



## New position will help equip students for career success

**“Atlanta Hardwood Corporation has been recruiting interns and graduates from the College of Natural Resources and Environment for over 20 years. Thanks to Ken Morgan’s generous support, we will now have a point person to coordinate intern interviews, facilitate faculty introductions, and arrange campus visits.”**

— Jim Howard, CEO, Atlanta Hardwood Corporation

**Integrity. A team player. Strong communication skills. Work ethic and commitment.** These traits and skills are what Ken Morgan values the most in an employee and what he hopes to instill in students graduating from the College of Natural Resources and Environment.

Morgan and his son, John, own Morgan Lumber Company, a family-owned business based in Charlotte County, Virginia. Since it was founded in 1939 by Ken’s grandfather, the company has grown from six employees producing 400,000 board-feet of lumber annually to 105 employees producing 80 million board-feet.



Ken Morgan of Morgan Lumber Company is funding the new director of employer relations position, continuing a 30-year partnership with the college.

Morgan, who recognizes the importance of keeping pace with the competition, is funding a new director of employer relations position in the college. It will be part of the college’s efforts to better link the forestry and forest products sector with Virginia Tech, community colleges, and high school students, fostering awareness of employment needs and opportunities in the sector and, ultimately, ensuring a sustainable forest industry in Virginia and beyond.

“Ken Morgan has always believed that it is all about the people and the relationships, both in a business sense and in his leadership within the forestry sector in Virginia,” said Dean Paul Winistorfer. “Ken’s high professional standards, conviction to sustainability, and long-standing generosity demonstrate how an individual and a business care about people and the future of Virginia and our country.”

“Ken is always helping me be better and see the bigger picture,” Winistorfer continued. “The director of employer relations position will be a cornerstone and a linkage for the college, our students, and the forestry sector, as well as a testament to the vision and goodwill of Ken Morgan and Morgan Lumber Company.”

Morgan reflected on the beginnings of his almost-30-year relationship with Virginia Tech and how his organization has benefitted. “I realized if we were going to prosper in business, I had to seek the cooperation of people with strong training and vision in the forest industry.”

One of those people was John Hosner, head of Virginia Tech’s then School of Forestry and Wildlife Resources, who was seeking partnerships and support from industry leaders to establish what would become the college. Hosner became a mentor to Morgan and initiated a partnership with him that ultimately led to the hiring of Virginia Tech graduates. These employees helped propel Morgan Lumber into the high-tech era of lumber manufacturing and possessed the personal traits and leadership skills that have defined the company’s success.

These same skills continue to be sought in today’s graduates. The director of employer relations position, which has initially been funded for three years, will be instrumental in developing contacts and partnerships with industry professionals in order to create the hands-on learning opportunities that are critical in preparing students for the job market. These experiences include classroom visits, tours of facilities, career counseling and assistance, and internships.

The director of employer relations will have another area of focus that is a priority for Morgan – helping to recruit students from Southwest and Southside Virginia who are interested in returning to find employment in the region after graduation. According to Morgan, this area, known as the wood basket of Virginia, has the resources needed to support a strong timber industry.

These sentiments are echoed by Winistorfer, who said, “The forestry and forest products sector is the third largest industry in the state, generating over \$21 billion a year and providing 107,000 jobs. As the largest land-grant university in Virginia, it’s our responsibility to produce top-quality graduates to enter these amazing jobs.”

Winistorfer anticipates that the new position will create a pipeline of graduates who are well-prepared with the technical know-how demanded by this high-tech industry and the people skills and work ethic that are so valued by Morgan. “The position will help us all be more successful and demonstrate Virginia Tech’s role in the commonwealth through our land-grant heritage and mission,” he added.



“My summer internships as a forestry intern with WestRock gave me valuable experiences that led to a full-time job offer after I graduated in December. I now see the importance of obtaining major-related experiences for CNRE students.”

— Kenny Townsend, Class of 2018



“My major in environmental resources management has taught me the importance of controlling sediment and pollutants for water quality, which I applied in my summer internship as a surface miner with Luck Companies. With the knowledge and skills I learned in the classroom and on the job, I plan to continue my career at Luck and help with environmental sales and improving onsite environmental quality.”

— Edward Blake, Class of 2019

**Industry professionals interested in creating an internship or partnering with the College of Natural Resources and Environment in some other capacity can contact Emily Hutchins at 540-231-8859 or ehutch@vt.edu.**



We are nearly finished with recruitment activities to build the college's fall 2019 class. As the university grows, so will the college. Our enrollment goal is nearly 250 incoming first-year and transfer students – an increase of almost 100 students above last year's goal, which we exceeded. This would be the largest class in our history, as we continue to make progress toward our overall goal of 1,250 undergraduate students. There are many facets to successful recruitment – our new website, information sessions, connecting potential students with faculty and students in our programs, outreach and personal visits in schools and communities in the region, and, most importantly, helping individuals find their passion. Are you passionate about the work we do? Are you passionate about your own career path? Can you remember who influenced you and opened the door to your life's work in natural resources? I am, and I thank Dr. Dwight Benseid at Iowa State University for influencing me.

