

RISE COHORT 15

2020 – 2021

Profiles





Fellow Profile

2020-2021

Cohort 15



Alayza Blackshear

Classification: Senior

Major: Biology with a concentration of
Zoology

Mentor: Dr. Amber Rock

Current Research Activities: I am currently working on a project studying the effects of human activity on the Lumbee

River. Pollution caused by urban and agricultural runoff can decrease water quality in nearby rivers, which can negatively impact aquatic organisms such as benthic macroinvertebrates. Specifically, my research focuses on the effects of human impacted areas on the water quality and benthic macroinvertebrate diversity in the Lumbee River. I have also become familiar with the program R, which was used to perform statistical analysis and create graphs.

Honors, Awards, Publications: BRONZE Academic Achievement Award from New Student Programs, 2019

Career Aspirations and Goals: I plan to attend graduate school to study Wildlife Biology, Ecology and/or Conservation. In this time of anthropogenic environmental change, conserving biodiversity is important for maintaining natural ecosystem function. For my career, I am interested in studying wildlife populations to determine how humans are impacting them. My overall career goal is to develop solutions to help decrease human impacts on our natural ecosystems, with a focus on aquatic ecosystems.

Conferences: ABRCMS 2019, PURCC Symposium 2020, End of Summer Research Symposium 2020

Clubs and Organizations: Biology Club President and TriBeta



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Ashley M. Edwards

Classification: Senior

Major: Biology, Chemistry, & Music

Mentor: Dr. Courtney Alexander

Current Research Activities: I am currently studying apoptosis and tumor growth in *C. elegans* treated with plant extracts following a heat shock. I

use *C. elegans* mutants that promote tumorigenesis in the germline at 25°C. The growth of the tumors are monitored through a microscope and the proteins responsible for apoptosis are measured via a western blot. My long-term goal is to discover a plant that will inhibit tumor growth or induce apoptosis in cancer cells and determine how this occurs on a molecular level.

Honors, Awards, Publications: Maynor Honors College, Music Department Scholarship 2019, Chancellor's List

Career Aspirations and Goals: I will obtain an MD-PhD at a university on the west coast and become a surgical oncologist, all the while continuing to play viola in my spare time.

Conferences: ABRCMS 2019, End of Summer Research Symposium 2019 & 2020

Clubs and Organizations: Active Minds Braves Chapter (AMBC) and String Quartet



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Carlee Epting

Classification: Junior

Major: Environmental Science

Mentor: Dr. Amber Rock

Current Research Activities: My research aims to locate, identify, and quantify microplastics in local freshwater ecosystems. Having information about the abundance of microplastics in local freshwater ecosystems can be used to help mitigate the sources of this type of pollution.

Honors, Awards, Publications: BRONZE Brave Scholars Academic Award (2019)

Career Aspirations and Goals: I plan on attending graduate school and studying something along the lines of Conservation or Wildlife Conservation. My main goal is to enter a job field where I enjoy my work.

Conferences: ABRCMS 2020

Clubs and Organizations: Biology Club and TriBeta



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Erica Baynard

Classification: Senior

Major: General Biology

Mentor: Dr. Maria Santisteban

Current Research Activities: Conducting research using *Saccharomyces Cerevisiae* to understand the mechanism of HTZ1 in regulating transcription elongation

Career Aspirations and Goals: I want to be a genetic counselor to help people learn all their options with possible treatments so they can feel comfortable making decisions with their healthcare provider. My main goal is to educate the public about genetic disorders and to help bridge the gap between healthcare professionals and minorities.

Conferences: End of Summer Research Symposium 2018-2020, ABRCMS 2018 & 2019, NCAS 2019, PURCC Symposium 2019

Clubs and Organizations: Zeta Phi Beta Sorority, Incorporated and Biology Club



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Evert Garcia-Guzman

Classification: Senior

Major: Applied Physics (minor in Computer Science)

Mentor: Dr. William Brandon and Dr. Thomas Dooling

Current Research Activities: Using the eigenvector continuation method to simulate and study few fermion systems and other quantum systems.

