

Jessie Garcia ♦ Diversity Statement

Throughout my undergraduate experience, I have discovered a passion for research and advanced education, which has led me to my goal of pursuing a Ph.D. in chemistry. More specifically, my involvement within the TRiO Collegiate Program, as a McNair scholar, motivated me to achieve this goal at NC State. I am currently challenging myself as a graduate student to perform cutting edge research within a competitive program, and to become part of the larger movement to diversify and enhance the field of scientific research. Largely, my long-term goals include working at a research institution as a chemistry professor in an effort to inspire students, especially women and minorities, to pursue careers in the STEM field. In fact, ***only 3 percent of Latina women are represented in the STEM workforce and I aim to encourage increased participation with outreach and mentorship at NC State***, while simultaneously improving my research, teaching and communication skills. For this reason, I have completed NC State's Foundations in Teaching professional development program, and the Teaching and Communication Certificate, which requires education workshops and a professional portfolio. As a F32 NIH Molecular Biotechnology Traineeship fellow, I completed a biotechnology minor in order to diversify my molecular biotechnology expertise and professional development experiences. By completing Research Ethics, Professional Development, Capstone Biotechnology courses, and education workshops, I am thoroughly prepared to perform research in the biotechnological field and to effectively teach and communicate science to a diverse audience.

I believe a broad research background will help me speak on the diverse opportunities that the STEM field can offer students. I find the prospect of helping to change the future of chemistry and science education truly significant. As an undergraduate and graduate organic chemistry teaching assistant, I practice creating a transparent learning environment to support a diverse classroom by updating my training and attending education workshops. Some workshop courses completed include: Creating Inclusive Environments, Tips for Managing the Classroom and How to Increase Student Success. As noted in my teaching statement, I practice reducing intimidation between the students and myself, thereby answering more questions about science, and about how I became involved with it. I also aim to help students understand the organic concepts at their level and include real-world applications to improve laboratory application.

I have hours of outreach and mentorship experience with students at all levels of scientific knowledge that I completed as an undergraduate and graduate student. As an undergraduate, I was a member of the Academic Support in the Classroom Program at Jennie F. Snapp Middle School in Broome County, NY. There, I provided weekly assistance and mentorship for students in a 7th grade science classroom. The experience opened my eyes to systemic racism that can contribute to a lack of academic achievement and behavioral problems. At Jennie F. Snapp, almost half of the student body receives free and reduced lunch and it is estimated that around 27,000 people in the county are considered food insecure. Food insecurity is linked to high levels of stress and mental health disorders, which can manifest themselves into behavioral problems at school.^{1,2} As a graduate at NC State, I regularly volunteered in an outreach program designed to mentor underrepresented minority students participating in an annual science and

engineering fair. In this setting, ***I realized the importance of simply talking to students, and truly being a mentor to answer real life questions, not just as a teacher.***

As an undergraduate in the chemistry program at SUNY Binghamton, I had individualized attention and guidance through the McNair program and my indispensable advisor, Dr. Wayne Jones. When my roommate and friend passed away freshman year, I found it difficult to keep up my grades. However, through the experience I found help from my community of mentors, friends, and family, and my senior year culminated in being given the Terry B. Memorial Award for the most improved chemistry student. I personally understand the value of what a good teacher and mentor is, and I have done my best to continue community outreach as a science communicator and mentor in graduate school. For instance, I coordinated with NC State's Director of TRiO when they celebrated their first year with the McNair Scholars Program. I regularly participate in McNair's Graduate Student Panels, and plan to continue connecting with the program on future events. Additionally, under the mentorship of Dr. Gavin Williams, ***I have been fortunate to collaborate with a design team on a 6-month project entitled, Invisible Worlds—a science-based art exhibit open to the general public in downtown Raleigh, NC.*** This project highlights the current research our group is conducting on antibiotic resistance within a video game context. I attended the 2019 ACCelerate: Creativity and Innovation Festival to share this exhibit and incite public interest in our research at the National Museum of American History in Washington, D.C. In addition to these outreach opportunities, it is important to gain experience in industry/government surrounding novel research and techniques in order to become an effective and relevant educator. For this reason, I will complete a 3-month rotation with Locus Biosciences following the conclusion of my third year in graduate school. This in-turn will help me to encourage participation of students, including women and minorities, into joining the STEM workplace—just as it was done for me.

1. Pryor, L. et al. (2016). Food insecurity and mental health problems among a community sample of young adults. *Social Psychiatry and Psychiatric*, 51(8).
2. Whitaker RC, Phillips SM, Orzol SM. (2006). Food insecurity and the risks of depression and anxiety in mothers and behavior problems in their preschool-aged children. *Pediatrics*, 118(3).