



The career fair offers students a chance to talk with a variety of potential employers.

## Collaboration sparks new and improved career preparation initiatives

Today's graduates need much more than a strong academic background to land their first jobs and be successful in the workplace, so staff and faculty in the college are working together and connecting with industry partners to prepare career-ready young professionals.

One ongoing effort is the college's annual career fair and accompanying networking reception. When John Freeborn, director of employer relations, was hired in May of this year, he knew that planning these events would be one of his first priorities, as they represent established and essential ways for connecting students and employers.

With a new sense of purpose and fresh ideas in hand, Freeborn set on a course to grow these events by reaching out to contacts within and outside the college. For example, he made phone calls to all previous fair attendees and updated and expanded the invitation list to ensure participation by a deeper and wider pool of organizations.

These efforts, in addition to an improved social media and web presence, have already proved fruitful. Career fair attendance was up 22% among employers this year, as 45 organizations and more than 100 representatives connected with over 400 students.

All this effort is time well-spent. For students, the career fair is a chance to talk with a variety of businesses and nonprofits about what they do, what kind of jobs are available, and what they are looking for in a potential employee. "They get to see what is out there in the field, including opportunities they may not be aware of," Freeborn said.

For employers, the event is about recruiting future employees as well as showcasing their organizations for the larger university community. According to alumnus Adam Warf ('09 B.S. forestry), director of new business development at ECI-Environmental Consultants, "We are always seeking to hire talented individuals to join our rapidly growing company. Virginia Tech breeds extremely smart, motivated, and innovative young professionals, and attending these events to tell our company's story helps attract the exact individuals we need to join our team to ensure future success."

Just as important as the career fair is the networking reception that takes place the night before, providing a larger playing field for an innovative approach to recruitment. Last year, Director of Alumni Relations Corrine Woods proposed a new way to add some excitement and career-readiness practice to this event: speed networking. It's like

speed dating in that employers are stationed at tables and students rotate among them, each getting approximately three minutes to deliver their "elevator" speech and make a memorable impression.

In addition to being an opportunity for students to develop and display their communication skills, the networking reception also allows them to cross another hurdle in the job search by just putting themselves out there. According to Freeborn, students attending the event learn that it's OK to be a little uncomfortable, but that employers really do want to talk with and learn about them.

### WANT TO PARTNER WITH CNRE ON NEW CAREER INITIATIVES?

Contact John Freeborn,  
director of employer  
relations, at [freeborn@vt.edu](mailto:freeborn@vt.edu)  
or 540-231-1138.

These events represent just the start of some new career-ready initiatives. Freeborn's message to alumni who are interested in recruiting CNRE students is to reach out and connect: "We want to engage with you, whether it is through the career fair, a campus visit, or some other option."

One of those options includes offering more opportunities for a presence at Virginia Tech. In September, a team from Weyerhaeuser spent two days on campus — networking with students, presenting a guest lecture, discussing faculty research opportunities, and conducting job interviews. Freeborn hopes to invite other companies to campus on a regular basis.

In addition, Freeborn and Woods are also working with alumna Megan Schnizler ('12 B.A. geography) of Richmond International Forest Products to pilot a new experiential learning opportunity: an immersive experience. Think of it as an internship on steroids, where students spend two days on site learning about a company's business and culture, and the teamwork, customer service, and other skills needed for success in that particular industry and organization.

Dean Paul Winistorfer summarizes the value of these new programs: "We have to do more to connect our students to employers for experiences outside the traditional classroom. We also have to do more to connect our employers to our students to build the talent pipeline for a global economy."

Winistorfer hopes that the initial immersive experience program will be the first of many. "Having John Freeborn on our staff dedicated to this purpose each and every day will yield results that are impactful for everyone. I'm excited about this new initiative as a possible innovative model of broader scale moving forward."

**Left:** For students, preparation is key to getting the most out of any of the college's career-readiness events. **Right:** The networking reception gives students an additional opportunity to talk one-on-one with employers.



# From the Dean's Perspective



We lost two pillars in the forestry community in the past year with the passing of Professor Emeritus John Hosner in 2018 and alumnus John Farmer in 2019. Both men committed their lives to forestry and all things natural resources. At Virginia Tech, Hosner transformed a department into a school and laid the foundation for today's College of Natural Resources and Environment. In addition to Virginia's forestry community, Farmer served his hometown community, his church, his employer, and many, many other people and organizations. Together, the

two men shepherded and expanded the Virginia Forestry Educational Foundation as a way to support students in the college, long before Virginia Tech established its own foundation. Thank you, John and John — selfless, committed, visionary, humble, and giving — for all you gave to us.

Our focus on career preparation and readiness continues to provide bountiful opportunities for our students. John Freeborn, our new director of employer relations, is out and about the state meeting with producers, mill owners, and the broader community. Linking the external world to our students is a win-win for everyone involved. This year's career fair was our largest to date and is but one example of connecting the human resources needs and opportunities of the natural resources sector through Virginia Tech and the college.

