked diligently to comply with COVID-19 safety guidelines while allowing students to socialize. Each course section was still taught in-person, though now held in a room built to accommodate 230 people so the roughly 40 students in each section could safely distance. Bruce also streamed each session live via Zoom, so students who couldn’t come to campus for safety reasons could still participate in the full first-year Hokie experience.

“Doing it this way has been a lot more difficult, but I honestly believe it’s what the students need in order to get as much normalcy out of the semester as possible,” said Bruce, an assistant professor of practice in food science and technology.

Students agree that their professors were there for them.

“Even though we are not in class, I want to reiterate how well the professors and TA’s are with communication and patience,” said Atticus Morgan, a junior majoring in crop and soil sciences.

“Although we have had to change the way we teach, that doesn’t mean we’ve had to compromise the quality or experiential learning components of our courses,” said Susan Sumner, associate dean and director of academic programs. “There are numerous examples across the college of faculty and graduate students who not only rose to the challenges presented by COVID-19, but were able to enhance their courses. The spirit of *Ut Prosim* is demonstrated every day by our faculty, staff, and students.”



COVID DOESN'T SLOW EXTENSION DOWN

Though COVID-19 halted many of the Virginia Cooperative Extension's in-person events due to public safety concerns, it didn't slow down the agents, specialists, and administrators who brought many of the in-person experiences online, resulting in some unique and impactful educational opportunities.

“Our agents are incredible resources who continually work to be beacons of light for communities across the commonwealth.”

-Ed Jones

Associate dean and director,
Virginia Cooperative Extension

“Extension is here to serve the commonwealth at all times and we strive to address the new challenges in our communities by providing convenient and powerful resources for them wherever they may be,” said Ed Jones, director of Virginia Cooperative Extension. “Our agents are incredible resources who continually work to be beacons of light for communities across the commonwealth.”

One such example was the Southwest Virginia Bull Test Program, which required a new method of delivery for the annual sale to continue.

A mechanism was established for producers to buy bulls without gathering for the traditional auction. The sale was moved to an internet auction format, which allowed producers to bid online while the sale was broadcast using an auctioneer and recorded videos of the animals.

Another change was the introduction of virtual field days. Instead of the traditional in-person events, virtual educational events were delivered from the comfort of specialists' homes or the familiarity of a tractor.

These field days, held at Agricultural Research and Extension Centers across the commonwealth, combined pre-recorded and live presentations to deliver knowledge that only Virginia Cooperative Extension can provide.

When this year's Virginia Ag Expo was canceled, Extension pivoted to an online video educational series to provide producers with the knowledge they trust.

The event is the state's largest outdoor agricultural showcase and attracts producers from around the commonwealth. Normally, one of the highlights of the event is when Extension specialists and agents host a field tour where they share information with producers on the newest ways to boost their profits and increase yield. Pandemic or not, producers still turned to Extension for that information.

For Ag Expo, that meant a series of videos in which Extension specialists and agents shared insights on topics ranging from soybean seeding rate to how to manage fertilizer inputs to maximize corn yields.

The lessons learned about how Extension can reach audiences in new ways will prevail for years to come — long after COVID-19 is gone.

A TANGLED WEB OF SURFACES

From Amazon packages to takeout containers, people touch a multitude of surfaces every day, leaving behind residue, germs, and more. Food supply chain personnel from every level – growing, processing, distribution, and retail – are constantly in contact with a variety of them.

To address this issue, college researchers are studying how long SARS-CoV-2 – the virus that causes COVID-19 – survives on surfaces, focusing on its survival on food, food contact surfaces, and other points along the food supply chain.

With a two-year, \$1 million grant from the USDA National Institute of Food and Agriculture, researchers will investigate best practices for ensuring supply chain workers do not contract SARS-CoV-2 from handling packaging and how to properly sanitize during food distribution and production.

“Our knowledge about SARS-CoV-2 virus’ survival on foods and food contact surfaces, and the response of the virus to different disinfection methods, is very limited,” said Reza Ovissipour, an assistant professor in food science and technology and an Extension specialist at the Virginia Seafood Agricultural Research and Extension Center.



HOKIE CALLED ON TO REPRESENT THE UNITED STATES

The beginning of the COVID-19 outbreak had unforeseen consequences for the food sector. Food producers found themselves with a surplus of perishable items that were once bound for schools, conferences, and sporting events, and food businesses struggled to get the supplies they needed to remain open. Every link in the global food supply chain scrambled to adapt to the sudden changes in demand.

To address these issues, the Inter-American Institute for Cooperation on Agriculture assembled an advisory council to evaluate COVID-19's impact on food security in the Americas. When experts were selected from around the world, Virginia Tech alumna Elsa Murano was called upon to represent the United States.

