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# School of Forestry & Wildlife Sciences

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## Academics & Learning

# A Bird's-eye View of a Shrinking Habitat

Natural Resources Management students tour coastal Louisiana marshes

Seeing is believing, and for many students, it can also be life changing.

For Tarah Vick, a School of Forestry and Wildlife Sciences' natural resources management student, a recent trip to a Louisiana-coastal community proved to be just that.

This January, Vick joined other student members of the Society of Natural Resources club for a field trip to Cocodrie, Louisiana, to see firsthand the devastating effects of marsh loss and erosion along the Louisiana coast.

Cocodrie is located approximately 60 miles Southwest of New Orleans deep within the Mississippi Deltaic Plain (MDP). The MDP is an extensive network of marshes, barrier islands, open water, and low upland ridges that have developed from the historic deposition of sediments from the Mississippi and Atchafalaya Rivers.

Because of its size—approximately 9,600 square miles—the MDP is a tremendous natural resource of international significance. The marshes and waterways sustain habitat for a wide array of fish and aquatic organisms, including shrimp, blue crabs, and fin fish, that are important for commercial and recreational fisheries, an approximately \$2.4 billion seafood industry for Louisiana.

The Society for Natural Resources arranged the trip to Louisiana with the help of Richard Hall, an adjunct professor in the school, following a discussion about the oil and gas installations in the Gulf of Mexico during the club's meeting last November.

Inspired to learn more about the specific impacts of the oil and gas industry, in particular the implications of the significant coastal erosion and saltwater incursion along the Louisiana coast, the group began planning.

Working with Hall, the students organized and managed the details of planning the trip, including travel, activities, and lodging. For the visit, Hall suggested the Trade Winds Marina and Lodge as their basecamp. From there, they would tour the coastline by charter boat and helicopter; returning after the day's journey to enjoy the



Era Helicopter staff and pilots toured their operations with students and shared details of the company's business and transport operations, as well as their search and rescue operations and emerging unmanned aerial systems division.

local culture with fresh caught seafood and music befitting the Louisiana bayou.

For Hall, the students' efforts were an inspiration and source of pride. "They represented themselves and Auburn so well," he said. "I can say this with all sincerity; the students really do want to make a difference and their passion and enthusiasm was clear throughout the entire planning process and trip."

*Continued on Pg. 2*



Students were able to do some fishing along the route. A highlight for many was catching a few of the abundant redfish and black drum found in the world-renowned fishery.

**"I now know wholeheartedly that I am on the right career path and can make a difference, not only within the environment, but within communities as well".**

– Tarah Vick

## Contact Us

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## A Message from the Dean

Dear Alumni and Friends:

As you will see within the 2016 Annual Report, the School of Forestry and Wildlife Sciences' academic programs are strong and well positioned to attract new students with diverse goals and interests related to forestry, wildlife sciences, natural resources management, and geospatial technologies, in addition to two new exciting and strategic interdisciplinary undergraduate degree proposals—Sustainable Biomaterials and Packaging and Wildlife Enterprise Management—that are making their way to the University Curriculum Committee for approval, with enrollment anticipated to begin in Fall 2018.

Our research program is vibrant and diverse. The school's world-class faculty members are studying topics ranging from wildlife conservation to ecological modeling to biomass delivery systems. They continue to be highly productive in their grant pursuits and publishing, and influential in shaping natural resource policy and business development.

We continue to surpass our development goals and are now entering the second phase of the *Because This Is Auburn – A Campaign for Auburn University*, where we will now focus our efforts on faculty and facilities support. With the assistance of Auburn University, our donors, and the judicious use of funds by our staff, significant improvements have already been made both to the Kreher Preserve and Nature Center and the Solon Dixon Forestry Education Center for the use of faculty, students, and the community.

Finally, with our increased marketing and communications efforts, we are evolving our thrice-annual newsletter to share the breadth of our activities with you, redesigning our website to better support our programs, creating new materials to showcase our degrees, and promoting the scholarly achievements of our faculty and students through news and social media. As always, we invite your feedback and involvement. Please contact us should you have any questions or comments regarding the annual report.

War Eagle!

Best regards,

A handwritten signature in blue ink, reading "A. Alavalapati".

Dean Janaki R.R. Alavalapati

## Academics & Learning

*Continued from Pg. 1*

During the first outing of the weekend, the group traveled to the barrier islands south of Cocodrie, through marsh areas and across the Terrabonne Bay, stopping along the way for some fishing and interpretation from Chris Anderson, SFWS associate professor of wetland ecology.

"Because of its tremendous value as a fishery, the MDP is critical to the economy and the culture of Southern Louisiana," stated Anderson. "The region also provides an important physical buffer between the Gulf of Mexico and large urban centers like New Orleans during hurricanes and tropical storms."

The coastal wetlands have been shown to reduce the energy of waves and associated damages further inland. The marshes also represent critical habitat for millions of over-wintering migratory birds.

