Our Berkeley Faculty: Educating, Inspiring, Innovating

“Brilliant faculty exert a powerful gravitational force. They inspire young minds, influence their trajectories, and catapult thought to places no one could have imagined. Our stellar faculty are at the center of Berkeley’s far-reaching universe.” — Chancellor Robert J. Birgeneau

UC Berkeley’s faculty is a force of more than 2,000 men and women charged with taking on the most significant questions of our times — with pen or microscope, persistent study or spectacular revelation. They are called to be exceptional thinkers, researchers, teachers, and mentors.

Faculty who are awarded endowed chairs or professorships do not personally gain financially, but their appointments are a mark of distinction that come with additional unrestricted funding for research, graduate students, and special programs. Chairs, professorships, and research funded with private donations buoy the entire institution by enabling Berkeley to recruit and retain top teachers and scholars.

The stories of Berkeley professors Boris Rubinky and Meg Conkey in this issue of Cal Futures reveal how two brilliant faculty members, who were honored with endowed chairs, used the additional resources to benefit their students and our world.
Professor Boris Rubinsky's passion for changing the lives of people in need was fueled by the suffering of his own family during World War II.

Rubinsky's mother, Klara, was 18 years old — an age when many Berkeley students enter college — when she was imprisoned in a Nazi concentration camp. She survived years in the camp, witnessed the execution of her father and brother for being Jewish, and endured countless other tragedies.

"Since childhood, I have never been able to see injustice of any kind without thinking about my mother and without feeling the need to take action for the needy," explains Rubinsky, a distinguished Berkeley professor emeritus of mechanical engineering and bioengineering who has spent three decades improving the lives of people around the globe. Rubinsky is now a professor of the Graduate School — a position that involves research but not teaching — having taken early retirement to focus on developing bioengineering technology for those in need.

Seemingly undaunted by challenges that deter others, Rubinsky has developed simple, affordable methods for detecting diseases that can be widely used by people living in poverty or in remote areas, as well as a groundbreaking way to treat cancer. He has co-founded six start-up companies, secured nearly 40 patents, and mentored scores of graduate students.

While Rubinsky attributes his motivation to his mother, he says private philanthropy at Berkeley has been a pivotal factor in his breakthrough discoveries. As the Arnold and Barbara Silverman Distinguished Professor of Bioengineering for the last decade, Rubinsky says much of his work was made possible by unrestricted funding provided by the endowed chair. "Gifts and donations make possible work outside the beaten path — outside the norm," Rubinsky explains.

He says that government grants are meant to advance fundamental research and basic knowledge, but that private funding frees up researchers like him to devote attention to the needs of the economically and socially disadvantaged. And so he has.

**AFFORDABLE, PRACTICAL TOOLS FOR SAVING LIVES**

The World Health Organization reports that three quarters of the world’s population has no access to medical imaging such as ultrasounds, X-rays, and medical resonance imaging which can result in early detection of cancer, tuberculosis, and other diseases.

Using an infrastructure that already exists — the widespread use of cell phones, even in Africa, Asia, and Latin America — Rubinsky's team of Palestinian, Israeli, and Berkeley students and researchers, engineered a simple, affordable ultrasound transducer that attaches to cell phones to send images to central locations for analysis.

"If a physician comes to a small village, all he needs in his pocket is a cell phone and this transducer — which is about seven-inches long and one inch in diameter — to pass over the body part to be checked," Rubinsky says. "Then the data are sent through the cell phone to a central facility and processed into an image that is transmitted back to the physician or a radiologist."

Rubinsky’s team in collaboration with Mexican researchers is also deploying cell phones in an affordable, practical system for detecting internal bleeding in women after childbirth — a leading cause of death among women in developing countries. His technique employs two electromagnetic coils

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**Answer to “Famous Alum”**

**Reuben “Rube” Goldberg 1904 (1883–1970)** was a Pulitzer Prize winning, syndicated cartoonist. He was best known for his artistic “inventions” that poked fun at a machine-obsessed society by depicting how to turn simple tasks — such as getting cotton out of an aspirin bottle — into complex and comedic operations. Goldberg graduated from UC Berkeley in 1904 with a College of Mining degree and worked briefly for the City of San Francisco’s Water and Sewers Department before taking a post as an office boy in the San Francisco Chronicle’s sports department. Goldberg’s artistic genius was discovered in San Francisco, but his career took off in New York where he drew cartoons for several newspapers before national syndication in 1915. The political nature of Goldberg’s cartoons during World War II drew significant hate mail and led him to ask his two sons to change their surname to “George” for safety reasons. Selections from his “Inventions” series along with other original illustrations are part of the UC Berkeley Bancroft Library’s Rube Goldberg Collection.
Some 522 Berkeley alumni who graduated exactly a half century ago pooled their UC Berkeley gifts in 1997 to create the Class of 1960 Endowed Faculty Chair for Undergraduate Education to give a professor the extra funding necessary to nurture undergraduates. The University selected Anthropology Professor Meg Conkey to occupy this faculty chair — striking gold for the class of 1960.

