



**WINSTON-SALEM  
STATE UNIVERSITY**

*Biomedical Research  
Infrastructure Center*



Volume 2, Issue 4

Fall 2017 Newsletter

## A MESSAGE FROM THE DIRECTOR...

In the past academic year, the Biomedical Research Infrastructure Center (BRIC) has continued to focus on the effects of certain synthetic compounds on isolated biological tissues in several biomedical systems for translational purposes. Our synthetic compound laboratory continues to be fully operational with LC-Mass spectrophotometer to help quantify several organic compounds recently synthesized. These compounds are purported to have anti-hypertensive properties, specifically on blood vessels for a potential effect on adrenergic contractions. Early studies show that the compounds inhibited contraction in mesenteric arteries with varied efficacy suggesting that they may counteract some of the cardiotoxic effects of cocaine intoxications. This was done to tease out the probable anti-hypertensive properties and other possible benefits of the compounds as we move from the basic science toward translational research. The preliminary data from these experiments were presented in September at the Council for Hypertension Conference in Orlando, Florida for constructive feedback and was followed by manuscripts for peer review publication. BRIC's efforts to advance faculty engagement in biomedical research helps us to foster interactions with colleagues, collaborating institutions, and the community. In doing so, we are able to enhance student training and provide access to graduate or professional fields in biosciences. Our student-centered programs, MARC U\*STAR and NIGMS-RISE, are in the 10th year of establishment at WSSU with the sole purpose of training undergraduate students in biomedical sciences. Participants are prepared to compete for graduate education programs, leading to terminal degrees in biomedical sciences. This year, 9 participants of the programs completed their BS degree. Six of nine matriculated directly into graduate school in biomedical sciences leading to PhD degree, one joined a post baccalaureate program while the other two graduates entered other professions in STEM fields. We are proud to reflect that 100% of the program graduates are in the biomedical science field. Through these programs, over 75% of the past participants have matriculated into graduate or professional schools leading to M.S., M.A., PhD, PharmD, DDS, or MD degrees. BRIC's aim is to develop an educational pipeline from lower to upper class levels of students centered on a four-stage training model that aims to increase the pool of underrepresented students who gain admission into graduate and professional programs. Many others are either in the pipeline or work in STEM fields. BRIC continues to enjoy a rich and successful heritage of fostering research collaboration and science training of its students while strengthening the institution's research capacity through shared resources.



*Dr. Azeez Aileru, Director*

Maximizing Access to Research Careers

## MARC U\*STAR

Undergraduate Student Training in Academic Research

undergraduate students in STEM fields, focusing on maximizing access to hands-on research and improving their preparation for high caliber training in biomedical and biobehavioral research at the graduate level, ultimately leading to biomedical research careers. Since 2007 at WSSU, the program aids in strengthening both science course curricula and the pedagogical skills of faculty, while providing meaningful mentored biomedical research training for undergraduates who are in the STEM fields, preparing them for a postgraduate education leading to a PhD, MD/PhD, or other PhD combined professional degree in the biomedical or biobehavioral science field. There are currently four Scholars: two juniors in their first year of appointment, and two seniors in their second year of appointment. Two MARC scholars graduated in the Spring of 2017 and both matriculated directly into competitive PhD programs in biomedical science.

The Maximizing Access to Research Careers Undergraduate Student Training in Academic Research (MARC U\*STAR) program is instrumental in enhancing the training of underrepresented (UR)



Leading with ideas

## IN THIS ISSUE

MARC Graduates	2
MARC/RISE Scholars	3
Spring 2017 Seminar Series	4
WSSU Scholarship Day	4 & 5
ABRCMS 2016	5
Research Experience	6
Where Are They Now?	7
BRIC Staff	8



The National Institute of General Medical Services - Research Initiative for Scientific Enhancement (NIGMS-RISE) program at WSSU consists of a multi-stage training model, grooming underrepresented undergraduate students, starting in their freshman year and continuing through to their senior year, with the focus on increasing the number of students entering and completing graduate education in the biomedical sciences. Currently, there are 15 RISE Scholars (lowerclassmen) who are in their freshman and sophomore years. They have begun a supportive peer-learning community and are exposed to different research careers where they participate in professional development activities and workshops, as well as take an intensive

laboratory research methods course in their sophomore year. The RISE program at WSSU has a primary focus on biomedical/behavioral sciences, combined with an approach of garnering incoming freshmen to participate in activities, aimed at maximizing the students' academic performance, helping with their professional development, as well as informing them of the benefits of pursuing research-related careers in the biomedical sciences. Students are trained to develop research laboratory skills and are exposed to the expectations of graduate-level education. In addition, they attend scientific conferences and participate in peer support groups to encourage cohorts and collaborations. All RISE scholars attended 2016 Summer Research Experience programs, mostly in research-intensive institutions. All are slated to present their data at the 17th ABRCMS Conference in November.

