Name:
Maleshia Jones

Hometown:
Hyattsville, MD

Status:
Masters Student

Department/University:
Virginia Polytechnic Institute and State University (Virginia Tech),
Mechanical Engineering

Undergraduate Institution and Major:
University of Maryland, Baltimore County (UMBC), B.S. Mechanical Engineering

Current Activities/Hobbies:

- Black Graduate Student Organization (BGSO) at Virginia Tech, Programs Chair
- Mechanical Engineering Graduate Student Council, Council Member
- Freelance Photographer (Imprints by Maleshia J. Photography)

Involved with NSBE in the past?:

I have been fully involved with NSBE since I matriculated into undergraduate studies in 2008 at UMBC until the present day. I have served various leadership roles,
including programs chair, telecommunications chair, chapter president, as well as graduate student liaison for the undergraduate retention program during my time at Virginia Tech. I have had the opportunity to attend various zone summits, RLC's, FRC's, and national conventions as an active member. NSBE has provided me with many opportunities to fellowship and network with a diverse group of Black Engineers, serve with community service and leadership, and develop a pipeline for others to follow behind me.

Why did you choose to attend Graduate School?:
I chose to attend graduate school to delve deeper into topics in mechanical engineering, to challenge myself, experience personal growth, and feed my curiosity. I also had a revelation during a summer research internship at Georgia Tech Lorraine (in Metz, France) that my destiny was to be a lifelong thinker and work towards addressing challenging problems, and a graduate degree would enable me to do so.

My participation in the Meyerhoff Scholarship Program at UMBC is also a very integral factor in why I chose to attend graduate school. AT UMBC, I was continually challenged, motivated, supported, and encouraged by administrative staff and faculty mentors to dream big, get outside of my comfort zone, build my network, and consider the prospect of graduate studies to advance my education. The hundreds of successful scholars of color that have paved the way for me has inspired me and gives hope that anything is possible.

Me continuing my education was a way for me to give back to those who poured into me so much, believed in me, and a way for me to pay my respect and gratitude. I do not do this for just myself, but for those following in my footsteps. I consider myself a triple threat - an underrepresented woman in engineer in a field dominated by middle-aged, white males and I aim to serve as a positive role model, improve the statistics for women in engineering, showcase excellence, and become independent in the type of research that I want to conduct. We are

needed and greater representation of underrepresented scholars in STEM fields is necessary to change the paradigm for what looks like to excel.

Research summary:

Under the advisement of Dr. Christopher Williams, the director of the Design, Research, and Education for Additive Manufacturing Systems Laboratory (DREAMS Lab), my project involves using Additive Manufacturing (AM) technologies, also commonly referred to as "3D Printers," to explore how the adhesion properties are affected by various surface geometries & patterning of 3D parts in wet and dry conditions. My research will use a design of experiments approach and parametric system design as a mean to efficiently determine the significance of parameters, such as feature sizes, channel width, and packing, on adhesion performance. Findings from this study will also provide a design guideline for designing for AM as well as for optimizing adhesion properties for different applications, including biomedical applications, impact loading design, design of compliant mechanisms, etc, while keeping in consideration the limitations of the AM technologies.

Career goals:

My career goals after completing my Masters program in 2016 are to either work in industry, work in the research and development sector of a corporation, work in the area of engineering or design consulting, and/or work for a government facility or institution, while also being a freelance photographer. My ultimate dream career would allow me to fuse my passions for art, engineering, and design in order to provide innovative solutions for applications such as additive manufacturing technologies, biomedical engineering technologies, and architectural design. I also have an inclination towards serving roles as a teacher, mentor, and STEM advocate.