

2021-2022 Annual Report to the Chancellor

In 2021-2022, the College of Natural Resources launched its [new strategic plan](#), titled “The Planet is Our Classroom.” This new strategy aligns with the Wolfpack 2030: Powering the Extraordinary Strategic Plan, and focuses more deliberately on highlighting the unique value of our college — how and where our students and faculty learn, teach, think and do. Our work occurs not just in the classroom, but also in our labs, research and teaching forests across the state, and sites throughout the country and world. Our strategy empowers our faculty and students to take our work out into the world around us and to learn from and contribute to the critical challenges impacting our environment and our society. This strategy will help us deepen our connection with our environment and our communities, helping us fulfill our vision to build a world in which everyone is welcomed and empowered to explore, protect, and enjoy the full diversity of our environment and our communities while building justice and sustainability for all.

In addition to looking toward the future, we also continue to adapt to the challenges of today. Across all of our programs — research, teaching and extension — we are innovating and adapting every day to the ongoing pandemic and changing work culture. We strive to find the “new normal” that will allow us all to thrive — for our students to graduate career ready with hands-on experience, for our faculty to find solutions to real-world challenges and for our college to remain the tight-knit community we have been renowned for since 1929.

Goal 1. Empower students for a lifetime of success and impact.

- Launched the Jim Buzzard Leadership Program under the direction of Dr. Jason Bocarro, Professor in Parks, Recreation and Tourism Management. The purpose of this new year-long program is to enrich the leadership development of student participants so that they leave NC State empowered as budding leaders who can guide teams to success in whatever career they pursue.
- Held the third CNR Career Fair where 54 employers (34 last year) and 205 undergraduate and graduate students (209 last year) participated with over 75 company representatives present. Survey results indicate that 90% of employers were satisfied or highly satisfied with the career fair and the students’ professionalism and preparedness for the career fair.
- Implemented collaborative activities recommended by the ENVFY Task Force, with a particular focus on establishing a Faculty Advisory Board and undergraduate TAs. The Faculty Advisory Board includes representatives from six different departments across CNR, CALS and CHASS.
- Continued partnerships with the Office of Sustainability, EcoVillage (including the creation of an ENVFY-EcoVillage cohort in Fall 2022), and the Museum of Natural Sciences. We created new partnerships with the AgroEcology Farm and The Science House.
- Awarded \$956K in scholarships to incoming and current undergraduate students across all CNR programs.

Goal 2. Ensure preeminence in research, scholarship and collaboration.

- The College continues to attract new awards from federal, state and industry sponsors: 59 new grants were awarded to our faculty, totaling \$8.9 million (with \$39 million in funding from the National Institute of Food and Agriculture).
- Justin Baker (Forestry and Environmental Resources) is co-principal investigator for the Science and Technologies for Phosphorus Sustainability (STEPS) Center awarded by the National Science Foundation. Led by NC State, STEPS includes eight additional institutions across the country: Appalachian State University, Arizona State University, Marquette University, NC A&T State University, RTI International, the University of Florida, the University of Illinois at Urbana-Champaign and the University of North Carolina at Greensboro.
- Continued cultivating our partnership with the [Southeast Climate Adaptation Center \(SE-CASC\)](#)¹ by working with their leadership and the CNR academic units to support the [Global Change Graduate Fellows](#) program. Since 2011, 36 students representing all of CNR and the Center for Geospatial Analytics have been Global Change fellows (on average, three/year).
- Center for Geospatial Analytics graduate programs delivered over a dozen interdisciplinary 500- and 700-level GIS courses taught by faculty from three different colleges and four departments; 18 faculty fellows from five colleges and nine departments advised 40 PhD students.

Goal 3. Expand and advance our engagement with and service to North Carolina and beyond, defining the standard for a 21st-century land-grant university.