October marked a milestone in the life of Virginia Tech and, in turn, for the college. Virginia Tech kicked off Boundless Impact: The Campaign for Virginia Tech, an ambitious \$1.5 billion fundraising campaign, the success of which will shape our institution for generations to come. For the college, this means the addition of resources to support our students and faculty as we endeavor to tackle and solve some of our world's most pressing challenges.

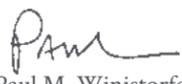
CNRE is where learning is all about being immersed in the world. Together, students, faculty, and partners who share a vision for a better tomorrow are finding exciting new ways to steward natural resources for future generations, deploy advanced technology for data capture and decision making, conserve biodiversity, drive economies from renewable materials, strengthen communities, save lives, and more.



As I reflect upon our college and the larger university, I am moved with a feeling of pride in the work our faculty members are doing through research, teaching, and outreach. I am also humbled by the aspiration for the future of this college and university shared by so many. The success of Virginia Tech and CNRE is due to the embodiment of *Ut Prosim* (That I May Serve) exhibited by those of you who have been advocates and supporters of the goals and dreams of our faculty and students. Inspired philanthropy has brought us this far, and continued investment by those who believe in our work will catapult us into an even brighter future.

These are exciting, dynamic times in the college, with a fast pace and the continuing evolution of people and programs. We need you to help us see the future of our work and its benefit to society, and I welcome your involvement. If you are interested in being engaged with us, please contact me (pstorfer@vt.edu).

Warm regards from our faculty, staff, and students,

  
Paul M. Winistorfer  
Dean



We celebrated the start of the new academic year with students, faculty, staff, alumni, and friends at our annual Welcome Back Bash in September.

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### In memoriam: John Farmer

The college community mourns the loss of alumnus John Farmer ('53 B.S. forestry), who passed away on Aug. 30 at the age of 87. Farmer enjoyed a 38-year career with Dominion Energy, managing thousands of acres of timber and designing innovative programs to manage growth in the company's rights-of-way. His most notable contributions, though, came through his charitable work with organizations ranging from his local church and the Lions Club to the Boy Scouts and the Appalachian Trail Conference.

Of particular note, Farmer served almost three decades as president of the Virginia Forestry Educational Foundation, which supports natural resources education programs for students of all ages. The foundation's largest funding initiative is the scholarships it awards to Virginia Tech students studying forestry and related fields, totaling over \$1.3 million since 1993. "Funding forestry's future is the reason we award scholarships to students in the various disciplines," Farmer said in 2014. "They go on to ensure that forests are sustainably managed, which provides the base for a strong forest products industry and ensures the continuation of the many ecosystem services forests provide."

Professor Harold Burkhart, who serves on the foundation's board, said, "The assets of the



foundation grew steadily, and funding for educational programs increased by over 1,800% during John's tenure as president, thanks to his influence in bringing more individuals and businesses into the donor circle and his savvy investment instincts and management skills. His life exemplifies the Virginia Tech motto, *Ut Prosim*."

# Cheatham Hall Refresh



The college communications team was hard at work this summer, redesigning and replacing the posters that adorn the first-floor hallways in Cheatham. The effort resulted in more than 50 posters highlighting the student experience, faculty research, alumni, and outreach, plus a timeline wall mural. Stop in and take a look the next time you're in Blacksburg!

## New assistant dean of advancement ready to lead college's campaign efforts

On October 11, Virginia Tech announced its most ambitious fundraising and engagement campaign in university history — Boundless Impact: The Campaign for Virginia Tech — which is projected to run until June 30, 2027. At the helm of the college's efforts as this momentous initiative gets underway is **Julia Allen**, the new assistant dean of advancement.

Allen brings 20 years of fundraising experience in higher education to the position and will be directly involved in planning and outreach efforts to support the strategic priorities of the college and Virginia Tech.

Allen, who grew up in Easley, South Carolina, said that she has long admired Virginia Tech's land-grant mission and shares a passion for the kind of research that takes place in the College of Natural Resources and Environment.

"I can't think of a better cause to ask folks to invest in than maintaining the natural environment that we enjoy on a daily basis," Allen said. "I'm excited to work with Dean Paul Winistorfer and the faculty to see what research is taking place and how it helps us move conservation and sustainability efforts forward."