Unfortunately, the marshlands of coastal Louisiana are quickly disappearing. Annual loss of the wetlands has averaged about 30 square miles per year. Substantial change to the MDP caused by humans has played a large role in these losses and is exacerbated by rising

sea levels in the Gulf of Mexico.

Given the current trajectory, natural resource management students may find themselves dealing with these kinds of issues in their own professions. "There are so many challenges facing coastal areas throughout the world. Natural resource professionals will play an important role in managing these areas and developing strategies to slow the impacts to coastal areas and the communities dependent on them," noted Anderson.

"Being able to see the marshland from this perspective truly gave us an appreciation of the damage that had been done over the years," said natural resources management student Cayde Thomas. "As someone who is interested in wetland restoration, I found the trip to be quite relevant to my field and the career I want to pursue."

While on the boat tour, the students took the opportunity to discuss with the fishing guides how the changes to the MDP had influenced their own lives and communities. Their testimonies gave the students a better understanding of the consequences of environmental impacts to the area's economy and culture.



The students were also able to view the same barrier islands via helicopter, as well as oil and gas installations in the open water beyond the barrier islands. The aerial view of the extensive wetlands, marshes, and other aquatic ecosystems was a striking demonstration of the effects of human activity.

**“Being able to see the coastal landscape from a helicopter was amazing and really puts into perspective the amount of impact humans can have on the environment”.**

– Dana Higgins

The takeaway from the trip is valuable not only for the students, but the faculty who will leverage this opportunity within the classroom, as they go deeper into the complex issues facing society to effectively balance the use of natural resources with the need to protect our environment.

“This experience will significantly enhance my capacity to work with students in the fields of environmental law and natural resource finance and investment,” said Hall. “I would expect that the trip also supported Dr. Anderson’s research



*The group toured the oil and gas operations beyond the barrier islands and the extensive wetlands, marshes, and other aquatic ecosystems.*

initiatives and offered new perspectives to help with student instruction.”

“In a textbook or lab, we can teach students the mechanics of water quality, erosion, or salt water intrusion, but experiencing it for themselves, where the damage can be seen so vividly, provides a tangible perspective of the scale and magnitude of the impact that is difficult

to convey in the classroom,” added Anderson. “We are fortunate to have instructors at SFWS such as Richard Hall who take such an interest in our students to arrange a fantastic trip such as this.”





# SFWS re-accredited by the Society of American Foresters



Programmatic accreditation is a non-governmental, voluntary, peer-review process that assures the quality of the postsecondary

education students receive. Accreditation is not a ranking system; it is simply assurance that a degree program meets quality standards established by the profession. The Society of American Foresters (SAF) accreditation applies to degree programs only, not departments, colleges, institutions, or individuals. Institutions like the SFWS choose SAF accreditation because it offers several

benefits, such as peer-review, recognition of the program's commitment to quality, and practical insights from the working professionals who review the programs. SAF is responsible for the accreditation of postsecondary degree-granting programs in forestry, urban forestry, natural resources and ecosystem management, and forest technology. When a degree program becomes SAF-accredited, it demonstrates to students, parents, and employers that the program:

- Participates in a structured process to assess, evaluate, and improve quality.
- Involves faculty, staff, and students in the self-assessment and continuous improvement process.

- Focuses on learning outcomes.
- Produces graduates who are well prepared for the profession.
- Meets education standards for registration, licensing, and certification boards.

With the self-study initiated in Fall 2015, a site visit in Spring 2016 and final review in November at the annual SAF Convention, the SAF Committee on Accreditation approved the SFWS forestry-based degrees for accreditation in early 2017, which is valid through December 31, 2026.

## Fall Graduation

SFWS hosted its graduation reception Friday, December 9, where parents, students, faculty, and staff celebrated the commencement of doctoral students Gifty Acquah and Hamed Majidzadeh, as well as undergraduate students, including Jack Bryan, Tyler Givens, Jack Hinton, Forrest Ousley, Robert St. Clair, Justin Waters, Alexander Beaver, Elizabeth Hall, Ethan Hayes, Landon Johnson, Jared Knight, Kasie Mobley, Tyler Shirley, Jessica Blain, Megan Piper, Jordan Gandy, and Brandon Patterson. Please join us in wishing our graduates much success in their future endeavors!



# Wildlife Sciences student Seth Rankins nominated for Barry M. Goldwater Scholarship for his research on white-tailed deer



Seth Rankins, a School of Forestry and Wildlife Sciences wildlife ecology and management student, from Cusseta, Alabama, was one of four Auburn University students nominated for the Barry M.

Goldwater Scholarship.

The prestigious Goldwater Scholarship Program was established to provide scholarships to outstanding students who intend to pursue careers in mathematics, the natural sciences, or engineering.

In awarding scholarships, the foundation of trustees considers the nominee's field of study and career objectives, along with the extent to which that individual has the commitment and potential to make a significant contribution to the field of science or engineering.

SFWS Professor Stephen Ditchkoff nominated Rankins in recognition of his outstanding commitment to his research with the school's Deer Lab.