Murano was uniquely qualified when she was charged with monitoring and making recommendations on agricultural development, food safety, farming, and trade throughout the pandemic. After earning her master of science and Ph.D. in food science from Virginia Tech in 1987 and 1990, Murano served as undersecretary for food safety at the USDA and as Texas A&M University's first female and first Hispanic-American president. She is currently the director of the Norman Borlaug Institute for International Agriculture.

"There's no doubt in my mind that it was my experience at Virginia Tech that gave me my first taste of how science can be used to solve the world's toughest problems," Murano said.

Since forming in April, the council supported an increased focus on small-scale farming through enhanced access to credit and rural insurance, created a series of virtual seminars to inform policymakers on actions they should take post-COVID-19 to bolster agrifood sector recovery, and promoted greater use of biotechnology in food production to help strengthen agricultural value chains.

"There's no doubt in my mind that it was my experience at Virginia Tech that gave me my first taste of how science can be used to solve the world's toughest problems."

-Elsa Murano

Director of the Norman E. Borlaug Institute for International Agriculture at Texas A&M and former president of Texas A&M





A THEME OF THANKFULNESS

"Theatre Through Windows" combined service with improv performance when undergraduates in Ozzie Abaye's Agriculture, Global Food Security, and Health course performed skits for the residents of Christiansburg's Commonwealth Senior Living. Students Rose Scannell, Mary Weeks, Sara Rheintgen, and Noreen Karam were tasked with a service-learning project and mentored by the performance co-creators Courtney Surmanek and Stephen T. Licardi.

Activities included sing-a-longs, poetry, charades, and other interactive games while maintaining a distance between the students and residents.

Watch the theatre production at



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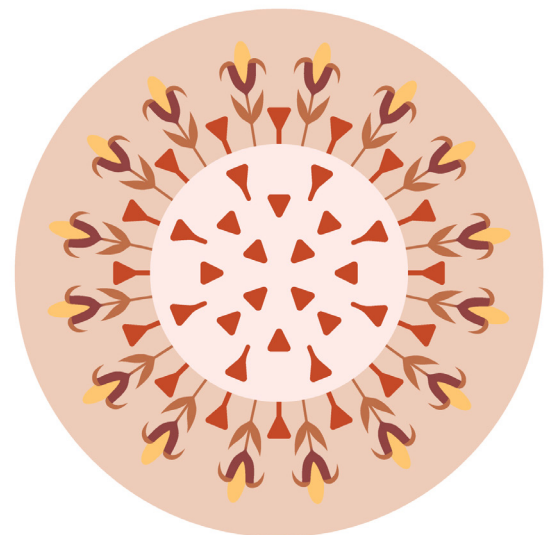
AGRICULTURAL PRODUCTIVITY IN THE TIME OF COVID-19

The 2020 Global Agricultural Productivity Report released by CALS raises concerns about the resilience of our agricultural systems in the face of pandemic-scale outbreaks that directly impact people, crops, and livestock.

New data from the USDA Economic Research Service presented in the report indicates that globally, Total Factor Productivity is below the target of 1.73 percent required to double agricultural output from 2010 to 2050.

The theme of the 2020 GAP Report was inspired by the COVID-19 pandemic, but that is just the tip of the iceberg according to Ann Steensland, who leads the Global Agricultural Productivity Initiative for the college and is the author of the report.

"Agricultural producers grapple with disease and pest outbreaks with alarming frequency," Steensland said. "While most of our current attention is on COVID-19, in East Africa swarms of desert locusts are decimating crops, wiping out a source of food and income for millions of people."



Watch a video on the GAP report at



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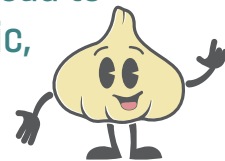




under the microscope

research from around the college

Discovery could lead to more potent garlic, boosting flavor and bad breath



A team of Virginia Tech researchers, led by Ph.D. candidate Hannah Valentino and professor of biochemistry Pablo Sobrado, recently discovered a new step in the metabolic process that produces the enzyme alliinase. The enzyme leads to garlic's delectable flavor and aroma, and upends decades of previous scientific belief. Their work could boost the malodorous — yet delicious — characteristics that garlic-lovers the world over savor.

Watch an animated video on the garlic research at



magazine.cals.vt.edu



Predicting cattle infertility through machine learning

Fernando Biase, an assistant professor in the Department of Animal and Poultry Sciences, is working on a method to effectively identify which heifers will be able to successfully reproduce, saving farmers resources, time, and money. They are using big data and cutting-edge analytics to find genetic markers in heifers that have become pregnant — and ones that haven't — as the backbone of their research that is driven by machine-learning algorithms.