Mr. Ken Morgan is passionate about our body of work and the forestry industry. With the gift from Ken and Morgan Lumber Company, we have created a new director of employer relations position in the college to better link the forestry sector to our students (see front cover story). This position is yet another specialized tool in our expanding toolbox of resources to better deliver on our mission. Thank you Ken and Morgan Lumber Company for your leadership in the forestry sector in Virginia and beyond!

We recently welcomed Dr. Keith Goyne as associate dean – a full-time role that is new to the college – and launched six new faculty position searches. While strengthening our core, we are also expanding our view of what our domain encompasses in natural resources. One new faculty position focuses on fostering a circular economy, which is the full-circle utilization of materials rather than cradle-to-grave (one-way life cycle) utilization. Forests are the world's best example of renewable materials, and we must continue to seize the opportunity to impact the sustainability of the planet with our work. We hope to add new faculty positions again next year, continuing our strategic goal of growing the college and strengthening our impacts in teaching, research, and engagement.



Getting input on the college's future infrastructure needs includes meetings of senior leadership (left to right: Paul Winistorfer, Jay Sullivan, Joel Snodgrass, Michael Mortimer, Tom Crawford, and Bob Smith) as well as several presentations and discussions open to all faculty and staff.

We have big decisions to make regarding financial commitments to grow the college's infrastructure. We are out of office, lab, and classroom space, which is our greatest challenge moving forward. Our existing infrastructure is not competitive with any of our North American peer institutions. We must address short-term needs with an eye to a much longer and greater vision for our work in natural resources. As Virginia Tech continues to grow, can we aspire to create a natural resources campus on the western perimeter of campus? Can you imagine it? I can.

Warm regards from our faculty, staff, and students,

Paul M. Winistorfer  
Dean



## WEI IS GOING TO THE DOGS!

The Wood Enterprise Institute's (WEI) 2019 product will appeal to pet lovers across Hokie Nation. The wooden dog bowl holder, available with a range of laser engraving options, can be ordered from the student-run entrepreneurial venture at [vtwei.com](http://vtwei.com). Prices start at about \$70. Orders will be accepted while supplies last, so place your order today! For more information, email [vtweiteam@gmail.com](mailto:vtweiteam@gmail.com).



## PHILLY ZOO CREW VISITS

High school students in the Philadelphia Zoo's award-winning Champions for Restoring Endangered Wildlife (CREW) program spent two days last summer on and off campus learning about education opportunities in wildlife research from faculty and students in the Department of Fish and Wildlife Conservation. Professor Marcella Kelly has coordinated an annual Zoo CREW visit for the past five years. Read the full story and watch a video at [bit.ly/2DdaCaK](http://bit.ly/2DdaCaK).

## CNRE NEWS

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## Keith Goyne named associate dean

In January, the college welcomed Keith Goyne into the new position of associate dean. He brings a background of academic leadership, excellence in teaching and advising, and robust research and scholarship to the position, as well as a personal commitment to the educational goals of land-grant universities.



Goyne will be a strategic partner and advisor to the dean, responsible for establishing and executing short- and long-term goals and initiatives, including support of the college's advising center, enrollment management, diversity and inclusion, research portfolio and analysis, and the alignment of all functions with the college's priorities, goals, and initiatives.

Goyne most recently served as associate director and professor of soil and environmental sciences in the University of Missouri's School of Natural Resources. He holds a bachelor's, master's, and doctorate from the Pennsylvania State University.

As a graduate of a land-grant university, Goyne knows first-hand the impact that these schools can have on students. "The land-grant system provided an opportunity for me, as a first-generation college student from rural Pennsylvania, to break out of a cycle that is persistent in rural mountain communities. I've tried to pay that back in my work and pass the opportunity forward to the next generations," he said.

## STEELCASE GRANT RENOVATES CEARS LAB

A corporate grant from Steelcase has transformed a lab in Cheatham Hall into a living laboratory to support learning strategies that promote engagement, creativity, and collaboration while helping researchers better understand patterns of active learning.



The CEARS lab's flexible layout can be easily adapted to small group discussions and other needs.

