## FORESTRY Leader in excellence.....

Summer 2017

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#### Massive Southeastern Pine Research Project Earns National Partnership Award

A team of researchers banded together to propose an unprecedented study on southern pine forests when the U.S. Department of Agriculture offered a grant for coordinated agricultural projects.

The Pine Integrated Network: Education, Mitigation, and Adaptation project, better known as PINEMAP, began in 2012 to determine how changes to climate could affect pine forests in the southeastern United States.

A vast team of scientists, educators, and cooperative extension professionals worked to develop a plan to help forest landowners increase carbon sequestration, increase the efficiency of fertilizer inputs, adapt forest management approaches, and plant a larger variety of trees to increase forest resilience and sustainability under a changing climate. **Tom Fox**, who serves as the lead principal investigator on the portion of the project at Virginia Tech, explained that PINEMAP initially had three main goals: research, outreach, and education.

The project's recent selection for a Partnership Award by the USDA National Institute of Food and Agriculture is recognition of the successful integration of those three missions.

"The award is a recognition that we've collectively been able to accomplish the objectives of the project and do this translational research effectively," Fox said. "It's a tribute to the ability of a large group of researchers across disciplines to work together." Fox serves as the overall lead principal investigator for silvicultural research on PINEMAP as well as the integration team leader for mitigation.

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Please send information for future issues to Tracey@vt.edu





### From the Department Head



This spring, a group of FREC graduate students (**Amy Blood, Jake Diamond, David Lee, Ray Ludwig**), and an undergraduate from Political Science submitted an entry to the New York University Policy Case Competition. Our team had developed and written a policy proposal regarding alternatives to fossil fuels for this competition. Based on their entry, they were selected from among 150 entrants from a variety of disciplines and schools around the country to be one of the 30 presenting teams competing in the on-campus, annual NYU event. At the on-site competition, the FREC team presented and advanced successfully through the second round of competition and into the third and final round. We are proud to announce that our team placed first in the domestic policy category, and placed second in the overall competition! We are immensely proud of the achievement of these students.

Jay Sullivan

We believe their success further highlights the quality of our students even on the national stage, undoubtedly has brought us attention in the policy realm, and has excited our students about their roles in these kinds of discussions.

We celebrate the accomplishment of this bright and talented group, but we also take this as a reminder of how relevant we are at all levels of forestry and environmental resources discussion. Our students, faculty, and alums have been called upon for interviews, to testify, to present, and to lead in answering questions of climate, water and watersheds, urban forests, land use, forestry practices, and many others from the field to the board room that are of utmost importance to the future of these resources and our profession. We take the responsibility seriously to train and prepare our students to be right in the middle of those discussions, seeking to give them the skills to understand and evaluate problems, collect and analyze pertinent data, and develop and promote effective solutions. We have been recognized recently as a top program, or perhaps even the top program to study forestry in the United States according to some metrics (and of course we're proud of that ranking). However, more important is to be known as the place to go for graduates with integrity who can speak to, formulate, and put into place the policies and practices that will better our profession and world. That is what we seek to be, ultimately. Thank you for partnering with us in continuing to aspire to that reality!

### FREC Ranked Number One Among Best Colleges and Universities for Earning a Forestry Degree

According to College Factual, Virginia Tech's FREC program is ranked number one among the best colleges and universities in the United States for earning a Forestry degree. Their ranking methodology takes into account factors such as education quality, average earnings of graduates, accreditation, and other relevant factors.

USA Today College, also using College Factual, has ranked Virginia Tech as the nation's best for studying natural resources and conservation for the third year in a row. Our FREC department is a strong component of Virginia Tech's College of Natural Resources and Environment. USA Today College started ranking natural resources and conservation programs in 2015. There are only about 50 universities across the United States with comprehensive natural resources programs, and we in FREC are proud to be associated with the number one-ranked college.