Maximizing Access to Research Careers

## MARC U\*STAR

Undergraduate Student Training in Academic Research



**Lanazha Belfield** graduated with a B.S. in Biology. Lanazha's MARC mentor was Dr. Tennille Presley. Her primary research focus was the thermodynamic regulation of cardiovascular stability in type 2 diabetes.

Lanazha is currently in the Molecular and Cellular Biosciences PhD Program at Wake Forest University.



**Zipporah Foster** graduated with a B.S. in Psychology. Zipporah's RISE mentor was Dr. Amber DeBono. Zipporah's primary research focus was on the influence of social factors on student-athlete's motivation and relations with coaches.

Zipporah is currently in the General Psychology Masters Program at Eastern Kentucky University.



**Kiana Rushdan** graduated with a B.S. in Biology. Kiana's RISE mentors were Dr. Azeez Aileru and Dr. Mesia Steed. Her primary research focus was on the increased expression and activity of matrix metalloproteinase in isolated abdominal aorta during hypertension.

Kiana is currently pursuing a Post-Bach/graduate program in Biomedical Sciences.



**Eric Pridgen** graduated with a B.S. in Mathematics. Eric's RISE mentor was Dr. Mark Hunnell. His primary research focus was on the conjugacy class representatives for finite order inner automorphisms of  $sl(3)$ .

Eric is currently in the Master of Science in Applied Analytics Program at Columbia University.

## 2017 GRADUATES



**Khala Clemons** graduated with a B.S. in Exercise Physiology. Khala's RISE mentor was Dr. Chad Markert. Her primary research focus was on the effects of short and long bouts of high-intensity training on circulating biomarkers.

Khala is currently in the Masters Program in Exercise Science at Life University in Marietta, Georgia and plans to pursue a doctorate in Physical Therapy at Wingate University.



**D'Niqua Murphy** graduated with a B.S. in Exercise Physiology. D'Niqua's RISE mentor was Dr. Azeez Aileru. Her primary research focus was on the modified alginate for controlled drug delivery.

D'Niqua is anticipating pursuing a graduate program in Physical Therapy.



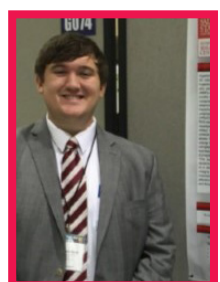
**Victoria Sedwick** graduated with a B.S. in Chemistry. Victoria's RISE mentor was Dr. A Bakarr Kanu. Her primary research focus was on the method validation parameters for drugs and explosives in ion mobility spectrometry (IMS).

Victoria is currently in the Biomedical Sciences PhD Program at Albert Einstein College of Medicine.



**Beverly Dosso** graduated with a B.S. in Chemistry. Beverly's MARC mentor was Dr. Soto-Pantoja. Her primary research focus was overcoming resistance to cancer therapy by targeting CD47.

Beverly is currently in the Integrative Physiology and Pharmacology PhD Program at Wake Forest School of Arts and Sciences.



**Christopher Shew** graduated with a B.S. in Biology. Christopher's RISE mentors were Dr. Azeez Aileru and Dr. Mesia Steed. His primary research focus was on the role of matrix metalloproteinase in thoracic aorta remodeling in hypertension.

Christopher is anticipating pursuing graduate studies in the near future.