Researchers discover that mouth bacterium may cause colon cancer to spread

A diverse array of bacteria lives in the human mouth as part of a vital ecosystem known as the oral microbiome. A team of researchers led by Daniel Slade, assistant professor of biochemistry, have discovered that one of these common bacteria can leave the mouth and potentially cause existing cancer cells in other parts of the body to spread.



Fluent in flavor: Using machine learning to build a flavor language for whiskey

A research project by Department of Food Science and Technology researchers Jacob Lahne and Leah Hamilton received a grant to work toward standardizing the language that's used to describe whiskey.

The team is applying natural language processing, a subfield of linguistics, computer science, information engineering, and artificial intelligence that involves programming computers to process and analyze large amounts of the words that describe whiskey. The goal of the project is to find common words that match flavors, allowing consumers to know exactly what their whiskey will taste like. A SEAD Major Grant from The Institute of Creativity, Arts, and Technology was awarded to distill the language.



Specialty Crop Research Initiative grants push industry forward

Virginia Tech was involved in more than \$11.6 million grants from USDA NIFA, headlined by Chuanxue Hong, project director and a professor of plant pathology at the Hampton Roads Agricultural Research and Extension Center, who received \$4 million to improve boxwood blight prevention. Others who were awarded grants are going to be studying precision production of apples, vineyard management, and plant pathogens.

HELP 4-H THRIVE

Today and Tomorrow

For the last 100 years, Virginia 4-H has improved the lives of youth around the commonwealth.

But in order to continue to carry out this mission, 4-H needs your help. The impact of the COVID-19 pandemic has been challenging for everyone — and 4-H is no exception. Canceled camps and events put a significant financial strain on 4-H education centers across the commonwealth.

We need your help to continue changing lives for the next 100 years.

Together, we can ensure that 4-H will continue empowering youth by giving them the tools they need to chart their own path and give them the space to thrive.

Join us. Give now.

To give text VA4H to 51555 or visit www.cals.vt.edu/make-a-gift/4-h-camps

To learn more about how you can support Virginia 4-H Educational Centers, contact Emily Wong at 540-231-6975 or ewong03@vt.edu.

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BROOKE JOHNSON '21



Johnson is a senior in the Department of Animal and Poultry Sciences and serves as the president of Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS). She is also a colour sergeant in the Corps of Cadets.

What inspired you to pursue a career in agriculture?

I enjoy working in science and found that my interests lie in between animal science and welfare. It is an intricate field to enter with plenty of opportunities, and I have enjoyed all the experiences in which I have been involved. I always had a passion for animals when I was a child, and that passion never faded. It was always a natural choice for me to pursue a career in agricultural sciences growing up, and attending Virginia Tech helps me with this dream.

How does MANRRS elevate Black and minority students?

MANRRS provides an open and motivating environment for students to gain experience and knowledge about the natural sciences, agriculture, and natural resources. We aim to supply the industry with a diverse pool of student leaders, and we have a sincere passion for improving and enhancing the world around us. We attempt to provide networks to support the professional development of minorities, and we offer students opportunities to enhance their leadership, public speaking skills, and more.

What are a few things that need to be done to improve the support of minorities in higher education?

A great deal of issues in higher education are related to the systemic racism that still lingers in our society to this day. To confront the discrimination that minorities handle daily, the first step is to acknowledge the prejudice that exists. There are multiple ways to approach the improvement of minorities in the STEM world, and most of the ideas center around enhancing equality between all races. A couple of very important concepts that need to be adopted within our university are building a more diverse faculty and administration, recommending diversity and inclusion training, and conducting annual surveys on students' sense of belonging at the university.

BLACK VOICES

IN AGRICULTURE AND LIFE SCIENCES

Over the last year, Americans spent a lot of time examining our country's history of race relations and talking about how we interact with each other today. Our college was no different.

CALS is committed to lifting up voices of minorities in agriculture and life sciences so they can share their successes and their challenges, and examine what can be done to make society more supportive and inclusive for all.

Three members of the CALS family gave a glimpse into their lives, hardships faced, and how everyone has a role in building a healthy and diverse culture.



CHEVON THORPE '12

As a scientist by trade, what is the importance to you of being a role model to others?