# Highlights: Teaching - Research - Extension

FREC 3344; Forestry Field Studies



Ten Forest Resource Management and Forest Operations and Business undergraduates and two graduate students participated in a five-day Forestry Field Studies Tour throughout Virginia during the week of May 15. The group lodged at the Airfield 4-H Center in Wakefield. The students, led by **Scott Barrett** and **Chad Bolding**, spent each day in the field visiting logging operations, touring mill facilities, examining field sites displaying a range of management strategies, and meeting with forestry professionals in numerous aspects of the profession. Students toured a chip mill, a pellet mill, a wood-fired power plant, the Virginia Department of Forestry Garland Gray Nursery, a plywood mill, two pine sawmills, and a pulp mill. Students also visited both Piedmont and Coastal Plain sites investigating forest soils and intensive pine silviculture with Tom Fox, commercial thinning, and

numerous mechanized logging operations including high production clean chipping. The Southeast Chapter of the Society of American Foresters, chaired by **Neil Clark**, held a meeting with the students and provided dinner. In addition, a panel including Chris Harris, Ian Foley, Neil Clark, and Madison West gave presentations encouraging the students to set priorities, work hard, and find a life/work balance. Thanks are due to our many hosts, alumni, and company representatives for making the trip a success!

#### **Online Course for Virginia Forest Landowners**

Virginia Cooperative Extension and the Virginia Forest Landowner Education Program are offering an online course to help private landowners become better stewards of their land.

The online Woodland Options for Landowners course, which is running from May 15 to August 4, teaches basic management principles and techniques for both novice and veteran private forest landowners.

Natural resource professionals and experienced landowners serve as mentors for the students and help with questions via the course Group Discussion Board.

"Interest in this course, now in its 14th year, continues to grow," said **Jennifer Gagnon**, coordinator of the Virginia Forest Landowner Education Program. "Participants love the convenience of an online course and appreciate the opportunity to connect with experts as well as experienced landowners."



Course participants may attend an optional field trip. Retired forester Charlie Huppuch (left) explains concepts of active forest management to participants.

Participants may attend an optional field trip at the conclusion of the course, which allows them to hone their new skills and interact with one another and with natural resource professionals.



Massive Southeastern Pine Research Project Earns National Partnership Award

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Virginia Tech's team, based in FREC, included more than a dozen graduate students, postdoctoral associates, and staff members in addition to the following faculty members: Harold Burkhart, Thomas M. Brooks Professor of Forestry and University Distinguished Professor; Thomas Fox, Honorable Garland Gray Distinguished Professor of Forestry; Jason Holliday, associate professor of forest genetics and biotechnology; John Seiler, Honorable and Mrs. Shelton H. Short Jr. Professor of Forestry and Alumni Distinguished Professor; Brian Strahm, associate professor of forest soils and ecology; **R. Quinn Thomas**, assistant professor of forestry; Valerie Thomas, associate professor of forest remote sensing; and Randolph Wynne, professor of forest remote sensing.

Over the course of four years, 45 undergraduate students from universities across the United States, Puerto Rico, and Canada completed the PINEMAP Undergraduate Fellowship Program. Seiler helped lead the educational component.

The student fellows spent a summer conducting research alongside PINEMAP investigators. In the fall, they enrolled in a Virginia Tech virtual course called Effective Communication Skills, in which they learned to communicate what they learned during the summer to a broad range of audiences, including middle and high school students near their home universities. In total, PINEMAP undergraduate fellows presented lessons to over 7,400 students from 95 different public schools.

"This was really a unique model, because we taught college students from all over the United States," Seiler explained. "It was a Virginia Tech course, but they paid tuition and were graded at their home institutions."

Wynne worked with climatologists to develop climate



At a site in Appomattox County, Virginia, plastic troughs reduced rainwater reaching the soil by 33 percent, allowing project scientists to simulate how a future climate with less rainfall would affect loblolly pine.

models that would account for a variety of potential climate changes.

Ultimately, the project affirmed that researchers are on the right track to effectively maintaining the Southeast's pine forests.

According to Tim Martin, professor of tree physiology at the University of Florida, and Fox, the PINEMAP efforts will continue well beyond the end of the current grant.

"We need to continue working to understand the pine forest ecosystem in the Southeast that is a major economic driver in the region and provides tremendous environmental services that benefit society," Fox said. "We also need to continue our education and outreach efforts so that we put the knowledge we gain to work improving people's lives and the environment."