With the guidance of the Deer Lab research team, Rankin's research project was designed to analyze the feeding patterns of white-tailed deer at baited sites, and examine whether sex or age may influence the time that individual deer spend at these sites. Because baited sites are the foundation for camera surveys that are used for estimating population parameters of white-tailed deer, these data have the potential to highlight biases and study design flaws that could undermine the validity of camera surveys.

Rankins has presented his findings at the annual meeting of the Southeastern Association of Fish and Wildlife Agencies. The manuscript that was developed using the same data, where Rankins is listed as second author, was recently accepted for

publication by the *Journal of the Southeastern Association of Fish and Wildlife Agencies*.

"Without question, it is a rare individual that is informed of acceptance of his first publication in a peer-reviewed outlet during the fall of his junior year," stated Ditchkoff. "Given his intellectual ability, work ethic, and problem-solving skills, Seth has no ceiling regarding what he could accomplish in the future."

More recently, Rankins has begun working with both Ditchkoff and SFWS Assistant Professor Sarah Zohdy to study tick-borne diseases in white-tailed deer. This research includes extracting genomic DNA from over 200 white-tailed deer from a marked population of deer at the Deer Lab in an effort to quickly diagnose anaplasmosis and erlichiosis and prevent its spread.

If awarded, Rankins will receive up to \$7,500 annually for undergraduate tuition, fees, books, and housing.



Daniel Crawford '07  
Alabama Outstanding Young  
Forester of the Year

## Faculty, students, and alumni receive honors at the 2017 Southeast Society of American Foresters meeting

The Southeastern Society of American Foresters recently held its annual meeting and awards banquet at the Sandestin Golf and Beach Resort in Miramar Beach, Florida. The event is held as an opportunity for professional foresters from Alabama, Florida, and Georgia to gather for networking and information sharing with their peers.

This year's topic, "Sustaining Southeastern Forestry—Healthy Forests, Markets, and Policy," was the theme industry and academic speakers were invited to address regarding the significant economic, environmental, and policy issues affecting the long-term viability of forests and forestry in the Southeast.

During the awards banquet, several School of Forestry and Wildlife Sciences faculty and students were honored. Professors **Mathew Smidt** and **Daowei Zhang** were recognized as SESAF Fellows for their outstanding contributions and service to the society and profession. SFWS Research Associate and Instructor **John Kush** was inducted into the Alabama Foresters Hall of Fame for his significant research and teaching accomplishments, as well as his lifetime work advancing the silvics of longleaf pine.

The meeting also featured an oral and poster session for graduate students to share and present their work among peers. During the session, three SFWS students received awards, including master's student **Andrea Cole Wahl** (major Professor Lori Eckhardt), who won as Best Oral Presenter for her presentation, "The effect of siren woodwasps on forest health in Alabama."

Forestry doctoral student **Gifty Acquah** (major Professor Brian Via) was awarded first place for her poster presentation, "Rapid assessment of forest biomass for biofuel applications: A comparative study of three analytical tools." Master's student **Rafael Santiago** (major Professor Tom Gallagher) was awarded second place for his poster presentation, "Coppicing evaluation of short rotation woody crops in the Southeast US to determine appropriate harvesting methods."

SFWS Alumnus **Daniel Crawford '07** was named the Alabama Outstanding Young Forester of the Year. Fellow alumnus Ben Whitaker '07 nominated Crawford for the award. Crawford has been an active member of the SAF since 2005 and currently works as international portfolio manager for Resource Management Services in Birmingham, Alabama. Both Crawford and Whitaker are charter members of the SFWS Compass Circle Young Alumni Society, a giving program established in 2016 as a means to connect young alumni with the school and current students.



L-R: Dean Janaki Alavalapati, Professor Tom Gallagher, Associate Professor Brian Via.

## Regions Bank Establishes Endowed Professorship

Two professors in the School of Forestry and Wildlife Sciences at Auburn University are the first to receive new endowed professorships established by Regions Financial Corporation.

Associate Professor Brian Via is the Regions Professor in Forest Products and Professor Tom Gallagher is the Regions Professor in Forest Operations, Utilization, Management, and Economics.

The recently designated professorships will be awarded every five years to associate or full professors who demonstrate a strong commitment to students and the provision of high quality instruction, research, and service.

Both accomplished researchers, Via's research focuses on forest product development from either bioenergy and/or bio-based processes, while Gallagher specializes in industrial forestry, timber harvesting, and transportation of forest biomass.

As a major owner and manager of forest land in Alabama, Regions has a vested interest in maintaining a robust forest products industry, which contributes more than \$15 billion annually to the state's economy. With the creation of the professorships, Regions has partnered with the School of

Forestry and Wildlife Sciences to ensure that the forest industry continues to be developed through strong research and education programs at Auburn.

"Staying on the leading edge is important to the thousands of private forest landowners in Alabama," said Don Heath, Regions senior vice president of natural resources and real estate. "Having an exemplary academic program at Auburn University can help us achieve and maintain that leading edge in forest products development."