- Dr. Robert Bardon, Associate Dean for Extension and Engagement, completed a successful five-year leadership review and accepted another five-year term appointment.
- Reorganized CNR Cooperative Extension program to become a centralized college-level office under the leadership of Dr. Bardon. Previously, department heads provided administration of extension activities with specific programs supervised by faculty departmental extension leaders. The new structure allows the associate dean to promote and unify the goals of college programs and enhances collaboration across extension programs.
- Collaborated with the USDA Forest Service and NC Department of Agriculture and Consumer Services to educate nearly 64,000 North Carolina residents about the spotted lantern fly and the Asian longhorn beetle, two critical threats to forest health.
- Trained more than 600 extension agents and partner personnel in healthy forest management and identification of invasive pests, leading to better management of 328,000 acres of forest.
- Educated 4,500 landowners, land managers, community leaders and other leaders on the role of science, wildland fire and prescribed fire in forest management.
- Delivered 13 in-person meetings (sponsored by a USDA Forest Service Wood Innovation grant) to 180 individuals, targeting the wood products supply chains in each of NC's 13 NC Forest Service regions.

¹ <https://secasc.ncsu.edu/>

- Continued to develop and support the Vacationer Supported Agriculture (VSA) initiative under Extension's Local Foods Program. The initiative has raised more than \$91,000, supported 69 farmers from 11 counties, served 1,331 vacationers, and educated more than 54,000 vacationers about locals and local farms.
- Connected farmers and chefs through tourism experiences combining food and farming through the Fork2Farmer Program. The program engaged 102 farmers from 12 counties and reached more than 30,000 views through 27 short videos on YouTube and Facebook as well as virtual farm tours.

Goal 4. Champion a culture of equity, diversity, inclusion, belonging and well-being in all we do.

- Continued supporting the Graduate Student Peer-Mentoring Program to strengthen diverse student retention. This program provides tutoring and other support for underrepresented minority (URM) graduate students acclimating to our college and supports five URM graduate students within our current [USDA National Needs Fellowship program](#) and three new students in a new USDA National Needs Fellowship program award beginning Fall 2022.
- Continued collaboration with the College of Education on a pilot initiative on DEI curriculum integration in CNR courses. The initiative seeks to increase DEI awareness within the curriculum and student population in the College in response to feedback from a CNR undergraduate survey and multiple focus groups with instructors.
- Offered four Diversity, Inclusion and Racial Equity (DIRE) seminars, which featured José Gonzalez (Founder and Director Emeritus of Latino Outdoors), Brenda Brickhouse (CNR Alumna and Electric Power Research Institute), Sonja Stills (Mid-Eastern Athletic Conference Commissioner) and Ricky Leung (Program Director, NC Asian Americans Together), respectively.
- Funded six projects (\$8,000) from the CNR Diversity, Equity, Inclusion and Racial/Social Justice Fund. The fund supports students as well as staff and faculty requests for innovative ideas that help improve retention, climate, culture, inclusive teaching and recruitment activities related to DEIJ within the college.
- Collaborated with the Office of Academic Affairs to offer training and workshop certificate opportunities for CNR faculty to participate in the NSF Improving Undergraduate STEM Education (IUSE) - Inclusive STEM Teaching Project's six-week edX course. This program focuses on creating and sustaining inclusive STEM learning environments.
- Co-sponsored the inaugural NC State University Equity Research Symposium.

Goal 5. Improve university effectiveness through transformative technologies, cutting-edge processes and actionable data.

- Submitted a draft revision of Revised College Rule 05.67.603 for Provost review to create promotion standards and procedures for professional faculty.
- Continued classroom upgrades to future-proof resources for remote instruction by increasing the number of classrooms administered by the College with video cameras and Panopto devices.

Goal 6. Lead in developing innovative partnerships, entrepreneurial thinking and applied problem solving.

- Facilitated a meeting with NC State, Mississippi State University, Auburn University, Louisiana Tech University and Resource Management Service, LLC (timberland investment services) to partner on student recruitment and retention in forestry and natural resources professions.
- Faculty in the Department of Forest Biomaterials led the development of a new consortium on Sustainable and Alternative Fibers (SAFI) netting \$1.2M in membership dues across ~30 partner organizations from the paper, packaging, and fiber industry.
- College forests were enrolled in a short-term carbon harvest deferral program with the National Capital Exchange (NCX).