#### FREC Hosts 19th Biennial Southern Silvicultural Research Conference



Russ McFarlane silviculturalist JNFGW, Mark Miller and Dan McKeague from the JNF Eastern Divided office

The Department of Forest Resources and Environmental Conservation hosted the 19th **Biennial Southern Silvicultural Research Conference** March 14-16 which brought together 180 scientists and professionals from the Southeastern U.S. The conference is a joint effort between participating universities and the USDA Forest Service, and included student presentations, panel sessions, and field tours. John Seiler and Mike Aust served as co-chairs of the local arrangements committee. organizing housing, food, and other details for conference attendees. The field tour focused on hardwood silviculture and forest best management practices used to protect water quality. Personnel from the U.S. Forest Service assisted in many of the field trip stops.

Students **Ed Russell**, a Ph.D. student in tree physiology and ecological climatology, and **Sheng-I Yang**, a dual-enrolled Ph.D. student in forest biometrics and M.S student in statistics, received awards for presentations in the student oral and poster presenter contests. Students are judged on research methods and presentation skills, and receive plaques and monetary awards. According to Seiler, Virginia Tech students do well historically in the conference's contest, having taken almost 30 percent of the awards to date. "It's a very friendly conference for students giving their first talk," he said. "It's a testament to the strength of our program."



Ed Russell received an award for his presentation on the interaction between intensive management practices and water limitation expected in the near future in established loblolly pine plantations. "One of the best things about this particular conference is the opportunity to see what a variety of researchers and practitioners are currently investigating. It's an opportunity to survey a broad swath of the intellectual forestry world and gain insight from both production and ecological perspectives," he said.



Sheng-I Yang explained that this opportunity marked his first professional conference presentation. He accepted an award for his work using statistical analysis to determine the maximum population sizes of loblolly pine crops. "It was my first time doing this and I got to meet so many people from different universities and exchange ideas. I really appreciated the question-and-answer sessions at the end of each talk," he recalled.



#### Virginia Tech Hosts Regional Tree Climbing Championship

FREC sponsored the Mid-Atlantic Chapter of the International Society of Arboriculture's annual Tree Climbing Championship on April 1-2. Arborists from Virginia, Maryland, West Virginia, and the District of Columbia competed for top scores in climbing events that test their speed, agility, and safety.

"The skills competitions emulate work practices," said **Eric Wiseman**, associate professor of urban forestry and arboriculture in the college. "All of these competing arborists are professionals, so they climb trees every day. These events are meant to highlight their good technique and safety practices."

Featured competitions included a work climb, which tests the competitor's ability to move about the tree using a climbing line and saddle/harness; an aerial rescue event, which is a timed event that tests the competitor's ability to climb to and safely lower a climber who is unable to descend without assistance; and a belayed speed climb, which tests the competitor's ability to climb a predetermined route from the ground to about 60 feet up a tree using a belayed climbing system for safety.

Afterwards, the top four to five climbers will compete in the Master's Challenge, an event that tests their overall productivity and skill with a rope and saddle/



harness in the tree. Competitors are judged and scored on their knowledge and their ability to demonstrate mastery of different climbing techniques, use of equipment, poise in the tree, and safe working practices.

Thirteen arborists helped prepare the trees, donating more than \$10,000 worth of tree care work, according to Nancy Herwig, executive director of the Mid-Atlantic Chapter of the International Society of Arboriculture, who thanked Arbor Artist, Bartlett Tree Experts, Dominion Power, Growing Earth Tree Care, Scooter's Construction, and Virginia State University for providing staff.

Wiseman also believes that students and community members who attended the weekend events did not leave disappointed. "Watching these climbers move through the trees is almost like watching a ballet," he said. "Spectators left with a greater appreciation for the fact that arborists are highly skilled professionals. They have a tremendous amount of knowledge about trees and tree care. Climbing the trees is just how they get to work."

