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UCI CalTeach and ICS Partner with Google to Train Computer Science Teachers

The UCI [CalTeach](#) Science and Math Program and the Donald Bren School of Information and Computer Sciences (ICS) today announced a partnership to address the shortage of computer science (CS) teachers in the country by developing a CS training program for pre-service math and science teachers. Google is a collaborator.

Debra Richardson, Professor Emeritus of Informatics and founding dean of UCI's Donald Bren School of Information and Computer Sciences, serves as principal investigator (PI) on the grant. The project's primary outcome will be a computer science academic track in the CalTeach program that integrates computational thinking and computer science concepts into CalTeach's two foundational courses and two advanced courses, addressing teaching and field experiences at all levels – elementary, middle, and high school. Richardson said, "This grant enables UCI to be at the cutting edge of training future educators to include computing in their classrooms."

"The lack of qualified CS teachers consistently ranks as a top reason why schools do not offer CS classes," said Hai Hong of Google's CS Education Team. "Working with pre-service preparation programs to support the next generation of CS teachers is a critical step to addressing the growing demand for CS education."

Co-PI Richard Arum, Dean of the School of Education, is an enthusiastic participant in the partnership. "We're excited to receive this support that allows us to deepen our collaboration with colleagues in the Bren School of ICS. It complements well our broader commitment to designing innovative digital learning resources to improve education."

The Bren School of ICS and UCI's School of Education are also partnering on a parallel NSF-funded project [CS1C@OC](#), offering a program of study to satisfy California's new Supplementary Authorization in Computer Science and preparing 100 Orange County in-service teachers to teach Exploring Computer Science and Advanced Placement® Computer Science Principles. This program of study will also be available to CalTeach students as part of the Google award. According to Richardson, who is also PI on this project, "These two programs place UCI in a position not only to prepare teachers for California's current computer science certification pathway but simultaneously to create the building blocks for a future CS teacher credential program. Both programs also focus on inclusive pedagogy so that equitable access to computer science education is expanded for California's diverse population."

About CalTeach: The UCI CalTeach program is a blended 4-year program that provides undergraduate students the opportunity to complete majors in math, chemistry, biology, physics, or earth sciences while simultaneously earning a California Single Subject teaching credential. The program is designed to meet the need for highly qualified STEM teachers in secondary education, with the goal of primarily serving secondary students in high needs schools.

About the Donald Bren School of Information and Computer Sciences: As the only computing-focused school in the University of California system, the Donald Bren School of Information and Computer Sciences provides computer science and information technology leadership for the 21st century through its innovative and broad curricula, research and development of emerging technologies, and collaborations to address societal concerns. The Donald Bren School's three departments-computer science, informatics and statistics-serve to reshape domains as far reaching as education, art and entertainment, business and law, the environment and biological systems, healthcare and medicine.

About Google: Google creates products to increase access to opportunities for every student, break down barriers and empower people through technology. To help reach these goals, Google works to inspire young people around the world not just to use technology but to create it. More information on Google's computer science education efforts is available at g.co/csedu.