Throughout my journey in education, I have had the privilege of having many phenomenal mentors and role models. These individuals not only inspired me but helped to clarify my sense of purpose, navigate successes and failures, and become the best version of myself. Because of the salient identities I carry as a Black woman in STEM, I am very aware that my presence in higher education is not the norm. How I carry myself and interact with those around me as a professional can impact how people perceive those who look like me. Being a role model is important because I recognize that representation matters. I want to be a person whose behavior, example, and success can be emulated by others. I do not take for granted the position and privileges that I have in my roles and I aspire to give back and influence others to become the best versions of themselves.

What needs to be done to make agriculture and life sciences more inclusive and supportive of minorities?

The first step to making any change is building recognition and awareness of where we are. CALS is currently in a liminal space between who we are and who we aspire to be as an inclusive and equitable leader within the university. To create a more inclusive college that is supportive of everyone, including minoritized and under-invited people, it will take intentional and continuous engagement from every member of the college. We all have a role in building a healthy and diverse workplace culture, where our peers feel supported, respected, and included. I encourage members of CALS to continue to ask questions, engage, and reflect. In whatever learning opportunities you choose to take advantage of, focus on building authentic relationships: observing, listening, and asking those who are from different backgrounds, to share, and to enter the dialogue. Being aware of our shared needs and the impact of our biases, our workplace can be a more productive and welcoming space for everyone.

Thorpe has a Ph.D. in biochemistry from Virginia Tech and is currently a collegiate assistant professor in the Department of Biochemistry and is the director of Inclusion, Diversity, and Equity for CALS

MAURICE SMITH, JR. '12

What is the importance of diversity in organizations such as Virginia Cooperative Extension? What is the significance of you being a role model?

Diversity in Extension gives us a unique and well-balanced, critical skillset of people who can serve all of our commonwealth. The importance of having agents, specialists, faculty, and staff who all look different and carry a level of expertise based on their knowledge and lived experience can benefit an organization such as Extension. I think having served in critical roles within Extension and Virginia State University has helped build stronger partnerships for the organizations.

What are some of the challenges you've faced along your journey? What inspired you to persist through these?

As a Black man in agriculture, I have faced both ageism and racism. I always strive to reach my highest potential and work hard to understand younger or older audiences regardless of differences. What inspired me to persist through these challenges is staying motivated and humble, and I prayed to tackle things one by one. I think my challenges have helped me create civil dialogue spaces to engage in so others can hear and understand my challenges and lived experiences.

How do you want to elevate minorities in 4-H?

My research revolves around the involvement of minority communities, young Black male youth, and parents in 4-H. For example, to recruit more African American young men into 4-H, do we have our coaches and barbers who serve as role models volunteering? Do we have minority leaders in the community serving as volunteers? Are church groups, community groups, fraternities, and sororities volunteering? Does our 4-H merchandise, curriculum, and programs appeal to minority audiences? I want to elevate 4-H with new and innovative programming ideas to increase minority youth enrollment in 4-H programs.



Smith has a Master of Science in Agriculture and Extension Education from Virginia Tech and a Ph.D. from Penn State. Smith is a former assistant professor at Virginia State University and 4-H youth development Extension specialist, now working as a national program leader with the US Department of Agriculture, National Institute of Food and Agriculture. He serves in a role working with 4-H Youth development and 1890 programs.



A DESIRE TO SERVE

Keegan Czesak, owner of Eno River Farm, stands in his hydroponic strawberry field.

Alumnus turns agricultural project into community farm, feeding families in the process

By Max Esterhuizen

Opening a new business during COVID-19 wasn't what Keegan Czesak '18 had in mind when he dreamed of starting his own company, but that's exactly what the Agricultural Technology program graduate did when Eno River Farm opened for business in Hillsborough, North Carolina, in March.

Eno River Farm isn't your standard agriculture venture, but Czesak took Virginia Tech's motto of *Ut Prosim* (That I May Serve) to heart while a

student in the College of Agriculture and Life Sciences and ingrained it into the foundational fabric of the farm.

From the day the farm opened, his community was put at the forefront of the farm's operations. Eno River Farms supported those in need through sizable meal donations of fruit, ice cream, vegetables, and honey, as well as 1,900 meals to local food banks as of July 2020.

"Our unique opening enabled us to give back to those in need and showcased the founding principles of Eno River Farm and *Ut Prosim*," Czesak said. "We saw an opportunity to help our community and are glad that we were in the position to be able to do so. This isn't something that we're only going to do during a pandemic — this is what this farm was made to do and something we will do year after year."

The donations had a profound impact — more than 32.5 tons of fresh fruit, 6.2 tons of fresh vegetables, and 185 gallons of local honey were distributed to the community.

The farm, along with its principles, came about from Czesak's time in the College of Agriculture and Life Sciences. Near the end of his time in the Agriculture Technology program, Czesak crafted a mock agricultural business plan for one of his courses. He had the freedom to take charge of his creative vision, where he outlined how to start the farm, where would it be located, what would be grown, and how everything would be financed.