In addition to FREC, event sponsors also included Arbor Tech Supply, Bartlett Tree Experts, Davey Tree, Georgetown Insurance, K & M Lawn and Garden Supply, SaveATree, SherrillTree, and TreeStuff.com. Exhibitors include Altec, Davey Tree, Georgetown Insurance, K & M Lawn and Garden Supply, and Vermeer Mid Atlantic.



#### **Strahm Named Research Fellow**



Brian Strahm

**Brian Strahm, FREC** associate professor, has been named a Research Fellow of the Organization for Economic Co-operation and Development (OECD; oecd.org), an international body of ~35 member countries designed to promote economic growth, prosperity, and sustainable development across the globe. Specifically, this fellowship was awarded under the OECD's Co-operative Research Programme for Biological Resource Management for Sustainable Agricultural Systems, with the stated objective to "strengthen scientific knowledge and provide relevant scientific information and advice that will inform future policy decisions related to the sustainable use of natural resources, in the areas of food, agriculture, forests and fisheries."

Under the aegis of the OECD, Strahm partnered with Scion

scionresearch.com), the New Zealand Crown Research Institute for forestry.(Specifically, he partnered with Dr. Peter Clinton, the Science Team leader of Scion's Forest Systems group, and the Programme Leader of the Growing Confidence in Forestry's Future (GCFF; gcff.nz) programme, a six year, ~\$30 million dollar effort to improve the productive capacity, economic vitality, and environmental sustainability of New Zealand's forestry sector.

Strahm's work through the OECD with Scion focuses on the acute national need to optimize nitrogen management for the simultaneous improvement of forest productivity and environmental (especially water) quality. The forestry sector in New Zealand has set the ambitious goal of doubling productivity by 2022. An important component of achieving this goal is increased forest nitrogen fertilization. Concerns about nitrogen fertilization include economic inefficiencies associated with low confidence in predicting growth response of individual stands, and environmental concerns of the negative impact of leached nitrogen on water quality. His work uses nitrogen stable isotope analysis to predict forest stands that retain and respond to added nitrogen. This work is based on similar studies across managed forest ecosystems in the United States and will leverage existing New Zealand-wide trials with the ultimate goal of providing the information needed to improve decision support frameworks and inform ongoing policy discussions regarding land use change and intensification impacts on water quality across New Zealand. As a result, Strahm was invited to address this issue in a keynote address to research, industry, and government interests at the annual GCFF conference.

#### Franco Offers Study Abroad in Multiple Cities in the Dominican Republic

Carol Franco continues to broaden our students' interest with FREC 3954: Impacts and Policy in the Dominican Republic. This course is being offered for the first time in 2017, with August 1-13 being the time frame. The study abroad course uses the Dominican Republic as a case study to introduce students to the impacts of climate change on key ecosystems (e.g., coastal areas) and natural resources (e.g., forests, biodiversity) and related mitigation and adaptation strategies. Students will also learn about ongoing impacts on agricultural production and people's livelihoods and strategies to decrease GHG emissions and reduce vulnerability to climate change. Students will meet with scientists, environmental NGOs, and government officials. Students will explore the effects of a changing climate through field trips, hands-on experience, meetings, lectures, and readings. Randy Wynne and Valerie Thomas will also assist with this course.



#### Franco: Here's Why We Should Care About Global Climate Change Policy



Carol Franco

As President Trump announced future plans for U.S. involvement in the Paris Agreement on global climate change. Virginia Tech senior research associate **Carol Franco** is already examining the potential impact on people and ecosystems.

Franco provides technical support to the Ministry of Environment and the National Council on Climate Change of the Dominican Republic. She has also participated in the negotiations of the United Nations Framework Convention on Climate Change (UNFCCC) since 2012, as a member of the Dominican Republic delegation.

"We will all suffer the impacts and consequences of climate change and some countries can already attest to this," said Franco. "The withdrawal of the U.S., in the long run, could discourage other countries from fulfilling their pledges and commitments to reduce greenhouse gas emissions and consequently, also withdraw from the Paris Agreement. This ultimately sends us back to the course of business as usual which will lead to temperature increases with unfortunate consequences.