The Regions professorships are designed to strengthen and enhance the university's programs through the quality of the faculty members' work and their ability to serve as positive role models for their colleagues and students. They must have a record of distinguished academic or professional work in their field of study in comparison to their colleagues at peer institutions.

"Our faculty members are cutting edge in terms of forestry enterprise and product innovation," said School of Forestry and Wildlife Sciences Dean Janaki Alavalapati. "In addition to this important research, our efforts to develop leaders to serve these industries will assure the sustainability and growth of Alabama's economy, both in timber sales and employment."





*Shown with Margaret Holler, center, during a recent program held at the KPNC are its Outreach Administrator Jennifer Lolley, left, and SFWS Development Coordinator Sharon Tatum, right.*

# Planting the Seeds for a Lasting Legacy

Permanent endowment for Auburn's Kreher Preserve and Nature Center created in honor of the late Nicholas Holler

A recently established permanent endowment and estate gift by Margaret Holler of Auburn will benefit the operations and community programs of SFWS' Louise Kreher Forest Ecology Preserve, also known as the Kreher Preserve and Nature Center, or KPNC. Equally important, it honors the devotion to conservation and environmental education demonstrated by her late husband, Nicholas "Nick" Holler.

Since 1993, the Kreher Preserve and Nature Center has provided the community with an outdoor preserve—complete with five miles of hiking trails, an amphitheater, a pavilion,

**"Nature provides us with a classroom full of interesting and wonder-filled learning experiences".**

— Margaret Holler

and a nature playground—open from sunrise to sunset with no admission fees. Now one of the area's most popular nature destinations, the preserve attracts more than 30,000 visitors annually and provides educational programs for nearly 5,000 K-12 students and 3,000 residents each year.

Margaret Holler's passion for the KPNC has spanned nearly 15 years, leading her to serve as its first staff administrator from 2001-08 and since 2008 as a volunteer. Together, the Hollers helped establish the vision for the preserve and have worked diligently to transform it from a fledgling nature center into the regionally recognized educational resource and environmental laboratory it is today. Nick Holler's contributions to the Kreher Preserve included creating a species inventory of birds and butterflies found at the property, as well as its annual 5K Trail Run, now in its 17th year.

A beloved faculty member, community leader, and Auburn resident, Nick Holler was a wildlife biologist for the US Fish and Wildlife

Service from 1970-93, as well as unit leader of Auburn's Alabama Cooperative Fish and Wildlife Research Unit and a professor of zoology and wildlife sciences from 1985-98. Upon his retirement from the School of Forestry and Wildlife Sciences as a professor emeritus in 1998, he accepted a ministerial calling and served as Auburn United Methodist Church's congregational care minister for 11 years. The Hollers had been married for 30 years when he passed away in 2013.

"My hope is the KPNC will continue to be a place where children, families, and all who visit will gain a better understanding through their experiences of the unlimited and inherent capacity nature has to teach and to heal. Learning to care for the earth, and all that inhabit it, and recognizing the many miracles we can experience every day will, I believe, bring about a more peaceful and caring society and world," Margaret Holler said.

The legacy the Hollers established together through their service to KPNC endures through this endowment and Margaret Holler's continued leadership on its advisory board. A former Montessori teacher, she is an acclaimed environmental educator herself, having received many awards, including the prestigious Governor's Conservation Achievement Award as the Alabama Wildlife Federation's Conservation Educator of the Year in 2005.

As an endowment, Margaret Holler's original donation will remain intact and unspent in perpetuity, with the earnings on this invested principal distributed annually to fund the preserve's operations and community programming. Additional contributions to honor Nick Holler and expand the impact of the Nicholas R. Holler and Margaret E. Holler Endowment can be made to the Auburn University Foundation by contacting the School of Forestry and Wildlife Sciences Development Office at 334-844-1983, [sfwsdevelopment@auburn.edu](mailto:sfwsdevelopment@auburn.edu), or by giving online at [www.auburn.edu/giving](http://www.auburn.edu/giving).



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# Glovers' Gift Gives Faculty a Boost

Glenn and Flavin Glover establish Fund for Excellence to support faculty development

Glenn and Flavin Glover, both 1973 graduates, recently created the Faculty Enhancement Endowed Fund for Excellence in the School of Forestry and Wildlife Sciences. The fund will be used to advance and enrich individual faculty member's careers, particularly junior faculty, by supporting activities, such as travel to professional or scientific meetings, summer research, grant support, research, teaching or extension publications, and software, as well as equipment or other needs and activities that will advance the faculty member's profession.

Glenn Glover has experienced the school from every perspective: from undergraduate student, graduate student, and research associate, to

assistant, associate, and full professor. In addition to his research and extension appointments, Glenn Glover taught forest measurement and wood procurement courses. He also served as biometrician and director of the Auburn University Silvicultural Herbicide Cooperative, retiring in 2006 as professor emeritus.

