Southern University

Elevating Urban Forestry Education to New Heights

By Dr. Zhu Hua Ning, Department Chair, PhD Program Leader, and ANSWERS Institute Director, Southern University Department of Urban Forestry and Natural Resources

Photos Courtesy SU Urban Forestry & Natural Resources

The jaguar background used for this story is a nod to Southern University's longtime mascot.

The Department of Urban Forestry and Natural Resources at Southern University and A&M College (hereafter, SU) offers Bachelor of Science, Master of Science, and Doctor of Philosophy degree programs that are fully accredited by the Southern Association of Colleges and Schools. As such, our Department's programs offer the most comprehensive urban forestry higher education in the United States.

SU established the first Bachelor of Science in Urban Forestry degree program in the nation in 1992 with support from the USDA Forest Service and the Louisiana Board of Regents. The Master of Science program in Urban Forestry was approved in 1998, and the Urban Forestry PhD degree program launched in 2004. Every year since 2003 when the award was received, our Department has received funds via the "Department of Excellence through Faculty Excellence" award by the Louisiana Board of Regents. In 2015, SU honored our department with the Most Productive Department award. Our faculty members are nationally and internationally award-winning experts who provide the highest quality education and training for our graduates—and superb research to benefit our field at large. >>

Representatives of SU Urban Forestry alumni, students, employers, and administrators of the Department, College, and University are shown here with the Society of American Foresters Accreditation Site Review Team in early March 2020.

2020 Department Highlights

On March 1, 2020, a new leadership team was formed with Dr. Zhu Hua Ning as the Department Chair and the PhD Degree Program Leader, Dr. Kamran Abdollahi as the Bachelor Degree Program Leader, and Dr. Yadong Qi as the Master Degree Program Leader. To promote shared governance, the Department established an External Advisory Committee and nine departmental standing committees.

In December 2020, the Department reached a significant milestone in the history of SU as it became the nation's first Urban Forestry Bachelor Degree Program accredited by the Society of American Foresters (SAF). The SAF Accreditation is a form of quality assurance that declares to the professional community and to the world at large that SU's Urban Forestry Bachelor Degree Program meets the quality standards set by the profession.

In conjunction with the SAF Accreditation, in 2020 the Department conducted a comprehensive self-evaluation and assessment of all three-degree programs (B.S., M.S., and PhD) and prepared strategic plans for 2020-2025. The Department also established six specific program learning outcomes to enhance teaching and learning. To support student education, research skill training, and career readiness, faculty members secured $1.23 million in new external funding and initiated six new projects in 2020.

The teamwork among departmental faculty has yielded fantastic results in curriculum enhancement and broadening student career options. In November 2020, with Urban Forestry as a core/foundation, the Department created three new concentrations: Environmental Studies, Geospatial Technology, and Natural Resources Sustainability. These were approved by the University along with twelve new courses that are aligned with the current national trends and job markets.

To increase student enrollment and retention, our department developed and implemented recruitment and retention plans and in the fall of 2020, undergraduate enrollment increased by 25%. After a semester in the Introduction to Urban Forestry class, newly recruited freshman Kolin Bilbrew said, "The class is very interesting and contains a lot of information about management and planning. I also love that urban forestry can expand into other majors in a wide variety of ways." Freshman Massey Jones said, "I have been enjoying the learning experience, especially around the different uses of vegetation for architectural or engineering purposes for parks and greenways. The class assignments improved my observational skills, and I'm motivated to keep working and to become a better student."

The success of SU Urban Forestry alumni attests to the value of the Department and its degree programs at the national, regional, and state levels. In 2020, alumna Ms. Beattra Wilson was promoted to USDA Forest Service Assistant Director of Cooperative Forestry and National Lead for Urban and Community Forestry. Former Deputy Secretary of the Louisiana Department of Environmental Quality, Dr. Alexander Appeaning, is now SU System Vice President; Dr. Andra Johnson was selected as Associate Director of Penn State Extension; Dr. Ansel Rankins was appointed the Assistant Commissioner of the Louisiana Department of Agriculture and Forestry; Dr. RaHarold Lawson became the Director and Dr. Brian Watkins the Assistant Director of Park Operations for the Baton Rouge Recreation and Park Commission (BREC); and Dr. Paris Favorite was named Chair of the newly established Forensic Science Department at SU's New Orleans campus.

