

IEOR

A L U M N I N E W S L E T T E R



Special Points of Interest:

- IEOR becomes home department for CET
- Crowdfunding and Data and Democracy Initiative continue to be highly successful programs. Details inside.
- Cal listed as the top school to attend for robotics in the US by the Business Insider.
- IEOR hosted first Alumni Social in San Francisco at Thirsty Bear Restaurant.
- Plans for the renovation of Etcheverry Hall are underway.

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Dear alumni, students, colleagues, and friends:

It's never been a more exciting time for the field of Industrial Engineering and Operations Research—everyone is talking about analytics, and analytics is

exactly what we do. As always, the IEOR Department continues to lead the way—we have had another productive year, packed with accomplishments.

This past spring I read the names of 130 new Industrial Engineers: 37 IEOR undergrads, 8 ORMS undergrads, 30 IEOR Masters Students, 50 MEng students and 5 doctoral students. All of undergraduate and graduate programs continue to grow in popularity.

The Center for Entrepreneurship (CET), which each year equips over 800 Berkeley students with the skills to innovate and commercialize technology in the global economy, is now officially a part of the IEOR department and will celebrate its 10th anniversary in 2015. We invite you to read more about this exciting program inside.

Also in this newsletter, you'll be able to read about the continued progress of a critical ongoing project—the renovation of Etcheverry Hall. The Etcheverry Hall 4th Floor Campaign continues and we are proud to announce that the transformation of the 4th floor is on the horizon. At the

completion of this project we'll have facilities that will be the envy of our competitors.

Inside this newsletter, you can read about some of our new and exciting research projects such as the Data and Democracy Initiative, California Report Card, Crowdfunding and about our annual Award Ceremony held last spring, where we recognize some of the many accomplishments, honors and prizes of our students and faculty.

We're also continuing to work to build our alumni community. We held a wildly popular Alumni Social at Thirsty Bear Restaurant in San Francisco, which we advertised through our LinkedIn group and new Facebook page. If you are not yet a member of UC Berkeley IEOR Alumni LinkedIn group click on the LinkedIn button on the department webpage and make sure to visit and Like our Facebook page to always be in the know. We're planning more exciting events for the upcoming year, and we'd love to see as many old friends as possible.

Please don't hesitate to contact me at kaminsky@berkeley.edu with comments, questions, industrial project opportunities, or suggestions (and as always, donations are always appreciated, and can now be made on our departmental home page with a credit card).

Go Bears!

Phil Kaminsky
Professor, Department Chair

Report from the Fung Institute

Crowdfunding

Crowdfunding is using web based platform, with marketing primarily through mostly social media, to finance projects or products. Our research center aggregates data from around the world to study this multi-billion dollar new market which is funding both technological and social innovation. Crowdfunding stems from the idea of strength in numbers. It is an internet-enabled way for businesses and other organizations to raise money in the form of either donations or investments from multiple individuals. These numbers are an extended base of current and potential customers utilizing their various backgrounds, knowledge, and experience.

Our program has been awarded a grant for research, development, and future financing from Ewing and Marion Kauffman Foundation. We are also partnering with LendAcademy.com to conduct a survey of socially based business financing. Our active research team has access to the richest set of data that is globally available and our research director has met with several foreign governments, and lectured internationally on Crowdfunding, courtesy of the World Bank.

The first masters student to graduate from the M. Eng program completed research on crowdfunding and their thesis which lead to new insights on crowdfunding is soon to be published.

Our initial advisory board members include:

Ron Suber, UCB Alum 1986, President of Prosper.com, Former Managing Director of both Bear Stearns and Wells Fargo Securities

Trish Costello, CEO of Portfolia, former Director of Entrepreneurship at Babson College, Founder of Kauffman Fellow Program, Former White House Advisor on Small Business Policy under President Clinton

Jon Medved, UCB Alum 1976, CEO of OurCrowd, and the largest investor and venture capitalist in Israel.

