Vision for diversity, equity, and inclusion

As a mathematician who values diversity, equity, and inclusion (DEI), I often contribute to summer research programs that recruit students from under-represented backgrounds. These programs are the best approach for improving diversity in mathematics. The programs provide a collaborative working environment, free from the pressures of grading and testing. They expose undergraduates to exciting research-level mathematics that would not ordinarily be presented during the school year. They build students’ research skills and provide letters of recommendation needed for graduate school admissions. Last, they convince bright students to apply to graduate programs in mathematics, rather than pursuing industry jobs. By recruiting a diverse group of students to take part in summer research programs, we can build a more equitable and representative mathematical community.

I have participated in summer research as a mentor and coordinator, and I will continue to contribute as a faculty member. In the following sections, I describe my contributions in more detail and explain the early experiences that motivate my approach to promoting equity in education.

Contributions to summer mathematical research

In summer 2020, I coordinated NYU’s summer research program in applied math, which recruits students from diverse and under-represented backgrounds. I organized a lecture series, supervised weekly group meetings, and met individually with students to ensure their faculty-sponsored research projects went smoothly. Over the summer, the students honed their research skills, grew more excited about mathematics, and improved their preparation for top mathematics graduate programs.

Later, I participated as a research mentor in Caltech’s program for “incoming historically excluded and/or marginalized first-year students” in summer 2022. My two mentees, Thanhthanh and Felipe, increased their skills and jump-started a trajectory of research involvement. I later wrote letters of recommendation which earned Thanhthanh a role in Matilde Marcolli’s computational linguistics lab and earned Felipe a spot at NASA’s Jet Propulsion Lab. Thanhthanh and Felipe are just second year undergraduates, but they have already established a strong research track record which will lead to attractive graduate school opportunities in the future.

Additionally, I served on my department’s DEI committee in 2021–2023. As a committee member, I volunteered to construct a new mentoring website. The website provides information about research programs for undergraduates and high schoolers, especially students from under-represented backgrounds. It is a helpful resource for students getting involved in research and for Caltech graduate students, postdocs, and faculty members interested in serving as research mentors.

Early contributions to equity

In my earliest post-college years, I was dedicated to improving equity at a broad societal scale. In 2012–2013, I served as a Fulbright English teacher in rural Indonesia, where I taught high schoolers from low-income backgrounds, many of whom lacked access to textbooks. Then in 2013–2014, I
worked as an AmeriCorps member in a homeless shelter, where I taught computer skills to homeless residents. Through these experiences, I saw that the world is not fair but we can do our part as teachers and mentors to make the world fairer. We can provide a high-quality education to all students and provide special support for students being challenged by new experiences. My fundamental belief in fairness is what motivates me to participate in DEI efforts on campus, with a special focus on contributing to summer mathematical research programs.