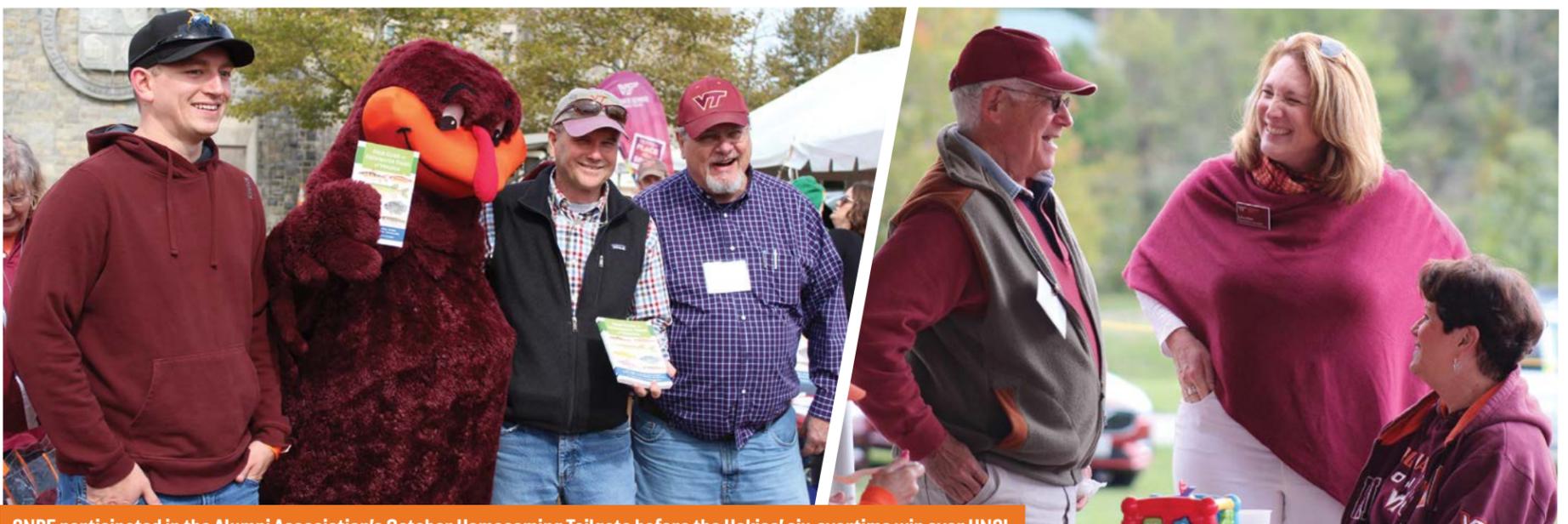


Allen, who previously served as the chief development officer at Gaston College in North Carolina, views the work of advancement as a way to connect people to

important causes. "I love connecting people to causes that are greater than themselves, to efforts that they can help further," she explained. "People understand my work as fundraising, but I don't see it that way. I view this work as providing investment opportunities for worthwhile causes."

Opportunities to make a difference will be abundant as the campaign gets underway. The campaign goal is to raise \$1.5 billion to fuel excellence across university programs and drive forward major strategic priorities. A second goal is to engage 100,000 alumni in meaningful ways over the course of the campaign.

We invite you to be a part of this success and help propel Virginia Tech and the college toward an even brighter future. You can connect with Julia Allen at 540-231-5525 or [juliapallen@vt.edu](mailto:juliapallen@vt.edu).



CNRE participated in the Alumni Association's October Homecoming Tailgate before the Hokies' six-overtime win over UNC!



**ALUMNI: get involved!**  
You are a key partner in the shared work that will move CNRE forward and help us attain the bold vision that is our future. Stay connected by updating your contact info, attending events, and checking out our new list of ways to get involved at: [cnre.vt.edu/getinvolved](http://cnre.vt.edu/getinvolved)

# Eight Weeks in

## Tackling the challenges of wildlife field work and breaking

**F**or Kayla East, studying wildlife health in northern Botswana meant having to get used to the unexpected. “I remember, on a day off, a group of us were approached at our hotel by someone from the village who told us that a baby monkey had been injured and asked for our help,” said East, a junior wildlife conservation major. “Very soon I found myself running through a fancy hotel with a baby monkey cradled in my arms, trying to figure out how to transport it to the wildlife lab. That was the moment I realized that there is no such thing as mundane in Botswana, no such thing as the expected.”

East was among the 15 Virginia Tech undergraduates who traveled to Botswana this past summer to participate in the Department of Fish and Wildlife Conservation’s field course Wildlife Health Immersion in Africa: Capture, Rehabilitation, and Forensics.



Brittany Bailey (left) and Heaven Aziz pose with the southern African rock python housed at CARACAL. This snake is one of many that are used to teach local school children and tourists about Botswana’s incredible fauna.

“This summer course was designed to have a specific focus,” explained Professor Kathleen Alexander. “We didn’t want students to travel somewhere to see other people do the work; we wanted them to be responsible in having to navigate difficult, cross-disciplinary environments, to engage with wildlife while understanding the human dimensions of that interaction.”