Unlike the Kyoto Protocol, the Paris Agreement is the only agreement that includes both developed and developing countries. If we learned something from the past, it is that if the largest emitters are not included in the agreement, this will be ineffective.

The U.S. is the largest economy in the world and the second largest emitter, after China. The U.S. is also the country with the largest historic, cumulative greenhouse gas emissions, as well as carbon dioxide emissions.

"We should care because we need to think about future generations and the legacy we are leaving them. We should care because climate change is a reality and is

here to stay; ignoring it or denying it will not make it go away."

Franco is an expert in ecological economics, ecosystem services, climate change impacts, climate change adaptation and mitigation policies.

Franco joined the department in August 2014 as a Senior Research Associate. She is involved in research and policy projects related to global climate change negotiations, mitigation and adaptation policies in Latin America, REDD+, and impacts of climate change in the Dominican Republic.

Francoreceived her B.S. in Biology from the Universidad Autónoma de Santo Domingo in the Dominican Republic, M.S. in Forest Resources Management from SUNY- College of Environmental Science and Forestry, and Ph.D. in Ecological Economics and Environmental Policy from SUNY-College of Environmental Science and Forestry. She did her postdoctoral work at the University of Vermont.

This story is from an interview with Franco by Virginia Tech's television and radio studios. To secure an interview with Franco, contact Bill Foy in the Media Relations office at 540-231-8719 or 540-998-0288.



The impacts of sea level rising in Las Terrenas

### Highlights: Teaching - Research - Extension

#### **Historic Log Dating Project**

Graduate students in associate professor **Carolyn Copenheaver's** Advanced Forest Ecology class helped uncover mysteries of the past that have important implications for forestry and history, thanks to a partnership between Virginia Tech's College of Natural Resources and Environment and the Virginia Department of Historic Resources.

In the winter of 2016, two historic structures, a kitchen and a slave dwelling located on the site of Greenfield Plantation near Fincastle, were moved from their original locations to a new site approximately 3,500 feet away An opportunity to learn more about the structures and history came when the contractor discovered some of the lower logs were too deteriorated to survive the move.

According to Mike Pulice, an architectural historian with the Virginia Department of Historic Resources, log structures are often difficult to date because most were built using the same techniques for hundreds of years and dendrochronology (treering dating) is an absolute tool to precisely determine when a structure was built.

Originally believing the structures were built in the 1830s, dendrochronolgy work done by Copenheaver and her students helped pinpoint that the kitchen was built in late 1844 or



Tree-ring dating found that this slave dwelling at Greenfield Plantation near Fincastle, Virginia, was built later than originally believed. Photo by Mike Pulice, Virginia Department of Historic Resources.

early 1845, and the slave quarters were built in 1864.

Copenheaver said, "The cabins are what we call a 'floating chronology.' We don't know where they fit in time. But by looking at the treering patterns, we can match them with trees that have already been dated."

Copenheaver and her team sanded the log samples, which are roughly the size of a milkshake straw, until they could clearly see the tree's annual growth rings. From there, they ran the tree-ring measurements through a software program that compared the ring patterns against other samples to determine their exact age.

According to Copenheaver, the tree rings from the log structures tell the story of European settlement in the area.

There were two waves of European settlement," she said. "When settlers arrived in the area in the late 1730s and 1740s, they cleared the forests to create agricultural land. Then, when the settlers were pushed back eastward during the French and Indian War, that agricultural land was abandoned and actually reforested."

Westward European settlement resumed after the French and Indian War ended in 1763. More trees were felled to build villages, and, with more space and access to sunlight, the trees that were left standing experienced an increase in growth.

"We can see all of this activity reflected in the tree-ring records," Copenheaver said.

## Highlights: Teaching - Research - Extension

**Alumnus Discovers Invasive Insect on Campus** 



Michael Webb

**Michael Webb** (B.S. Forestry '16) made a discovery in 2016 that helped Virginia Tech's building maintenance and grounds unit take action and save as many as 30 threatened trees. Webb found several infestations of the invasive emerald ash borer, which has been chewing its way through North American ash trees.

First discovered in the Great Lakes region in 2002, the pest has killed millions of trees and spread to more than 30 states and provinces. The culprit is an invasive beetle about as big as a thumbnail.