The Center for Environmental Analytics and Remote Sensing (CEARS) lab was designed over 20 years ago, with 22 computers in a traditional, theater-style configuration. The renovated space, with a flexible room layout, wireless connectivity, and a variety of seating options, supports a more open and collaboration-friendly atmosphere while increasing the room's capacity. Features include new furniture and portable whiteboards, a projection system that allows multiple users and devices to display information simultaneously, and floor-based power outlets that don't impede foot traffic.

As part of the highly competitive grant, which was secured by Assistant Professor Tim Baird, the CEARS lab and a more traditional computer lab across the hall have been outfitted with various sensing devices, including accelerometers, vibration microphones, and motion-tracking cameras. The spaces will serve as a real-life laboratory for a research project designed by Baird's team. "Our project began with a couple of simple questions: How much do you move when you're not moving, and what do these movements mean?" Baird explained. "By integrating social science and engineering approaches, we hope to address these questions in ways that can help us to think about what happens in classrooms and how we may nudge people towards positive behaviors and outcomes."

Faculty members and students alike are thrilled with the new space. Assistant Professor Quinn Thomas, who teaches courses in ecological forecasting and Earth system modeling in the lab, said, "Not only is it a great classroom for computational focused courses, it also a great space for collaborative projects and informal conversations."

## BURKHART HONORED AS SCIENTIST AND MENTOR

University Distinguished Professor Harold Burkhart was honored for his mentoring influence and his significant contributions to the study of forest biometrics at the 2018 Joint Southern and Northeastern Mensurationists and IUFRO 4.01 Conference held at Virginia Tech in October. Many of Burkhart's colleagues and former students from around the world attended. Burkhart was presented with an oil portrait in which the stems of the trees in the background contain the names of all of his graduate students; the frame is made of loblolly pine from sample trees at a former field testing site. 2019 marks Burkhart's 50th year at Virginia Tech!

Harold Burkhart (standing, sixth from left) is joined by scholars and former graduate students.



## CAMPUS TREE INVENTORY DOCUMENTS 10,000 TREES

The Department of Forest Resources and Environmental Conservation and the Facilities Department have completed a collaborative inventory and analysis of more than 10,000 landscape trees spread out across 900 acres of the Virginia Tech campus. The project – which estimates the total value of those trees at \$30.6 million – provides crucial information as Virginia Tech moves forward with its 2018 Campus Master Plan.

Associate Professor Eric Wiseman has been integral in motivating the university to invest resources in the project. The result is a comprehensive database in which almost all campus trees have been identified, plotted, photographed, measured, and evaluated for condition and maintenance needs. The accompanying report also outlines which species tend to thrive on the increasingly urbanized campus and how future planning for tree planting can maximize species diversity and resilience.

As previously reported in CNRE News, graduate student Peter Stewart conducted the majority of the work, documenting approximately 8,500 trees, which were combined with a 2012 inventory of the old-growth forest near Lane Stadium. The university is moving forward with the hiring of a campus arborist to supervise this crucial resource.

The campus tree inventory will prove useful in the university's decision-making processes concerning construction and landscaping, and is already being used in routing a new western perimeter road on the edge of campus.

## CGIT builds database to help Virginia's veterans

The college's Center for Geospatial Information Technology (CGIT) is improving informational databases across service lines of the Virginia Department of Veterans Services, which will help 15,000 veterans access educational, employment, and support resources in the commonwealth.

The center developed a new database for the Virginia Veterans and Family Support Program and for Veterans Education, Transition, and Employment, working to determine the specific needs of each organization and to facilitate communication between veterans and their dependents, and schools, businesses, and hospitals.

CGIT Operations Officer Brandon Herndon's experience as a 10-year veteran of the U.S. Air Force was an asset throughout the process. "I was able to be an engaged collaborator, recognizing the different needs of each organization. And because I was familiar with the terms and data that these organizations were working with, I could ensure we developed a program that best suited their needs."

One challenge was merging a wide range of data from several different sources and databases. Project Associate Javier Ramirez was tasked with creating a process to import thousands of data points into a single system, thus reducing data duplication. The new system went live in February 2018, with all organizations fully transitioned by June 2018.

As the center's role in the project transitions from development to maintenance under a new contract, Herndon is looking forward to expanding CGIT's contributions to Virginia veterans. "We're hoping that the next step will be to use geospatial data to create additional, public-facing tools that veterans can use. For example, if veterans are looking for educational opportunities, we can use geospatial data points to help them find colleges, trade schools, or certificate programs nearby that are eligible to receive GI Bill funding."