Goal 7. Elevate the national and global reputation and visibility of NC State.

- The College of Natural Resources is the number one public school in North Carolina for the study of natural resources and conservation (College Factual); it is ranked 6th nationally for doctoral study.
- Jason Delborne and Mary Watzin (Forestry and Environmental Resources) were among 564 scientists worldwide to be named fellows of the American Association for the Advancement of Science, the largest general scientific society in the world.
- Jennifer Richmond-Bryant (Forestry and Environmental Resources) was appointed to the World Health Organization's Global Air Pollution and Health Technical Advisory Group.
- Nils Peterson (Fisheries, Wildlife and Conservation Biology) was named NC Federation Natural Resource Scientist of the Year.
- Chris Deperno and Chris Moorman (Fisheries, Wildlife and Conservation Biology) were named fellows of The Wildlife Society.
- Lucian Lucia (Forest Biomaterials) was named fellow of the Technical Association of the Pulp and Paper Industry.
- Keith Howard (Parks, Recreation and Tourism Management) won the New Faculty Advising Award and Outstanding New Advising Award from the National Academic Advising Association.
- Rasul Mowatt (Parks, Recreation and Tourism Management) won the Distinguished Researcher Award from The Academy of Leisure Sciences.

Academic Affairs

- Recruited another high-quality first-year class for the Fall 2021, including 290 students (269 last year) with a weighted GPA of 3.97 (4.08 last year). Of these students, we yielded four Park Scholars (3 FER and 1 FB) and five Goodnight Scholars (4 FER and 1 FB). For Fall 2022, as of 3/31 we are yielding 119 students (compared to 128 last year).
- Collaborated with CNR academic units, University Admissions and the CNR Office of Diversity and Inclusion to recruit high-quality undergraduate students, particularly rural students and students from underrepresented populations.
- For the Fall 2021 incoming class, we yielded from the 2020-2021 recruiting cycle 50% female (49% previous year) and 15.8% underrepresented minorities (African American, Hispanic, Native

American, Pacific Islander) (11.5% previous year); this success is the result of some specific changes made to the recruitment process, including intentional diverse representation in all marketing, communications and events.

- Produced a new print brochure and worked with the CNR Student Ambassadors to create a [YouTube playlist](#)² of videos about each major in addition to personal and consistent outreach to prospective and admitted students.
- Invested in creating professional videos about undergraduate majors, with a focus on Engineering Technology Management (also highlighting the Environmental First-Year Program (ENVFY); Parks, Recreation and Tourism Management; Forest Management; Paper Science Engineering; and Sustainable Materials and Technology. This project is currently under production.
- On-boarded a new Director of Recruitment and Student Engagement (Dr. Chris Collins), Assistant Director of the Environmental First-Year Program (Jordan McMican), Recruitment Coordinator (Ellie Rinehart), and Executive Assistant to the Associate Dean (Raushanah McNeill).

Research

- Dr. Rob Scheller was appointed Associate Dean for Research, effective February 1, 2022
- The \$8.9 million in total awards included the following: > \$200K+:
 - Elizabeth Nichols, Solomon Ghezehei and Justin Whitehill: \$811,641 from USDA NIFA for “Optimizing Poplar for Sustainable Bio-Products in the Mountains of North Carolina Appalachia”
 - Ross Meentemeyer, Chris Jones and Chelsey Walden-Schreiner: \$649,977 from USDA NIFA for “DSFAS: Leveraging Multi-scale, Multi-purpose Open Big Data and Machine Learning to Improve Forecasts of and Decision Support for Emerging Pest Threats”
 - Rachel Cook, Kevin Garcia and Alexander Woodley: \$649,912 from USDA NIFA for “Long-term Phosphorus Carryover in Loblolly Pine Plantations”
 - Lokendra Pal and Lucian Lucia: \$649,257 from USDA NIFA for “Empowering Farmers by Diversifying Industrial Hemp to Bioproducts and Biochemicals”
 - Rajan Parajuli and Erin Sills: \$648,004 from USDA NIFA for “Lessons for the Recovery: Evaluating the Impacts of the COVID-19 Pandemic on the Forest-based Rural Economy in the Southern United States”
 - Justin Whitehill, Jack Wang, Eva Johannes and Mariusz Zareba: \$492,378 from USDA NIFA for “Unlimited-omics Applications Through High-Resolution, Sub-Cellular Precision Sample Isolation and Imaging”
 - Jordan Kern: \$413,671 from NSF for “CAREER: CAS-Climate: Navigating a Two-Front Challenge for the Power Grid: Extreme Weather and the Race to Decarbonization”
 - Barbara Conkling, Fred Cabbage and Kevin Potter: \$405,511 from USDA Forest Service for “Forest Health Monitoring and Assessment”
 - Stephen Kelley and Melissa Pasquinelli: \$355,437 from Eastman Chemical Company for “EMN-21-S-S-03 Discovery of New Plasticizers”
 - Ann Savage, Erin Seekamp, Whitney Knollenberg, Jerry Lee and Stacy Supak: \$285,388 from NC Department of Natural and Cultural Resources for “Promoting Sustainable State Park Management in North Carolina through the Identification of Equitable Pricing Strategies”