"To me, it was more than a senior project. It was more than a grade. It was something I wanted to turn into a livelihood," Czesak said.





Czesak's inspiration for the project came from his grandparents, who had a large-scale commercial farming operation that included growing potatoes for Frito-Lay. That experience stuck with him, as well as when he took a trip to South Africa after graduation and witnessed million-dollar homes across the street from shantytowns. That juxtaposition inspired Czesak to want to give back to the surrounding community upon returning home.

Czesak's uncle, Jude Samulsk, saw the passion for entrepreneurship in Czesak's eyes and funded the farm. Samulsk had recently purchased land in Hillsborough to prevent it from being developed into real estate and decided he wanted it to be put to good use by bringing a community-based agriculture venture to the area.

The family-friendly, pick-your-own farm — just like the one in Czesak's project at Virginia Tech — came to life. And the farm was able to stay true to its foundation during COVID-19, thanks to stringent health and safety protocols enacted by Eno River Farm.

"We had around 112,000 people cycle through the farm in our first two months with no reported cases of COVID-19," Czesak said. "We're very proud of not transmitting it. We did such a great job of our social distancing and adhering to the best health and safety practices."

Top left: A customer hauls pumpkins to their car from the Eno River Farm store. Top right: Keegan (right) arranges plants in the store with Lindsey Jouannet (left), one of his employees. Bottom middle: Hans Lenselink, head horticulturalist, poses with poinsettias in the Eno River Farm greenhouse. Bottom right: Amy Thomas, from Hillsborough, North Carolina, shops for pumpkins with her two kids, Penny Ruth and Edie Jane.

"To me, it was more than a senior project. It was more than a grade. It was something I wanted to turn into a livelihood."

They did such a good job with health protocols that the farm participated in a Zoom call with the Canadian Department of Agriculture to discuss their experiences and share what worked for them. In all, more than 70 farms participated, the vast majority of which were in Canada.

"Instead of saying 'stay six feet apart,' we wanted to come up with a sign that stood out when you read it, a sign that was attention-grabbing," Czesak said. "Our signs varied, but some of them said to stay 33 strawberries apart with 'six feet apart' in parentheses. We wanted to advertise it in a way that made it interesting and made you want to read it versus just listing the standard CDC guidelines."

In the future, Czesak plans to offer internships to grow and foster the futures of young agriculture professionals to keep the industry thriving. But for now, Czesak has embodied *Ut Prosim* (That I May Serve) by helping feed the local community all while keeping them safe.



Watch a video about Eno River Farm at



magazine.cals.vt.edu



SmartFarm Roundup

SMARTFARMS GROW ACROSS THE COMMONWEALTH

A drone, a robot, and a sensor. These tools can transform a farm to a place where data is used to make practical precision feeding, protection, and management decisions. Farmers can manage their farms not only with their tractors, but also with iPads.

Through innovative faculty, research, and collaborations, Virginia Tech and CALS are leading the charge to help local communities thrive and spark a new agricultural and natural resources economy, pushing the boundaries of farming with the SmartFarm Innovation Network™. Interdisciplinary researchers and Virginia Cooperative Extension specialists partner with industries to develop and deploy innovative technologies to increase overall efficiency, resilience, and sustainability of food, agricultural, and natural resources production systems.



CENTER FOR ADVANCED INNOVATION IN AGRICULTURE FORMED

In order to foster informed decisions from agricultural technologies and analytics for growth and research opportunities, the college has created the Center for Advanced Innovation in Agriculture.

The center will focus on scientific discovery and application toward technology-driven innovative solutions at the intersection of agricultural technology, data analytics, and decision-making to address challenges and security in the natural world and in human society in the domains of plants, animals, and food systems.

Scores of faculty members across CALS and Virginia Cooperative Extension with experience in everything from precision agriculture and cyberbiosecurity to genomic design and machine learning will be part of the new center.



CYBERBIOSECURITY FOR A DIGITAL WORLD

Just like many industries moving to an increasingly digital world, agribusiness needs resources and strategies to protect biological and data sources from potential cyber attacks, such as unauthorized data injection and unauthorized control of automated systems. The U.S. food and agricultural system influences more than 20 percent of the nation's economy and 15 percent of American jobs, making public trust essential.

To address these cyberbiosecurity issues, CALS hosted the virtual conference Securing Agriculture, Food, and Economy with Cyberbiosecurity in early October.

During the workshop, thought leaders and influencers discussed common food and agricultural system challenges, scenarios, outcomes, and risks to various sectors of the system. Cyberbiosecurity strategies for the system were discussed, along with gaps in workforce and training, as well as research and policy needs.