Brandon Herndon



Javier Ramirez

# RESEARCH SPOTLIGHT

## ■ IMPACTS OF HUMANS ON LAKES AND LAKES ON HUMANS

Assistant Professor Kelly Cobourn

New Hampshire, New York, and Wisconsin, United States

Full story: [bit.ly/2SX3zqC](https://bit.ly/2SX3zqC)

Scientists have long studied the ecological impact of humans on lakes, but a new study explores how those ecological impacts can cycle back to affect humans and offers a new model for those invested in protecting and maintaining lakes. The research team, which examined three lake catchments: Lake Mendota in Wisconsin, Oneida Lake in New York, and Lake Sunapee in New Hampshire, uses coupled natural and human systems modeling to understand how humans and the environment affect one another.



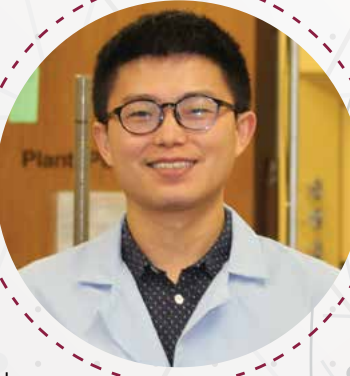
## ■ NSF GRANTS FUEL POLYMER RESEARCH

Professor Kevin Edgar, Assistant Professor Li Shuai

Virginia, United States

Full story: [bit.ly/2PT9XgQ](https://bit.ly/2PT9XgQ)

Two faculty members are creating new renewably sourced plant and wood polymers to tackle long-standing challenges. Kevin Edgar is developing polymers that work to prevent the crystallization of a drug's molecules when it is in pill form and during transport through the gastrointestinal tract so that medication can effectively reach the bloodstream. Li Shuai is developing a new chemical process to replace current petroleum-reliant resins with a renewable material made from lignin, an organic polymer found in trees that is a waste product of the paper pulping process.



## ■ SHIFTING FEMALE-TO-MALE RATIOS IN SNAPPING TURTLES

Molly Thompson, M.S., Professor William Hopkins

Virginia, United States

Full story: [bit.ly/2Sacjd5](https://bit.ly/2Sacjd5)

For many wildlife species, sex of offspring is determined after fertilization and often influenced by environmental factors, such as nest temperatures. While current research shows that increasing global temperatures are expected to produce more female turtles, the research team found that the nesting environment in agricultural habitats, which can ultimately lower nesting temperatures, can actually produce more males. They also found that the effect of agricultural activities on sex ratio was exacerbated by the presence of mercury pollution.



## ■ LARGER-THAN-LIFE PERCEPTIONS OF AMERICAN CHESTNUT

Associate Professor Carolyn Copenheaver

Eastern United States

Full story: [bit.ly/2EdUbeS](https://bit.ly/2EdUbeS)

Descriptions of the American chestnut as a giant, towering tree may not be accurate. Researchers examined historical publications and landowners' personal accounts for quantitative descriptions, finding a significant increase in the reported size of American chestnuts in sources published after chestnut blight decimated the majority of the adult trees in the early 1900s. Many sources recorded both the average and maximum size of a tree, while some recorded the maximum size as the average, making the species appear larger than it normally would have been. In addition, landowner descriptions may have been exaggerated owing to nostalgia.



## ■ PREDICTING FOREST GROWTH LIKE FORECASTING THE WEATHER

Assistant Professor R. Quinn Thomas

Southeastern United States

Full story: [bit.ly/2uJqISO](https://bit.ly/2uJqISO)

Similar to weather forecasts, researchers are using ecological forecasting to predict how changes in temperature, water, and concentrations of carbon in the atmosphere may affect the future growth of trees. They built on data and concepts from earlier projects to develop a common analytical framework that can be combined with predictions from climate models to produce an outlook for the future. The system sets a foundation to be used in the forestry industry to predict other aspects besides productivity.



## ■ ROLE OF OWNER'S CONNECTION TO THE LAND

Associate Professor Michael Sorice, Kiandra Rajala

Texas, United States

Full story: [bit.ly/2SVFgcB](https://bit.ly/2SVFgcB)

A primary focus of a study to understand how private landowners employ conservation management practices was to determine how to define an absentee landowner and whether private landowners who do not live on their land year-round manage it differently than those who do. Instead, researchers found that a landowner's involvement and interest in working the land matter more than residing on the property, suggesting that natural resource managers look beyond landowner traits and focus on how they think about their land.





### ■ RIVERBANK EROSION, HUMAN ADAPTATION, AND RESILIENCE

Professor Tom Crawford, Munshi Rahman, Ph.D.

Bangladesh, Asia

Full story: [bit.ly/2EDoRXb](https://bit.ly/2EDoRXb)

Researchers are working to better understand how riverbank erosion affects the citizens of Bangladesh and to develop early-warning measures that may help mitigate the effects of the changing shoreline. They are using satellite images captured between 1988 and 2018 to plot spatiotemporal patterns of erosion and generate location-specific annual rates of erosion and erosion variability. The compiled precipitation data for that time period will help the team determine how precipitation impacts shoreline changes.