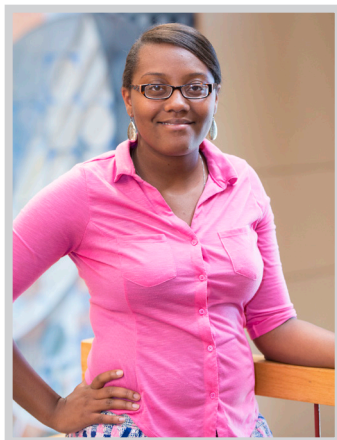
Maximizing Access to Research Careers

# MARC U\*STAR SCHOLARS 2017-2018

Undergraduate Student Training in Academic Research



**ADRIANCE EDINGTON** is a Senior Biology major  
Mentor - Exazevia Logan, PhD



**ZAKIYAH HENRY** is a Junior Biology major  
Mentor - Tennille Presley, PhD



**ANNE LENZO** is a Senior Biology major  
Mentor - Leah Solberg-Woods, PhD



**TANYA ZUBOV** is a Junior Biology major  
Mentor - Manju Bhat, PhD

## 2017-2018 RISE SCHOLARS

Lakhia Fuller, Junior Biology major,  
Mentor - Louis Allen, PhD  
Guy Blackmon, Senior Biology major,  
Mentor - Azeez Aileru, PhD  
Asia Hoke, Senior Biology major,  
Mentor - Exazevia Logan, PhD  
Toneia Washington, Junior Chemistry major,  
Mentor - Maria Ngu-Schwemlein, PhD  
Imani Clark, Junior Biology major,  
Mentor - Jeffery Meixner, PhD  
Joshua Waller, Junior Exercise Science major,  
Mentor - Azeez Aileru, PhD  
Thomas Fair, Senior Exercise Physiology major,  
Mentor - Azeez Aileru, PhD  
Ziaqueria Short, Junior Biology Major,  
Mentor - Stephanie Dance-Barns, PhD  
Brandon Travis, Sophomore Biology major,  
Mentor - William Booth, PhD  
Abbas Mohamed, Junior Biology major,  
Mentor - John Yi, PhD  
Sierra Sledge, Senior Psychology major,  
Mentor - Naomi Hall-Byers, PhD  
Jazmyn Edwards, Senior Sociology major,  
Mentor - John Yi, PhD  
Shabreya Vample, Junior Biology major,  
Mentor - David Kump, PhD

Aireal Eaton, Senior Chemistry major, Mentor (TBD)  
Chara Major, Senior Psychology major,  
Mentor - Naomi Hall-Byers, PhD  
Janai Gaston, Senior Biology major, Mentor (TBD)  
Dynasty Parker, Junior Chemistry major,  
Mentor - John Yi, PhD  
Kari Dawson, Senior Biology major,  
Mentor - Louise Allen, PhD  
Michelle Murray Garcia, Senior Chemistry major,  
Mentor - Sezgin Kiren, PhD  
Nmyia-Imari Collins, Senior Psychology major,  
Mentor (TBD)  
Tevin Williams, Senior Psychology major,  
Mentor (TBD)  
Kelsey Foust, Senior Biology major, Mentor (TBD)



## SPRING 2017 SEMINAR SERIES

**1/17/17** - Opening Meeting of Spring Semester, Dr. Azeez Aileru, the Director of BRIC welcomed the MARC/RISE Scholars for the spring semester. RISE Scholars were matched with their mentors.

**1/24/17** - Exazevia Logan, PhD Assistant Professor, Biological Sciences, WSSU, Personal Statement Workshop

**1/31/17** - Students presented their research and shared what the MARC/RISE Programs meant to them - Lanazha Belfield, Beverly Dosso, Eric Pridgen and Zipporah Foster

**2/7/17** - Lolita Forrest, PhD, Clinical Research Specialist, Oncology Research, Rex Cancer Center, UNC Healthcare

**2/14/17** - Students presented their research and shared what the MARC/RISE Programs meant to them - Victoria Sedwick, Khala Clemons, Kiana Rushdan

**2/21/17** - William T. Booth, II BSMT (ASCP), MS, PhD, PRIME/IRACDA Fellow, Department of Physiology and Pharmacology

**2/28/17** - Bryan Wilson, PhD, MBA, SPIRE Fellow, McAllister Heart Institute, UNC Chapel Hill

**3/7/17** - Career Development Services sponsored a Budgeting and Money Management Workshop

**3/21/17** - Students presented their research and shared what the MARC/RISE Programs meant to them - Jazmyn Edwards, Adriance Edington, Anne Lenzo, Guy Blackmon