Flavin Glover worked as an arts and crafts therapist, program director of adult day treatment, and director of clinic operations for East Alabama Mental Health Center from 1972 until her retirement in 1998.

"Over my 31-year career, I grew as the school grew and changed," said Glenn Glover. "In 1994, I volunteered as chairman of the school's building

committee to, in part, give back to the school for all that it had provided me over many years—two degrees, financial support while in school, and a rewarding career."

Understanding the struggle that faculty, particularly early in their careers, often have in developing their programs, the Glovers were inspired to develop an endowment that would support faculty enhancement.

"Our hope is that our contribution to the school will help faculty members establish and enhance their careers and become better faculty members as they serve the students, the university, and the people of Alabama," said Glenn Glover.





# Students Participate in Auburn's Three Minute Thesis Competition



Auburn University held its 2016 Three Minute Thesis (3MT) competition November 18 at the auditorium of The Hotel at Auburn University and Dixon Conference Center.

The finalists competing were the top competitors from a series of preliminaries held October 25–26. Of the 11 chosen, three School of Forestry and Wildlife Sciences graduate students competed, including

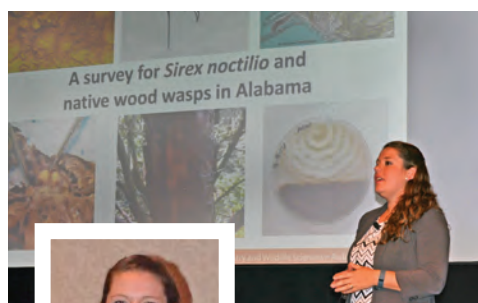
Andrea Cole-Wahl, Yecheng Xu, and Marissa Jo Daniel. Former SFWS doctoral student Hamed Majidzadeh also participated as an exhibition presenter with his research, Soil Carbon Dynamics Beneath Impervious Surfaces.

Three Minute Thesis is a research communication competition developed by the University of Queensland. The exercise challenges graduate students to present a compelling oration on their thesis or dissertation topic and its significance in just three minutes. 3MT develops academic, presentation, and research communication skills and supports the development of

research students' capacity to effectively explain their research in language appropriate to a non-specialist audience.

Auburn University's 3MT competition is held each fall. The top 10 students from preliminary rounds advance to the university-wide final and compete for cash prizes. Auburn's winner advances to the regional 3MT competition.

SFWS forestry graduate student Andrea Cole-Wahl was awarded the People's Choice; Drug Discovery and Development student Madison Chandler took first place; and Chemical Engineering student Yuan Tian was awarded second place.



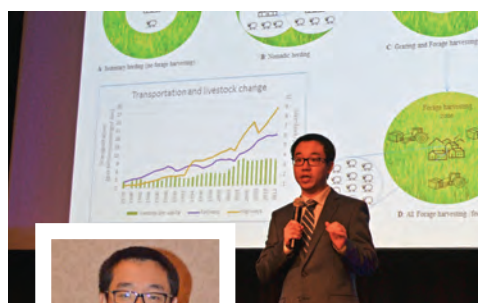
**Andrea Cole-Wahl**  
Forestry Graduate Student

*Major Professor:*  
Lori Eckhardt

## Could Sirex Woodwasps be a threat to Alabama Forest Health?

*Sirex noctilio* is a woodwasp that is an invasive pest that causes devastating economic losses in areas where it has been introduced. This pest was discovered in New York in 2004, and has since been moving South through natural and planted pine forests.

Cole-Wahl's thesis focuses on a survey to determine what woodwasps are in the State of Alabama, and how the wasps, along with their symbiotic fungi, would affect forest health in Southeastern pine stands. Cole-Wahl also studied how the associated fungus would compete with native fungi, and how the growth rates of these fungi would be affected by pines commonly found in the Southeast.



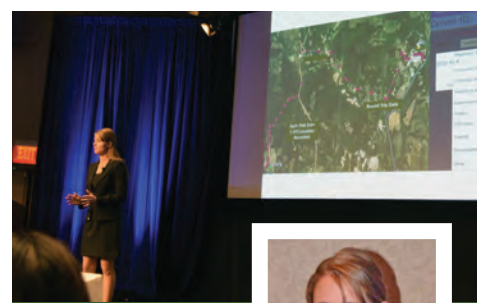
**Yecheng Xu**  
Forestry Economics & Management Graduate Student

*Major Professors:*  
Y. Zhung and M. Smidt

## Herders' Livelihood on Mongolia Plateau

Xu's thesis explored how the loss of mobility associated with nomadism in Inner Mongolia, now regarded as a major cause for grassland degradation, has impacted the vulnerability and resilience of this society. He chose Inner Mongolia as a case study to demonstrate how "new mobility" may change the sustainability of animal husbandry.

His research argues that mobility should be redefined with changing transportation. "Traditional nomadic life built upon mobility cannot possibly face the challenges of population increases or take advantage of new mobility, which has been generated by new technologies, emerging markets, and institutions," said Xu. "My research demonstrates how new mobility can make capital, labor, and livestock products more mobile and cost efficient to transport."