² https://youtube.com/playlist?list=PLPgQSSH_Bsla8ncJyalkPF8OkKn53Fh-i

- Lokendra Pal, Hasan Jameel and Lucian Lucia: \$260,000 from Hoffmaster Group, Inc. for “Plate Rigidity Improvement via Materials Engineering and Simulation”
- Chris Jones and Ross Meentemeyer: \$200,00 from USDAARS for “Developing Integrated Geospatial Architectures to Support Enterprise Deployment of Geographic Information Systems Products at USDA”

Advancement

- The college achieved 119% of its “Think and Do the Extraordinary” campaign goal, raising over \$41,500,000.
- We had a successful Day of Giving, raising \$251,592 on March 23, 2022, while also securing close to \$10,000 in challenge funding, obtaining 100% board participation and winning the first ever student organization challenge contest (Forestry Club). Preliminary data suggest 436 unique donors resulted from this year’s day of giving.
- The NC State Natural Resources Foundation, Inc. elected four new directors.
- The Pulp and Paper Advisory Board hosted two in-person meetings with its directors, alumni, and industry professionals. This includes securing three high-level executives to speak to our board, students, faculty, staff and alumni.
- The marketing and communication team continues to make an impact on sharing the breadth, depth and work of the college with timely and relevant content that can be found in a wide variety of spaces. The College news site alone has an 88% increase in users from last year at this same time.
- CNR communications published more than 175 articles highlighting students, faculty, research, alumni and fundraising.
- The college was featured in external media publications more than 150 times. The college was featured in campus publications 102 times, which included more than a dozen features on the homepage of the university’s website.
- We continued our highly successful thought leadership initiative featuring CNR experts explaining timely/newsworthy events in natural resources. The article “Ask an Expert: Why Is There a Lumber Shortage?” helped to secure numerous media mentions throughout the year and was one of the highest performing articles for both the college, university and Futurity.com, a site that features research news from top universities.

Facilities

- To address aging infrastructure and growth, the college has made multiple investments in facilities that directly improve instruction, research, recruitment and the student experience.
- Natural Resources Library (NRL), after construction delays due to COVID and supply chain challenges, reopened for business in April 2022. The café will open for business in August 2022.
- Borrowing design cues from the NRL, Jordan Hall’s 3rd floor lobby has been opened up to create a more welcoming student experience and offers new seating for collaboration.
- Hodges A (storage area) was updated by adding a new garage door to the site, responding to faculty needs in Forestry and Environmental Resources for a dirt-room lab in close proximity to Jordan Hall.
- The Partners II conference room (Forestry and Environmental Resources) on Centennial Campus was updated to provide a better space for meetings, collaboration and instruction. Lab space was also renovated to accommodate new research programs.

- Renovation of the Biltmore Hall 1st floor lobby and courtyard was launched with design and construction done in collaboration with the College of Design, CNR Facilities and the Department of Forest Biomaterials). The intent is to create desirable spaces for collaborating and socializing, cultivating an improved student experience.