**3/28/17** - Students presented their research and shared what the MARC/RISE Programs meant to them - Asia Hoke, Sierra Sledge, Thomas Fair

**4/4/17** - Practice Day for University Scholarship Day Poster Presentations

**4/11/17** - Debra Diz, PhD, Director, Hypertension and Vascular Research Center, Wake Forest University School of Medicine

**4/25/17** - Stephanie Dance-Barnes, PhD, Assistant Professor of Cell and Molecular Biology, Co-Chair, Department of Biological Sciences, WSSU

## Excellence WSSU Annual Scholarship Day

During the 6th Annual Scholarship Day, work from departments across the WSSU campus, including research by students, both undergraduate and graduate, as well as faculty across a wide range of disciplines, was presented. The exhibitions originated in classrooms, laboratories and community settings. A plethora of the projects have been prepared for presentation at various conferences across the county, such as the Annual Biomedical Research Conference for Minority Students (ABRCMS). As Provost Allen stated, "Scholarship Day provides an opportunity to celebrate research on our campus and to recognize the scholars who produce work." It is also a collaborative effort between the students and faculty. Scholarship Day is a vehicle

for highlighting some of the wonderful work that is taking place at WSSU. The Biomedical Research Infrastructure Center highlighted the work of the MARC and RISE scholars.

MARC U\*STAR Scholar Beverly Dosso captivated the audience with her passionate discourse as the Keynote Speaker for the WSSU 2017 Foundation Scholarship Luncheon.

**BEVERLY DOSSO** won 1st place Upper Classmen for her presentation on Blockade of CD47 Synergizes with Rapamycin to Overcome Therapeutic Resistant Breast Cancer.



**4/18/17** - Awards Ceremony. MARC/RISE Scholars and their Mentors celebrated the end of the academic year. Scholarship Day awards were given to students who excelled in their poster presentations. Graduating seniors were also honored. Dr. Flowers was honored with a Service Award for her dedication and exemplary leadership.

**VICTORIA SEDWICK** attained 2nd place Upper Classmen for her presentation on Combining Gas Chromatography, Gas Chromatography Mass Spectrometry and Principal Component Analysis to Facilitate Complete Detection and Identification of Fire Accelerants.

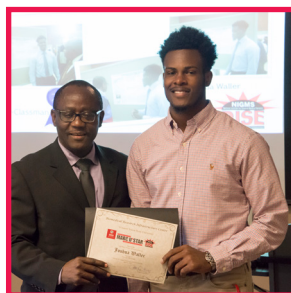
**GUY BLACKMON** took 3rd place Upper Classmen for his presentation on Angiotensin Receptor Sub-Type 1 (At1) Expression In the Superior Cervical Ganglia Mediates Sympathetic Transmission In Mren-2 Transgenic Model of Hypertension.



## Excellence WSSU Annual Scholarship Day



**TANYA ZUBOV** received 1st place Lower Classmen for her presentation on Regulation of Calcium Signaling by Propofol Analogs: Effects on Capsaicin- and Ryanodine Receptors.



**JOSHUA WALLER** tied for 2nd place Lower Classmen for his presentation on Voltage-Gated Calcium Channels in Vascular Smooth Muscle Cells: an Electrophysiological Approach to Study Calcium Handling in the Aorta During Hypertension.



**LAKHIA FULLER** tied for 2nd place Lower Classmen for her presentation on Examining Natural Noise and Behavioral and Physiological Responses In Wild Vertebrates: A Research Plan.



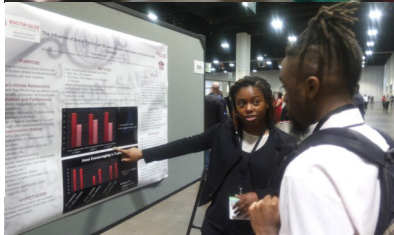
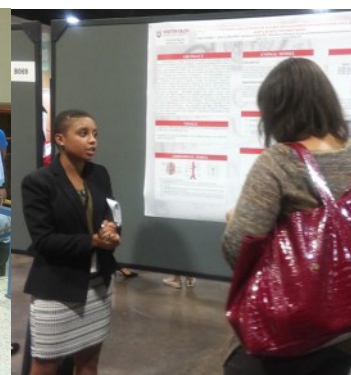
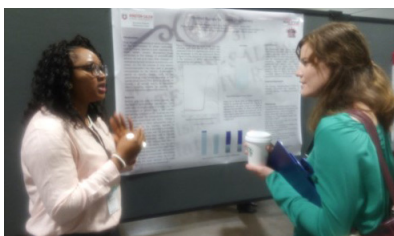
**ABBAS MOHAMED** took 3rd place Lower Classmen for his presentation on Conformational Landscape of Biomolecules in Biotin.



