



February 2025

## HIGHLIGHTS

### iPave Takes 1st Place at the National AAAS HBCU Making and Innovation Showcase



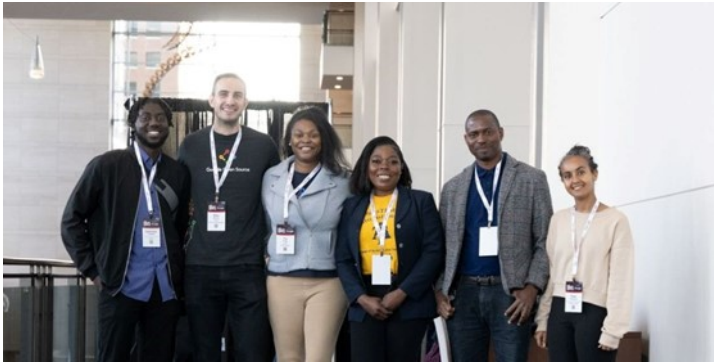
*Left to right:* Neela White (AAAS staff), Lige Reese (N.C. A&T student), Kaliah Moore (N.C. A&T student), Tyree Thomas (N.C. A&T student), Marquise Dark (N.C. A&T student), Dr. Yuhan Jiang (N.C. A&T Advisor), and Dr. Iris R. Wagstaff (AAAS staff)

In Sept. 2024, College of Science and Technology (CoST) construction undergraduate students, Marquise Dark, Lige Reese, Kaliah Moore, and Tyree Thomas, presented iPave – Intelligent Roadway Management System at the 2024 AAAS HBCU Making and Innovation Showcase in Washington, D.C. This showcase was organized by American Association for the Advancement of Science (AAAS) and sponsored by the National Science Foundation (NSF).

The iPave team won 1st place in this pitch competition that included 16 other undergraduate and graduate mixed teams. The iPave innovation concerns roadway pavement management using Remote Sensing (LiDAR, Drone imagery, Satellite imagery), AI, and GIS. This project is derived from Dr. Yuhan Jiang's research "PCler: Pavement Condition Evaluation Using Aerial Imagery and Deep Learning" published by Geographies. Jiang, a faculty member in CoST's Department of Built Environment, is the faculty advisor of iPave.

## AST Graduate Students Awarded Scholarships to All Things Open 2024 Conference

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*Left to right:* Nathaniel Yeboah, Mike Bufano (Googler), Tia Pope, Lola Balogun, Gazal Agboola and Eden Wasehun

Applied Science and Technology (AST) graduate students were awarded scholarships to attend the *All Things Open 2024* conference in Raleigh, NC in Oct. 2024. This invaluable experience allowed our students to connect and network with Googlers, conference speakers and top contributors to the Open-Source community.

Congratulations to the scholarship recipients:

Gazal Agboola	Oluseyi Alagbe
Maryam Akinsola	Ogediran Augustina
Omolola Balogun	Jennifer Eriagbondia
Ugonna Morikwe	Imoeayo Olorunyolemi
Tia Pope	Arnob Shadman
Eden Wasehun	Nathaniel Yeboah

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## Ebitu Ukiwe Secured 4th Place in AUC Data Science Initiative & Mastercard Data Challenge



*Ebitu Ukiwe*

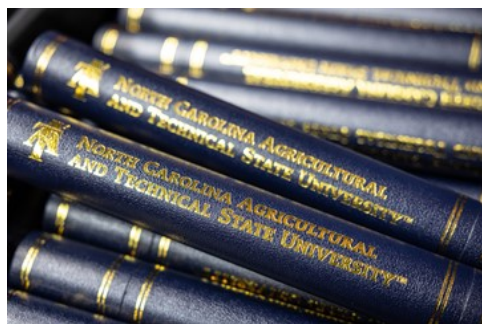
**E**bitu Ukiwe, a data analytics Ph.D. student from the Department of Mathematics and Statistics, earned 4th place in the prestigious AUC Data Science Initiative and Mastercard Data Challenge. Partnering with Adjovi Laba, a fellow N.C. A&T Computer Science graduate student, Ukiwe developed an innovative solution to address challenges faced by disadvantaged communities, using the Inclusive Growth Score (IGS) to enhance areas with scores below 45.