### ■ HOW CHEETAHS OUTSMART PREDATORS

Anne Hilborn, Ph.D.

Tanzania, Africa

Full story: [bit.ly/2KTVvUF](https://bit.ly/2KTVvUF)

The results of hunt observations show that mother cheetahs with cubs have very different eating patterns than males or females without cubs. Cheetahs live alongside large carnivores like lions and spotted hyenas, both of which can not only attack cubs but also steal prey. Most cheetahs eat their prey as quickly as possible to avoid having their food stolen, but mother cheetahs with cubs watch out for possible threats while their young are eating. A mother will first ensure that her cubs get enough to eat before eating her own share, using vigilance instead of speed to minimize risk.



### ■ FLOOD PULSE DYNAMICS AND DIARRHEAL DISEASE

Professor Kathleen Alexander

Botswana, Africa

Full story: [bit.ly/2G3gVOW](https://bit.ly/2G3gVOW)

Researchers have discovered how surface water dynamics may increase the vulnerability of dependent populations to diarrheal disease and climate change. Outbreaks continue to occur in the study area despite the presence of a centralized water treatment infrastructure. They found that increases in diarrheal disease cases were closely tied to periods of rainfall, flood recession, and changes in surface water quality, and that different age groups were affected differently by season.



### ■ WATER'S ROLE IN ANTIBIOTIC RESISTANCE DISSEMINATION

Claire Sanderson, Ph.D., Professor Kathleen Alexander

Botswana, Africa

Full story: [bit.ly/2QE0AGR](https://bit.ly/2QE0AGR)

Researchers' findings suggest that factors beyond industrial farming and medical facilities may be significant contributors to the global problem of antibiotic resistance dissemination. The team found widespread antibiotic resistance in the surface water at their unique study site in northern Botswana, spanning both protected and urban landscapes. They also found that land use and season were both statistically significant predictors of antibiotic resistant bacteria in surface water, with the wet season resulting in a higher mean than the dry season.



### ■ LINKING AMAZON DEFORESTATION AND FISH YIELDS

Assistant Professor Leandro Castello

Brazil, South America

Full story: [bit.ly/2E1HqDu](https://bit.ly/2E1HqDu)

The team used years of fisheries data to map 1,500 lakes in the Amazon floodplain and NASA satellite data to determine habitat features. They found that lakes with floodplain forests resulted in greater fish yields, inferring that if floodplain forests are cut down for crop or pastureland, fish yields in nearby lakes would decrease, affecting the food supply and livelihoods of area residents. They plan to expand their scope to include other variables, such as the depth and connectivity of the lakes studied.



### ■ HUMAN-CENTERED DESIGN KEY TO CONSERVATION PARTNERSHIPS

Associate Professor Michael Sorice

Chile, South America

Full story: [bit.ly/2AQf4J7](https://bit.ly/2AQf4J7)

The team found that Chilean fishers were more in favor of a marine conservation program when it was designed to incorporate their preferences and when they had a reasonable expectation of the outcomes, instead of simply paying them for participation. In this "human-centered design" approach, the participants' needs are given the same weight as the resource's need. The results indicate that small design changes can be key to successful conservation programs.

## GRADUATE STUDENTS RECEIVE PRESTIGIOUS RESEARCH FELLOWSHIPS

Two graduate students in the Department of Fish and Wildlife Conservation have received fellowships that will pave the way for significant contributions to their fields of study as well as increased career opportunities.

Master's student **Brian Case** received a National Science Foundation Graduate Research Fellowship, valued at more than \$130,000. He says that he will now be able to pursue his doctorate and added that the award is "a tremendously humbling recognition that will further set the foundation for a career in scientific research."



Case is interested in the ways that human activity and its effects on water quality impact wildlife populations. His current research focuses on how Eastern hellbenders, a species of aquatic giant salamanders, raise their offspring and how this process may be affected by issues like sedimentation, forest removal, and pollution.

Doctoral student **Corbin Hilling** received a Virginia Sea Grant Graduate Research Fellowship of \$80,000 for his work with blue catfish and their impact on Chesapeake Bay tributaries. "The fellowship is going to be a great opportunity," he said, "and I'm looking forward to Sea Grant professional development workshops, particularly on scientific communication."



Hilling's research explores population dynamics and the ways that the population of blue catfish, a nonnative species that was introduced into Virginia in the mid-1970s, is changing over time. Using this information, he will then run simulations to explore how the species can be better managed to reduce its impacts on the bay tributaries.