Rejuvenating innovation

Conventional wisdom has it that entrepreneurs are born that way. At Berkeley, however, we thrive on proving conventional wisdom wrong. After almost a decade of teaching entrepreneurship in Berkeley Engineering's Center for Entrepreneurship and Technology (CET), Ikhlaq Sidhu, Ken Singer, our talented industry faculty and our hard-working staff have demonstrated that indeed, entrepreneurship can be learned, and that Berkeley can teach it.



Since it opened in 2005, CET has launched numerous student-created ventures and trained over 3,000 Berkeley undergraduates using a one-of-a-kind teaching model, the "Berkeley Method of Entrepreneurship."

The Berkeley Method, co-developed by IEOR professor Ikhlaq Sidhu, CET's chief scientist and founding director, and Ken Singer, CET's managing director, uses games and exercises to develop an entrepreneurial mindset in students while offering the tactics and infrastructure to support the process of creating a new venture (see CET's curriculum page).

Throughout, CET has offered an educational pathway for aspiring entrepreneurs and innovators. Along with the A. Richard Newton lecture series, CET offers innovative course models like "challenge labs" for mobile applications, big data, social entrepreneurship and other areas. We also offer the Venture Lab to incubate nascent projects, and the new SkyDeck accelerator for more polished firms that are launch-ready.

The 3-D printing startup Twindom, for example, began as a CET class project and then took form in Venture Lab and SkyDeck. Twindom generates lifelike ceramic figurines from photographs and has already attracted \$400,000 from Tim Draper and other investors.

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Other CET-launched firms include Mixbook, inDinero, Imprint Energy, CellAsic, AdsNative and Eko. Thousands of CET alumni have become integral members of the ecosystem of new ventures and innovation leadership in Silicon Valley and beyond.

What is next for technology entrepreneurship at Berkeley? In 2015, we celebrate the 10th anniversary of CET, as we grow CET to support ever more Berkeley students. IEOR department chair Phil Kaminsky will join the leadership team in the role of faculty director, helping to strengthen CET's connection with its home department, IEOR. Working with Ikhlaq and

Ken, Phil will also lead the development of a new minor in entrepreneurship and technology and strengthen ties with our new Jacobs Institute for Design Innovation.

We are really excited to see CET begin its second decade of nurturing entrepreneurs who share a globally aware, socially committed approach to technology innovation—as you would expect at Berkeley. If you would like to get involved, just let us know.

S. Shankar Sastry

*Dean and Carlson Professor of Engineering
Director, Blum Center for Developing Economies
"from Innovations, June 2014"*



The California Report Card

The California Report Card is a program in which Californians can grade the state government about issues and raise concerns. It gives Californians a direct connection to their government officials. California report card allows people to give their unadulterated opinion on political issues. Collective intelligence. Allows government to see the people's satisfaction or lack thereof.

As described in a recent SF Chronicle Op-Ed, "Let's Amplify California's Collective Intelligence" by Gavin Newsom and Ken Goldberg (<http://j.mp/Op-Ed-Cal-Rpt-Card>), thousands of Californians are using a new mobile technology to advise state leaders on timely issues. Since the "California Report Card" launched in early February, almost 9000 people from all 58 counties have assigned over 23,000 grades to the State of California and suggested issues for the next report card. This feedback is being closely

watched by Lt. Governor Gavin Newsom, who developed the platform with the CITRIS Data and Democracy Initiative at UC Berkeley. The project is exploring how technology can engage the public by streamlining and structuring their communication with elected officials.

"This platform allows us to have our voices heard. The ability to review and grade what others suggest is important. It enables us and elected officials to hear directly how Californians feel."

- Matt Harris, Ione, CA

Lt. Governor Gavin Newsom: "The California Report Card is a new way for me to keep an ear to the ground. This new app/website makes it easy for Californians to assign grades suggest pressing issues that merit our attention. In the first few weeks, participants conveyed that they approve of our rollout of Obamacare but are very concerned about the future of California schools and universities. There was also statewide support for increased attention to Disaster Preparedness, so this has become one of my top priorities."