On location at the Centre for African Resources, Animals, Communities, and Land Use (CARACAL) near Chobe National Park, Alexander’s immersive eight-week course focused on training the students on the many facets of wildlife work in sub-Saharan Africa. They participated in a rotation of tasks intended to mirror the center’s range of work, including animal husbandry and care for raptors and mammals, introduction to laboratory techniques, public health and data handling, and wildlife ecology, capture, and rescue.

Guiding students through this multidisciplinary education experience, in addition to Alexander and CARACAL staff, were two experts who were on site to work with students in the field and in the lab: Professor Marcella Kelly, a carnivore biologist also in the college, and Associate Professor Monica Ponder, a microbial ecologist in the College of Agricultural and Life Sciences.

“A big question that drove this program was how can we give these students an experience that will help them identify where they have particular skills or passions, to help them on to the next step in their careers,” said Alexander, who co-founded the nonprofit CARACAL in 2000. “If a student has only ever been in a classroom, how do they know where they want to go next? An experience like this one is valuable in that it helps students answer that question more effectively.”



Julia Utting visits with one of the many bushbabies housed at CARACAL. Among the students’ daily tasks was to learn about the care and husbandry of captive wildlife.

### A DREAM COME TRUE

Growing up in rural North Carolina, Kayla East dreamed of one day traveling to Africa, but she never expected it to happen at Virginia Tech.

“One night we were all sitting around the lab at CARACAL, talking about what our unrealistic dreams were, things that would never happen,” East recalled. “My dream was actually going to Africa. I’d always wanted to go but I never thought I’d get the opportunity. My town has one stop light in it, so to get from there to working with wild animals in Botswana was amazing.”

East wrote about her experience in Botswana for Earth Day Network, a nonprofit that aims to address climate change issues through education and activist efforts. She plans to return to Africa, where she would like to pursue a career in wildlife forensics, a burgeoning new field that utilizes DNA evidence and cause-of-death entomology to help solve questions of animal mortality and disease distribution.

“Coming back to Virginia Tech, I noticed a lot of changes about myself,” East said. “I think my experience in Botswana made me much less of a perfectionist, and it helped my ability to adjust quickly to challenges. It’s an important skill to have in this career — you have to be able to act confidently when difficulties arise, and I’m grateful to have had the experience.”



Students took a four-day trip to Victoria Falls, Zimbabwe, where they explored both the Zambian and Zimbabwean sides of the falls. Here, Maggie Smith takes in the stunning views!

### MAKING CONNECTIONS IN THE LAB

For senior Sam Flett, the highlight of his summer in Botswana was working in the dynamic field laboratory run by Alexander and learning how to negotiate the challenges of doing research far away from Virginia Tech’s campus.

“I think the standout experience for me was just walking into the lab for the first time,” he said. “It really hit me that this was what I was going to be doing for the next couple of months, and I was excited to jump into it. I love doing this work, and it was an exciting challenge to adapt to a laboratory that had different levels of equipment.”

Flett, who is interested in the ways that wildlife diseases emerge and impact humans, already had experience, having worked in Alexander’s laboratory at Virginia Tech. At CARACAL, he did DNA extractions, helped plate media to aid bacteria growth, and worked with live bacteria under biological safety hoods. Just as valuable, though, was getting to collaborate with local researchers in the laboratory.

“We had someone from Botswana and someone from Zimbabwe working in the lab, and I instantly clicked with them,” he said. “Our first day we were already making jokes and trying to form a connection. Working with them opened my eyes to the different ways that scientists work: they found solutions for questions that I wouldn’t have thought of.”

For Alexander, this type of collaborative learning experience is one that she has strived to implement in all of her programs at CARACAL.



Students had the opportunity to capture, hold, and help transport baby crocodiles at a local crocodile farm. Sam Flett demonstrates the proper handling techniques to secure the animal without hurting it.

“Co-learning is a big part of this experience,” she explained. “I had government officers in the classrooms with the undergraduates, and local scientists working in the labs. In conversations about elephant populations or disease control, we wanted to make sure that multiple perspectives were being presented.”

To further encourage co-learning, Alexander invited a group of underrepresented high school students from Louisa County, Virginia, to visit her field station in Botswana, where they worked side-by-side with the Virginia Tech undergraduate and graduate students (read related story at [bit.ly/350Jh5r](https://bit.ly/350Jh5r)).

“What I’m hoping to bring with all of this is the idea of partnership in global development and sustainability,” she continued. “There are things that Virginia Tech does really well, and there are things that people in Botswana do really well, and when we bring those things together, when we bring together the strengths of divergent knowledge, cultures, and priorities, we develop novel convergent solutions to complex problems.”

# Botswana



## trail for an expanded Virginia Tech footprint in Africa

"My dream was actually going to Africa. I'd always wanted to go but I never thought I'd get the opportunity. My hometown has one stop light in it, so to get from there to working with wild animals in Botswana was amazing."

