
BIOGRAPHICAL SKETCH

NAME: Williams, Nicole B

eRA COMMONS USER NAME (credential, e.g., agency login): NICOLE94

POSITION TITLE: Graduate Student Research Assistant

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE (if applicable)	START DATE MM/YYYY	END DATE MM/YYYY	FIELD OF STUDY
Medgar Evers College	BS	08/2012	05/2017	Biology

A. Personal Statement

I am excited about pursuing graduate research experiences in chemical biology as the basis of my project involves the development of cancer immunotherapy by utilizing bispecific aptamers to recruit immunocytes to tumor site. Since aptamers are neither immunogenic nor toxic this makes aptamers a better candidate to treat not only cancers but also autoimmune diseases. My current work in Dr. Mallikaratchy's Lab has greatly helped to refine my scientific adeptness in order to gain expertise in understanding the dynamics of biomolecular interaction. My zeal for wanting to pursue a career in this area stems not only from my own experience with the disease that affected my father who lost his fight to cancer, but also from my own desire to help answer a number of unanswered questions that still linger in the field of development of synthetic immunotherapeutic molecules. I wish to go beyond the scope of lab research as I hope to foster the next generation of scientists through professorship. Overall, I know my research training in this lab will prepare me for the ceaseless challenges of intensive research in the dynamic field of science— in order to pursue a career in the biomedical sciences

B. Positions and Honors

Positions and Employment

2018-Current Graduate Student Research Assistant, Lehman College, Bronx NY

2014-2016 Undergraduate Research Assistant, Medgar Evers College, Brooklyn NY

Honors

2017 Biology, BS/Cum Laude, Medgar Evers College

2017 President's List, Medgar Evers College

2012-2017 Dean's List, Medgar Evers College

2015 Provost List, Medgar Evers College

C. Contribution to Science

1. **Undergraduate Research:** I was a part of a project in Dr. Monn Monn Myat's lab at Medgar Evers College as an undergraduate research assistant in the field of cellular biology. Here, the goal of the project was to elucidate the mechanism by which endothelial cells migrate during angiogenesis in particular the role of Nuclear Envelope Spectrin Repeat Proteins (Nesprins) in this process. My project specifically dealt with the isoform Nesprin-1. We hypothesize that Nesprin-1 controls organelle re-positioning during endothelial sprouting, possibly through the microtubule cytoskeleton. This study is fundamentally important as it gives a clearer understanding underlying the mechanisms of endothelial cell migration during sprouting angiogenesis and will be beneficial for anti-angiogenesis target therapy in tumors.
2. **Graduate Research:** My ongoing predoc research focuses on understanding the fundamentals of biomolecular interaction between cells which leads us to the development of novel cancer immunotherapeutic strategies. This current study is highly relevant to human health as it provides new approaches into treatment options. I was recently co-authored on a scientific study done in the lab.

- a. Hasan E. Zumrut^{1,2}, Sana Batool¹, Kimon V. Argyropoulos⁴, Nicole Williams³, Roksana Azad² and Prabodhika R. Mallikaratchy^{1,2,3*}. Integrating Ligand-receptor Interactions and *In Vitro* Evolution for Streamlined Discovery of Artificial Nucleic Acid Ligands.