## CONROY EARNS UDALL SCHOLARSHIP

Wildlife conservation major **Deirdre Conroy** received a 2018 Udall Scholarship from the Morris K. Udall and Stewart L. Udall Foundation. Recipients are selected on the basis of commitment to careers in the environment, health care, or tribal public policy; leadership potential; and academic achievement. Conroy is one of 50 recipients from 42 colleges, and the only one from Virginia Tech.

Conroy has made research an integral part of her undergraduate experience, engaging in a range of projects since her freshman year. During fall 2018,

she attended the Grand Canyon Semester program through Northern Arizona University, where she learned about the interactions between land managers, Native American tribes, and the public in the Southwest. She plans to pursue graduate study to investigate the socioeconomic factors that affect conservation in non-Western societies.



"We can't do meaningful science if we ignore the human component. The conservation field is a global network that includes and affects people from different countries, origins, and backgrounds. You have to have a good understanding of ecology, policy, and socioeconomic issues in order to develop effective wildlife management programs," she explained.

## CLASS OF 2018: MOLLY MCKNIGHT

Picture a solar farm – a grid of dozens of shining panels of reflective glass, each one angled to capture the sun's light at its peak and turn that light into renewable energy. Now imagine that solar farm is being built in your town or neighborhood, or even in your own backyard.



**Molly McKnight**, a December geography graduate, is helping to make imagining that a little easier, using geographic information systems (GIS) to help develop visualizations of potential renewable energy fields. The intention of the project, led by Professor Bill Carstensen, is for these visualizations to be used at planning and county government meetings to give communities and individuals a clearer sense of the impact that new energy projects would have on a landscape.

"We're creating 3D models that would allow a user to type in an address and see what a solar panel field or wind turbine would look like," McKnight said. "It's a way of trying to come up with an interactive tool that would allow communities to better visualize a project."

McKnight's experience landed her a summer internship with Esri, the world's leading GIS software company. As a technical support intern, she worked to help answer customer questions about the mapping and analytics software that the company provides to industries around the world. She also conducted research and testing of user workflows across software platforms.

McKnight didn't venture far after graduation – she's now working on a master's degree in the Department of Geography.

## FACULTY BRIEFS

**Carolyn Copenheaver**, associate professor of forest ecology in the Department of Forest Resources and Environmental Conservation, received the 2018 Carl Alwin Schenck Award from the Society of American Foresters. She is the first woman to receive this honor in its 30-year history. The award is given annually to a faculty member who demonstrates exceptional devotion to the instruction of forestry and to the development of teaching methods that impart knowledge of forestry through dynamic communication skills.

**Kevin Edgar**, professor in the Department of Sustainable Biomaterials, has been named associate dean of the Virginia Tech Graduate School. In this role, he assists with the school's academic enterprises, including professional development and the graduate teaching assistant workshop. He will work in concert with administrators on projects supporting the school's Transforming Graduate Education Initiative. "It is a great privilege to become part of the extraordinary team of talented, collaborative individuals," Edgar said. "I am looking forward to working with them to make our graduate program even stronger and to more effectively serve our students, the university, the commonwealth, and our nation."

Professor Emeritus **Wolfgang Glasser** received the Albert Nelson Marquis Lifetime Achievement Award from Marquis Who's Who, which has been publishing biographical profiles since 1899. Glasser, whose research focuses on polymer and materials science with an emphasis on biobased materials and composites, has continued research since his retirement in 2002. This honor recognizes his professional achievements, leadership qualities, and the credentials and successes he has accrued in his field.

**William Hopkins**, professor in the Department of Fish and Wildlife Conservation and director of the Global Change Center, received the 2018 Mitchell A. Byrd Award for outstanding scientific achievement in ornithology. The Virginia Society of Ornithology established the award in honor of CNRE alumnus Mitchell A. Byrd, a pioneer of wildlife conservation who devoted much of his long career at the College of William and Mary to the recovery of the threatened bald eagle and peregrine falcon in Virginia.

Professor Emeritus **Mark White** received the 2018 R. David LeButt Award from the International Safe Transit Association in recognition of excellence and continuing education in package design and testing. White helped develop Virginia Tech's packaging program, which has a unique focus on systems-based design and is now the only packaging degree program in Virginia. White has founded two companies since retiring in 2007, and he continues to mentor graduate students and teach courses on a part-time basis.



Carolyn Copenheaver



Kevin Edgar



Wolfgang Glasser



William Hopkins



Mark White

**ALUMNI PROFILE: MEGAN STALLINGS**  
WORKING OUTSIDE THE BOX

As an undergrad, it took an informational leaflet placed in a napkin dispenser in Dietrick Hall to get **Megan Stallings ('15 B.S.)** to consider the packaging systems and design program in the Department of Sustainable Biomaterials. "I saw a flier that said, 'average starting salary \$80,000 and 100% job placement five years in a row' and I said 'sign me up!'" Stallings said. "That's what I had come to college for, to get a job, and I've absolutely loved it."