**Marissa Jo Daniel**  
Forest Operations Doctoral Candidate

*Major Professor:*  
Tom Gallagher

## Utilization of Phone Application Technology to Record Log Truck Movements in the Southeastern US

Daniel found that delays incurred by loggers hauling wood from the landing to the mill affect profitability and have the potential to make harvesting some areas unfeasible.

In order to accurately gather information concerning delay times at the mill, the landing, and during travel to and from each location, Daniel created a phone app that would record the driver's location using GPS, as well as an alert which allowed the driver to comment and record the reasons for any delays. From this app, Daniel was able to gather details in real time regarding the delays and as a result, was therefore better able to deduce economic efficiency.

Daniel's project was funded through the Wood Supply Research Institute. Her preliminary research was conducted in Alabama, Ohio, and South Carolina with intentions of expanding it to other portions of the United States.



# Tian named fellow of American Association for the Advancement of Science

School of Forestry and Wildlife Sciences Professor Hanqin Tian has been named a fellow of the American Association for the Advancement of Science (AAAS). The designation recognizes members for their distinguished contributions to innovation, education, and scientific leadership.

Tian serves as the Solon and Martha Dixon Endowed Professor and University Alumni Professor in the school and director of Auburn University's International Center for Climate and Global Change Research. The AAAS fellowship recognized Tian for his distinguished contributions to the field of global biogeochemical cycles, "particularly for pioneering work in quantifying human impact on biosphere-atmosphere exchanges of major greenhouse gases."

Tian's research focuses on understanding how global environmental changes affect the structure and function of Earth's ecosystem including global biogeochemical and hydrological cycles to provide a scientific basis for solutions to major environmental challenges facing humanity and society.

Tian and his team created a complex computer model of the land biosphere for the first time, which is capable of simulating and predicting the concurrent dynamics of three major greenhouse gases—carbon dioxide, methane, and nitrous oxide—across the Earth's land surface.

In a recent issue of the journal, *Nature*, Tian published an analysis of the net balance of three major greenhouse gases that revealed human-induced emissions of methane and nitrous oxide from ecosystems surpass the ability of land to absorb carbon dioxide emissions, making the terrestrial biosphere a contributor to climate change. This

landmark discovery has changed our understanding of how human activity contributes to global warming and is recognized by world science leaders in climate change research.

In addition to his published work in prestigious journals such as *Nature* and *Science*, Tian's research is regularly featured on television and radio and within various media and press publications throughout the world. His research findings were also included in the Assessment Reports of Intergovernmental Panel on Climate Change (IPCC) and the National Climate Assessment.

Recognized within the AAAS' section of Atmospheric and Hydrospheric Sciences, Tian is among 11 fellows selected for the honor in 2016. New fellows were presented an official certificate and gold and blue rosette pin, signifying science and engineering at the AAAS Fellows Forum during the 2017 AAAS annual meeting in Boston in February.

In addition to being recognized as an Auburn Alumni Professor and Solon and Martha Dixon Endowed Professor, Tian has received many prestigious research awards from Auburn, as well as the Global Change Science Prize from the Ye Duzheng Foundation. He was also recognized by the White House Office of Science and Technology Policy for his contributions to the US National Climate Assessment and was awarded the 2016 Faculty Achievement Award from Southeastern Conference member universities.

"This award is a feather in Dr. Tian's cap," said Janaki Alavalapati, dean of the School of Forestry and Wildlife Sciences. "Because of his outstanding expertise and vast experience in climate modeling, the School of Forestry and Wildlife Sciences is well poised to lead climate research at a national and global level."





# Interdisciplinary team seeks to use sustainable bio-oils to develop water-tolerant epoxies for exterior use of wood composite



*The addition of water to oriented strand board (OSB) is problematic because it causes irreversible swelling and this difficulty could be compounded if the wet adhesive strength/bond is not adequate. Wet OSB, left, and original OS, right, are pictured above.*

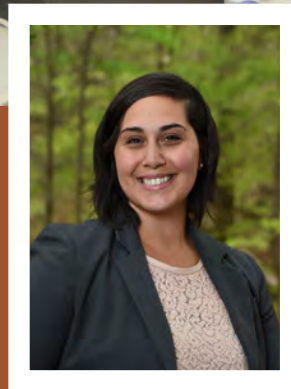
Auburn faculty from the School of Forestry and Wildlife Sciences, Samuel Ginn College of Engineering, and College of Agriculture were recently awarded a grant from the Agriculture and Food Research Initiative Foundation's National Institute of Food and Agriculture Bioprocessing and Bioengineering program to develop a practical method to utilize hydrothermal liquefied lignin (HTL) as a renewable phenol to improve crosslinking, or curing, of epoxy adhesives.

