

April 2025

HIGHLIGHTS

Kambria Simmons Will Spread Smiles and Aggie Pride at Meharry Medical College's School of Dentistry



Kambria Simmons '23

Kambria Simmons '23 will attend the Meharry Medical College's School of Dentistry this fall. Kambria, who graduated *magna cum laude* with a B.S. in biology in 2023, earned Dean's List or Chancellor's List honors each semester while at N.C. A&T. During this time, Kambria was engaged in several community service and professional development activities related to research and dentistry.

For instance, during her senior year, Kambria served as vice president of N.C. A&T's chapter of the Undergraduate National Dental Students Association (USNDA) and Secretary of Global Medical Brigades.

She also generously volunteered her time at the Mission of Mercy (M.O.M.) dental clinic, the Promising Pages non-profit organization, and several charities focused on serving underprivileged members in her community. Kambria initiated a "Creating Healthy Smiles" campaign to help three- to five-year-old children learn the importance of oral health. Finally, in 2022, she traveled to Ghana with Global Medical Brigades, where she helped establish free healthcare clinics for underserved people across the country.

Kambria also achieved outstanding recognition in the classroom and the community. She participated in the exclusive Summer Health Professions Education Scholars Program at the University of Florida and was appointed as a Greensboro Area Health Education Center scholar. Likewise, she received merit academic scholarships from the UNCF and the Department of Biology. Kambria also conducted research in Dr. Robert Newman's laboratory in the Department of Biology as part of the Biotechnology Scholars program through the Department of Defense-sponsored Center for Excellence in Biotechnology.

In addition to Meharry, Kambria was also offered a position in Tufts School of Dental Medicine (where she was awarded the prestigious Dean's Scholarship) and the Howard University College of Dentistry. Ultimately, she decided to attend the Meharry Medical College School of Dentistry due to the smaller class sizes and the excellent reputation of the program.

Senior Biology Student Khalia McClure Selected for Prestigious Evolution Program, Earns Ph.D. Fellowship



Khalia McClure after winning the Outstanding Poster Competition for her summer research program at UNC-Chapel Hill in Summer 2025

The College of Science and Technology is thrilled to celebrate the achievements of Senior Biology and MARC/URISE student Khalia McClure, who has been an integral part of our research community at North Carolina A&T State University. Over the past two years, Khalia has demonstrated remarkable dedication and scientific excellence while working in Dr. Misty Thomas' lab.

Khalia has been selected to participate in the Undergraduate Diversity at Evolution (UDE) program at Evolution 2025, an esteemed and highly competitive opportunity sponsored by the Society for the Study of Evolution, the American Society of Naturalists, and the Society of Systematic Biologists. Through this program, she will receive full support to attend Evolution 2025 in

Athens, GA, where she will engage in professional development, network with leading researchers, and immerse herself in groundbreaking evolutionary research.

In addition to this extraordinary recognition, Khalia has also gained acceptance into multiple prestigious Ph.D. programs, including Duke University and the University of Georgia (UGA). After careful consideration, she has decided to continue her graduate studies at UGA, where she was not only accepted but also awarded a fellowship to support her PhD research—a significant honor that underscores her academic excellence and research potential.

Khalia's research in Dr. Thomas' lab has focused on experimental evolution, specifically studying adaptive mechanisms in *Streptococcus mutans* biofilms under conditions relevant to both clinical and space environments. Her leadership on this NASA-funded project has played a pivotal role in advancing our understanding of bacterial behavior in extreme conditions. She will present this work during SciTech week and has been invited to present at the NC Space Symposium in April. Beyond her research, Khalia has also been a dedicated mentor, guiding fellow students and fostering an inclusive research environment.

Hailing from Charlotte, North Carolina, Khalia's achievements reflect not only her personal perseverance but also the strength of our MARC/URISE program in preparing students for success in graduate research. We invite the university community to join us in congratulating Khalia on her well-earned success—a testament to her hard work, dedication, and passion for scientific discovery!

Kennedy West Selected as 2024 Astronaut Scholar



Kennedy West

Kennedy West, a graduating senior in the Department of Chemistry, was selected as the 2024 Astronaut Scholar.