A leading university had been actively courting Conkey to leave Berkeley. The endowed chair appointment offered a key incentive for her to stay here, providing resources to start a multimedia laboratory for undergraduate anthropology students — what she calls a “hub of student innovation.”

Hundreds of students each year now use the lab’s computers and video equipment to research and create digital presentations and to teach elementary students from underserved local schools how to create digital stories about their family histories and cultures. Conkey has also used the endowed chair funds for undergraduates to participate in archeological field projects, including her own in southern France, and to bolster her department’s teaching budget for new courses. She helped create a dynamic outreach program in archaeology that reaches some 600 children each year and brings fourth and sixth graders to Cal to “dig” for artifacts in a mock excavation site.

“These students learn that anybody can be an archeologist — anyone can be a scientist,” says Conkey.

When Conkey began her career at Berkeley in 1987, after teaching at New York’s Binghamton University, archeology was dominated by an analysis of hunters, kings, and other masculine events. Conkey and a colleague wrote a highly influential paper that reevaluated male and female roles in the human past.

Berkeley Anthropology Professor Rosemary Joyce says Conkey helped initiate a scholarly debate on ways to consider the past that did not make assumptions based on biological roles, calling her “one of the leading voices in the development of archeology and gender.”

Into her field — literally

Conkey’s other research expertise and passion is in Paleolithic cave art. She is currently working on a field project in southern France where she directs a team, including Berkeley undergraduate and graduate students, who systematically survey plowed fields to recover and map the presence of Stone Age artifacts. Conkey believes there’s more to understanding the late Paleolithic Age than what can be found in caves.

“I decided to step outside the cave, like stepping outside the box, to see what we could see,” says Conkey, picking up from her desk what looks like a rock but is actually a 35,000-year-old tool — one of 7,000 such pieces her researchers have found and are now cataloguing, attesting to a rich landscape of culture “between the caves.”

“Not all of our ancestors were cavemen,” says Conkey. “Women and children were out in their Ice Age landscapes as much as, if not more than ‘huddled in caves,’ as popular culture has so often depicted.”

Some people — including French farmers — were skeptical that Conkey’s team would find anything besides rocks in the plowed fields. “We were not surprised that there is something out there,” says Conkey. “But we were pleased.”

Conkey will spend this fall on sabbatical, but she won’t be sitting still. She plans to travel extensively, work with the materials from her survey and excavation site in the French Pyrénées, and spend time with her two daughters and three grandchildren. She might ponder what she will do with prize money from the prestigious Chancellor’s Award for Advancing Institutional Excellence — the most recent of her many campus accolades — likely using it for outreach and recruitment efforts to ensure diversity in anthropology.

Conkey says she is extremely grateful for opportunities she has had at Berkeley and for the endowed chair resources that enticed her to stay here when another university came calling. To watch her talented students be able to travel to conduct research reaffirms her conviction that there is no contradiction between being a first-class research university and a first-class undergraduate institution.

About the endowed faculty chair, she says: “I would like to think that the funds have been spread far and used to mobilize many activities and contributions to undergraduates, outreach, new teaching, and the scholarly life of Berkeley.”
This newsletter offers only general gift planning information. We urge you to seek the advice of an attorney in developing your personal estate plan, as the Office of Gift Planning may not render tax or legal advice to friends and alumni of the University. If you would like more information concerning charitable giving as a component of estate planning, we would be happy to provide you with more specific ideas.

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weekend highlights
- Reunion Celebrations
- Cal Parents Events
- Bear Affair Barbeque
- Faculty Seminars
- Tours and Open Houses
- Cal vs. UCLA Football Game

Fiat Lux!
Kevin T. Crilly
Director, Office of Gift Planning

Private philanthropy is the key

Members of the Class of 1960 and Mr. and Mrs. Silverman — as well as thousands of other donors to UC Berkeley over time — understand that the combination of private philanthropy and brilliant faculty produces the extraordinary.

Professors Rubinsky and Conkey are stellar examples of that Berkeley brand of extraordinary.

If you’re thinking of providing financial support to UC Berkeley, you have a number of options for what to give, including cash, bequests, retirement plans, securities, and real estate. Might I suggest you consider a gift of real estate?

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