Cumulative Major Faculty and Staff Awards

Forest Biomaterials (FB)

- Martin Hubbe - TAPPI Division Technical Award and Harris O Ware Prize recipient
- Lucian Lucia - TAPPI Fellow Award
- Lokendra Pal – 2021 Outstanding Teacher Award
- Richard Venditti - 2021 Outstanding Engagement Award; Inducted into the Academy of Outstanding Faculty in Extension and Engagement

Forestry and Environmental Resources (FER)

- Rachel Cook - Outstanding Global Engagement
- Jason Delborne and Mary Watzin - AAAS Fellow
- Chris DePerno and Chris Moorman - Wildlife Society Fellow
- Anna Giuli and Trevor Walker - CNR Pride of the Wolfpack
- Zakiya Leggett - Goodnight Early Career Innovators Award
- Rajan Parajuli – Goodnight Early Career Innovators Award
- Nils Peterson - NC Wildlife Federation Natural Resource Scientist of the Year
- Sarah Slover - 2022 NC State Awards of Excellence
- Jack Wang - University Faculty Scholar
- Sydna Willis - CNR's SHRA Nominee for Award for Excellence

Parks, Recreation and Tourism Management (PRTM)

- Carla Barbieri - Outstanding Global Engagement Award Recipients
- Perver Baran - Creativity in Teaching Award, Center for Geospatial Analytics
- Jason Bocarro - PRT 506 is now officially certified: Quality Matters
- Kimberly Bush – NACADA Region 3 Excellence in Advising
- Jonathan Casper - Alumni Distinguished Undergraduate Professor Award
- Keith Howard – New Faculty Advising Award and Outstanding New Advising Award, NACADA
- Rasul A. Mowatt - The Academy of Leisure Sciences Distinguished Researcher Award
- Erin Seekamp - Alumni Distinguished Graduate Professor Award and Goodnight Distinguished Professor of Coastal Resilience and Sustainability
- Kathryn Stevenson - University Faculty Scholar

Center for Geospatial Analytics (CGA)

- Jennifer Richmond-Bryant - Appointed to the World Health Organization's Global Air Pollution and Health Technical Advisory Group
- Megan Skrip - Second Place in the Institutional Division of the SCONC (Science Communicators of North Carolina) Science Communication Contest

- Justyna Jeziorska - Finalist of the Women and Drones 2021 Women to Watch in UAS Global Awards
- Adam Terando - Named Federal Coordinating Lead of the Earth System Processes Chapter of the Fifth National Climate Assessment

Academic Affairs Office (AAO)

- Madhu Katti (FER), Carla Barbieri (PRTM) and Melissa Pasquinelli (FB) - AGEP-NC Fellows ([Article](#))
- DELTA Course Quality Participants
 - Jason Bocarro (PRTM) - Quality Matters Essential Standards Program ([Article](#))
 - Tamara Pandolfo (FER) - Online Course Improvement Program ([Article](#))
- DELTA Grant Recipients for 2021-2022 ([Article](#))
 - Steph Jeffries (FER, \$2,520) - Continuing Critical Path DELTA Grants proposal "Year Two of Learning Applications for Dendrology"
 - Megan Lupek (FER/AAO, \$35,000) - Critical Path DELTA Grants proposal "Increasing Interdisciplinarity and Collaboration in the Environmental First Year Program"
 - Vaishnavi Thakar (FER/CGA, \$8,000) - Course Design DELTA Grants proposal "GIS 550: Geospatial Data Structures and Web Services"

Selected List of Major Student Awards

Provost Doctoral Fellowships (2021-2022)

- Phillip Agbesi (FB)
- Sonia Preisser Rubio (PRTM)
- Andrew Shannon (CGA/SECASC)
- Olakunle Sodiya (FER/SECASC)

Global Change Graduate Fellows ([Website](#))

- Courtney Hotchkiss (PRTM)
- Lauren Pharr (FER)
- Andrew Shannon (CGA)
- Olakunle Sodiya (FER)

Mathews Medal Winners

- Niambé James (FB)
- Patsy McKee (FER) ([Article](#))

