

BRIC Bulletin

Fall 2025

Introducing the Future of Research: Next Generation of Scientists

HIGHLIGHTS

NEXT GENERATION
SCIENTISTS

FIRST ANNUAL REGEN
MED PUBLIC DAY

HBCU RaCE GRANT

COLLABORATION AWARD

BRIC IN THE PUBLIC

WELCOME TO BRIC

Our BRIC student researchers play a vital role in advancing hands-on scientific discovery at WSSU. In our laboratories, students gain real-world experience in cell culture, cell viability testing, and chemical synthesis and analysis. From maintaining healthy cell lines to evaluating how cells respond to different compounds, they help drive meaningful projects that support faculty research and contribute to the scientific community. Their work not only strengthens their technical skills but also prepares them for future careers in biomedical and health sciences.

"As a Biological Sciences major with research interests in plant physiology, regenerative medicine, and space biology, I plan to pursue an MD/PhD focused on regenerative medicine and biological systems in extraterrestrial environments. My aim is to contribute to the advancement of human health and sustainability on Earth and beyond."



Gabrielle Erwin

Congratulations Gabrielle

Her Abstract, "Assessing Pulmonary Toxicity of Spaceflight Associated VOCs Using Human Lung Organ Tissue Equivalent," has been selected to receive a Travel Award for the 2026 Emerging Researchers National (ERN) Conference in STEM.

Next Generation (cont.)

“My name is Kalaysia Fulp, and I am a Chemistry major preparing for a future career in medicine. Through my work with the BRIC department, I hope to deepen my understanding of cancer therapeutics and regenerative medicine while gaining hands-on experience in the lab. I aim to apply the critical thinking and technical skills I develop in the lab to strengthen my medical school foundation, connecting molecular processes to patient care and advancing my ability to approach medicine through a research-informed perspective.”



Kalaysia Fulp



Aisha Yakubu

“My name is Aisha Y. I am a biology major (concentration is pre-health). I plan to either go to medical school or pharmaceutical school in the future. If I am unable to do either of those, I plan on getting a graduate degree in biology. For my future career, I want to become a pharmacist/pharmacologist or doctor. I am also considering becoming a researcher. I hope to learn valuable lab skills as a research assistant in the BRIC department in order to boost my knowledge and ability in the lab so that I am able to make medicine or research diseases. I also hope to learn about the method of making medicines in order to test their effectiveness and if they can be used to cure illnesses.”

“My name is Dana Harge and my major is Pre- Nursing. After graduation, I plan to become a Certified-Registered Nurse Anesthetist. I aim to persevere in learning more about in vivo studies, and in-vitro culture mechanisms while working at the BRIC) department. I hope to acquire a deeper understanding of how certain cells and small molecules interact with one another under unique internal and external environments, to better connect the concept of how different molecules and drugs affect the human body on a day-day basis.”



Dana Harge

Next Generation (cont.)



Joy Jordan

“Hi, my name is Joy Jordan, and I am a junior majoring in Exercise Science. After graduation, I plan to enter a Doctor of Physical Therapy program and become a licensed physical therapist. Through the BRIC department, I hope to deepen my understanding of research by learning more about experimental design, cell maintenance, and data interpretation as I contribute to ongoing projects that support the department’s mission.”

“Hi, I’m Ashden Johnson, a junior Biology major with a minor in Public Health at Winston-Salem State University. I’m originally from Raleigh, NC, and I’m passionate about the intersections of science, health, and community. I’m working toward a future in healthcare where I can make a meaningful impact, especially in supporting underserved populations!”



Ashden Johnson



Jaquelin Dominguez-Perez

“My name is Jaquelin Dominguez-Perez I’m a senior at WSSU majoring in Chemistry with a minor in Biology. I’m working toward a career as a Physician Assistant and want to use my science background to support my future work in healthcare. I’m grateful for the opportunity to conduct undergraduate research at BRIC. Being part of a research team has allowed me to apply the concepts and laboratory techniques I’ve learned in my courses while also gaining new skills. Through this experience, I have gained confidence in laboratory techniques, strengthened my problem-solving abilities, and built skills that will be valuable in PA school and in my professional career.”

BRIC Welcomes Dr. Lawrence

Winston Salem State provost Dr. Stevie L. Lawrence II recently visited the Biomedical Research Infrastructure Center. During his visit, he was able to see WSSU students interacting in the lab as part of a class, as well as observing students performing cell cultures for research. Dr. Lawrence even received hands-on experience trypsinizing cells and observing cell growth.