The California Report Card encourages unmonitored input from a broad range of participants and combines peer-to-peer review with statistical models to identify and highlight the most constructive, insightful suggestions. As a result the discussion is open but is not dominated by extreme viewpoints.

CITRIS Data and Democracy Initiative

The Citris Data and Democracy Initiative is aimed at finding solutions for common corporate problems. Using social media, mobile devices and the internet, CITRIS builds democracy and civic participation.

DDI develops tools to support the evolving, dynamic relationships between digital media and democratic practices, for example novel mobile, Internet and social media applications to enhance online deliberation, participatory decision-making, and rapid mobilization. DDI seeks to enhance individual and collective awareness, understanding, and engagement for people of diverse backgrounds on critical social, political, and economic issues.

The Data and Democracy Initiative is collaborating with the UC Santa Cruz Center for Games and Playable Media, and UC Berkeley's Center for New Media (BCNM), Human Rights Center, Social Apps Lab, the Algorithms, Machines, and People (AMP) Lab, and the MIT-IBM Network Science Research Center, among others, including companies and government and non-profit organizations. "This is exactly what governments need," noted Alec Ross, Senior Advisor for Innovation to U. S. Secretary of State Hillary Clinton.

Researchers with the program are also working on a program called the California Report Card.

Participate

It takes only two minutes to participate and works on all screens (best on mobile phones held vertically), just click **"Participate"**:

Contact:
Ken Goldberg,
Professor,
UC Berkeley
Cellphone:
415-722-5649

<http://californiareportcard.org>

The project website includes details on the issues being graded, statistical significance, related projects, FAQ, contact info and data to date.

For example, the California Report Card utilizes the power of collective intelligence, public communication and most importantly the voice of the people.



IEOR Faculty and Alumni Recognized in their Fields

Congratulations to our outstanding faculty who continue to receive recognition in their fields.

Professor Lee Fleming won this year's INFORMS Technology Management Best Paper Award for his paper: *"Mobility, Skills, and the Michigan Non-Compete Experiment"*.

Professor Dorit Hochbaum was named SIAM Fellow for contributions to the design and analysis of approximation algorithms, flow problems, and their innovative use in applications, and in solving NP-hard problems. She was also awarded a new DARPA grant for security routing and patrolling.

Two IEO Alumni received volunteer awards from the UCBF Trustees this Spring!

Bob Sanderson ('66, '70) awarded The Wheeler Oak Meritorious Award

This award is given to those alumni and friends who have excelled in a leadership position for one or more fundraising programs over a period time.

Sabina Del Rosso ('13) awarded The Young Bear Award

This award is given to a student, young alumnus, or friend who has demonstrated outstanding achievement on a fundraising project or campaign, or who has accomplished successful outreach to the community or alumni.

Business Insider: UC Berkeley top school to attend for robotics in the US

"The Robotics and Intelligent Machines Lab at UC Berkeley has an entire department devoted to replicating animal movement for the sake of improving robotic mobility. The school's Laboratory for Automation Science and Engineering gets into more general robotics work, designing solutions for things like robot-assisted surgery and automated manufacturing. There's even an entire Computer Vision Group so that students might learn how to help robots make sense of what they 'see.' It's an incredibly robust college for robotics that will likely meet your interests no matter what they are."

Etcheverry Hall 4th Floor Renovation Campaign Continues

Since launching the Etcheverry Hall 4th Floor Renovation Campaign last spring, a small but faithful group of the department's friends and alumni have graciously donated to the project. To date we have successfully raised just over \$207,000, which is short of our \$900,000 goal and has extended construction until next summer.

There is good news on the horizon and many giving opportunities remain. Andrew Laffoon, B.S. IEO '05, and co-founder of Mixbook, has provided a challenge match to young alumni in support of the Etcheverry Hall 4th Floor Renovation Campaign. If you are a graduate of the last decade, do not miss out on this great opportunity to have your donation matched. Additionally, if we triple the total amount raised thus far, we will be able to complete the majority of the needed renovation.