Honors, Awards, Publications: UNCP Undergraduate Research award in Physics, Comstock Foundation Pre-Engineering Scholarship, Jose & Dorothy D'Arruda Endowed Scholarship, Chancellor's Incentive Scholar.

Career Aspirations and Goals: I aspire to become a competent researcher to work on complex research problems and contribute meaningfully. I plan on going to graduate school to pursue a PhD in a field of physics that is heavily cross disciplined with computer science.

Conferences: End of Summer Research Symposium 2019-2020, NC-AAPT 2019, PURC Symposium 2019

Clubs and Organizations: Biology Club, Maynor Honors College, Greener Coalition



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Hunter A. Cole

Classification: Sophomore

Major: General Biology and Psychology

Mentor: Yet to be determined

Current Research Activities: Yet to be determined.

Honors, Awards, Publications: Chancellor's List, AP Scholar with Distinction

Career Aspirations and Goals: I want to attend graduate school and earn a degree in neuroscience. I'm looking to research into the sympathetic nervous system, and I'm specifically interested in the anomalies of it. I'm fascinated by cognition and awareness, and I'd like to do my part in uncovering their secrets.

Clubs and Organizations: Psychology Club, Maynor Honors College, RISE Program



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Wells Graham

Classification: Senior

Major: Applied Physics

Minors: Computer Science and Mathematics

Mentor: Dr. William Brandon and Dr. Thomas Dooling

Current Research Activities: Using the eigenvector continuation method to predict the results for complex systems. Developing the idea that the permittivity of free space is a function of displacement (Blinder).

Honors, Awards, Publications: Einstein Achievement Award in Physics, Chancellor's

Career Aspirations and Goals: My goal is to attend graduate school to pursue a PhD in some field of physics. I aim to one day become an accomplished researcher in my given field.

Conferences: End of Summer Research Symposium 2020, NC-AAPT Spring 2020 (Cancelled), NC-AAPT Fall 2019

Clubs and Organizations: RISE Program



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Jenna K. Larkins

Classification: Sophomore

Major: Biology w/ Zoology Track

Mentor: Dr. Katherine Thorington

Current Research Activities: Survey of birds on and around UNCP campus, specifically woodpeckers and nuthatches. By collecting data about what species live

around campus, I am not just helping to provide more abundant data in an area with few surveys, but aiding in determining if UNCP's campus and surrounding area is a good conservation area for the woodpeckers and nuthatches.

Honors, Awards, Publications: Honor's college student, Chancellor's list

Career Aspirations and Goals: To work in a zoo or national park with ambassador animals, especially vultures (new world and old), to educate and promote conservation.

Clubs and Organizations: Honors college, RISE program



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Na'Tazia Hampton

Classification: Sophomore

Major: General Biology

Mentor: Dr. Robert Poage

Current Research Activities: I am currently working with Dr. Poage to find out how I could contribute to the studies of neurotransmitter release, cellular neurobiology, and

neuromuscular physiology. So far, I have read articles based on “Presynaptic Calcium influx, neurotransmitter release, and neuromuscular disease” and “The cellular and chemical machinery of the brain”. I will possibly be working on making 3D frameworks on the brain.

Career Aspirations and Goals: My career aspirations are to move forward in my passion of becoming a medical researcher. I want to be able to learn about different medications that may affect how a person will react and how medical substances can be enhanced for people with specific medical histories. In order to reach these career aspirations, I plan to go to grad school at Delaware State University or any colleges that are near the city. However, if I stop at my bachelor’s degree then I will look into working at an NIH location as a way to get started in my career aspiration. I am mostly intrigued in learning about how I can help people with diseases and what causes them.