Researcher Spotlight

“My role as a Research Assistant Professor allows me to devote 100% of my effort to exploring new frontiers in Regenerative Medicine. Currently, my lab is leveraging support from the NSF Engine ITEC and the WSSU Catalyst Program to develop a universal stem cell culture medium and unravel the fundamental metabolic-epigenetic dialogue that guides cell fate. I am grateful to contribute to WSSU's strategic research goals through this work. A vital and rewarding part of my mission is mentoring undergraduate students. Although I am not teaching in the classroom, I give research training to students in my lab. I strive to provide them with more than just technical skills in cell culture and molecular biology; I aim to develop their scientific intellect through rigorous training in critical thinking, data interpretation, and presentation. This foundation prepares them for success in the future paths they pursue, from medicine to industry.”



Dr. Zhan Wang

Regenerative Medicine Public Day

The Wake Forest Institute for Regenerative Medicine (WFIRM) hosted its inaugural "Regenerative Medicine for All Public Day" on June 9, 2025, at Wake Forest Biotech Place in Winston-Salem, North Carolina. This free, interactive event was designed to engage K-12 students, educators, families, and the general public in the evolving field of regenerative medicine. Attendees explored cutting-edge science through hands-on activities, virtual reality experiences, and exhibits showcasing the latest advancements in biotechnology. The event also featured panel discussions with professionals and students, providing insights into career pathways and educational opportunities in the field.



BRIC team members participated in hosting activities and networking for Winston Salem State during the event. Dr. Presley led a session highlighting her research on the effect of sound waves on cell growth and proliferation. At the end of the session, hands-on science activities were available for the public to try, including a chemical reaction activity with Dr. Ryan Fitzgerald. Dr. Zhan Wang, Dr. Sarah Adjei Fremah, and Dr. Jill Keith led activities at the tables and networked with the public. During this time, BRIC made important connections with other entities and institutions, as well as recruiting for students and staff.



BRIC's own Michael McNeil participated in a popular discussion panel that highlighted the importance of HBCUs involvement in regenerative medicine. Several WSSU faculty and staff also joined in learning the latest work in regenerative medicine during the Regenerative Medicine Essentials summer course.

HBCU RaCE Launches to Boost Research Collaboration

Members of Winston-Salem State's BRIC team are joining Historically Black Colleges and Universities Research and Collaboration Exchange (HBCU RaCE), a groundbreaking initiative aimed at building a connected network of HBCU researchers and shared research infrastructure.

HBCU RaCE will enhance research capacity across individual, organizational, and institutional levels by providing a centralized researcher database, shared user facilities, and a virtual collaboration space to foster partnerships and professional growth. This effort addresses persistent barriers faced by HBCU faculty—such as limited time, resources, and networking opportunities—and will open new pathways for collaborative research, grantsmanship, and innovation.

Despite representing only 3% of U.S. postsecondary institutions, HBCUs award a disproportionate share of STEM degrees to African American students and produce a significant number of future Ph.D. holders. However, they receive less than 1% of federal research funding. HBCU RaCE aims to bridge this gap by unlocking the untapped potential of HBCU researchers, supporting their contributions to U.S. scientific competitiveness, and fostering a sustainable, inclusive research ecosystem.



Instructions for signing up have been emailed to staff and faculty that have expressed interest, but if you did not receive an email and want to be a part of the HBCU RaCE network, please contact our program manager at thomasjc@wssu.edu.

Regenerative Medicine Engine Named Collaboration of the Year by Greater Winston-Salem Inc.

SOURCE: REGENMEDENGINE.COM



The Regenerative Medicine Engine, a dynamic innovation ecosystem for the regenerative medicine industry, received the Truliant Collaboration of the Year Award from Greater Winston-Salem Inc. at the chamber's annual meeting Tuesday night. The RegenMed Engine, based in North Carolina and funded by the National Science Foundation as a grant to the Wake Forest Institute for Regenerative Medicine, is the first-of-its-kind ecosystem dedicated to economic growth by advancing the regenerative medicine industry. The RegenMed Engine bridges gaps in infrastructure and commercialization pathways, ultimately accelerating regenerative medicine innovations to market while reducing costs, improving manufacturing, and creating jobs and economic growth.

"The Regenerative Medicine Engine exists solely for the service of our partners across industry, academia, and the government. Not only does the RegenMed Engine provide critical services to our partners—such as state-of-the-art equipment, business consulting, investor-company matching, and regulatory navigation—but equally as important, we help connect our partners so that they can collaborate and leverage each other in the name of advancing their innovations," said Tim Bertram, PhD, CEO of the RegenMed Engine.