## ABRCMS 2016



The 2016 Annual Biomedical Research Conference for Minority Students was held in Tampa, FL. Over 4,050 people attended ABRCMS 2016, making it the largest, professional conference for biomedical students, attracting undergraduate and graduate level students from over 285 U.S. colleges and universities. ABRCMS serves as a key stepping stone enhancing the scientific and professional development of young scientists. The conference is designed to encourage underrepresented minority students to pursue advanced training in the biomedical and behavioral sciences, and provide faculty mentors and advisors with resources for facilitating students' success. Representatives from graduate programs at US colleges and universities as well as scientists from government agencies, foundations, and professional scientific societies join ABRCMS in the exhibitors program to share information about graduate school and summer internship and research opportunities, funding sources, and professional networks.



**Lanazha Belfield won Best Oral Presentation in Physiology**

**Beverly Dosso won Best Poster Presentation in Cancer Biology**

**Victoria Sedwick won Best Poster Presentation in Chemistry**





# MARC, MARC Affiliates & RISE Graduates: WHERE ARE THEY NOW?

## MARC & MARC AFFILIATE GRADUATES:

**Ramine Alexander, MA, PhD** received her Master's degree in Public Health and PhD in Human Nutrition, from Virginia Polytechnic Institute and State University (Virginia Tech) May of 2016.

**Antentor Hinton, Jr., PhD** is completing his Post-doc at the university of Iowa.

**James Johnson** is a PhD Candidate at Meharry Medical College specializing in neuroscience. He is working with Dr. Eun-Sook Lee on a project entitled "Effect of Valproic Acid on Manganese-Induced Impairment of Glutamate Transporters."

**Lassiter Speller** is completing his PhD degree in Cognitive/Experimental Psychology specializing in Human Performance at Ohio State University. He received his Master of Arts (M.A.), Cognitive Psychology.

**Ashley Taylor** is in her fifth year of pursuing a PhD degree in Chemistry at Louisiana State University. She is working in a polymer synthesis lab under the direction of Dr. Donghui Zhang in the macromolecular division.

**Tempestt Evans** is at the University of North Carolina at Chapel Hill School of Dentistry. She is expected to finish may 2018.

**Jasmine Richardson** completed her PharmD program at Campbell University College of Pharmacy & Health Sciences in May 2015. Currently completing her Pharmacy internship.

**Samantha-Rae Dickenson** is as an Accreditation Specialist at the Council of Education for Public Health in Silver Spring, Maryland. She completed an Master's degree in Public Health at UNC-Charlotte.

**Jacqueline Jackson** is currently working for Promega Corporation in Madison, WI as a Production Scientist. She obtained her Master's degree in Cancer Biology from the University of Wisconsin-Madison.

**Kamedra McNeil** is a Forensic Science Technician at the Department of Forensic Science in Washington, D.C. She recently received a Master's degree in Computer Information Systems from Strayer University. Ms. McNeil plans to further her education by obtaining a PhD degree in either Forensic Biology or Biotechnology.

**Tierra Rudd** is presently the Assistant Women's Basketball Coach at Western Carolina University. She holds a Master's degree in Psychology with a specialization in Counseling from the University of West Florida.

**Jamila Green** received her Master's Degree, in Community Social Psychology at the University of Massachusetts Lowell. Currently

working as and Educator in the Charlotte Mecklenburg County School System.

**Ashley Moore** is completing a Master of Public Health degree at Liberty University in Lynchburg, Virginia. Upon completion, she plans to apply to Liberty's medical school.

**Manuela Rigaud** received her Master's degree in Developmental and Child Psychology from the Teachers College, Columbia University in New York City. Currently working as a Research Assistant.