USING BLOCKCHAIN TO SHORE UP THE FOOD SUPPLY CHAIN

The Virginia Seafood Agricultural Research and Extension Center is pushing boundaries in the seafood industry through expanding automation for processing to improve economic resiliency in the wake of the COVID-19 pandemic. The AREC is exploring a new method of sales for the typically restaurant-focused seafood industry – direct-to-consumer sales.

“When we look at food safety and security, these are all enhanced with smartfarm innovations,” said Michael Schwarz ('06), director of the Virginia Seafood Agricultural Research and Extension Center. “As a result of this crisis, we're going to see a stronger push into automation, information, and data management through blockchain technologies, cybersecurity, and enhanced traceability.”



THE SOUND OF PLANTS DANCING

Close your eyes and listen to what's around you. What do you hear?

Sure, you hear the sound of wind chimes or leaves fluttering in the wind, but can you hear the sounds of plants moving as they grow?

Now imagine putting on a pair of headphones and being able to determine the health of plants across the globe based purely on what you hear. You could ensure healthy plants by making remote adjustments to the soil, water, or fertilizer based on what you heard.

That's exactly what Bingyu Zhao, associate professor in the School of Plant and Environmental Sciences, is researching.

Zhao's team is studying the microscopic movements and sounds that are made by plants grown in a hydroponic environment based on the nutrients they have — or lack — from water. Their work could impact the global food supply by increasing the sheer number of food-producing farms in previously challenging growing locations, including urban environments. The research will increase the health of the plants, enabling them to produce more — and higher quality — food.



MOVING FARMS INDOORS

The Institute for Advanced Learning and Research partnered with the School of Plant and Environmental Sciences and the Virginia Seafood Agricultural Research and Extension Center to launch a Controlled Environment Agriculture Innovation Center on IALR's campus in Danville, Virginia.

The Innovation Center will leverage technology and research to accelerate advancements, economic development, and regional participation in the developing industry of indoor farming. The value of U.S. greenhouse-grown food crops is expected to exceed \$4 billion this year.

Convening industry, academia, and producers, the Innovation Center will be housed primarily within a modern greenhouse complex on IALR's campus, and will feature various hydroponic systems. Vertical growing racks maximize space, and high-tech engineering and technology will be integrated and on display throughout the center. Faculty and staff involved in the center will research and educate on raising fish in controlled environments using aquaponics, or recirculating aquaculture systems that integrate plant and fish production.



NEW SMARTFARM INNOVATION NETWORK FACULTY SPAN DISCIPLINES

Alejandro Del-Pozo, an assistant professor of applied insect ecology in the Department of Entomology, has accepted one of 13 new positions that are being filled in the coming years as part of the SmartFarm Innovation Network. Collaborations between these new hires and existing faculty will enhance interdisciplinary flagship programs at the nexus of digital, biological, social, and physical sciences and engineering with application to agriculture, food, and natural resources.

HOKIES IN THE HALLS OF GOVERNMENT

There is no limit to the impact Hokies can have on the world after leaving Blacksburg. Need proof? Look no further than halls of government in Richmond and Washington, D.C., where CALS graduates are shaping the policies and laws that help society grow. Though the work they do varies — from helping rural areas gain access to broadband to ensuring our stakeholders have a voice in decision making — they all have the same mission: help agriculture and life sciences communities thrive.

We reached out to three illustrious alumni who work in the highest levels of government to see what drives them, what they love about their work, and how CALS prepared them to make a difference in the world.



CARRIE CHENERY '08

Agricultural and Applied Economics and Environmental Policy and Planning
Minor in Political Science

How did your experience in CALS help prepare you for your career?

I believe my classes in agricultural and applied economics had several basic themes that continue to positively impact me: constant adaptation for traditional industries; effective policy-making through differing points of view; community impact for the greater good; and making the numbers work. CALS has always taken a long-term, holistic view of the agriculture industry, its impact, and its potential.

Tell us about the path that led you into government relations.

I grew up thinking I wanted to be an environmental attorney, rooted in a vision to protect resources like my family's Shenandoah Valley farm. I took a chance on an internship at Virginia Tech that allowed me to experience the Virginia General Assembly session during a spring semester. I was hooked.

What is the underlying passion for your work that motivates you?

My trajectory started on my family farm in my rural hometown, where I grew up convinced that developmental sprawl was threatening both the environment around us and our generational land. I believed there had to be a way for rural communities to thrive while retaining their character, and I still do. That interest grew into a greater passion for understanding the motivations and needs of businesses, communities, and individuals, which are often tied to economics. When you can align those needs (usually involving government) and the resulting impact is positive, that is powerful and motivating.