— Kayla East



The students had the opportunity to observe many wildlife captured over the summer. Here, they watch as Kathleen Alexander and her colleague Lena Patiño (center), both veterinarians, assess the health of two banded mongoose as part of their ongoing research.

### BROADENING HORIZONS FOR ALL STUDENTS

Dean Paul Winistorfer said that field courses such as this one can play a crucial role in helping the leaders of tomorrow gain valuable life experiences.

"Offering our students overseas experiences results in an unlimited potential to broaden horizons and change lives," he said. "If we are going to develop a sustainable world — from a resources perspective as well as broader perspectives that consider cultures and governmental policies and issues of stability and security — then we need students who have a broad range of experiences to face the challenges of the future."

Just as important is to ensure that students who are interested in these global experiences have the means to do so, regardless of their family's financial circumstances. Julia Allen, the college's assistant dean of advancement, sees overseas study as an opportunity where donors can have an immediate, and lasting, impact.

"Having the opportunity to experience a broader world beyond their immediate community is often not a reality for many students. Exposure to problem-solving in communities away from home often leads students to a greater understanding of how to best implement classroom learning in positive ways in their own backyards."

"We are committed to ensuring that every student has access to these types of growth experiences," she continued, "but we can only do so because of the philanthropic investment of those who understand the value of experiential learning to students and, in turn, the larger community."

### VIRGINIA TECH'S FUTURE IN BOTSWANA

The next steps for Virginia Tech's role in Botswana include another summer session in 2020 and the development of a semester-long program in 2021. Alexander is looking to expand the number of students who participate in the program and incorporate student experiences to other regions in Africa. She will also integrate Botswana students, government officials, traditional leaders, and communities into co-learning environments with Virginia Tech students, a unique aspect of her program.

All of Alexander's work is permeated by the One Health concept, the integrative effort of multiple disciplines working locally, nationally, and globally to attain optimal health for people, animals, and the environment.

Guru Ghosh, vice president for Outreach and International Affairs, stresses that Alexander's outreach efforts have given Virginia Tech students an avenue to engage with the complex challenges faced by the wider world.



Virginia Tech undergraduate and graduate students and CARACAL staff gather for a group shot with Badgey, CARACAL's resident honey badger, held by Kathleen Alexander, in black.

"Dr. Alexander's work with government and community leaders in Botswana is unparalleled," he said. "Her study abroad programs and research projects have allowed students to learn that research and education in the developing world are complex and multifactorial. She is preparing the next generation of citizen scientists to embrace and thrive in a complex and globally interdependent world."

For Alexander, the relationship between the research that scientists do and the ways that knowledge has the power to change lives and transform the world is crucial to her mission and her understanding of Virginia Tech's role in Botswana.

"The *Ut Prosim* (That I May Serve) mandate really speaks to me," Alexander said. "Through the program in Botswana, Virginia Tech faculty are able to contribute to the many problems facing societies in Southern Africa while helping to provide the next generation of scientists with the necessary skill set to tackle the challenges confronting these global landscapes."

# STUDENTS SCALE NEW HEIGHTS in Rocky Mountain field course



The students practiced mountaineering skills while studying the meteorological patterns and geographic terrain of Colorado.

Seven meteorology students traveled to Colorado this summer to learn about weather systems while negotiating the challenges of high altitudes and rapidly changing weather conditions. “This was a physical geography, weather, and climate field course, where students are exposed to high mountain areas and different ecological life zones,” said Instructor David Carroll.

A typical day saw the students rise early and hike until midday when they reached a peak or vista. Along the way they practiced mountaineering skills while studying the meteorological patterns and geographic terrain. The group timed their return each day to ensure that they were below the tree line before lightning developed over the high terrain.

**“A big part of the experience was learning to work in the weather and understanding what mountain weather is like,” said senior Peyton Truslow. “It was a meteorologically focused class, but we also learned how to use an ice axe in a self-arrest and how to wear crampons and climb steeper slopes. As we climbed, we’d have instructions on how to navigate the environment.”**

The goal of the course is to give students exposure to challenging terrain and get real-time practice witnessing weather conditions and navigating them successfully.

“If you’re a meteorology student who is interested in the weather, this course is an eye-opening experience,” Carroll explained. “To actually go out to Colorado and experience this geography firsthand is invaluable: it goes a long way towards rounding out a student’s experience as a geography or meteorology major. It helps students fit what they’ve been studying in class into a real-world context, and I think they also learn quite a bit about themselves through the process.”

Read the full story: [bit.ly/2kyfOyv](https://bit.ly/2kyfOyv)

## Nizhoni Tallas first to receive Udall Scholarship in tribal policy

Junior natural resources conservation major Nizhoni Tallas is the first Virginia Tech student to receive a Udall Undergraduate Scholarship in the tribal policy category. These prestigious national scholarships are awarded annually to students who demonstrate exceptional leadership, a dedication to public service, and a commitment to environmental issues, particularly as they relate to Native American communities.