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The RegenMed Engine has nearly 200 partners, including lead partners in the Wake Forest Institute for Regenerative Medicine, the Regenerative Medicine Development Organization, Forsyth Technical Community College, Winston-Salem State University, North Carolina A&T State University, and Axiom Space. To date, the RegenMed Engine has attracted nearly \$300 million worth of investment to its ecosystem, helped create more than 50 jobs, and expanded the talent pipeline through high school, college, and industry internship opportunities. Nearly 30 of its industry partners have committed to expanding their footprint and workforce development opportunities in the Triad.

“Organizations like the Regenerative Medicine Engine are vital to Winston-Salem. Economic growth, especially in an emerging industry like regenerative medicine, cannot be achieved alone,” said Mark Owens, President and CEO of Greater Winston-Salem Inc. “Greater Winston-Salem Inc. is proud to honor the RegenMed Engine for the work it is doing to make our city and region a magnet in the regenerative medicine industry.”

The Regenerative Medicine Engine has helped its partners achieve significant milestones, such as:

- Award of a U.S. patent for an immune-evasive cell technology (Pluristyx’s iACT Stealth)
- First clearance from the FDA for a regenerative medicine diagnostic tool (Epredia’s E1000 DX)
- Commercial launch of an FDA-cleared multi-tissue platform for aesthetic uses (FetTech’s ReyaGel)
- Creation of closed system for cell therapy and advanced biologics workflows (Collaboration between BioSpherix’s Xvivo and Cellbox Solution’s incubators)
- Recognition by Time Magazine as a Best Invention of 2025 (Brinter’s 3D bioprinted tissues)
- Award of an FDA Breakthrough Designation for a kidney preservation device (BMI OrganBank’s OrganBank Kidney)

Earlier this year, the Regenerative Medicine Engine expanded its services area from the Piedmont Triad region to the entire state of North Carolina as it recognized significant demand for its offerings in its first year.

The Regenerative Medicine Engine was one of nine inaugural Regional Innovation Engine awardees by the National Science Foundation. The RegenMed Engine initially received \$15 million in 2024 and is eligible, upon meeting certain standards and criteria, to receive total funding of \$160 million over the coming decade.

BRIC in the Public- Networking and Research

HBCU Entrepreneurship Empowerment Summit 2025

Dr. Jill Keith, Dr. Sarah Adjei Fremah, and Dr. Tennille Presley represented WSSU at the 2025 Summit at Howard University. This 3-day summit effectively combined education (skill-building workshops), access (capital & resources fairs), and recognition (awards & networking), positioning it as a catalytic event for the HBCU entrepreneurial community. It provided tangible takeaways—from AI-driven marketing strategies to funding pipelines—while fostering collaborative ecosystems at both institutional and national levels.



ABRCMS 2025



From left to right: Deja Fleming, Kailin Tart, Dr. Adjei-Fremah, Michael McNeil, Tyquandria Owusu



Winston-Salem State University students working in the Biomedical Research Infrastructure Center (BRIC) showcased their hands-on research in cell culture, viability testing, and chemical synthesis at the 2025 ABCRMS Conference. Their presentations highlighted the depth of undergraduate research training at WSSU and the impactful scientific contributions made by our emerging scholars.



Michael McNeil

Congratulations Michael

Michael was the recipient of a 2025 ABRCMS Poster Presentation Award in the Postbaccalaureate category of the Cell Biology division for his poster titled “Xeno-Free Media Optimization of Hepatic and Neuronal Cell Culture Using Chemically Defined Small Molecules”

WSSU STEMposium 2025

Members of the BRIC department participated in the annual STEMposium at Winston Salem State. This event hosted dozens of students from the area ranging from 1st grade to 7th grade. The focus of this year’s event was “Refresh, Renew, Regenerate”, which highlighted topics in regenerative medicine. Students discussed nanoparticle transport, limb regeneration, tissue scaffolding, nerve repair, and more. This event is part of a series of outreach programs provided by the education department at Winston Salem State University.





BIOMEDICAL RESEARCH INFRASTRUCTURE CENTER



The WSSU Biomedical Research Infrastructure Center (BRIC) is a Center of Excellence dedicated to basic biomedical and translational research. BRIC promotes the understanding and prevention of human diseases including heart disease, cancer, drug addiction, neurological disorders and pain. Our program nurtures undergraduates in a way that induces their interest in research and readiness for research careers.



Key Offerings and Services

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- Modern Laboratory Space & Shared Facilities
 - Faculty Development: pilot funds, grant support, manuscript review, collaboration facilitation
 - Student Research Opportunities
 - Collaborative Research Projects
 - K-12 Outreach Opportunities

