

Cal-Bridge: a CSU-UC PhD Bridge Program to Increase Diversity in STEM

The Cal-Bridge program has the mission of creating opportunities for traditionally underrepresented groups to participate and advance in physics, astronomy, computer science, and computer engineering and to increase their numbers in PhD programs in those fields. Cal-Bridge consists of two programs: a CSU-UC PhD Bridge program and a summer research program (also known as CAMPARE).

The main Cal-Bridge program is a partnership between 9 University of California (UC), 16 California State University (CSU), and over 30 community college campuses in California, with over 200 faculty from the two systems participating. Scholars are recruited from the CSU and community college campuses in our network, with the help of local faculty and/or staff liaisons at each campus. Community college students transfer to a participating CSU to join the program. Additional community colleges are joining the network as we find faculty and/or staff at those campuses to act as liaisons.

The program uses research-validated selection methods to identify “diamonds-in-the-rough”, students from underrepresented groups who display strong socioemotional competencies, along with academic potential, and provides them with the support necessary to successfully matriculate to a PhD program, targeted at the UC campuses in the Cal-Bridge network. Once selected, Cal-Bridge Scholars benefit from financial support, intensive, joint mentoring by CSU and UC faculty, professional development workshops, and exposure to a wide variety of research opportunities, including at the participating UC campuses.

Since its inception in 2014, the Cal-Bridge program has selected 127 scholars in 7 cohorts, including 69 Latinx, 14 Black/African American, and 57 women scholars (30 of the 57 women are from underrepresented minority groups). Eighty-four (84) of the 127 Cal-Bridge Scholars are first-generation college students and 22 identify as LGBTQ+. A total of 61 Cal-Bridge Scholars have graduated with a BS and 38 (62%) of them are enrolled in PhD programs in physics or astronomy at top PhD programs nationally, 4 have received MS degrees, and another 17 are enrolled in a PhD bridge program or MS program, with plans to eventually earn a PhD. In total, 90% of Cal-Bridge scholars with a BS are either in a PhD program or hope to be soon.

PhD programs where Cal-Bridge scholars are enrolled include 5 UC programs: UC Davis, UC Irvine, UC Merced, UC Santa Barbara, and UC Santa Cruz, and 18 non-UC PhD programs: Arizona State University, University of Arizona, Caltech, University of Chicago, Dartmouth, Georgia State University, Harvard, University of Maryland, MIT, University of Nevada, Reno, Northwestern University, Ohio State University, Princeton, University of Pennsylvania, University of Southern California (USC), Texas Christian University, Vanderbilt University, and University of Wyoming. Nine (9) of these scholars have won NSF Graduate Research Fellowships and five received an Honorable Mention.

Cal-Bridge scholars also participate in summer research, many through the Cal-Bridge summer research program, also known as CAMPARE (California Minority Partnership for Astronomy Research and Education). In the CAMPARE program students are selected from a network of over 60 California State University and community college campuses in California to spend 8-10 weeks conducting research in physics, astronomy, planetary science, and astrobiology at one of 20 major research institutions in California and across the country. In 11 summers 229 CAMPARE scholars have participated in the program. The graduation rate among CAMPARE scholars is 98%, and of the CAMPARE scholars who have graduated with a bachelor’s degree, almost two-thirds (65%) have completed or are pursuing graduate education.