Kennedy has demonstrated excellence in her studies at N.C. A&T. In the spring of 2024, Kennedy was awarded the Outstanding Honor Student Award from the CoST during N.C. A&T's Honors convocation. Kennedy was also a recipient of the Chancellor's Award from the Department of Chemistry, showcasing her exceptional achievements in her field. In addition, Kennedy has been the NC GlaxoSmithKline Scholar, as well as the Corning Scholar. Kennedy is a co-author of a peer reviewed publication titled "Microscopic and Spectroscopic Understanding of Non-Metal Dopants in the Photocatalytic Properties of Titania."

This research was performed in Dr. Bishnu Bastakoti's lab, while Kennedy was supported by the Dow Sure Scholarship. Kennedy is a spring 2025 graduate and is heading to pursue a PharmD program at the Eshelman School of Pharmacy at UNC-Chapel Hill.

This is the 2nd time the prestigious award is given to a chemistry student. In 2022, Tanae Lewis received both the Astronaut and Goldwater Scholar awards.



From top row, left to right:
Gift Fashotito, Larisa Chila
Kiki, second row:
C. Franklin Ezeanowai,
Ugonna Morikwe, Alexis
Moody, and third row:
Anai Robinson, AST Ph.D.
Program Director Jenora
Waterman, Ph.D., Hailey
Poole and Jackson Wiles

In late January, AST Ph.D. Program students attended the 2025 McNair Career Fair to honor the legacy of Dr. Ronald E. McNair – and this year the theme was, “Shaping Tomorrow with Precision, Performance and Persistence.”

Several students from the AST Ph.D. Program presented their posters and gave oral talks in the meeting with subjects covering biology, chemistry, STEM education, atmospheric science and biomedical engineering.

The presentation titles included:

- Bacteriophage Evolution in Silver-Rich Environments;
- Metagenomic Profiling of Wastewater Reveals Pathogenic Bacteria, Virulence Factors, and Antimicrobial Resistance Genes;
- A Climatology Study of Wildfire Activity in North America with ERA5 Reanalysis Data; and
- Promoting Cell Growth, Migration, and Fibroblast Differentiation with Electrospun PCL-Zinc Scaffolds Functionalized with Fibroblast-Derived Extracellular Matrix.

Also, students had the opportunity during the career fair to meet with recruiters from various graduate schools, including the University of Notre Dame, the University of Pittsburgh Professional school and the Wake Forest University Biomedical Graduate Program. Several companies were represented too for internships and employment.

UNC System Honors N.C. A&T Microbiologist Jeffers-Francis with Teaching Excellence Award



*Dr. Liesel Jeffers-Francis,
associate professor in the
Department of Biology*

Dr. Liesl K. Jeffers-Francis, an associate professor of Department of Biology, has been named a 2025 Award for Excellence in Teaching winner by the UNC Board of Governors. She is among 17 faculty members representing all 16 of North Carolina's public universities and the North Carolina School of Science and Mathematics to receive the award. Jeffers-Francis has been an integral part of NC A&T's academic and research environment since arriving in 2016 as an assistant professor in the Department of Biology. In addition to serving as associate professor, she is graduate coordinator of the biology master's program at N.C. A&T. She also holds an adjunct assistant professorship in the Division of Oral and Craniofacial Health Sciences in the Adams School of Dentistry at UNC-Chapel Hill.

Jeffers-Francis has conducted groundbreaking research on salivary gland disease and its association with the BK polyomavirus, particularly in HIV patients. Her research focuses on the role of trade-offs in the evolution of bacteriophage and metal resistance in *E. coli*, aiming to uncover how microorganisms adapt to environmental stressors, including antibiotics. This work has broad implications for molecular biology, ecology, and public health, offering critical insights into disease mechanisms and potential treatment strategies.

Her research has been supported by esteemed funding agencies such as the National Science Foundation and the National Institute of General Medical Sciences. Her scholarly contributions have been recognized with accolades including the Community Engaged Research Award and a nomination for the Outstanding Young Investigator Award. She has shared her findings through publications in high-impact journals and presentations at national and international conferences.

