

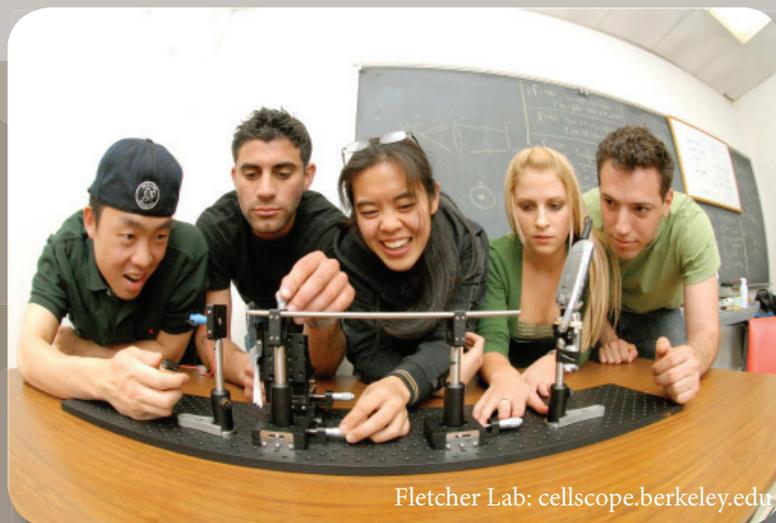
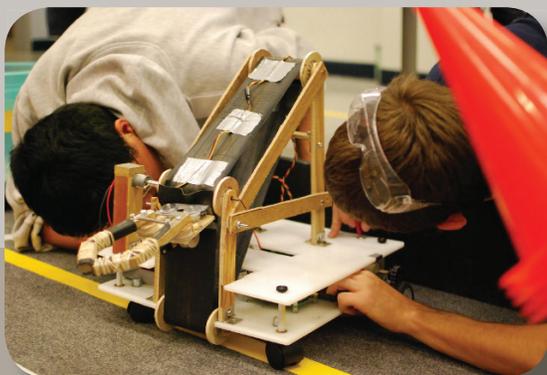


## DEVELOPMENT IMPACT LAB

A USAID Development Lab  
Headquartered at  
University of California, Berkeley

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# DIL IS LAUNCHING A NEW PH.D. CURRICULUM IN DEVELOPMENT ENGINEERING



Fletcher Lab: [cellscope.berkeley.edu](http://cellscope.berkeley.edu)

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Designing effective and high-impact technologies for developing regions involves a skilled balance of human considerations, calculations that transcend disciplinary boundaries as well as specific technical training. While creating a community for such learning to take place is a particularly difficult task, the Development Impact Lab at UC Berkeley (funded by USAID) is putting together a Designated Emphasis (“Ph.D minor”) in Development Engineering (DE<sup>2</sup>) that will spark collaboration between doctoral students from both STEM (science, technology, engineering and math) and quantitative social science disciplines dedicated to pro-poor design.

“Until now, there was no way to bring under one roof the diverse orthogonal and very substantial bodies of knowledge and inquiry that intersect in the space of development practice,” explained Professor of Environmental Engineering Ashok Gadgil. A veteran development engineer who has received worldwide recognition for inventing high-impact designs like the Berkeley-Darfur Stoves and UV Waterworks, Gadgil will be teaching a design course in the designated emphasis (DE). In the near future, doctoral students interested in learning the technical skills necessary to develop high-impact development technologies will have a community of professors and colleagues to train with.

DE<sup>2</sup> will be based from out of the Blum Center for Developing Economics and the College of Engineering at UC Berkeley, allowing it to further the Blum Center's goal of student engagement in development practice. While more technical than the Global Poverty and Practice minor for undergraduates (also run by the Blum Center) DE<sup>2</sup> will produce a similar community for graduate students to collaborate and address world poverty with human-centered technology and evaluation. "The students will obtain, besides deep knowledge of their own field, at least a broad familiarity with other critically important bodies of knowledge and inquiry, in which they will need to, and can, seek expert collaborators and colleagues," explained Gadgil, who also serves as Director of the Environmental Energy Technologies Division at the Lawrence Berkeley National Lab.



Courses in the emphasis are designed to be hands on, testing technologies and data measurement and evaluation techniques. The program curriculum of the DE<sup>2</sup> is being developed by a team of faculty and students led by Professor of Mechanical Engineering Alice Agogino and Professor of Economics Clair Brown. "Because the graduate students will enter the DE<sup>2</sup> program with a variety of skills and talents, our focus is on providing

them with the critical skills and knowledge they need for their fieldwork by teaching them complementary skills, deepening, their knowledge, and integrating their skills," explained Professor Brown. The two lead an illustrious group of faculty and students working together to design the DE<sup>2</sup>.

Bringing together all students of the emphasis will be two foundational courses of DE<sup>2</sup> co-taught by faculty in two different departments. The courses will focus on project design (including human-centered design with participant feedback and other methods of qualitative data collection), measurement and evaluation techniques (including econometrics and controlled trials), automated data collection and analysis, and developing and evaluation social impact. After taking these required courses, student of DE<sup>2</sup> will select from a range of graduate courses offered in the engineering, economics, business, and public health, among other disciplines.

This new DE is part of a larger effort to engage graduate students in development design. DIL will also be exploring the development of post-doctoral fellowships and a new peer-reviewed journal dedicated to development engineering. The DE<sup>2</sup> marks the start of a new community of human-centered and socially motivated technology inventors and innovators with the knowledge and resources to help alleviate poverty.