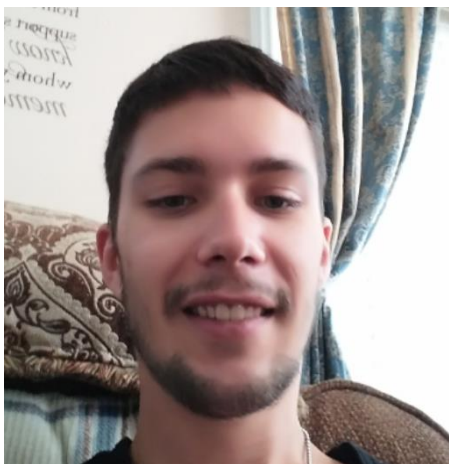
Clubs and Organizations: IAM Boss and RISE Program



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Nicholas Willard

Classification: Senior

Major: Chemistry

Minor: Biology

Mentor: Dr. Ben Bahr

Current Research Activities: Analysis of Proteins against Chemicals; Lab Focus is on Alzheimer's Research

Career Aspirations and Goals: Research with Toxic Materials (i.e. venomous creatures and poisonous plants) and Thermochemistry

Conferences: ABRCMS 2019, End of Summer Research Symposium 2020

Clubs and Organizations: COMPASS (2016-17)



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Samantha N. Cranford

Classification: Senior

Major: General Chemistry

Mentor: Dr. Bryan Sales

Current Research Activities: Working with Dr. Sales, testing to see if adding Biochar helps or deters Strawberry growth in soilless media.

Honors, Awards, Publications: Golden Pin, Chancellor's List, GCMS Method for Determining Traces of Water in Organic Liquids After the Use of Drying Agents (Soon)

Career Aspirations and Goals: To become a great chemist and to earn a Doctorate.

Conferences: End of Summer Research Symposium 2020

Clubs and Organizations: Spectrum, I Am Boss, AAUW, Honors College, RISE Program



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Nikki Clayman

Classification: Junior

Major: Biology with a concentration in
Zoology

Mentor: Dr. Ben Bahr

Current Research Activities: Currently I have been observing at Dr. Bahr's lab, he is working on Alzheimer's Disease and traumatic brain injuries. Dr Bahr explained that by trying to fix the lysosomes in the brain, this could prevent amyloid plaque buildup, which would cause memory loss (Alzheimer's disease). By observing the different lab techniques and situations, I've been learning how research works.

Honors, Awards, Publications: Honors List for 2 years and becoming a RISE fellow

Career Aspirations and Goals: My goal is to attend graduate school and become more familiar with research. Eventually I want to choose a research topic dealing with animal research or human medical research.

Clubs and Organizations: RISE Program



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Tiffany Bramblett

Classification: Senior

Major: Chemistry

Mentor: Dr. Paul Flowers

Current Research Activities: I am currently studying the effects of cyclic voltammetry. Cyclic voltammetry is an electrochemical technique that is commonly used to investigate the oxidation and reduction process of a molecular species. I

am working with an electrochemically reversible electron transfer process that involves a freely diffusing redox species.

Honors, Awards, Publications: NASA STEM Bridge Scholarship Recipient (2019), Dr.'s Cecil-Naomi Lee Conley Scholarship Recipient (2019-2020).

Career Aspirations and Goals: I plan to attend a North Carolina University to pursue a PhD in Chemistry. I hope to further my research in electrochemistry and analytical chemistry.

Conferences: NC Space Grant Symposium.

Clubs and Organizations: Student Government Treasurer 2019, Tau Sigma National Honors Society, Alpha Sigma Lambda (Mu Delta Chapter), Gamma Sigma Epsilon (Alpha Zeta Chapter), Robeson County Groundwater Project Field Tech Geology Department 2020, Student Led Instructor and Tutor for Biology Department 2019



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Tristan P. Dwyer

Classification: Senior

Major: Applied Physics

Mentor: Dr. William Brandon

Current Research Activities: I am assisting with modeling space-time and matter as an ideal oscillator that propagates EM waves, leading the

Lorentz-Fitzgerald length contraction and time dilation associated with the special theory of relativity.

Honors, Awards, Publications: Outstanding Pre-Engineering Student Award, Chancellor's List

Career Aspirations and Goals: To continue with physics, progressing on to earn a Doctorate. I would like to conduct research, either at a university or in the private sector.

Conferences: End of Summer Research Symposium 2019-2020, PURCC Symposium 2020, NCS-AAPT Fall 2019 Conference

Clubs and Organizations: RISE Program