Tallas, who grew up in northeastern Arizona on the Navajo Reservation, says her passion for the environment started at a young age. “Growing up, I lived in a very rural area. There was a mesa right by my house and a canyon in my backyard, so just having the outdoors at my fingertips made it more accessible. My love for the environment started there.”

She carried that interest with her to Virginia Tech. “There are a broad range of environmental issues that I’ve seen growing up on the Navajo Nation. I’m taking courses to understand these issues and see what I can do to help. One aspect I’m particularly interested in is learning more about environmental policy and planning, and how that influences tribal governments and what occurs in those communities.”

On campus, so far from her home, Tallas found a community with Native at Virginia Tech, a student group that increases awareness and visibility for American Indians and other indigenous people. She was



among the students who planned events to celebrate the on-campus observance of Indigenous Peoples Day last year and moved for the resolution that permanently recognized the event at Virginia Tech in 2019.

“I’d love to be serving the Navajo community five to 10 years from now, building my career around the needs of the community and figuring out what the priorities are and how to work with them,” Tallas added. “I’d like to contribute to the conservation of our natural resources and help motivate indigenous students to pursue higher education.”

Read the full story: [bit.ly/2q4npXG](https://bit.ly/2q4npXG)

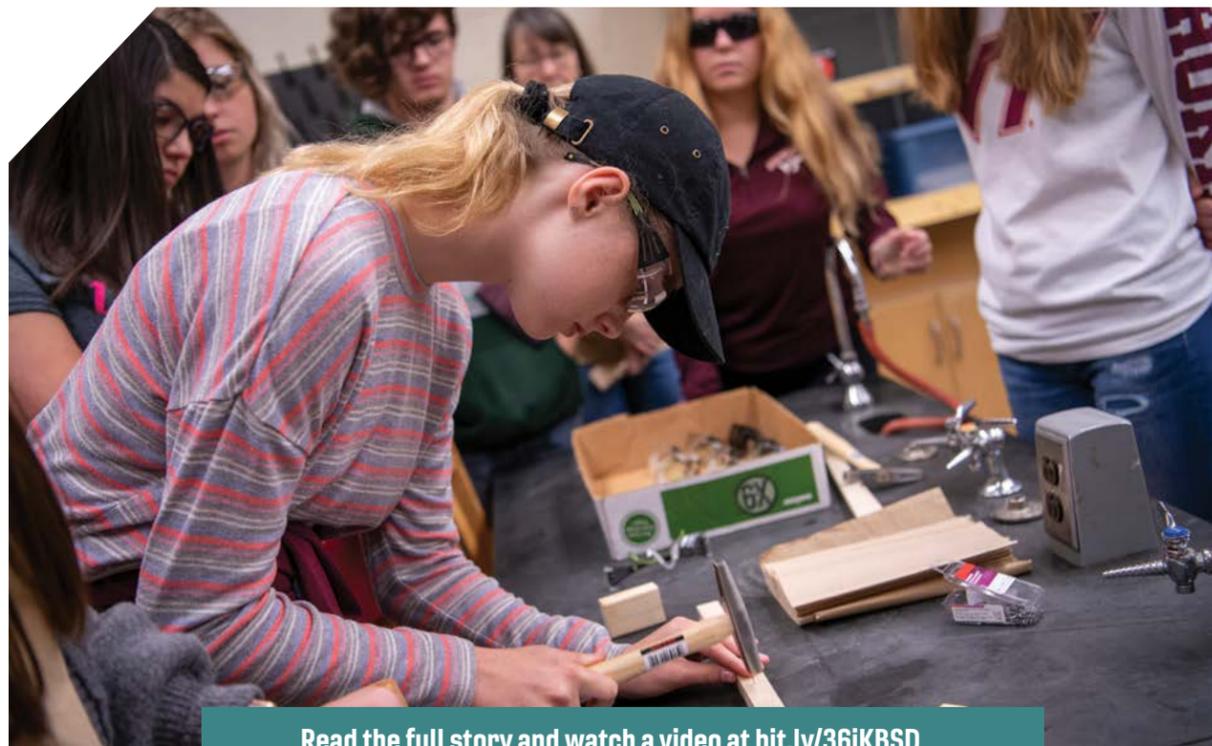
**“Growing up, I lived in a very rural area. There was a mesa right by my house and a canyon in my backyard, so just having the outdoors at my fingertips made it more accessible. My love for the environment started there.”**

# First InsideTREES summer camp

## BRINGS SUSTAINABLE BIOMATERIALS TO LIFE FOR HIGH SCHOOLERS

The sound of hammering, laughter, and conversation echoed inside Cheatham Hall as 12 eager high school students learned about natural resources through a variety of experiments and lessons during the inaugural InsideTREES summer camp, designed to increase awareness of college and career opportunities in the sustainable biomaterials field. The students participated in activities centered on the growth of trees and the structure and cellular properties of wood, and were exposed to wood science, forestry, and engineering through hands-on activities, group projects, labs, and field trips. “First and foremost, I wanted them to have some fun with us while they were learning about sustainable biomaterials creation and the environmental aspects,” said Professor Audrey Zink-Sharp, who coordinated the program with assistance from Graduate Research Assistant Sara Cerv.