The Department is very proud of the 2020 Distinguished Alumni and Dr. Ning feels very fortunate for having been >>

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or visit the Department of Urban Forestry and Natural Resources website

Undergraduate Admission Information

Graduate Admission Information





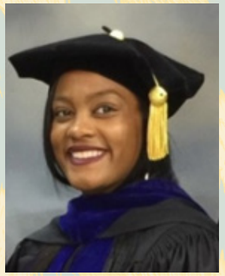



SU Urban Forestry faculty (left to right): Zhu Hua Ning–Professor, Department Chair, and PhD Degree Program Leader; Kamran Abdollahi–Professor and Bachelor Degree Program Leader; Yadong Qi–Professor and Master Degree Program Leader; Yemane Ghebreyessus–Professor; Yaw Twumasi–Associate Professor; Chris Chappell–Assistant Professor; Veronica Manrique–Assistant Professor; and Vanessa Ferchaud–Adjunct Faculty.

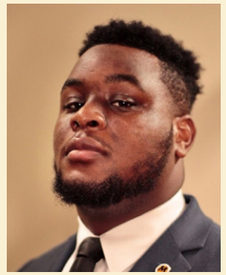








The 2020 Distinguished Urban Forestry Alumni (left to right) include Beattra Wilson, Alexander Appeaning, Andra Johnson, Ansel Rankins, RaHarold Lawson, Brian Watkins, and Paris Favorite.




Fall 2020 Leadership Apprentice Award recipients (from left to right): Jordan Davis, Aaliyah Royston, Nick Pryor, and Detrick White.

the doctoral advisor for Ansel, Ray, Brian, and Paris. The Urban Forestry PhD Degree Program produced numerous graduates who have taken on leadership positions and as such serve as excellent role models for our Bachelor and Master Degree students, including encouraging the latter to move forward with their education.

In the fall of 2020, the Department admitted eleven new Master Degree students, ten of whom were recruited thanks to the tireless efforts of Associate Professor Dr. Yaw Twumasi, who chairs the departmental admission and scholarship committee. Dr. Twumasi says, "Recognizing the need to increase the Master Degree student enrollment and the importance of students getting an advanced degree as a stepping stone toward PhD Degree matriculation, I was determined not to let COVID-19 interfere with recruitment." Master Program Leader Dr. Qi added, "I am especially excited about the opportunity that our Master degree program continues to provide to attract diverse students to SU to pursue high quality education and professional degrees."

With funding support from the USDA Forest Service, Dr. Ning created and implemented a Student Leadership Apprentice Program that launched in the fall of 2020. Four urban forestry students—Aaliyah Royston, Jordan Davis, Nick Pryor, and Detrick White—were selected as the first four Leadership Apprentices. Jordan is mentored

Urban Forestry Alumni Drs. Chappell (far left) and Johnson (center-left, in coat and tie) were invited to address students in the fall 2019 Introduction to Urban Forestry class offered by Dr. Ning (seventh from left).

A group of graduate students at a fall 2019 leadership training with Dr. Renita Marshall (second from right) and Dr. Ning (far right).

by Ms. Wilson and received professional exposure at the national level that is helping him with post-graduation employment. Aaliyah is the president of the SU student chapter of SAF and says, "I am working with Dr. Watkins of BREC to set up green projects for the Baton Rouge community." While Nick is shadowing Dr. Lawson of BREC, Detrick is seeking leadership tips and guidance from Dr. Renita Marshall, who is the Vice Chancellor for Academics at SU's Agricultural Research and Extension Center, and Associate Dean at the College of Agricultural, Family and Consumer Sciences.

In the fall of 2020, with funding support from the USDA Forest Service, the Department awarded 17 undergraduate students with research and training stipends. Six freshmen were awarded the USDA 1890 Jag Stars Scholarship in the amount of $10,000 per student. The Davey Tree Expert Company awarded a $2,000 Arbor Grant Scholarship to assist newly recruited freshman, Odell Kimble. The Davey Tree Expert Company also sponsored 30 SU students to attend the 2020 ISA conference. The Louisiana Forestry Association continued its scholarship awards to Terrell Lewis, Kyla Bryant, Rodney Purdy, Tess Brown, Ke'Shae Brumfield, and Nick Pryor. The USDA National Institute of Food and Agriculture (NIFA) funded competitive project awards for five students to participate in training.