Stallings works for Packaging Corporation of America, one of the largest producers of containerboard and corrugated packaging products in the U.S., in its Morganton, North Carolina, plant. Her work with the company started with an internship at their Roanoke sheet plant while she was an undergraduate, which led to a full-time position as a sale representative. In her current position as a quality facilitator, she oversees third-party certification for quality and product safety management systems in accordance with the International Organization for Standardization.

"The packaging industry is about more than boxes," Stallings said. "I have friends who work for Newell Brands, Amazon, and Exxon-Mobil who have come out of the packaging program at Virginia Tech. It is a program that really sets you up to do a lot of things. It's not as specialized as people might think – you can work for anyone and you can work anywhere in the country, in a field that is growing and changing."

Stallings is helping to encourage other women to join the profession. She recently participated in a "Women in STEM" panel discussion hosted by Virginia Tech in Durham, North Carolina, and had been involved with Kids Tech University, a Virginia Tech program that aims to get kids interested in science and technology fields.

"I think these kinds of conversations are incredibly important," she said. "The opportunities are endless if you're willing to pull on your steel-toed boots and throw your hair up. Women are needed across the field, and at Packaging Corporation of America we employ some awesome women."

Stallings cites internships as being crucial entries into the field. "I was an intern for the college's Center for Packaging and Unit Load Design my first summer at Virginia Tech. I did a lot of packaging testing and continuous improvement projects. I was able to get an understanding of a lot of different types of packaging, as well as some hands-on experience in the industry."



Faculty, staff, students, alumni, and friends gathered for the second annual Fiddles and Vittles social event at Smithfield Plantation in September.

**MARTINEZ RECEIVES CROSS ALUMNI LEADERSHIP AWARD**

The Department of Fish and Wildlife Conservation and the college's Leadership Institute presented **Teresa Martinez ('92 B.S., '98 M.S.)** with the Gerald H. Cross Alumni Leadership Award. Recipients of the award, named in honor of the professor emeritus and former department head, are selected for their dedication and outstanding achievements in leading others.



Martinez, co-founder and executive director of the Continental Divide Trail Coalition, has built a career around managing and preserving trails, and credits her time at Virginia Tech with establishing that passion. Throughout her career, she has focused her efforts on working with volunteers, increasing diversity, creating opportunities for persons with disabilities, reaching out to trail enthusiasts, and developing youth programs.

"I'm part of a long legacy of people protecting nationally significant landscapes for future generations," she said. "I was lucky in school because the faculty created an environment that inspired collaboration and partnership. I learned how to work with others and appreciate diverse skillsets."

**VDOF BUILDING NAMED IN HONOR OF JAMES GARNER**

The Virginia Department of Forestry (VDOF) recognized alumnus and retired state forester **James W. "Jim" Garner ('54 B.S.)** by naming its headquarters office building in Charlottesville in his honor. Garner served the department for more than four decades, including 21 years as state forester, until his retirement in 2004.



Jim Garner (left) with former Gov. Gerald Baliles at the building dedication ceremony.

Photo by Virginia Department of Forestry@

"Jim's vision, wisdom, and guidance directly influenced VDOF's current position as a leader within the forestry sector and a vital partner among other natural resource agencies and organizations," said current State Forester Rob Farrell, a fellow alum.

Professor Emeritus David Smith, who met Garner in 1973, said, "Jim Garner's professional forestry education and training instilled in him the decades-long nature of forest resource management decisions. I always found him to be fully engaged, always prepared, a good listener, not afraid to offer his thoughts, and always focused on getting things accomplished and solving the problems at hand."

In addition to the Department of Forestry, the building houses several other state agencies and organizations. The 32-acre campus includes an educational nature trail and borders a section of the Rivanna Trail.

**SAVE THE DATES!**

**GIVING DAY: MARCH 19-20, 2019**

Spring forward as alumni, students, faculty, staff, families, and friends come together to help shape the future of Virginia Tech. Gifts of any size during this 24-hour period can make a big impact. For last year's inaugural event, CNRE received \$132,357 to support student programs and scholarships! Details at [givingday.vt.edu](http://givingday.vt.edu).



**REUNION WEEKEND: JUNE 6-9, 2019**

Come back to campus for Virginia Tech's second annual reunion weekend! Events include dinners on the Drillfield, behind-the-scenes campus tours, children's activities, happy hours, presentations from university leaders, time to connect with friends, and more.