Webb began working as a plant health care specialist for Bartlett Tree Experts in Roanoke even before completing his forestry

degree in May 2016. He found his first emerald ash borer infestation on a job in Roanoke, prompting him to inspect ash trees throughout the area. When he found infestations on trees near Norris Hall and Cheatham Hall on Virginia Tech's campus, he contacted his advisor, **Eric Wiseman**, for advice. Wiseman directed him to the university's Insect Identification Lab to confirm the find and passed the information to Virginia Tech's Facilities Department.

"The criteria for removal was more than 25 percent crown loss, as this is effectively the point of no return," James Bock, a plant health care specialist with Virginia Tech's building maintenance and grounds unit in the Facilities Department, said. "Unfortunately, this is not a pest that can be treated one time to solve the problem; preventing future infestations requires annual or biennial treatments for the foreseeable future. The final number of trees to be preserved long term is approximately 30, and these are of varying species, age, and size."

When it comes to the protection of ash trees, Webb and Bock emphasize the importance of catching the borer early on, as preventative treatments are far more effective than restorative ones. Thanks to Webb's identification of the borer on campus, many trees will be saved.

Despite Webb's efforts and the university's prompt response, 35 ash trees were already beyond help and had to be removed. Fortunately, the number and diversity of trees on campus means that Virginia Tech's overall landscape is not significantly affected. Approximately 30 remaining ash trees were treated and will be closely monitored to ensure their long-term survival.

For more information on the emerald ash borer, refer to the Virginia Cooperative Extension publication ENTO-76NP, "Emerald Ash Borer Control for Foresters and Landowners."

## Spotlight: Faculty - Staff - Students

The year 2017 marks the 25th anniversary of the establishment of the College of Natural Resources and Environment, although the college's roots date back to the 1930s. Join us September 15-16 to visit campus and reconnect with alumni, faculty, staff, and friends.

The schedule of events and registration for our signature celebration to mark this milestone as well as to honor the college's history and evolution can be found at https://cnre.vt.edu/events/25years/. Events include tours and field trips, family-friendly activities at the Duck Pond, a memorabilia display at Cheatham Hall, and social events on Friday and Saturday evening.



#### **Green Receives Scholarship from Forest Landowner Foundation**



Corey Green

The Forest Landowner Foundation annually recognizes high-potential students by awarding scholarships to selected individuals pursuing an undergraduate or graduate degree in forestry. These scholarships require high academic standing, demonstrated leadership, and an interest in working with private, non-industrial landowners.

**Patrick Corey Green**, a Ph.D. student in forest biometrics, was awarded a 2017 Forest Landowner Foundation Scholarship at the Annual Convention of the Forest Landowners Association held in Asheville, North Carolina, in May.

Green entered Virginia Tech's graduate program in forest biometrics in August 2016 after completing B.S. and M.S. degrees at the University of Georgia and gaining two years of work experience as an analyst with a forestry-consulting firm. He is an Eagle Scout, certified wildland firefighter, recipient of numerous academic awards, and a leader within the graduate student body.

#### Whitmore Awarded 2017 H.E. Burkhart Outstanding Masters Student Award

On April 12, **Kriddie Whitmore** was awarded FREC's H. E. Burkhart Outstanding Master's Student Award This award honors Burkhart's years of dedicated graduate student research and mentoring.

The award is presented to four Master's program students, one in each of the academic departments of the college, and is based on academic, scientific, and professional achievement. From among these four students, an overall award is presented at the college level.

Whitmore's research focuses on the effects of anthropogenic disturbances such as coal mining on stream ecology and water quality. Her Master's project focused on selenium dynamics in headwater stream ecosystems.



Kriddie Whitmore



#### **Promotions and Tenures**

**Mike Sorice** has been promoted to the rank of associate professor with tenure. He joined the department in August 2011 as an assistant professor in outdoor recreation and human dimensions.

Sorice received his Ph.D. in 2008 from the Department of Wildlife & Fisheries Sciences at Texas A&M University and worked as a post-doctoral research associate in Texas A&M's Department of Ecosystem Science & Management from 2008 to 2011.