CNR Students Selected in 2021-2022 for Undergraduate Student Excellence Programs

Program	Participants
Park Scholars	Isaac Drown (PRTM), Megan Wright (FB), Kaitlyn Zuravel (FB)
Goodnight Scholars	Emanuella Tran (FER), Maia Wilde (FER), Patrick Cardona-Cosner (FER)
Chancellor's Leadership Scholars	Kenia Barajas-Salazar (FER), Andy Casados (PRTM)

CNR Student Participants in Other Engagement Programs

Program	Participants
Sustainability Stewards	Julianna-Grace Agnini (PRTM), Jaxon Davis (FER), Shannon Dolan (FER), Benjamin Helms (FB), Kenan Hill (FER), Niambé James (FB), Nina Kudlak (PRTM), Gracelynn Woods (FB)
Social Innovation Fellows	Niambé James (FB)
Chancellor's Aides	Jaylan Paige (FB)
NC State Sustainability Awards	Ann Winstead (FER)

Other Notable Graduate Student Awards

- Deja Perkins (CGA), honored by NC Governor Cooper as a Black STEM leader. She also won the National Wildlife Federation's 2022 National Conservation Achievement Award in the category of Young Leader.
- Elyssa Collins (CGA), invited for a summer internship with the NASA Jet Propulsion Laboratory in Pasadena, CA working with the Water & Ecosystems Lab on the project "Open Science for Hydrology."
- Rachel Porter (CGA), named NC State's 2022 Esri Innovation Program Student of the Year.

Administrative Achievements and New Hires

New Administrators

- Dr. Steve Kelley, Interim Department Head, FB
- Jennifer Piercy, Interim Assistant Dean for Advancement
- Dr. Rasul Mowatt, Department Head, PRTM
- Dr. Rob Scheller, Associate Dean for Research

New EHRA Non-Faculty Hires 2021-2022

- Lyndsey Campbell, Program Manager, FB
- Christopher Collins, Director of Recruitment Initiatives and Student Excellence, CNR
- Laura Covinich, Research Assistant, FB
- Jordan McMican, Assistant Director, ENVFY
- Antoinette Moyer, Program Coordinator, PRTM
- Ellie Rinehart, Recruiter, CNR
- David Rossi, Research Associate, FER
- Andrew Trlica, Research Scholar, FER

New Professional Track Faculty Hires 2021-2022

- Angela Allen, Senior Lecturer, FER
- Solomon Ghezehei, Assistant Research Professor, FER
- Anthony Rosselli, Lecturer, PRTM
- Nathan Williams, Assistant Teaching Professor, PRTM
- Kimberly Willis, Assistant Teaching Professor, PRTM

New Tenured/Tenure Track Faculty Hires 2021-2022

- Norman (Rasul) Mowatt, Professor and Department Head, PRTM

Offers Made and Accepted 2021-2022

- Ivana Mali, The Ecology Wildlife Foundation Distinguished Scholar for Conservation Biology (FER)

Changes in the Service Environment

In fiscal year 2022, 40% of our business services staff positions have either been vacant or only recently filled. This creates delays in assisting other staff, faculty, and students with essential services and hampered ability to undertake new initiatives and allocating resources towards implementing our strategic plan. In addition, as experienced across our campus, our struggles with recruiting and retaining talented staff and faculty means that our college is not able to focus full attention on its strategic goals. Effects of supply chain delays and shortages have also slowed the start on new initiatives. Uncertainty over future finances remains a concern, which also has an impact on implementing strategic initiatives. This past year our state appropriated budgets decreased by 1.5% in response to the discretionary ARP. In addition, we have incurred another 1% reduction to our budget in retention and pre-emptive retention offers. Although COVID-19 has been less disruptive to our operations, we remain vigilant in our efforts to support the health and wellness of our students, staff and faculty. We continue to experiment with initiatives and strategies (e.g., social events, sharing health resources, etc.) to mitigate the effects of the pandemic. Despite these challenges, the College continues to make significant contributions to the mission and goals of the University and the well-being of the State of North Carolina.