

Chris Talbot – Diversity Statement, UMinnesota Plant & Microbial Biology PhD

Diversity in academia means including diverse perspectives throughout the entire research pipeline. True diversity in academia requires facilitating access to and engagement with research for all individuals, regardless of background, identity, or status. As a first-generation student from a low-income family, I have experienced firsthand the barriers to academic success faced by underprivileged communities. I successfully overcame these barriers to pursue a career in academia. Thanks to years of hard work, diverse and dedicated mentors, and some luck, I've carved out my place in this challenging field. As a graduate student, I will work to dismantle these systemic barriers and create more inclusive pathways to academic success.

Diversity of Economic Backgrounds in Academia

Diversity in academia prevents research bias, drives innovation, and enriches communities. While there is a long history of wealthy, white men dominating academic circles, diversity initiatives have shown slow but steady success in improving this problem. Yet, income diversity in higher education has stagnated or, in some cases, worsened. The average undergraduate still comes from just as much financial privilege as they did a decade ago.

Coming from a low-income family, I struggled with many hurdles that my higher-income peers did not. Working 80+ hours a week as I balanced full-time class and full-time work was my norm. Naturally, my need for independent financial stability while paying tuition and fees impacted my ability to dedicate my full attention and brainpower to homework and studying. This problem began in community college but was especially prominent when I transferred to the University of Michigan. I often worked over 40 hours a week outside of full-time courses to afford tuition and rent my first year.

Research experience was out of the question early on – when would I have the time? While my peers were thriving academically, volunteering in labs and writing publications, I could only survive. I was fortunate to come across supportive mentors who had funding available to support me in my pursuit of research experience. These mentors allowed me to pursue research full-time, allowing me to pay my rent while pursuing science as a career. Had I not come across such great mentors with the funding to support me, I would not have the research experience, skills, or network I have today.

As a PhD student, I plan to address income inequality in science by including undergraduates in my research process. By seeking funding to pay research assistants, I will provide access to academia to students who may otherwise be unable to afford to volunteer for research experience. Providing low-income students a path to academia will pave the way for greater community engagement and trust in science. I hope also to create paths towards a balance of financial stability and career fulfillment for fellow students from low-income backgrounds.

Community Engagement & Leadership

As an undergraduate, I sought to facilitate diverse communities of belonging through volunteer opportunities and at work. In community college, I tutored my peers, primarily adult

learners, in mathematics and language arts. While witnessing the struggle and uncertainty older students face pursuing an education in a youth-dominated space, I discovered a passion for promoting non-traditional paths toward education. At the University of Michigan, I put my goal of supporting non-traditional students into action: using my first-hand experience as a first-generation transfer student, I worked as a transfer student peer mentor, assisting prospective transfer students with the application process and supporting their transition to Michigan. I've also worked with educational programming for the local Science Olympiad and Botanic Gardens, helping students from various backgrounds engage with science and nature.

Engagement with local communities outside of an academic or educational setting is crucial to staying grounded as a researcher. To this end, I have participated in local politics, particularly as the founder and president of Students for Public Power @UM. As a student chapter of Ann Arbor for Public Power, we advocate for affordable, equitable access to electricity throughout Ann Arbor, Michigan. These experiences have enriched my life and helped me build strong networks professionally and personally. Engaging with local communities and giving back through education and other community-building activities helps me maintain motivation and ensures my research is not occurring in a bubble.

Looking Forward

As a PhD student at the University of Minnesota, I would continue identifying ways to engage the broader community with science. One community I'm particularly interested in collaborating with during my PhD as a plant biologist is the local Indigenous community. The University of Minnesota stands out for its strong Department of American Indian Studies. At the University of Michigan, I was fortunate to take courses in Nishnaabemwin (Eastern Ojibwe) from a native speaker for two semesters. Indigenous ways of knowing are invaluable, and listening to Indigenous voices is particularly crucial to plant and global change biology. Learning about local culture and language is vital to engaging with and supporting Indigenous communities. At the University of Minnesota, I would continue learning from Great Lakes American Indian community members by learning and interacting with the language and culture.

Beyond engaging with local Indigenous communities and funding undergraduate involvement in my research pipeline, I would like to advocate for or spearhead a program to complement Minnesota's UROP and USR grant programs by developing a parallel for high school students. The inequity of access to science begins before students are at an undergraduate institution. By engaging local teenagers with the scientific process at a university level and displaying diverse paths to academia, we can make higher education appear less daunting and encourage greater community involvement. Such a program would complement programs focused on increasing grant and scholarship funding for individuals from underrepresented groups and underprivileged backgrounds. I would also be excited to participate in educational outreach programming, potentially through the University of Minnesota Science Olympiad, Conservatory, or Arboretum, spreading my passion for nature with local communities. I look forward to fostering vibrant, inclusive environments at Minnesota while studying rapid environmental change, one of our time's most complex and pressing issues.