Mike Sorice

#### **Wiseman Receives Awards**



**Eric Wiseman** received the Outstanding Service Award from the Virginia Tech Program in Real Estate for serving on the program's steering committee from its inception in 2010 to 2017. He served as the representative of the College of Natural Resources and Environment on the committee and concluded his service in May 2017.

Wiseman also received an award for a poster submission in the Virginia Cooperative Extension 2017 Showcasing Scholarship Poster Contest. He and his co-author (post-doctoral scholar Won Hwang) won second place in the Applied Research category. Their poster title was "Optimizing Landscape Tree Placement to Conserve Energy for Heating and Cooling Residential Structures."

#### Timpano Presented 2017 Karen P. DePauw Outstanding Interdisciplinary Presentation Award

The 2017 Karen P. DePauw Outstanding Interdisciplinary Presentation Award was presented to **Tony Timpano** at the Interfaces of Global Change (IGC) Graduate Research Symposium. He spoke on the effects of coal mining on freshwater salinization and aquatic insect diversity. This year's annual symposium was held on April 21and provides an opportunity for IGC Fellows to share their research with the entire global change community at Virginia Tech.



#### Jaishanker Wins Runner-Up at the RVA Environmental Film Fest Awards



**Priya Jaishanker** was a runner-up at the Seventh RVA Environmental Film Fest (RVA EFF) awards. Her film, "Mission RareQuest," which showcases valuable field work and citizen science done by the

Virginia Natural Heritage Program in the setting of the beautiful Shenandoah Valley, was screened at the Byrd Theatre in Richmond on February 12. A \$100 prize accompanied the award.

Jaishanker is an extension media assistant within the department of FREC.



#### Marion Named 2017 Recipient of Philmont Staff Association (PSA) Distinguished Staff Alumni Award

For more than 30 years, **Jeff Marion** has led research projects throughout the U.S. and in several foreign countries assessing impacts to campsites, parks, trails, and cliffs from recreational use by humans, and the effectiveness of educational and management actions to minimize those impacts. He is the author of more than 150 academic and scientific articles in the field of recreation ecology.

Marion not only assesses impacts on the environment, but he researches, writes, and teaches about ways to lessen that impact and preserve recreational sites for future generations. He has made a huge impact as one of the founders and key advocates of Leave No Trace (LNT) in the U.S. and around the world. As a founding member of the Leave No Trace Center for Outdoor Ethics Board of



Jeff Marion

Directors (representing science) in 1994, Marion remains deeply committed to the organization and its mission to promote and inspire responsible outdoor recreation. In 2014, he authored Leave No Trace in the Outdoors, the definitive guide to Leave No Trace principles that is endorsed by the National Park Service, U.S. Forest Service, U.S. Geological Survey, U.S. Fish and Wildlife Service, and the Bureau of Land Management.

Nowhere have those LNT footprints been bigger or more pronounced than in scouting. Marion almost singlehandedly brought the principles and teachings of LNT into the scouting program. As a member of the Boy Scouts of America (BSA) Fieldbook Task Force from 2001-2003 and again in 2012-2014, he provided guidance for the Fieldbook's numerous sections on LNT and made sure that its content was fully consistent with LNT practices. He was a founding member of BSA's Leave No Trace (now Outdoor Ethics) Task Force in 2006 and was instrumental in enabling the BSA to become a master course provider for LNT.

The PSA's Distinguished Staff Alumni Award is presented annually to a current or former Philmont staff member to recognize "distinguished or exceptional personal success or achievement on a national or international level that brings honor and credit to the legacy of the Philmont staff."





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## Spotlight: Faculty - Staff - Students

#### **Russell Receives Award for Outstanding Graduate Student Presentation**



**Edward Russell** (Ph.D. student working with advisor John Seiler) received an award at the 19th **Biennial Southern** Silvicultural Research Conference (BSSRC) held at The Inn at Virginia Tech in March. The award was one of four given for outstanding graduate student presentations.

