



**Academic Affairs Committee
September 9, 2025**

AAC – 4 Update on Research and Engagement

The UNCG Division of Research and Engagement provides strategic direction and guided support to faculty, research staff and students for research, scholarship and creative endeavors resulting in funded grants, contracts, innovation, and community engagement leading to knowledge production, student experiences, public impact, and economic prosperity.

FY25 Research and Sponsored Programs Awards

In Fiscal Year 2025, UNCG secured a total of \$60.3 million in research grants and sponsored program funding, reflecting a strong research enterprise that conducts transformative work to advance knowledge, innovation, and community impact. The largest sources of support came from the State Government of North Carolina (\$18.8 million) and federal agencies (\$18.5 million), highlighting the trust placed in UNCG to address critical statewide and national priorities. Additional funding was awarded by Local/State Governments outside of North Carolina (\$8.2 million), other sponsors (\$6.8 million), and Non-Profit Organizations (\$3.1 million), highlighting the University’s reach and reputation beyond its immediate region.

Support from research foundations (\$1.7 million), business and industry (\$698,415), and local government in North Carolina (\$2.6 million) further demonstrates UNCG’s ability to foster broad partnerships that fuel discovery, economic development, and public service.

Sponsor Type	Funding Awarded
Federal	\$ 18,529,908.00
State Government (NC)	\$ 18,752,173.00
Research Foundations	\$ 1,674,467.00
Business and Industry	\$ 698,415.00
Local Government (NC)	\$ 2,559,649.00
Local/State Government (Non NC)	\$ 8,224,043.00
Other Sponsors	\$ 6,827,417.00
Non-Profit Organizations	\$ 3,064,995.00
TOTAL FY25 Funding	\$ 60,331,067.00

UNCG sustained over \$60 million in sponsored funding for the third consecutive year, even amid nationwide reductions in federal research support. This achievement reflects the critical importance of our work in healthcare, science, education, and the humanities, and the dedication of our researchers who continue to find innovative ways to advance discovery and knowledge.

FY25 Patents

In FY25, UNCG secured three patents that showcase the university's innovation leadership and broad research strengths. These technologies exemplify how UNCG research is driving discovery with the power to transform science, technology, and healthcare. The patents are:

1. **Patent US 12046388 B2:** *Radio Frequency Quadrupole Stark Decelerators and Methods of Making and Using the Same* – Patent Granted on 7/23/2024 by Inventor Dr. Liam Duffy.
2. **Patent US 12078595:** *Nanoplasmonic Devices and Applications Thereof* – Patent Granted on 9/3/2024 by Inventor Dr. Jianjun Wei.
3. **Patent WO 2023/278096 A1:** *Multi-Axial Joint Laxity Testing Apparatus and Method* – Patent Granted on 4/29/2025 by Inventor: Dr. Sandra Schultz

Recent Grant Highlights

- Dr. Jessica McNeil, in the School of Health and Human Sciences, received a grant from the National Institutes of Health in the amount of \$1,225,923. The purpose of this study is to understand how sleep deficiencies may trigger biological pathways that increase weight gain risk, including higher energy intake, alter appetite regulation, disrupt cortisol rhythms, and lead to underhydration. By prospectively examining how sleep deficiencies influence weight-related mechanisms the study has the potential to uncover critical drivers of obesity and inform targeted public health interventions.
- The UNCG SERVE Center has been awarded a grant from the Georgia Department of Education in the amount of \$1,500,000. The purpose of this grant is for SERVE researchers to work with school districts in Georgia to provide technical assistance, evaluation services that enable improvements in the quality of education provided in Georgia schools.
- Dr. Chris Kelly, in the School of Education, received two grants from the UNC System Office in the amount \$3,622,635. The funds will support the Principal Preparation for Excellence and Equity in Rural Schools (PPEERS) program at UNCG and is designed to develop and license effective principals for rural school districts in North Carolina. The program involves a partnership with participating rural districts to foster leadership pipelines.
- UNCG received two new grants from NCInnovation to support commercialization of university research. Dr. Liam Duffy (Chemistry & Biochemistry) was awarded \$253,000 to prototype a new instrument for rapidly analyzing chemical isomers, with wide applications in pharmaceuticals, materials science, and agriculture. Dr. Kaira Wagoner (UNCG Plant and Pollinator Center) received \$553,000 to enhance a pheromone-based tool to improve honeybee health and resistance to disease. These awards highlight UNCG's role in advancing research with strong commercial potential and statewide economic impact.

Chancellor's Initiative for Transformative Research

On August 21, UNCG announced the recipients of the 2025 Chancellor's Initiative for Transformative Research (CITR) award. This program aims to boost research as part of the Forward Together Strategic Plan. The selected projects provides seed support for high-impact research initiatives that will accentuate the University's leadership role in addressing pressing societal needs, drive creative scholarship, advance health and wellness, and foster emerging technologies. Over 35 proposals were received and 4 were selected as the winners.