CURRENT JOB TITLES

- Founder and principal, Valley Pike Partners
- Member, Virginia Tech Board of Visitors

FORMER ROLES

- Executive Director, Shenandoah Valley Partnership
- Assistant Secretary of Agriculture and Forestry, Office of the Governor
- Manager of Legislation and Policy, Virginia Economic Development Partnership
- Director of Government Affairs, Williams Mullen



BETTE BRAND '82, '90

Animal Science
Masters in Business Administration

CURRENT JOB TITLE

Deputy Under Secretary, USDA
Rural Development

FORMER ROLES

- Administrator, Rural Business-Cooperative Service, USDA Rural Development
- Chief Legislative Officer, Farm Credit of the Virginias

How did your experience in CALS help prepare you for your career?

From everyone I met in Block and Bridle's Little International to the alumni network, the connections were amazing. My husband is a Virginia Tech graduate from another college and he didn't have anywhere near the network we had in CALS.

What issues are you working on these days?

There is a real health-care crisis in rural communities that we have to address. To solve this issue, we are working with partners to provide capital for hospitals and technical assistance to bring broadband to rural communities. Once you have high-speed internet, then you can have telemedicine, and there are some great examples of the impact you can make in rural communities through telemedicine, and to have that as a backup so rural communities are not isolated from medical care is imperative.

Most of us only have an idea of how the government works by what we see in movies or the media. What is it like from an insider's perspective?

I remember one time I was talking to a group of farmers who were visiting Congressional staffers and someone asked if working in government was like "House of Cards." No, it's nothing like that! There are a lot of rules and as much as it seems like we are giving a lot of money away in grants, there is a lot of accountability and a lot of checks and balances in the system to make sure we do them as effectively and as intelligently as we can. We have a team of hardworking people who have a deep knowledge and passion for their work and great resiliency.



MATTHEW LOHR '95

Agricultural Education
Minor in Agricultural Economics

FORMER ROLES

- Chief, USDA-Natural Resources Conservation Service
- Virginia House of Delegates
- Commissioner, Virginia Department of Agriculture and Consumer Services
- Director, Farm Credit of the Virginias Knowledge Center

How did your experience in CALS help prepare you for your career?

The professors were engaging, supportive, and extremely knowledgeable. Once I graduated, I realized why so many of them were recognized throughout the country. The friends I made and the networking experiences through so many clubs and extracurricular activities were also important. I was amazed during my career how I would get to work with so many people I got to know through my CALS experiences.

Tell us about the path that led you into government relations.

As an active Future Farmers of America member, I was fortunate to serve as both Virginia state FFA president and national FFA vice president. In these capacities, I was able to gain an appreciation for both politics and governmental relations.

Who has been one of your favorite leaders to work with and why?

Under Secretary of Agriculture Bill Northey, whose mission area included NRCS, the Farm Service Agency, and the Risk Management Agency. He was extremely knowledgeable, forward-thinking, and focused on helping the nation's producers remain profitable and successful, especially during the challenging issues of the last few years.

What is the underlying passion for your work that motivates and drives you?

As a fifth-generation farmer, I know first-hand the challenges and obstacles America's farmers and ranchers face every day. America experienced major flooding, wildfires, trade disruptions with China, and COVID-19 over the last few years. Serving as chief of NRCS allowed me to be in a position to look for ways to help our producers overcome these hardships and remain profitable.

CALSAO highlights

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New officers and directors elected to CALS Alumni Organization Board

July 1 marked the start of the new planning year for the Alumni Organization, the biennial election of officers for 2020-2022, and election of three alumni to directors' seats. Thank you to our retiring board members **Ryan Burnette**, **Elizabeth Copeland**, and **Mike Ewing** for their many years of outstanding service to the organization.

PRESIDENT



Elizabeth Galbreath '17
B.S. Agricultural Sciences

VICE PRESIDENT



Scott Stevens '92
B.S. Animal Science,
Minor Agricultural
Economics

PAST PRESIDENT



Rachel Kohl '00
B.S. Animal and Poultry
Sciences, Dairy Science,
'02 M.S. Dairy Science

DIRECTOR



Kimberly Foley '14
B.S. Crop & Soil
Environmental Sciences

DIRECTOR



**Stefanie Kitchen
Taillon, '11**
B.S. Animal and
Poultry Sciences,
'14 M.S. Public
Administration

DIRECTOR

Carlton Courter '79
B.S. Dairy Science

Alumni Organization hosts professional development webinars

CALSAO continued to offer students professional development opportunities throughout the pandemic by bringing alumni to campus virtually. **Parker Welch** ('11 DASC) and **Elizabeth Galbreath** ('17 AGSC) co-hosted a workshop on Interviewing and Networking in All Settings. **Jessica Jones** ('04 AGED, IDST) moderated a panel featuring **Jeni Lamb Rogers** ('10 AAEC, PSCI), **Taylor Wilson** ('15 HNFE), **Adam Murray** ('15 APSC and FST), and **Ronson Ho** ('18 HNFE) who provided insight into exploring career opportunities in the life sciences.



