

My commitment to diversity is two-pronged, coupling active service with a deeper dissection of cultures fundamental to the natural sciences. My goal is to make science accessible to marginalized communities who, through social inequalities, are excluded from its intellectual and socioeconomic opportunities. For me this work is inextricably entwined with my goals as a scientific researcher.

While at Harvard, I served as a leader for Harvard Graduate Women in Science & Engineering (HGWISE) for four years. Over this time, I spearheaded initiatives ranging from professional development to community building, organizing dozens of events as I listened closely to the needs of our members. I initiated the development of HGWISE Guys, a subgroup dedicated to connect allies and advocates of women in science. I founded the Bias & Beer journal club, which meets monthly to read scholarship on bias in science, raising awareness and discussion around subtle and overt forms of sexism and racism that plague the science community. I began and led annual sexual harassment workshops for HGWISE. Over my Ph.D. I worked closely with the Harvard Graduate School of Arts & Sciences (GSAS) Title IX office to help develop GSAS-wide training programs, and I have served as a liaison to both the Earth & Planetary Sciences Department and HGWISE. I instigated and led the first annual Wikipedia-thon, focused on highlighting the accomplishments of women and minority scientists, and began a movie discussion series on race and science. Further, I was a mentor/mentee of the WiSTEM (undergraduate women in science) and HGWISE mentoring program.

I am passionate about improving the recruitment and retention of underrepresented minorities in science. To this end, I have served on a number of panels for the Harvard W.E.B. du Bois society, the graduate underrepresented minorities group, and Summer Research Opportunities at Harvard, a program aimed at underrepresented minorities in science. I have also given presentations to visiting middle school student groups from underserved communities in the Boston area at the Harvard Natural History Museum and the Harvard Foundation for Intercultural and Race Relations science conference. I have visited elementary school classroom settings, giving interactive geology demonstrations. I believe confidence in math skills is valuable for everyone, not only scientists. For four years, I weekly tutored incarcerated people to pass the math GED exam, in New Jersey and Massachusetts, with the goal of empowering their job search post-release.

In the Earth sciences, people of color make up 6% of Ph.D. students<sup>1</sup>. Women make up 44% of Ph.D. students, but only 8% of full professors<sup>2</sup>. These numbers are disconcerting because they point to a systematic pattern of exclusion. Within my department I have worked to address these issues by initiating a biannual community-wide Title IX workshop to raise awareness around gender-based harassment and discrimination. I successfully pushed to rename a seminar room and teaching award named after Nathaniel Shaler, a major figure in 19<sup>th</sup> century American geology who promulgated apologetic views towards slavery and conducted research in scientific racism at the turn of the 20<sup>th</sup> century<sup>3</sup>. I have advocated for my department to participate in summer research programs, as a means of recruiting talented underrepresented minorities Ph.D. students.

Because gender and race disparities exist at the undergraduate level, and grow wider at higher-level positions, undergraduate teaching plays an important role in the recruitment and retention of underrepresented minorities students<sup>4,5</sup>. As a course instructor, I will emphasize the accomplishments of geoscientists belonging to underrepresented minority groups and underline the importance of course context to marginalized communities and their environments. For example, in Spring 2019, in the course I taught I led a discussion-based seminar on the social impact of modern sea-level rise, focusing on its disproportional effect on marginalized communities across the globe. My research on 19<sup>th</sup> century American geology equips me to relay how geology expeditions were deeply invested in scientific racism and imperialist agendas, and how the origins of our discipline continue to set norms for culture and training practices in geoscience<sup>6</sup>.

As an NSF postdoctoral scholar at Caltech, I have continued to support and mentor students from underrepresented backgrounds in the geosciences by recruiting summer undergraduate students through Caltech initiatives designed to attract underrepresented minority undergraduates from a wide array of national institutions. I also joined the Women Mentoring Women program, and served as a speaker for the Diversity Office STEMinar Series.

My Hispanic background, of Mexican and Argentine heritage, forces me to remember that the social hierarchies constructing the science academy are unjust, empowering and oppressing groups of society unevenly. I aim to address these injustices, expressed in the natural sciences, through active engagement with communities across race, gender, and class boundaries, along with critical analysis of geoscience culture, raising awareness of how deeply entrenched disciplinary practices create barriers not only to social justice, but also intellectual advancement<sup>7,8</sup>.

#### REFERENCES

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