Participants had the opportunity to work one-on-one with current students and talk to advisors in the college. Each of the participants, who ranged from freshmen to rising seniors from a variety of states, had a different idea of what major they might pursue in college and how sustainability or biomaterials could fit into their experiences. Zink-Sharp plans to offer the free residential camp, which was aimed primarily at female and minority students who live in rural areas, again next year and use it as a guide for others interested in sustainable biomaterials university education.



Read the full story and watch a video at [bit.ly/36iKBSD](http://bit.ly/36iKBSD)

# STUDENT-LED ECOLOGICAL ASSESSMENT

## has surprising results

Two students spent the summer conducting an ecological assessment of 39 acres of forest located on the southwestern corner of campus. “For each plot we established, we measured the height and diameter of every tree, and identified the species,” said Erika Wright, a rising junior. “This allowed us to get an idea of the average sizes of trees in the forest while identifying the common species.” They also tagged and inventoried all of the larger trees in the forest — a total of 496 trees over 22 inches in diameter. “We used that information to determine the age and structure of the forest, and to understand the distribution of tree species,” said Seth Ramsay, who graduated in May.

The students took coring samples from some of the larger trees to determine their age. “It’s really cool because when you core a tree you find out a lot that you couldn’t know just by looking at it,” Wright said. “It helps us understand how different species grow and compete, and the results are often surprising. We cored a 26-inch diameter pignut hickory and a 46-inch northern red oak and discovered that the red oak was only about 60 years old, while the hickory was at least 125 years old.”

According to Professor John Seiler, who initiated the project and supervised Ramsay and Wright, the findings were surprising. “Just about everyone expected that this forest would have the same cohort of trees as Stadium Woods, which has white oaks that date back to before the American Revolution. What we’re finding is that the trees in this other forest are much younger, and the composition is mostly hickory and red oaks.” He said that this discovery opens up new research questions, not just in terms of forest structures but in better understanding the history of humans on the land now occupied by Virginia Tech. Read the full story: [bit.ly/32Zg5ev](http://bit.ly/32Zg5ev)



After coring this large white oak, Seth Ramsay (left) and Erika Wright determined it was at least 270 years old.

## New Faculty

- **Anamaria Bukvic**, Assistant Professor, Department of Geography Ph.D. (2012) Virginia Tech; M.C.P. (2006), M.S. (2002) University of Cincinnati; B.S. (1998) University of Zagreb (Croatia)  
**Special interests:** coastal hazards, adaptation, and resilience; population displacement and relocation; impacts of natural hazards and disasters on older adults; flood risk management, vulnerability assessment, and scenario planning


- **Francesco Ferretti**, Assistant Professor, Department of Fish and Wildlife Conservation Ph.D. (2010) Dalhousie University; B.S. (2003) Polytechnic University of Marche (Italy)  
**Special interests:** characterizing the history of human impact in the ocean; understanding how this impact has altered marine ecosystems; developing solutions for a sustainable use of marine resources


- **J.P. Gannon**, Collegiate Assistant Professor, Department of Forest Resources and Environmental Conservation Ph.D. (2014), M.S. (2010) Virginia Tech; B.S. (2007) The College of New Jersey  
**Special interests:** examining streamflow generation in rivers and streams at a variety of scales; using remotely sensed data to address environmental issues such as sediment pollution in streams and the impacts of wildfires on forest productivity


- **Kevin Hamed**, Collegiate Assistant Professor and Biological Collection Curator, Department of Fish and Wildlife Conservation Ph.D. (2014) University of Tennessee; M.S. (2001) East Tennessee State University; B.S. (1995) Tennessee Technological University  
**Special interests:** providing data-driven foundations for both conservation biologists and policymakers; anthropogenic impacts on Southern Appalachian vertebrates, especially herpetofauna; how to mitigate adverse impacts on plethodontid salamanders


- **Holly Kindsvater**, Assistant Professor, Department of Fish and Wildlife Conservation Ph.D. (2011), M.S. (2008) Yale University; B.S. (2003) University of California–Santa Cruz  
**Special interests:** Application of the science of evolutionary ecology to conservation and management of fisheries; evolution of fish species with complex life histories; using demographic models to understand how biological differences interact with fishing


- **Craig Ramseyer**, Assistant Professor, Department of Geography Ph.D. (2016), M.S. (2011) University of Georgia; B.S. (2009) James Madison University  
**Special interests:** climate change impacts of severe weather events; tropical rainfall, particularly in the Caribbean