In addition to participating in the SU Student Chapter of the SAF, Ricker Carter, Detrick White, and Simbrey Major became the Student Ambassadors for the Coalition to Restore Coastal Louisiana. The success of recent graduates Kalaia Tripeaux and Derrell Street was featured in the SAF periodical, *Forestry Source*. Derrell was honored with the Baton Rouge Garden Club Elaine Humphries Memorial Scholarship and invited to give a presentation at Virginia Tech's Future Faculty Inclusion and Diversity Program. >>

Partnerships and Collaboration

Through partnerships and collaboration, with the help of our USDA Liaisons, our students obtained internships at companies and agencies including The Davey Tree Expert Company, Weyerhaeuser, the USDA Forest Service and Natural Resources and Conservation Service (NRCS), Monsanto, Georgia Power, Louisiana State University, Baton Rouge Recreation and Park Commission, and non-profit organizations like The Greening of Detroit and Baton Rouge Green, among others. Our graduates got jobs and job offers from the USDA Forest Service, USDA NRCS, Bartlett Tree Experts, Georgia Power, Oakdale Community College, Louisiana State University, North Carolina State University, Baton Rouge Recreation and Park Commission, and others.

The USDA Forest Service funding at the Department supports the Beginning Agricultural Youth Opportunities Unlimited (BAYOU) Program that offers an opportunity for high school students to gain first-hand knowledge about career opportunities in agriculture, urban forestry, family and consumer sciences, and related disciplines. In summer 2020, led by Drs. Renita Marshall, Tiffany Franklin, Harold Mellieon, and Chris Chappell, the BAYOU program successfully recruited new students for the entire College.

Dr. Chappell is very excited to partner with the USDA Forest Service Urban and Community Forestry Program to prepare the next generation of urban forestry professionals. Through the Urban Forestry Career Readiness Campaign project funded in fall 2020, he plans to expose students across the nation to the unique Urban Forestry program at SU using creative online approaches, like a TED Talks-style series from elite SU Urban Forestry Alumni. “Our program has produced exceptional talents across a wide range of green industries, even extended to urban planning, real estate development, policy, and law," Chappell says.

SU System’s Outstanding Rising Star Award winner, Dr. Yaw Twumasi, has been leading a project that uses geospatial technology to enhance students’ experiential learning. Funded by the 1890 Universities Foundation, the overall goal of this project is to increase geographic and spatial literacy, engage students in learning, help the stakeholders to utilize geospatial technology, and boost the economic benefits of GIS to limited-resource farmers, veterans, beginning farmers, and ranchers.

Dr. Twumasi with his former graduate student, Josh Tate, at the GIS Lab in 2019.

At the 2019 Municipal Forestry Institute are (front left to right) Dr. Yadong Qi, Beattra Wilson, Jerri LaHaie, and Andy Hillman. Back left to right are Walt Warriner, Paul Ries, Owen Croy, and John McNeil.

Participants and organizers of the 2017 Diversity in Wildfire Summit. Dr. Abdollahi is at center-left.

According to 2020 M.S. Degree graduate Josh Tate, “I got a job in Chicago mainly because Dr. Twumasi’s classes taught the cutting edge GIS and remote sensing technologies that are exactly needed in my job. I thank him for co-authoring five journal articles with me as well.”

The USDA Excellence in College and University Teaching Award and the ISA Alex L. Shigo Award for Excellence in Arboricultural Education that Dr. Ning received motivated her to create more programs and projects that provide high quality education and training to students. To reduce the negative impact of COVID-19 pandemic on students’ learning, Ms. Wilson, Dr. Marshall, and Dr. Ning developed and implemented the virtual training project, Career Readiness through Urban Forest Management and Leadership Skills Training, funded by the USDA Forest Service. With the strong support of SU alumni, the team successfully formulated and delivered training modules on Municipal Forestry Policies and Ordinances, Urban Forestry Program Administration and Park Management, Utility Arboriculture and ISA Arborist Certification, and Leadership and Agriculture Career Building.

Our Department’s Enhancing National Minority Leadership Training in Urban & Community Forestry project is in its fourth year. In collaboration with Beattra Wilson and Jerri LaHaie, Executive Director of the Society of Municipal Arborists (SMA), the project has made a significant impact, including successfully delivering two special editions of 49 national diversity cohorts attending the Municipal Forestry Institute (MFI). Additionally, Ms. Wilson was presented a President’s Award of Appreciation by the SMA, and Enhancing National Minority Leadership Training Project Director Dr. Yadong Qi was recognized with the SMA Legacy Project of the Year Award.

