

When I was eight years old, my father was diagnosed with cancer. He passed away shortly after my eleventh birthday. For the remainder of my childhood, I was raised by a mother who was nothing less than heroic in her efforts to care for me as a single parent suddenly forced to bear an overwhelming medical, and collateral debt. As a Colombian woman with a foreign bachelor's degree, she was all too familiar with barriers and a lack of opportunities. Despite her hard work, intelligence, and dedication; my mother's inability to obtain a graduate degree left me with a tacit awareness that many students of color struggle academically, and may encounter prevalent obstacles, when considering – or pursuing – higher education. Owing to this understanding, one of my personal commitments has long been to empower and support this community of students.

As an undergraduate student, I participated in the Wisconsin Emerging Scholars Program, which provided academic support for students in a challenging, friendly, multicultural environment. Having participated in this program as a student, I reaped its benefits. This program demonstrated to me that building a community of people who cared about empowering minority students would increase the power of any individual's effort to do so on their own. Thus, when I began taking advanced math courses, I made a concerted effort to give back to this program, working as a tutor. This afforded me an opportunity to provide academic and social support to other underrepresented minority students at UW-Madison. Additionally, I worked through middle and high school mentoring outreach program where students of color would mentor and tutor small groups of students from underrepresented backgrounds. This MENTOR program provided tutoring in various subjects, as well as a forum where students were provided with the support and guidance necessary to successfully apply to colleges, while also instilling an awareness of the importance of higher education.

Despite the efforts I made to engage in outreach as a high school and undergraduate student, in graduate school I often found myself to be the only person of color in the room. I began working with the University of Michigan College of Engineering's Diversity Affairs Office to participate in a variety of recruitment programs and events; attending the Society of Hispanic Professional Engineers (SHPE) and Society for the Advancement

of Chicano and Native Americans in Science (SACNAS) National Conferences, in a recruitment capacity. I used these opportunities to give seminars about different avenues into, and through, higher education. During each conference, I personally connected with undergrad students, to develop a mentoring relationship with them – giving them advice, feedback, and resources to best help them succeed in their respective careers. Connecting with these students and seeing them over the years’ secure fellowships, pursue research opportunities, and ultimately apply for graduate school helped me realize that I, and my experiences, can serve as a positive influence in the lives of other students.

I continue to develop my mentoring skills, focusing on the development of junior researchers predominately through Undergraduate Research Opportunity Programs. My aim has been to develop my ability to better anticipate the needs of each student, and provide the most appropriate framework and guidance for each student’s learning style. To this end, I prepare a training plan for each student to teach them the necessary experimental skills they need in their research (e.g., soft lithography, cell culture and microscopy). Concomitant with hands-on training, I also make an effort to help each student to effectively structure an experiment that answers a specific research question, reinforcing the importance of properly planning and performing experiments, while methodically documenting their procedures and observations.

I expect that these experiences will ultimately allow me to reach my goal to become a successful educator, adviser, and researcher. I aspire to contribute to the welfare of society by providing sound engineering solutions to medical problems, and as an academic faculty who will work on increasing and supporting the presence of underrepresented students in academics – particularly in STEM-related fields, to ensure a reduction of the opportunity gap still effectively providing a barrier for these students.