

The need to promote equity and diversity in the sciences cannot be treated as an afterthought. The inclusion of many voices is fundamental to the very idea of rigorously challenged science. Furthermore, government funded science only happens with a mandate from the voting public, who have for too long viewed science as an endeavor for only a narrow subset of the population. For these reasons, I have long held that diversity in science is critical in each lab, university, and at the national level. I have a demonstrated track record of outreach activities and mentorship beginning in high school and continuing to the present day. As faculty I will expand on this experience and serve as a mentor and resource for students from populations underrepresented in the sciences.

My gender and skin color have given me privileges in science and in greater society that many simply don't experience. But power systems that promote only a narrow subset of the population are destructive to trainees and to science as a discipline. In my career I have drawn on my personal experiences to connect with and promote those who are disenfranchised. My father was an immigrant whose first language was not English, and I myself am an immigrant. After starting my collegiate career in my hometown, I transferred to UC Davis. At UCD I was able to join and work in a biology lab only because I qualified for the work study program. The challenges that I have faced do not compare to those experienced by scientists of color, but they have given me perspective and the desire to help right historical and ongoing injustices. I strongly believe that it is entirely unfair to expect only those from underrepresented groups to do the work of promoting equity in science; we in the majority need to be an enthusiastic voice for diversity and I have tried to be an example of this in my career.

### **Outreach Experience**

I have been involved in outreach efforts throughout my training. At UC Davis I was an undergraduate T.A. for 3 quarters of genetics and I routinely held extra office hours for struggling students. By offering a more personalized setting, I found that many students that didn't respond well to a larger classroom setting were more likely to thrive. At MIT, I participated in a program to promote STEM in underrepresented K-6<sup>th</sup> grade students through the Cambridge Community Center, where I shared my enthusiasm for science with hands on demonstrations and activities.

As a postdoc at UCSF, I had many exciting opportunities to make a difference in promoting diversity. I was a member of the UCSF Chapter of the Society for Advancement of Hispanics/Chicanos & Native Americans in Science (SACNAS). Outreach through SACNAS at UCSF is directed at high schools, junior colleges, and undergraduate campuses in the San Francisco bay area. Our SACNAS chapter developed a close relationship with the SACNAS chapters at the Community College of San Francisco (CCSF) and San Francisco State University. SACNAS at CCSF invited me to present my research and career path to their members in the Fall of 2012. In 2014, I co-founded and presented at a SACNAS sponsored panel workshop to help UCSF graduate students and postdocs find and apply for grants and fellowships. The panel workshop was well attended and received. Our teaching strategy was to put students in the position of reviewing real grants and fellowships that we presenters had written – we found this to be a very effective exercise in writing effective grants and the workshop has since become a yearly event.

I have had the great privilege to directly supervise some amazing undergraduate students, 100% of whom are either women or come from historically excluded ethnic groups, or both. My experience in working with students is that they often initially express that they are unsure of their value in a laboratory setting. My strategy for combatting this insidious form of imposter syndrome has been to ensure that my mentees have projects that they feel ownership of, and that contribute in meaningful ways to a larger project within the lab. It is my responsibility as a mentor to foster this sense of belonging. I have also strongly encouraged my mentees to share their work both at lab meetings and in departmental poster

sessions. I have routinely seen that for many students, publicly sharing their work is initially very challenging. But with proper support and guidance, it leaves them recognizing their significant intellectual contributions to the lab. Because of this strategy, half of my recent mentees have earned authorship on publications while under my supervision, including a high school student. I anticipate that my remaining mentees will also achieve this goal, though their projects are not yet ready for publication.

### **Future Contributions to Promoting Diversity, Equity, and Inclusion**

Through mentoring and outreach I have seen the difference that encouragement and guidance can have. This is particularly true for students who may not come from a background that values science or education. From my personal experience, financial support that I received was transformative for my career, first as an undergraduate, through the work-study program, then later as a post-doc through private foundation and NIH grants. As a faculty member, I will continue the work that I began in the SACNAS grants workshop to help students of all levels identify and apply for research funding and keep them advancing in their careers. Funding and fellowship support can provide much needed financial security but also ensures a measure of intellectual freedom and self-determination, critical for developing scientists.

Finally, I feel that an underappreciated component of promoting *inclusion and belonging*, once students are on campus, is to increase the amount of informal time that students spend with faculty. Students can have a variety of reasons to feel othered or to feel as outsiders, and many of these students lack a support system in their home institutions. It is completely insufficient to offer support once a student encounters a time of crisis or an issue for which they need guidance or support. These connections must be made well beforehand so that students can feel a sense of safety in approaching faculty mentors outside of their immediate labs when they feel the need for support. As an independent faculty member, I will strive to make personal connections with students so that they will immediately think of me as an advocate and a supportive voice that can help them to combat and overcome any unfairness that they encounter.