- **Santosh Rijal**, Collegiate Assistant Professor, Department of Geography Ph.D. (2017) Southern Illinois University; M.S. (2011) University of North Dakota; B.S. (2007) Tribhuvan University (Nepal)  
**Special interests:** applying remote sensing, geographic information systems, and spatial analysis to address environmental problems; land condition disturbances in military installations; permafrost monitoring and mapping on military installations in Alaska


- **Jennifer Russell**, Assistant Professor, Department of Sustainable Biomaterials Ph.D. (2018) Rochester Institute of Technology; MBA (2010) University of Toronto; B.S. (2006) University of Waterloo (Canada)  
**Special interests:** circular economy; sustainability outcomes at the intersection of business strategy, systems thinking and design, ethics, operations, and stakeholder engagement



# News from around the college

## Applying genetics to chestnut and poplar research

A fungal blight all but eradicated mature American chestnut trees from the North American landscape by the mid-20th century. Associate Professor Jason Holliday will use a National Institute of Food and Agriculture grant to research methods to utilize the genetic diversity of remaining trees as part of broader efforts to introduce disease-resistant American chestnuts to U.S. forests. “The roots of the American chestnut still survive,” he explained. “You can still find them in the forest, but they look more like a shrub now.” His team will gather and sequence the genomes of surviving American chestnuts to understand how pre-blight genomic variation across the species’ historical range helped these trees adapt to and thrive in specific environments. Read the full story: [bit.ly/2mjHd7D](https://bit.ly/2mjHd7D)

Holliday also secured a \$2.5 million grant from the National Science Foundation to research the genomic architecture of poplars, fast-growing trees that are a crucial source of forest products. Holliday’s research will seek to understand how variation in both hybrid genomes and environmental conditions impact desirable traits. His group has teamed up with ArbNet, an international community of arboretums, to grow replicates of the same poplar trees at 20 arboretums across North America, allowing researchers to test their responses to different environments. Read the full story: [bit.ly/2mhWmq0](https://bit.ly/2mhWmq0)



## New ways to utilize secondary logging materials

Secondary logging materials — the branches and treetops removed during harvest — represent both a challenge to foresters and a potential boon to the industry. Although they are routinely left behind at harvest sites because of the high cost of processing and transport, new possibilities are being developed to use residues as an alternative source of energy production. Associate Professor Chad Bolding is participating in a large-scale collaborative project funded with a \$1 million grant from the USDA’s Agriculture and Food Research Initiative. “A goal of this project is to determine the procedures used and the profitability of residue collection in the eastern United States and to see if we can optimize the system by reducing costs and making residues a more viable option as a renewable energy source,” he explained. Read the full story: [bit.ly/2kQTEY6](https://bit.ly/2kQTEY6)

## Facilitating local solutions to climate challenges

A National Science Foundation grant will help Professor Marc Stern develop workshops to empower local communities to take action against climate challenges. The first component is to survey experts who facilitate workshops that focus on using climate-relevant science to address a broad range of challenges and then integrate those strategies with a survey of the workshop participants. This two-step process will provide a holistic view of what is successful in these workshops and identify potential blind spots. From those findings, the second component is to test those strategies in a series of climate adaptation workshops around the United States. Stern notes that, in order for these workshops to successfully reach and resonate with the intended local audiences, it is crucial that they be developed to engender trust between experts and participants so that successful collaboration can happen. Read the full story: [bit.ly/2kOCNoZ](https://bit.ly/2kOCNoZ)



## Researchers create ecological forecasting network

Collaborators from across the U.S. will use a National Science Foundation grant to create the Ecological Forecasting Initiative Research Coordination Network. According to Associate Professor Quinn Thomas, who leads the group, it will build a community of practice dedicated to improving the capacity to forecast continental-scale environmental changes. The researchers are using data to create ecological forecasting models to help predict changes in forest composition, water quality, and vector-borne disease, among other issues. “The broader impacts of ecological forecasting are that it helps us anticipate changes to ecological systems so that we can then take action. Unlike a long-range climate change model, ecological forecasting models are deliberately built on shorter time scales ... to help people understand changes and act now,” Thomas said. Read the full story: [bit.ly/2kCiZoR](https://bit.ly/2kCiZoR)



## Order 2020 wildlife calendar

Students in the college’s Fish and Wildlife Graduate Student Association are selling 2020 calendars highlighting their work around the world. Each month features a photo taken by a student and showcases research on a variety of captivating species.

- Calendars are \$15; two or more are \$12 each.
- They make ideal holiday gifts!
- Order online at [squareup.com/store/fiwgsa](https://squareup.com/store/fiwgsa) or email [fiwgsa@gmail.com](mailto:fiwgsa@gmail.com) with any questions.

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