

My father is a high-school educated immigrant in his late seventies who continues to work over forty hours a week at a blue-collar job, while my mother with advanced degrees set aside her career to raise my sister with autism. The sacrifices of my family and the diversity of my local community instilled the importance of developing a relationship with colleagues and the public. This relationship should be built without bias to economic class, gender, race, sexual orientation, cultural background, or intellectual facility. Despite being in a refugee resettlement city, Burlington (Vermont) High School lacked substantial support for English-language learners, as well as students with individual education plans (IEP). The abhorrent lack of assistance left many of these students unprepared for advanced and honors classes, resulting in Advanced Placement (AP) classes without a single IEP student and less than one percent of total AP enrollment learning English as a second language, despite living in the country for years. I will devote myself to a lifelong program creating educational content at all levels to best meet the learning patterns of different students. Beyond my graduate studies, I will continue to build a more open and welcoming scientific community by expanding this network to ensure that any student seeking advanced scientific study will have the opportunity to learn, regardless of their upbringing.

A responsible scientific scholar carries an incontrovertible obligation to engage in research at the cutting edge and to communicate information to those eager to learn. Alongside my research engagements at Wheaton, I worked with local families on Friday evenings to lead tours of the college observatory. The opportunity to demonstrate the details of telescopes to the local community solidified the importance of robust scientific discussion with wider society. I thrived when given the chance to narrow my engagement to introductory physics students as a tutor and teaching assistant. The teaching skills I practiced with my peers blended seamlessly with the lessons learned from my research when I began advising students in the physics department on a formal and informal basis. I met with my peers at Wheaton, gave guidance on finding experience outside of Wheaton College, sat on career panels to share what I had learned in my research opportunities, and even returned recently for a visit to discuss the LLAMAS spectrograph with an astronomy class. The amalgamation of these experiences solidified a desire to guide the scientists and leaders of the future, something I will continue in my graduate studies.

At the Northeast Astronomy Forum (NEAF) 2018 in Suffern, New York I showcased project PANOPTES to a wide audience. I discussed the mission of project PANOPTES with amateur and professional astronomers to expand the PANOPTES network. The opportunity to engage with both knowledgeable and general audiences strengthened the importance of healthy scientific communication and outreach, particularly in citizen-science projects. Presenting low-cost scientific platforms to the public encourages contributions from active scientists from all economic backgrounds, something I will emphasize throughout my graduate education and beyond when the opportunity arises.