Details at [alumni.vt.edu/reunion2019](http://alumni.vt.edu/reunion2019).



# Alumnus helps kids explore freshwater streams and rivers by getting their feet wet

The best part of alumnus **Craig Roghair's** outreach work is hearing the reactions of students when they first put on a wetsuit and mask, and duck their heads into a freshwater stream. "The kids take to the water very quickly, and they're amazed by what they see," said Roghair ('00 M.S. fisheries and wildlife sciences), a fisheries biologist for the USDA Forest Service. "You hear lots of hoots and hollers through the snorkels, and excited shouts when they see their first fish. One student came out of the water and said, 'I didn't even know there was all this stuff to care about!'"



After onsite instruction in snorkeling techniques, students explore freshwater habitats, looking for fish, aquatic insects, turtles, and other underwater life in the West Branch White River on Vermont's Green Mountain National Forest.

These reactions are a first step in meeting the wider goals of the Forest Service's freshwater snorkeling program, which Roghair has been involved with since 2016. The program seeks to connect students with freshwater habitats and strengthen their understanding of the importance of protecting our nation's watersheds. It is a part of the organization's broader strategic objective to connect people to the outdoors.

"We start with 30-40 wetsuits and snorkels and masks," Roghair explained. "We get a busload of kids from a particular school and we take them to a stream and outfit them with gear and teach them how to use a snorkel and mask. Then they get the chance to explore the underwater world. We're trying to get students to take a deeper dive in, to get a close look at what is under the surface of our waterways, so they can appreciate the natural aquatic heritage that we have."



Craig Roghair (right) teaches Florida schoolchildren the basics of snorkeling before they venture into Alexander Spring on the Ocala National Forest.

The snorkeling program works with students from fourth grade through high school. In addition to the field experience, the program includes a curriculum that teaches students about watersheds and river habitats, the work that the

Forest Service does to manage healthy forests that produce abundant clean water, and what the students themselves can do to help protect and preserve these crucial places.

For Roghair, getting kids out in nature has brought him full circle to his own motivations to work in the field. "When I was in middle school, I went on a field trip sponsored by the Wisconsin Department of Natural Resources where we went out and saw what different natural resource professionals did. There was a soil person and a forestry person, and they had a station set up along a creek where they were doing electrofishing, which allowed the biologists to bring fish up out of the water for us to see. And I thought, 'How do I get a job like that?'" he recalled.

As a master's student at Virginia Tech, Roghair found himself immersed – quite literally – in Virginia's streams and waterways. "I had the opportunity to work as a field technician in the fisheries program. One of the first things I had to do was put on a wetsuit, mask, and snorkel and swim around the streams here in Virginia. And it was a mind-blowing experience for me, one that carried through my graduate work. There is an amazing diversity of fish and aquatic life in these waters, and it's great to get the chance to show that diversity to young students."



Craig Roghair (right) gives final instructions to a snorkeling education team of Forest Service, Virginia Tech, and NorthBay Foundation employees before students arrive for a snorkeling session in Alabama.

Roghair works with fellow Forest Service biologists and technicians at the Center for Aquatic Technology Transfer in Blacksburg. The unit, affiliated with the agency's Southern Research Station, is led by Professor Andrew Dolloff, a faculty member in the Department of Fish and Wildlife Conservation.

"The Center for Aquatic Technology Transfer is a science delivery program," Roghair said. "We take science and apply it to resource management challenges in the national forests. We do a lot of inventory and monitoring work for aquatic species like fish, insects, freshwater mussels, and crayfish. We work in a lot of the national forests of the Southeast, including the forests of Puerto Rico, which has an amazing freshwater ecosystem."

The freshwater snorkeling program that Roghair helped to jump-start has brought students into streams in Virginia, Florida, Alabama, and Vermont, and he is optimistic that other states will be added in the coming years. The chance to help young students make a connection with the streams and water systems has been a new and exciting challenge for him.

"The freshwater snorkeling program is very different from anything we've done at our center, and it's led me down a lot of new and interesting paths in environmental outreach and education," Roghair explained. "It's been a great experience for me, and I look forward to expanding the program further."

## IN MEMORIAM

**Richard B. "Dick" Vasey (1933-2018)**, professor emeritus of forestry and former assistant dean of the College of Agriculture and Life Sciences, passed away at his home in California just a few days shy of his 85th birthday. [bit.ly/2zeahjW](http://bit.ly/2zeahjW)



**Mike Vaughan (1944-2018)**, professor emeritus of wildlife, who achieved international recognition for his research on the biology, ecology, and management of bears, passed away after a long battle with cancer. [bit.ly/2RBIqoP](http://bit.ly/2RBIqoP)



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