The research team proposes to utilize this bio-oil to bond with the wood substrate to avoid leaching and to make the overall composite more water resistant and thus increase its use and applications. The goal is to develop a water resistant wood composite that features improved mechanical properties suitable for engineered construction, particularly under wet conditions. Such an innovation would greatly increase revenues and potentially jobs since it would create another value-added product from wood for use with epoxies for exterior wood construction markets.

Epoxies are considered to be an excellent platform adhesive due to the large volume produced worldwide. However, their use is currently limited within the US wood structural market due to

susceptibility to water exposure in the wood composite. Adhesives that better respond to water or changing humidity conditions are necessary if epoxies are to be used for construction. It is believed that utilizing water-resistant or hydrophobic chemical compounds from bio-oil derived from the lignin of trees, a common waste material, would sustainably improve wood water resistance while reducing production costs. This will also serve to facilitate the expanded use of epoxies into new product areas to benefit the bio-energy sector whose cost structure is currently too expensive.

Biosystems Engineering Alumni Associate Professor Sushil Adhikari, Polymer and Fiber Engineering Associate Professor Maria L. Auad, and Regions Bank Professor and Director of Forest Products Development Center Brian Via, along with Maureen E. Puettmann of WoodLife Environmental Consultants, LLC, are proposing the use of low-value lignin waste material as a high-value chemical feedstock for epoxy adhesives. If the three-year study is successful, the research will yield a more sustainable, economical, faster curing, and hydrophobic epoxy adhesive for exterior wood composites.



## Zohdy pioneers new research to address vector disease in third-world countries

Assistant Professor Sarah Zohdy joined the Auburn University School of Forestry and Wildlife Sciences and College of Veterinary Medicine in 2015 as a disease ecologist. Her research is broadly focused on understanding what drives the movement of infectious agents between humans, animals, and the environment. At Auburn, she has launched several projects to better understand mosquito behavior and the ecological drivers of transmission dynamics.

Most recently, Zohdy has formed an interdisciplinary research collaboration with Stanford University Bio-Engineering Professor Manu Prakash to streamline the processes of mosquito and disease surveillance. With the assistance of several international agencies, they hope to discover what drives mosquitoes to sustain transmission cycles, how those infected individuals attract mosquitoes more readily than uninfected hosts, and whether infected mosquitoes exhibit unique behaviors that can be easily detected.

With this information, the team's ultimate goal is building capacity internationally to gain a more precise understanding of the ecological drivers of mosquito-borne disease in order to develop new cost-effective disease control strategies that have the potential to improve human health and wellbeing.





**Adam Maggard** joined the faculty as Extension Specialist and assistant professor of forest systems management in January. A Florida native, Maggard earned his undergraduate forestry resources and conservation degree and graduate business degree from the University of Florida and later, a master's and doctorate degree in natural resource ecology and management (forest resources) from Oklahoma State University in 2011 and 2016, respectively. Maggard's teaching will be focused on the education and promotion of the benefits associated with multi-use management and sustainable forestry practices. He will also lead extension programs focused on the financial and economic aspects of forest management and planning and optimizing the use of forest resources that will aid in improving the economic well-being of Alabamians.



**Todd Steury**, associate professor of wildlife ecology and conservation, has been selected to participate in the 2016–17 Southeastern Conference Academic Leadership Development Program (SEC ALDP). The SEC ALDP is part of SECU, the academic initiative of the Southeastern Conference, which seeks to identify, prepare, and advance academic leaders for roles within SEC institutions and beyond. The program's two components include a university-level development program designed by each individual institution and two three-day workshops for all SEC ALDP participants.

Steury is the incoming chair of the Auburn University Teaching Effectiveness Committee. His research focuses on the conservation of large carnivores, predator-prey relationships, and the detection of elusive wildlife. He is co-founder of Auburn University's EcoDogs program, which trains bomb detection dogs to find ecological targets. Steury has won numerous teaching awards and is widely cited in scientific articles and the press, including Fox News, Time.com, BBC.com, and Reuters.



### Fall 2016 Career Fair

The SFWS Career Fair, held on November 30, hosted nearly 50 employers from 20 US-based businesses and organizations. During the day-long event, current and prospective SFWS students took the opportunity to network with company representatives and participate in interviews with several groups. Also participating in the career fair were middle and high school students from Munford, Alabama, who came to learn about forestry, wildlife, and natural resources management careers.

### New Faculty & Staff

Please join us in welcoming new members of the faculty and staff:

**Jamie Anderson**  
communications and marketing specialist

**Yusuf Celikbag**  
post-doctoral researcher

**Daniel Chen**  
research fellow

**Adam Maggard**  
assistant professor and extension specialist

**George Matusick**  
research fellow

**Carolyn Moore**  
research assistant

**Matthew Oliver**  
wildlife program tech

**Dustyn Tyer**  
forestry tech (SDFEC)

### Fall 2016 Icebreaker

The School of Forestry and Wildlife Sciences Office of Student Services sponsored its annual Fall Ice Breaker at the Mary Olive Thomas Demonstration Forest. The students enjoyed a cookout, lawn games, and the opportunity to socialize with their fellow students, faculty, and staff. Aubie was also on hand to welcome new and returning students.





