

My path to physics was unconventional: I began at The Ohio State University as a Theatre major with the intention of ending up on a Broadway stage. Theatre instilled in me many valuable skills, including public speaking, creativity, confidence, and adaptability, but I soon realized I was dragging my feet to class. Science, in contrast, had never felt like work in previous courses; it was engaging and rewarding. **When I switched to a major in Astronomy and Astrophysics, I found the thrill of challenge and discovery that has since defined my academic path.** Transitioning from the arts to STEM required rebuilding my foundation in mathematics and physics, often working independently and taking advantage of out-of-class resources to catch up with my peers. This process demanded persistence, resilience, and motivation, qualities I continue to utilize in my research and professional growth.

Beyond academics, I have found a passion for mentorship in physics. As detailed in my Academic Statement, my first exposure to physics research came through Ohio State's Polaris Mentorship Program. Through this organization, I worked closely with a Ph.D. candidate on an introductory research project. Beyond introducing me to hands-on research, the Polaris Program immersed me in a uniquely supportive community that emphasized mentorship and student engagement—values that were rare in my early coursework. To build upon the connections and lessons of Polaris and give back to the community, I co-founded an undergraduate mentorship program titled MoMentUM: MOdel MENTors for Undergraduate Mechanics at Ohio State. The program pairs upperclassmen mentors with underclassmen in core physics courses to foster community, reduce feelings of isolation, and improve class success rates. I led mentor training sessions, established expectations and goals for mentor-mentee relationships, and facilitated bi-weekly meetings on topics including academic success, careers in physics and research, and imposter syndrome. In the club's first semester, I formed over thirty mentorship pairs, building a stronger and more collaborative department community. Guiding my own mentee was especially rewarding. Since we began working together, I saw her build stronger connections with peers, including joining a study group after my encouragement, and improve her performance on exams using study strategies we developed together.

At [University], I hope to continue this work through the Women and Minorities in Physical Sciences (WaMPS) organization. Having both benefited from and founded mentorship programs, I hope to contribute to the Graduate-Undergraduate Mentoring Program. As someone who navigated the transition into physics from a nontraditional background, I can help design programming that better supports students from diverse academic paths. I am also eager to join the REU Mentoring Program in the summer, drawing from my own transformative REU experience at Penn State. My academic journey was deeply shaped by the connections I built through that program, and I hope to foster a similar environment for students just beginning their research journeys. I aim to not only contribute to physics research at Michigan State, but additionally support the next generation of scientists.

In addition to mentorship, **I have developed a strong commitment to sustainability in experimental physics.** Penn State's REU program emphasized the intersection of physics and environmental responsibility through faculty presentations and guided discussions on sustainable research practices. Through this program, I became a certified Sustainability in Research practitioner through the REU and an ambassador for My Green Lab, an organization that promotes environmental accountability in laboratories worldwide through certification and community engagement. These experiences opened my eyes to the often-overlooked environmental costs of research: energy-intensive computation, fossil-fuel powered facilities, and large-scale construction for experiments. **At [University], I aim to advance sustainability by promoting My Green Lab Certifications across the department and within my research collaborations.** By integrating environmental responsibility into experimental

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practice, I will demonstrate that advancing fundamental knowledge and cultivating responsible, supportive research communities can progress hand-in-hand. Together, these commitments guide my vision for graduate study and beyond.

Outside of academics, I have exercised leadership and creativity through Off the Lake Productions (OTL), a student-run theatre and service organization. When I was searching for theatrical opportunities in my freshman year, I noticed that OTL struggled with publicity, particularly when promoting auditions and productions. Therefore, once I was inducted into the club, I ran for and was elected Publicity Chair my sophomore through senior year. Over three years, I transformed OTL's outreach by developing a consistent social media structure, creating over 100 posts—some reaching more than 2 million views—and increasing our following from 800 to more than 2,500. Because of my efforts, every night of our eight-performance run was sold out my junior year. I additionally created educational videos about OTL's mission, structure, and impact, resources that will continue to support the organization for years to come.

What makes OTL especially meaningful to me is its deep connection to service. 100% of each season's proceeds directly benefit local organizations. Most recently, OTL supported Freedom a la Cart, a café employing and supporting survivors of sex trafficking. In previous years, we raised nearly \$6000 for TransOhio, the state's first Trans Equity organization. Through OTL, I have also volunteered with Clean Up Columbus, the Mid-Ohio Food Bank, and the local children's hospital. At [University], I look forward to continuing this tradition of service, finding new ways to give back to the [Redacted] community.

My journey from the arts to physics has been defined by persistence, community, and service. I have learned that creativity and empathy are as essential to science as rigor and precision. As I pursue my Ph.D. at [University], I will bring these values into every aspect of my work—from experimental research to mentorship and outreach. **I aspire to be not only a physicist, but an educator, leader, and mentor who strengthens the communities that make science discovery possible.**