Meet your president — Elizabeth Galbreath

Thing you are most excited about for the college

I love the heritage and roots CALS has in the Virginia Tech community through the land-grant mission. CALS thrives on experiential learning, and it is special to see many vital parts of the college upgraded, refreshed, and renewed through facility improvements and additions.



Read more about Galbreath at magazine.cals.vt.edu

Favorite Hokie Memory

Lighting the "eternal flame" at the April 16th Memorial on its 10th anniversary alongside one of my closest Hokie friends.

Advice to alumni who want to support the college

We are always looking for alumni to talk with students on panels or workshops, serve on committees, act as mentors, and participate in our programs around Virginia and online. If you are looking for a way to be more connected to Virginia Tech and the college, we'd love to find a way that best works for you and your interests.

Alumni Award Recipients

The College of Agriculture and Life Sciences Alumni Organization held its annual Celebration of Ut Prosim virtually on October 8. Watch the program and learn more about our award recipients at www.cals.vt.edu/alumni/awards.html

OUTSTANDING AMBASSADOR

Rachel Kanefsky '20

OUTSTANDING FACULTY ALUMNI ENGAGEMENT AWARD

Scott Greiner

HONORARY ALUMNI

Doug Sutton

HALL OF FAME

Louis Andre "Andy" Swiger

VIRGINIA TECH ALUMNI

ASSOCIATION OUTSTANDING RECENT UNDERGRADUATE ALUMNI OF THE COLLEGE

Bradley Copenhagen '12

VIRGINIA TECH ALUMNI ASSOCIATION OUTSTANDING RECENT GRADUATE ALUMNI OF THE COLLEGE

Megan Seibel '08, '12

IMPACT OF SCHOLARSHIPS



MATTIE VANGELOS
HUMAN NUTRITION,
FOODS, AND EXERCISE

Mattie Vangelos realized her passion for dietetics when she saw how much of society's well-being is affected by diet and societal stigmas.

"It is a goal of mine to open my own nutrition counseling business in hopes of helping as many women and men as possible to love, respect, and listen to their own bodies again," Vangelos said.

On her journey, receiving the Brenda Harmon Rohe Dietetics Scholarship instilled a confidence in Vangelos that she chose the right career path.

"It made me feel competent in my studies and fueled my inner fire to help others through this field," Vangelos said. "I am truly honored to be a recipient of this scholarship, as it will have an incredible impact on my future."



WADE REITER
SCHOOL OF PLANT AND
ENVIRONMENTAL SCIENCES

Farming has been in Wade Reiter's DNA for more than 130 years. Reiter will be able to keep his family tradition alive with a degree from Virginia Tech.

When Reiter heard he had received the Gerald D. McCart Memorial Scholarship, he knew he had the means to follow in his family's footsteps.

"This scholarship allows me to save up money while I am in college so that I will be able to go back home and help work our family farm," Reiter said. "I hope to use the wisdom I gain at Virginia Tech to help producers across Virginia improve their operations to make them more efficient and profitable."



MACIE SNELSON
AGRICULTURAL AND
APPLIED ECONOMICS

The prospect of having to pay for a year of higher education during COVID-19 had Macie Snelson's stomach in knots. It was a challenge to have a job and focus on academics in this economic environment.

The Janis and Leon Geyer Endowed Scholarship took that pressure off and made a significant impact in Snelson being able to continue her education in 2020.

"I am so thankful for the financial help," said Snelson (above, left). "Scholarships have relieved so much financial burden from me and made it possible to continue my education."



CALS Mentoring Discussion Board

The CALS Alumni Organization is excited to be on the Hokie Mentorship Connect platform! We invite you to join our discussion board group to connect with other Hokies interested in professional growth, networking, and career exploration.

1. Log into the platform
2. Select the "Group" tab on the homepage
3. View available Discussion Board Groups and select our Group from the list of "All Groups"



4. Select the button to "Join Group" to gain access to the CALS Mentoring Discussion Board
5. After joining you will become a member and gain access to all of our wonderful content

mentoring.career.vt.edu



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Virginia Tech
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