# First National Wild Pig Task Force meets in Florida



Management of invasive wild pigs has been a hot topic in recent years and has arguably become one of the greatest wildlife management challenges facing natural resource professionals. The damage these animals cause to forestry, agriculture, and natural resources throughout North America has been tremendous and is often measured in billions of dollars each year. Although many universities, states, and federal agencies have taken steps to resolve damage caused by wild pigs, there hasn't been any national-level leadership to formalize this effort until now.

Spearheaded by Mosley Environmental Associate Professor/Extension Specialist Mark Smith, the National Wild Pig Task Force (NWPTF) was established in 2016 to be a technical, scientific, and leadership alliance of federal, tribal, provincial, state, and private conservation partners working to control, reduce damage caused by, or in some instances eradicate, free-ranging populations of wild pigs in North America.

The goals of the NWPTF are to provide national leadership and a collective voice for science-based control, damage reduction, and/or eradication of wild pigs, while providing a

forum for the exchange of information among the natural resource management field and relevant stakeholder groups. The task force will also serve to identify knowledge gaps in the biology, ecology, and management of wild pigs, address specific resource concerns, policy and management issues, research priorities and outreach needs, and promote and facilitate the applied management of wild pigs to reduce damage.

Smith organized the group's first biennial meeting in Orange Beach, Alabama, in early March where nearly 70 natural resource professionals from across the United States attended. The meeting provided a venue for participants to learn about the latest effort to control wild pigs from across the country and the latest research developments. The NWPTF will meet during odd-numbered years whereas the group's flagship research and management meeting, the International Wild Pig Conference, will meet during even-numbered years. The next conference will be in Oklahoma City, Oklahoma, in 2018.



## Kreher Preserve Advisory Board names Dr. Emily Kling as its first chairperson

The Kreher Preserve and Nature Center recently named Dr. Emily B. Kling as chairperson to lead its 12-member volunteer advisory board. Kling's role will be to provide leadership and oversight for committees regarding strategic planning, fundraising, land and facilities management, and programs.

Kling, originally from Huntsville, Alabama, received a bachelor's in field biology from Principia College in Illinois, a master's in environmental education from the University of Michigan, and an EdD in higher education administration from Auburn University. She had a 30-year career in youth leadership, natural resources, and environmental education with the Cooperative Extension System on the county, state, and national levels in Kansas (Kansas State University), Chevy Chase, Maryland (National 4-H Council), and Alabama (Auburn University).

Since retiring from Auburn, Kling has been active with the Kreher Preserve and Nature Center as an instructor, volunteer, and now chairperson. Her other activities include being past president of Auburn University's Osher Lifelong Learning Institute Advisory Council; staff trainer and camp mom at Camp Dixie in Clayton, Georgia, where she was a camper and counselor in her youth; and volunteer for the Auburn University Alumni Association.





SCHOOL OF FORESTRY  
AND WILDLIFE SCIENCES

Auburn University School of Forestry and Wildlife Sciences' newsletter is distributed to alumni and friends of the school. Inquiries concerning the school and its programs should be directed to the School of Forestry and Wildlife Sciences Building, 602 Duncan Drive, Auburn, AL 36849. Inquiries and suggestions concerning the newsletter should be directed to the school's Office of Communications and Marketing at the above address or by email to [sfwscom@auburn.edu](mailto:sfwscom@auburn.edu).

Questions concerning the school's development program, including annual and corporate giving, planned gifts, and estate planning, should be directed to Heather Crozier, School of Forestry and Wildlife Sciences Building, 602 Duncan Drive, Auburn, AL 36849. Inquiries may also be made by email to [vannhea@auburn.edu](mailto:vannhea@auburn.edu) or by phone at (334) 844-2791.

## Upcoming Events

**KPNC Science on Saturdays**  
"Bogs", June 3

**KPNC Science on Saturdays**  
"Geology of AL", June 24

**SFWS Graduation**  
Ceremony, August 4

**Summer Graduation**  
Commencement, August 5

Auburn University  
School of Forestry & Wildlife Sciences  
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Auburn, AL 36849-0001

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## 2016 Alumni Events



## 2016 Alumni Events

(above) The School of Forestry and Wildlife Sciences hosted its annual Dean's Tailgate in November. Nearly 80 friends of the SFWS joined Dr. and Mrs. Janaki Alavalapati for the pre-game festivities. Pictured are Dean and Renuka Alavalapati with Linda Parker.

(top left) Auburn University School of Forestry and Wildlife Sciences Dean Alavalapati and Development Director Heather Crozier visited McShan Lumber Company in McShan, Alabama. The pair was treated to lunch where they were able to meet with local Auburn forestry grads and area landowners.

(bottom left) Guests enjoyed festivities at the annual Alumni Homecoming Barbeque with SFWS faculty, staff, and students.