The highly competitive challenge, which attracted participants from across the nation, recognized the team's work for its innovative use of data science in addressing real-world issues. "This achievement is a testament to the incredible resources and knowledge I've gained during my time at N.C. A&T," said Ukiwe. "I'm excited to continue applying these insights to future projects that make a difference in underserved communities."

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## Congratulations to Our New Ph.D. Graduates!

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**Obinna Chiekezi advised by Dr. Lu**

Dissertation: Development of safe and low-cost Electrolytes for Next-Generation Battery Applications

**Ashraf Duzan advised by Dr. Ibrahim**

Dissertation: Development and Application of LCMS Methods for Quantification of Cannabinoids in Commercial Samples: Exploring Potential Applications in Glioblastoma Therapy

**Mercy Fash advised by Dr. Ofori-Boadu**

Dissertation: Development of a Femalized Kinesthetic Learning Model to Increase Architecture, Engineering, and Construction

**Taylor Hogue advised by Dr. Cook**

Dissertation: Effect of Acute Butyrate Delivery on Blood Pressure in Blacks with Hypertension: Proof of Concept

**Kelechi Ike advised by Dr. Anele**

Dissertation: Elucidating the effects of nutraceuticals on rumen fermentation and bacteria growth dynamics using omics technologies: Implications on their use for sustainable ruminant production and as natural antimicrobials

**Markie'Sha James advised by Dr. Bililign**

Dissertation: Laboratory Measurements of the Chemical Composition of Emissions Derived from Smoldering Combustion of African Biomass Fuels

**Shobitha Unnikrishnan advised by Dr. Tung**

Dissertation: Sperm Motility Mechanisms and Collective Behavior in Viscoelastic Environments

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## Dr. Emmanuel Obeng-Gyasi Received \$1.1 million in Grants from NSF, CMS and NIH



Dr. Emmanuel Obeng-Gyasi and his Ph.D students at the 2024 Sure Biennial Conference, Bethesda, Maryland. *Left to right:* Issah Haruna, Augustine Odediran, Dr. Emmanuel Obeng-Gyasi (Advisor), Augustine Odediran, Yvonne Boaf

Dr. Emmanuel Obeng-Gyasi recently received nearly \$1.1 million in total funding through grants from the National Science Foundation (NSF, RISE-2401878), the Centers for Medicare & Medicaid Services (CMS, 1W1CMS331929-01-0), and the National Institutes of Health (NIH, 3R16GM149473-02S1) received August 2024.

His research investigates the impacts of environmental agents such as metals, per- and polyfluoroalkyl substances (PFAS), chemical mixtures and persistent infections on human health, with a focus on the exposome—the cumulative environmental exposures over a lifetime.

By integrating Environmental Health Data Science with Advanced Laboratory Exposure Assessment, Obeng-Gyasi explores how these exposures interact with social factors to contribute to health outcome. These newly funded projects will advance his innovative work on multi-pollutant mixtures and their effects on various populations, addressing critical challenges in environmental health research and policy.

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## Lesher Appointed Department of Physics Chair



*Dr. Shelly R. Lesher*

Dr. Shelly R. Lesher joined CoST in July 2024 as chair and professor of Department of Physics. Before joining N.C. A&T, Lesher was the physics department chair and director of the McNair Scholars Program at the University of Wisconsin - La Crosse.

Lesher distinguishes herself with years of excellence in teaching across the physics curriculum, research in experimental nuclear physics, and prestigious honors and awards including the Yale Presidential Fellowship, the American Physical Society (APS) Fellow, the APS Career Mentoring Fellow and a distinguished service award from APS Division of Nuclear Physics.

Lesher believes N.C. A&T is a great fit for her because of the close interaction with faculty and students and expects to expand her already established and well-recognized research program and her podcast “My Nuclear Life,” to N.C. A&T. Under Lesher’s leadership, the Department of Physics will consistently strive to fulfill its mission of providing students a world-class education and research training.



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AND TECHNICAL STATE UNIVERSITY**