As an educator, Dr. Jeffers-Francis is celebrated for her ability to make complex scientific concepts accessible and engaging. She teaches a range of courses from general microbiology to advanced graduate seminars, fostering an interactive and inclusive learning environment. Her commitment to clarity and active learning has earned her widespread praise from students, who commend her for being well-organized, prepared and responsive. Beyond the classroom, Jeffers-Francis is deeply

committed to mentoring the next generation of scientists. She has supervised students at various academic levels, from Ph.D. candidates to STEM Early College students, ensuring each mentee receives the necessary guidance and support to thrive in their academic and professional pursuits. Her dedication to mentorship extends beyond formal advising, as she actively fosters an inclusive and supportive academic community.

Jeffers-Francis' leadership in research, teaching and mentorship continues to shape the field of microbiology while inspiring future generations of scientists. Through her dedication to discovery and education, she remains a vital force in advancing scientific knowledge and fostering a diverse and dynamic research community.

N.C. A&T Faculty Honored as 2025 NC Surveyor of the Year



*Dr. Jerry W. Nave, PLS,
Associate Professor of
Geomatics*

Jerry W. Nave, Ed.D., PLS, has been honored with the North Carolina Society of Surveyors (NCSS) Surveyor of the Year Award. Dr. Nave is an associate professor and the coordinator of the Geomatics program in the Built Environment Department at N.C. A&T, where he has been a valued faculty member since 2007.

A dedicated leader, he served as the president of NCSS in 2022 and has been an active member since 2007. His areas of expertise include the legal aspects of surveying boundaries and conducting research on the use of GNSS satellite positioning and UAVs in daily land surveying practice. Throughout his distinguished career, Dr. Nave has received several prestigious awards from NCSS, including the Shining Star Award, the Polar Award, and the President's Award in 2016 and 2021. This latest recognition as Surveyor of the Year highlights his continued leadership and commitment to the surveying profession and the continue education of current and future land surveyors.

N.C A&T Named North Carolina's Firsty QuarkNet Center



QuarkNet facilitators, N.C. A&T faculty with N.C. teachers at the first QuarkNet event on campus

N.C. A&T's Department of Physics hosted a QuarkNet event on Saturday, March 1, launching the first QuarkNet Center in the state. QuarkNet is dedicated to the professional development of high school teachers and students in current particle physics research by providing teachers with exposure to professional physicists, research experience, and collaboration to implement instructional best practices.

It is a partnership between Fermilab, the University of Notre Dame and over 50 research centers across the United States. At this nationwide network of QuarkNet Centers, local science teachers are united with university investigators in active research projects and hold regular workshops about physics topics and pedagogy. Shane Wood, a QuarkNet National Staff member who traveled for the N.C. A&T workshop said, "We are thrilled to partner with NC A&T to bring QuarkNet opportunities and resources to teachers and students across North Carolina. Collaboration is at the heart of QuarkNet; the engagement of teachers and physicists from the N.C. A&T center will undoubtedly strengthen and enrich our network."

Ten high school teachers from five different North Carolina counties attended the introductory workshop at N.C. A&T. Here, they met each other, members of the QuarkNet team, and members of the NC A&T physics department. This workshop provided teachers with activities they could immediately use in their classrooms and information about future opportunities with QuarkNet. It also included a seminar by N.C. A&T astrophysicist Dr. Charlotte Wood who introduced the teachers to her studies of the supernova distance ladder and an opportunity to participate in summer research. Dr. Hallie Trauger,

leading the QuarkNet effort at N.C. A&T, said “ I am excited to bring the opportunities and connections that QuarkNet offers to N.C. A&T and to teachers across the state of North Carolina, and I am thrilled by the level of teacher engagement and interest in bringing cutting-edge physics to their high school classrooms.”

Teacher participants were enthusiastic about their first QuarkNet experience: all reported on a post-workshop survey that they were “likely” or “very likely” to use at least one activity in their classroom, and nine reported an interest in engaging in physics research. As one teacher wrote, “QuarkNet does an amazing job advertising and appealing to science teachers in NC to come together to meet and learn about different strategies to appeal to our science learners.” The new N.C. A&T QuarkNet Center will host two teachers for research with Dr. Charlotte Wood in summer 2025, and plans to hold another teacher workshop in fall 2025 and a workshop for high school students in spring 2026.

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