**Jatyra Rivers** received a Master's Degree in Public Health. Currently working as an Associate Project Coordinator.

**Brittany Cleckley** is a Business Development Intern. She will be pursuing a Master of Public Health degree, in the very near future.

**Micha Myers** is currently employed as a Health Equity Ambassador for the Maya Angelou Center for Health Equity. She is actively working on two manuscripts with Dr. David Mount of the Maya Angelou Center for Health Equity at Wake Forest Baptist Medical Center.

**Joab Odera** is a third year PhD student at the Integrated Biosciences Program, North Carolina Central University.

**Domonique Battle** is currently working as a Pharmacy Technician and doing research at Johns Hopkins Bloomberg School of Public Health.

**Ashlee Clark** received a Master's degree in Biomedical Sciences and Neuroscience at Wake Forest University Health Sciences.

**Edie Pettiford** is in her 2nd year in the PhD program at Campbell University.

**Keren (Pereda) Ferris** received a Masters of Public Health (MPH), Public Health Education and Promotion.

**Jessica Clark** will receive her Master's degree in the area of biomedical sciences in August 2016 at which time she will apply to medical school in the fall.

**Olivia Franklin** is currently attending Idaho State University and in her second year of the Master's program in Anthropology.

**Tari Cox** is currently in the Clinical Psychology Graduate Program at the University of Western Carolina.

**Amari Lewis** is currently in the Computer Science Graduate Program at the University of California at Irvine.

**Jason Riley** is currently in the Master of Social Work Graduate Program at the University of Michigan.

**Shaina Yates** is currently in the Molecular and Biosciences Graduate Program at the

Wake Forest University Graduate School of Arts and Sciences.

## RISE GRADUATES:

**Taylor Harris** is currently in her second year in the PhD program at the University of South Florida in Tampa with her area of focus is Analytical Chemistry.

**Kiara Vann** is a PhD candidate in her fourth year in the PhD program in Biomedical Sciences at Morehouse School of Medicine. She was the second author on a recent publication.

**Remi Royal** has received her Master's degree in Physiology and Integrative Biology at Rutgers University in January 2013. She has received a second Master's degree in Secondary Education with a certification in Biology at Chestnut Hill College (Philadelphia, PA) in August 2014.

**Kimberly Hunter** is presently working as a Data Analyst at Johnson C. Smith University. She received her Master's degree in Experimental Psychology at New Mexico State University.

**Ejiroghene Arhagba** is in the third year of the Master's program in Chemistry at North Carolina A&T State University.

**Anthony Dixon** completed his MS degree in Occupational Therapy at WSSU in December 2015.

**Ebone Evans** is a second year medical student at East Carolina University Brody School of Medicine. She graduated in May 2014 with a BS degree, summa cum laude, in Biology.

**Michelle Wright** is currently working on a Master of Public Health degree with a concentration in Community Health Education at the University of Tennessee, Knoxville. She graduated in May 2014 with a BA degree, cum laude, in Psychology.

**Georges Guillaume** beginning graduate studies at Washington University School of Medicine in St. Louis MO August 2016.

**Jamil Hopkins** is presently a Financial Advisor at Modern Woodmen of America in his hometown of Cary, NC. He may pursue graduate school soon.

**Ashley Tucker** is currently an Economic Development Analyst. Currently pursuing a double Master's degree one in Public Administration - Community Economic Development expected graduation May 2017; the second in City/Urban, Community and Regional Planning - Economic Development expected graduation in May 2018.

**For December 2016 and May 2017 Graduates, please refer to page 2.**

## BRIC STAFF



**AZEEZ AILERU, PhD**  
Program Director  
p 336.761.5899 ■ f 336.761.2239  
Email: aileru@wssu.edu



**PATRICIA D. FLOWERS, PhD**  
Program Coordinator  
p 336.761.5896 ■ f 336.761.2239  
Email: flowerspd@wssu.edu



**ALVITA BYERS**  
Program Specialist  
p 336.761.5898 ■ f 336.761.2239  
Email: byersal@wssu.edu



**MARGIE GRAVES**  
Program Associate  
p 336.761.2240 ■ f 336.761.2239  
Email: gravesm@wssu.edu



MARC U\*STAR and NIGMS-RISE programs are supported by The National Institute of General Medical Sciences (T34 GM070416 and R25 GM113774), National Institutes of Health.