Russell's presentation



Loblolly pine water status is affected by combined intensive management and summer water limitations expected in Virginia due to our changing climate

focused on how loblolly pine water status is affected by combined intensive management and summer water limitations expected in Virginia due to our changing climate. His findings suggest that fertilizer use is not likely to lead toand other leaf and root level physiological traits in significant tree mortality in the Virginia Piedmont over response to drought and fertilizer usage. the next 80 years. Russell's Ph.D. work is in the areas

of woody plant physiology and ecological climatology. He has also done research characterizing how partial root-zone drying affects sap flow in loblolly pine, as well as work characterizing hydraulic, photosynthetic,

#### **Bukowski Receives Award**



**Catherine Bukowski** was one of four doctoral program students, one in each of the college's departments, who have displayed outstanding academic, scientific, and professional leadership. She was recognized at the

Graduate Education Week awards banquet on March 30 as she received the AB. Massey Award.

Alumni and friends established this award in 1965 to honor the outstanding contributions of Professor A.B. Massey.

#### **Derwin Receives Award**

**Jill Derwin** was presented the Outstanding **Teaching Assistant** award for FREC.

The award is presented to recognize the graduate student within each department of the college who has



demonstrated excellence as a teaching assistant and significantly contributed to the instructional program within the department.



#### 2017 FREC Spring Seminar Series

We had another successful FREC Spring Seminar series this year! The Forestry Graduate Student Association teamed up with the Graduate Advisory Council to bring in five outside speakers from diverse backgrounds ranging from industry to policy to science. We also had a great showing from our graduate students and post-docs who shared the latest and greatest from their research. We want to thank everyone who participated this year for contributing to spreading understanding among students and faculty and for generating excellent discussions. We look forward to having a repeat success in Spring 2018!

FREC Spring 2017 Graduates! Ethan Barker Ruba Bilal Ranijith Gopalakrishnan Brittany Hoffman Matthew House

Katelyn Kast

**Kristin McElligott** 

**Charles Neaves III** 

Mame Sarr

**Morgan Schulte** 

#### Welcome New Graduate Students!

Liberty Brigner

Peter Meadema





#### FREC Alumni and Former Forestry Dean Inducted into Arkansas Foresters Hall of Fame



**Richard Kluender** (B.S. 66, M.F. 71, Ph.D.'83 forestry), retired dean of the School of Forestry and Natural Resources at the University of Arkansas at Monticello (UAM) was inducted into the Arkansas Foresters Hall

of Fame by the Arkansas Division of the Ouachita Society of American Foresters. The Arkansas Foresters Hall of Fame is housed in the Forest Resources Complex on the UAM campus.

Kluender joined the UAM faculty in 1984 as an assistant professor and researcher in forest economics and operations. In 2000, he became dean of the UAM School of Forest Resources and served as director of the AFRC until his retirement in 2010.



#### FREC Alumni Jeff and Bonnie Matthews: Where Are They Now?



Since graduating from Virginia Tech, **Jeff Matthews** (B.S. '02 silviculture and M.S. '04 forest resource management) and wife, **Bonnie Matthews** (M.S. '05 silviculture) have been busy! Since leaving the department, both have been involved in many things.

Jeff has worked as a forester trainee in Eatonton, GA, district silviculturist in Heflin, AL, zone silviculturist/ timber management assistant/roads program manager in Covington, VA, regional trust funds manager in Milwaukee, WI, timber program manager in Salt Lake City, UT, and most recently, a regional silviculturist, Southern Region, Atlanta, GA.

Bonnie has also worked in several capacities including teaching middle school at a small private school in Georgia, office assistant with A.G. Edwards, wildland fire dispatcher in Bozeman, MT, office assistant/ dispatcher/fire fighter in Talladega, AL, conference assistant in Lexington, VA, and most recently, fire dispatcher and home schooling their children.

Jeff and Bonnie have four children: Caleb, 8, Wyatt, 6, Zac, 5, and Hannah, 4. They adopted three of their four children, two from China.

When not working on home renovation projects, they spend lots of time camping and traveling the country to see new places. They enjoy home schooling their children and being able to take school with them wherever they travel.

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