Minoritized undergraduate students leave STEM disciplines at disproportionately greater rates than their peers from well-represented backgrounds. Most of this attrition occurs within the first two years of study when students are enrolled in large and often chilly introductory STEM courses. The awarding of a Howard Hughes Medical Institute science education grant has empowered the University of California, Santa Barbara, both a Hispanic-Serving Institution as well as Asian American and Native American Pacific Islander-Serving Institution, to start addressing this equity challenge. This talk will center on three discipline-based education research vignettes that focus on (1) using near-peer mentors to establish scalable first-year learning communities, (2) implementation of evidence-based instructional practices in Introductory Biology courses, and (3) working towards instructional/pedagogical change within a biology department. Data on the longer-term impacts of these approaches provide insight into how these approaches have influenced student success in the biology program at UC Santa Barbara.