Funded by the USDA Forest Service, the SU Diversity in Wildfire Summit Initiative has been successful in increasing diversity and participation in wildfire science, technology, and management by training students from the 1890 HBCU (Historically Black College and University) institutions. “The Initiative has become a foundation for the establishment of the 1890 Wildfire Consortium that will produce a diverse group of professionally trained and credentialed wildfire firefighters, managers, and leaders,” says project director Dr. Abdollahi. The Consortium has selected SU student Rodney Purdy and Ricker Carter for the 2020-2021 Student Fire Training Program for Experiential Learning and Fire Certification, with stipends and tuition assistance for each student. Dr. Abdollahi also utilized this project to fund 45 students to attend the virtual 2020 SAF National Convention. >>

Dr. Veronica Manrique (right) and LSU AgCenter Entomologist Rodrigo Diaz (center) conducting research, with volunteer John Hartgerink photo-documenting. Photo by Olivia McClure/LSU AgCenter

Research Highlights

Our partnerships, of course, extend to research. Funded by USDA, a biological control program is being implemented by Dr. Manrique and her graduate students to reduce infestations of the invasive vine air potato. The air potato leaf beetle, *Lilioceris cheni*, is helping control this invasive vine by feeding exclusively on air potato, and Dr. Manrique's team is working with park managers, foresters, and homeowners to implement the program. In fall 2020, at a virtual iteration of the Annual Meeting of the Entomological Society of America, her doctoral student, Felicia Amenyo, presented a paper about the effects of extreme temperature on the performance of the beetle, and her presentation received the Society's First Place Award in the area of Biocontrol.

Dr. Vanessa Ferchaud and Dr. Yadong Qi have been instrumental in accomplishing several research projects funded by USDA NIFA focusing on such areas as urban tree interception of UV radiation and its genetic consequences; UV radiation protection strategies of different species; infestation of the live oak gall midge pest on live oak trees; monitoring the effect of Paclobutrazol (PBZ) growth regulator on trees; and hibiscus plant phytochemicals, botanical characteristics, anatomy, and morphology. Working as a team, they facilitate experiential learning and disseminate the research materials in numerous publications.

Research and service in teaching and learning are integrated in the ANSWERS—the Air, Nutrient, Soil, Water, Ecosystem, and Remote Sensing Institute at the SU Agricultural Research and Extension Center. The ANSWERS is the brainchild of its director, Dr. Ning. The mission of the ANSWERS is to promote natural and biological resource conservation through research, education, and service to communities in both urban and rural settings. Scientists at the ANSWERS conduct cutting-edge research focusing on natural and biological resources; provide hands-on research training and experiential learning to the next generation of leaders in natural resources; utilize research results and analytical laboratories to provide technical services to communities; and promote scientific collaborations and partnerships at state, regional, national, and international levels.

Dr. Twumasi, the GIS and remoting sensing (RS) coordinator/expert at ANSWERS, has guided students to map the COVID-19 outbreaks in Louisiana and the nation using GIS and RS tools. In collaboration with LSU, he also obtained funding from NASA in the amount of $750,000 to focusing on satellite-assisted forecasting towards improving oyster safety (SAFE Oyster). Dr. Twumasi has published more than 200 research papers in journals and books and achieved tenure in the fall of 2020.

Collaborating with Louisiana State University (LSU), Drs. Ning, Abdollahi, and Chappell have been carrying out a NASA-funded, nationally competitive project to quantify carbon export through vegetation, biomass, and land use change analysis of two contrasting sites across the Mississippi River Delta Plain. The project research results were reported by two SU graduate students in their respective doctoral dissertation (Hande Suslu) and master's thesis (Simbrey Majors).

Dr. Abdollahi has been leading the USDA NIFA-funded project titled "Enhancing Bio-Oils Production and Bio-Products Utilization from Forest Wastes of the Urban and Rural Interface in Louisiana." He led a team of professors and students to create the Bioenergy and Biochar Innovation Initiative that was selected and recognized at the Emerging Researchers in STEM National Convention sponsored by the National >>

Students receiving hands-on training at the biochar-as-soil-amendment research site in 2019.

Urban Forestry Master Degree graduate Simbrey Majors working in the GIS Lab in 2019.

Dr. Ferchaud conducting research at her lab.

The NASA project team at a wetland soil sampling day in 2019. Left to right: Simbrey Majors, who received an M.S. degree in Dec 2020; Zhu Ning–Institutional Principle Investigator (PI); Victor Rivera–LSU Co-PI; Chris Chappell–SU Co-PI; and Hande Suslu, who received a PhD degree in Dec 2020.

Science Foundation (NSF), and which resulted in five graduate students receiving monetary awards. The project was featured in the Louisiana Department of Environmental Quality publication *Discover*, and its results have been disseminated in multiple outlets.

Dr. Chappell's USDA NIFA-funded capacity-building grant project aims at quantifying the performance of an artificial peat wetland structural soil (JAG Soil) in constructed urban wetlands to reduce flash flood risk. The objectives are to create a unique structural soil that mimics wetlands natural soils, determine what constructed wetland design works best for water quality and holding capacity, and then quantify nutrient loading, plant performance, and the ability of the constructed wetlands to act as a phytoremediator.

Dr. Chappell collecting wetlands field research data.