

# FACULTY SCHOLAR SHOWCASE

## FOR THE LOVE OF INTERDISCIPLINARY INTELLECTUAL EXCHANGE

### Neuroprotective Effects of Estrogen During HIV Exposure



**KIMBERLY S.  
WILLIAMS, PH.D.**

**Environmental  
and  
Health Sciences**

Dr. Kimberly Williams is an assistant professor at Spelman College in the Environmental and Health Sciences Program. She graduated from Benjamin E. Mays High School and earned her Bachelor of Science from Johnson C. Smith University. Dr. Williams conducted her first research experience at the University of North Carolina-Charlotte and later studied developmental changes in N-Methyl-D-aspartic acid (NMDA) receptors. She earned her Ph.D. in neuroscience from the University of North Carolina Chapel Hill in 2015, where she identified growth factor signaling as a potential therapeutic adjunctive strategy for HIV-associated neurocognitive disorders. She completed her postdoctoral fellowship at the University of Pennsylvania and served as a visiting professor at Rutgers-Camden University and Lincoln University. Her career goals include leading a translational research program focused on developing targeted therapeutics for mental health disorders influenced by neuroinflammation and increasing diversity in biological sciences.

### Gene Cloning of ADP Ribosylation Factor 6



**JANAE BAPTISTE  
BROWN, PH.D.**

**Chemistry and  
Biochemistry**

Myristoylation is a co-translational modification occurring at the N-terminus of proteins that regulates inflammatory responses, immune modulation, and even virus-host interactions. Myristoylation involves the transfer of the myristoyl moiety, a fourteen-carbon saturated fatty acid, from myristoyl coenzyme A (CoA) to the substrate protein by N-myristoyltransferase (NMT), where previous studies have demonstrated that the myristoyl moiety is covalently bound to the  $\alpha$ -amino group of the N-terminal glycine. Although Lys myristoylation at the  $\epsilon$ -amino group was reported as an alternative myristoyl acceptor roughly 30 years ago, the enzymes that catalyze this reaction were only recently identified as NMT 1/2. ADP-ribosylation factor 6 (Arf6), a GTPase that controls endocytosis and cytoskeleton organization, was identified as both the first Lys myristoylated substrate and dimyristoylated protein; however, the structure of the myristoylated Arf6 and the precise mode of myristoyl regulation have yet to be uncovered. Given the potential implications that Arf6 myristoylation may have on health concerns ranging from bacterial infections to cancer, my research aims to structurally, biochemically, and kinetically characterize Arf6.

This meeting will be held via Zoom video conferencing.  
To join the meeting, please click on the link provided below.

**Join the Meeting**

**Meeting ID: 930 9107 7912 | Passcode: 136934**