- Category I proposals address pressing societal challenges, and the winning project is titled ***“Promise and Perils of Pre-Adolescent Technology Engagement: Scaffolding Self-Regulation in Service of Health and Well-being in the Digital Age,”*** led by Dr. Michaeline Jensen (Psychology), Dr. Jessica Dollar (Psychology) and Dr. Laurie Wideman Gold (Kinesiology). This project will examine how digital technology use affects self-regulation, health, and well-being in pre-adolescents, aiming to provide evidence-based strategies for parents, schools, and policymakers to support healthy digital habits. The award amount is \$74,608.00.
- Category II proposals aim to revolutionize creative scholarship to bring awareness to a problem. The winning proposal is titled ***“Threading Innovation: An Interdisciplinary Evidence-based Research Initiative Empowering Workforce Development through VR/AI in Cybersecurity and Apparel Supply Chain,”*** and is led by Dr. Lakshmi Iyer, Dr. Melanie Carrico, Dr. Motahareh Pourbehzadi, and Dr. Jin Su from the Departments of Information Systems and Supply Chain Management, and the Department of Consumer, Apparel, and Retail Studies. This interdisciplinary initiative will leverage VR and AI to create immersive, evidence-based training tools that prepare students and professionals for the evolving cybersecurity and apparel supply chain workforce. The award amount is \$71,909.
- Category III proposals aim to respond to critical and urgent health and wellness needs. The winning proposal in this category is titled ***“Production and Modification of an Anti-cancer Drug Lead,”*** led by Drs. Jonathan Chekan and Nicholas Oberlies in the Department of Chemistry and Biochemistry. This research will develop scalable and sustainable methods to produce a promising and novel anti-cancer compound, Verticillin D, enabling the discovery of new therapeutic analogues with potential clinical impact. The award amount is \$75,000.
- Category IV proposals aim to advance critical technologies. The winning proposal in this category is titled ***“Toward Trustworthy and Privacy-Preserving AI for Next-Generation Medication Assistance: A Multimodal Learning Copilot,”*** led by Drs. Yingcheng Sun, Minjeong Kim and Qianqian Tong in the *Department of Computer Science*. This program is directed towards the creation of a privacy-preserving, multimodal AI copilot that supports clinicians with medication guidance, clinical trial matching and patient care, while safeguarding sensitive health data. The award amount is \$75,000.

Innovative Research Programs

Distinguished Guest: The Ambassador of Tanzania visited UNCG to explore opportunities for collaboration and partnership in research and education. During her visit, she toured the BRIGHT Institute and biochemistry laboratories, gaining insight into the innovative research taking place on campus.

She also met with faculty in economics to discuss shared areas of interest and potential for global engagement. As part of her visit, the Ambassador delivered an inspiring talk titled, “*Africa and the Future of Global Research*,” emphasizing the importance of international partnerships in advancing discovery. Her visit represents an important step in strengthening connections between UNCG and institutions in Tanzania, opening new possibilities for joint research, student exchange, and educational initiatives.

Expanding Research Training Opportunities for Students: During the Summer of 2025, funding from the National Science Foundation (NSF) and the Department of Defense (DoD) enabled UNCG to host multiple summer research programs designed to provide high-impact, hands-on training experiences for both high school and undergraduate students. These initiatives not only expanded access to research but also positioned UNCG as a hub for developing the next generation of researchers.

- The **UNCG Science Explorers Program**, supported by NSF, opened the campus to high school students in grades 10–12. Participants engaged in laboratory-based research and discovery activities guided by faculty and graduate mentors. Beyond technical training, students gained exposure to the culture of research, teamwork, and scientific communication. By immersing these students early, UNCG is helping to cultivate long-term interest in STEM fields and preparing them to transition successfully into higher education and advanced research opportunities.
- Through the support of the **Draelos Science Scholars Program**, 10 UNCG professors served as dedicated research mentors to 17 of the most talented high school students from across the Triad. Over the course of the summer, these students engaged in hands-on research within UNCG laboratories, working in diverse disciplines including computer science, chemistry, biochemistry, kinesiology, biology, nutrition, and psychology. Under the close guidance of their faculty mentors, students gained exposure to advanced scientific techniques, developed problem-solving skills, and experienced the collaborative nature of academic research. This mentorship not only fostered meaningful professional relationships but also provided students with an early pathway to higher education and careers in STEM fields, reinforcing UNCG’s role as a leader in cultivating the next generation of scientists and innovators.
- Complementing this initiative, the **Defense Research Experience and Mentored Career Exploration Program (DREaM)**, funded through the DoD, provided immersive training for undergraduates in the field of defense science and technology. Through UNCG’s newly established institute, iCOMMAND, the university served as the state’s headquarters for the DEVCOM Soldier Center, enabling the recruitment of students from across North Carolina. Participants received training in areas directly tied to national defense priorities and engaged in collaborative projects with real-world applications. A highlight of the program included a visit and tour of the Soldier Center in Natick, MA, where students witnessed cutting-edge research, interacted with scientists and engineers, and connected their academic training to potential career pathways in defense research.



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