**Nykesha Fyffe**

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**INTERNSHIPS:**

**Engineer’s Assistant June 2018 to August 2018**

**North Carolina Department of Transportation**

**Sanford, North Carolina**

* Shadowed inspectors on multiple construction worksites (paving, resurfacing, culverts, and bridges).
* Handled and organized copious amounts of paperwork.
* Trained in quality assurance.
* Started and finished 10 construction projects as the lead inspector.

**RESEARCH:**

**Behavioral and Environmental Sensing and Intervention Study August 2017 to Present**

**North Carolina Agricultural State University, Greensboro, NC**

* Collaborating with the University of Virigina and the Carilion Clinic and working towards providing helpful interventions and timely alerts for caregivers taking care of individuals with dementia.
* Responsible for structuring, verifying, and analyzing environmental data and agitation data provided from the home of the caregiver and the person with dementia.
* Using SAS software to formulate a list decision rules used to theidentify redundant environmental factors and the environmental factors to be retained.
* Comparing the redundant factors and retained factors across the whole study.
* Finding evidence to observe the familial interactions of the person with dementia from the results of comparing study specific results.
* Completed training in Responsible Conduct of Research for Engineers, Social Behavioral Research Investigators,and Key Personnel from the Collaborative Institutional Training Initiative.

**Biophysics and Optical Science Facility Research Assistant September 2014 to May 2017**

**Appalachian State University, Boone, NC**

* Focused on maintaining the pressure and concentration within a fluidic device that was a part of an optical tweezer system and worked with myosin monomers in buffer and actin coated beads in buffer.
* Customized electronics and created a technique that aided in creating a pH meter equipped with a silver wire probe that assisted in maintaining constant pressure and concentration in the fluidic device.
* Led teams of other students by organizing printing of posters for conferences and meetings and responsible for all chemical safety guidelines in the laboratory.
* Engineered a synthetic sarcomere from myosin in buffer and actin coated beads in buffer.
* Constructed a custom-built automated optical tweezers system used for fluorescent imaging in the project that involved myosin and actin.
* Trained fellow research assistants with basic optics techniques.
* Completed training in Biomedical Research from the Collaborative Institutional Training Initiative.
* Accomplished taking part of the preliminary data for a project that focused around observing whether white blood cells could detect sound and move toward the sound.

**EDUCATION:**

**North Carolina Agricultural and Technical State University (NCAT),** Greensboro, NC **August 2017 – May 2019**

* M.S. Industrial and Systems Engineering
* 3.87 GPA

**Appalachian State University (ASU)**, Boone, NC **May 2017**

* B.S. Physics with a concentration in Applied Physics
* Minor: Mathematics
* 3.57 GPA

**CERTIFICATIONS:**

**Green Belt Six Sigma November 2018**

**PUBLICATIONS:**

**2018 Institute of Industrial and Systems Engineers Annual Conference May 2018**

Paper Title: Structuring Big Data using Principal Components Analysis and Decision Rules

Co-Authors: Nutta Homdee, Ridwan Alam, Dr.Hilda Goins, Dr. Smith-Jackson, Dr. John Lach

* Using SAS/STAT for analyzation.

**PRESENTATIONS:**

**Celebration of Student Research and Creative Endeavors April 2017**

Talk Title: *An Investigation of Pressure Wave Effects on White Blood Cells in the Frequency Range of Bacterial Flagella*

Co-Authors: Autumn Pridgen, Dr. Mark Venable, Dr. Brooke C. Hester

**The State of North Carolina Undergraduate Research Symposium November 2016**

Poster Title: *Fluorescence Imaging of an Actin Coated Bead*

Co-Authors: Michael A. Paolino, Sam V. Migirditch, Dr. Brooke C. Hester

**Celebration of Student Research and Creative Endeavors April 2016**

Poster Title: *Maintaining Constant Pressure and Concentration While Engineering a Synthetic Sarcomere*

Co-Authors: Jacob A. Cole, Dr. Brooke C. Hester

**The State of North Carolina Undergraduate Research Symposium November 2015**

Poster Title: *Maintaining Constant Pressure and Concentration within a Fluidic Device*

Co-Authors: James M. Dienst, Dr. Brooke C. Hester

**Celebration of Student Research and Creative Endeavors April 2015**

Poster Title: A Fluidic Device for Myosin-Actin Configuration Synthesis

Co-Authors: Tyler W. Foley, Joseph T. Craigle, Dr. Brooke C. Hester

**Conference for Undergraduate Women in Physics January 2015**

Poster Title: *Fluidic Device for Myosin-Actin Configuration*

Co-Authors: Tyler W. Foley, Joseph T. Craigle, Dr. Brooke C. Hester

**ORGANIZATIONS:**

**Institute of Industrial Engineers (IISE) January 2018 - Present**

Student Member

**Professional Management Institute (PMI) October 2018 – Present**

Student Member

**National Society of Black Engineers (NSBE) November 2018 – Present**

Student Member

**COMPUTER SKILLS:**

* **SAS Computer Software**
  + Using to analyze the environmental and behavioral data from the Behavioral and Environmental Sensing and Intervention, BESI.
  + Performing analysis test on big data in an effort to create a decision rule that identifies redundant data and decreases the size of the data set.
* **LabVIEW**
  + Used to analyze data from the optical tweezers apparatus in the Biophysics and Optical Science Facility at Appalachian State University.
  + Obtained training for the software.
  + Some experience in coding on the software.
  + Two years of experience.
* **Microsoft Office**
  + Expert experience with all applications of Microsoft Office.
  + 10 + years of experience.
* **Origin**
  + Graphing application used throughout undergraduate career.
  + Two years of experience
* **Maple**
  + Used frequently during undergraduate math courses to evaluate numeric questions and provide visual plots.
  + Three years of experience

**GRANTS AND AWARDS:**

**North Carolina Space Grant – Undergradate Research Fellowship April 2016**

**Amount: $5000.00**

* Received undergraduate research fellowship through a competitively awarded program that engages the future STEM workforce in applied aerospace-related research projects and facilitates the development of mentor relationships between students, faculty and the NASA community.
* Furthered the research in building and observing synthetic sarcomeres during the summer.
* Provided funding that was used to pay for summer schooling, housing, and other needs that was associated with working, initially, unpaid all summer.

**Lloyd L. Hobbs Scholarship April 2015 and April 2016 Amount: $975.00 (per year)**

* Competitive scholarship through the Physics and Astronomy Department given out on a yearly basis.

**Panhellenic Council Scholarship April 2015 Amount: $500.00**

* Competitive scholarship created in the memory of a Panhellenic member at ASU and granted to someone that held the same values and morals.

**Office of Student Research Travel Grants November 2015**

**Amount: $90.00**

* Competitive grant received to travel to and present at the State of North Carolina Undergraduate Research Symposium.

**Campus – Based Space Grant Support Scholarships February 2015 and September 2015**

**Total Amount: $550.00**

* Competitive schaolarhip received through a faculty grant from the NC Space Grant Consortium.

**Office of Student Research Grants Fall 2014 - Spring 2016**

**Total Amount: $875.00**

* Received competitive research grants through the Office of Student Research at Appalachian State University to purchase equipment needed for research laboratory.

**ORGANIZATIONS:**

**Institute of Industrial Engineers (IISE) January 2018 - Present**

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Student Member