Although we are historically (and currently) ranked as one of the top IEO departments in the country, our facilities rank far behind those of our peer departments, and for the past two years every admitted PhD student who visited campus has chosen to attend a competing institution after seeing our aging facilities. Potential and current undergrads and masters students have made similar observations.

The renovation of Etcheverry Hall's 4th Floor will directly enhance teaching and research throughout the department and boost productivity across all programs.



Artist's rendering of future

Etcheverry hallway and collaborative work space shows some of the proposed improvements—including enhanced teaching and meetings spaces; and a more supportive physical environment via raised ceilings, optimized lighting, and enhanced natural light through the addition of glass doors and windows.

Through the creation of communal spaces and collaborative work environments for our students, these improvements will create an ecosystem that promotes the growth of innovative new ideas from our students and faculty.

To learn more about how you can contribute to the Etcheverry Hall 4th Floor Renovation Campaign, please contact Michelle Leighton in College Relations at 510-643-6985 or msleighton@berkeley.edu. You may also donate on-line by [clicking here](#).

Berkeley IEO Fall Alumni Social



Join us for an evening of drinks, hor d'oeuvres and lively conversation hosted by Chair Phil Kaminsky and IEO Faculty. Planned in conjunction with the INFORMS Annual Meeting taking place in San Francisco, November 9th–12th!

DATE: Monday, November 10th, 2014
TIME: 6:30pm–9:30pm
VENUE: Kuleto's Italian Restaurant at the Villa Florence Hotel
221/225 Powell Street, San Francisco, CA 94102

We look forward to seeing you there! Please respond to Brionna Garner at bgarner@berkeley.edu by Friday, October 31st.

IEOR Awards Reception



On May 6th, the IEO department held its annual IEO Awards Reception to recognize our outstanding students. Students, faculty, staff and alumni gathered in the Faculty Club and enjoyed drinks and appetizers and celebrated their many accomplishments.

The fourth annual Jengyee Prize, "Leadership for a Better World," was awarded to **Laila Soudi**. The prize was established in honor of the memory of Jengyee Liang, who received her B.S. in 2005 from the Industrial Engineering and Operations Research Department in the College of Engineering. **Ferina Putri** received the Department Citation Award, which is the highest honor given to one undergraduate student in each engineering department. Many other worthy students received fellowships and scholarships: **Felicia Angesti** received the Undergraduate Faculty Award; **Zhao Ruan** received the Marshall-Oliver-Rosenberger Fellowship; **Andres Gomez Escobar** and **Jiaying Shi** both received the IEO First Year Fellowship and **Kelly Choi** received the IEO Faculty Fellowship. **Alexander Daniel Voet** won the award for Outstanding ORMS Student. We also recognized the department's three Outstanding GSI Award winners: **Erik Bertelli**, **Long He**, and **Elaina Marshalek**.



From the left:
Sin Manchoi,
Alexander
Daniel Voet,
Ferina Putri

IEOR Alumni Social

On June 12th, 2014 over 75 IEO alumni, faculty and friends gathered at Thirsty Bear Restaurant in San Francisco for the first IEO Alumni Social. It was a lively atmosphere and guests caught up over appetizers and drinks. Chair Kaminsky was able to update guests on the Etchevery renovation project and exciting projects to come for IEO that prompted some

great discussion. It was great to see people who we had not seen in a long time.

We are looking forward to the next Alumni Social planned in conjunction with the Annual INFORMS conference. The event will be held November 6th at Kuletos Restaurant in San Francisco from 6:30pm-10:30pm. Make sure to Save the Date, additional details soon to follow.



Save the Date!
Next Alumni Social
November 6
6:30pm - 10:30pm
Kuletos Restaurant
San Francisco



Institute of Industrial Engineers (IIE) Looking Forward to a Year of Excitement and Opportunity

By Courtney Chow (Incoming President)

The Institute of Industrial Engineers (IIE) had another great year, building professional and personal relationships, creating career and academic opportunities, and contributing to the greater engineering and Berkeley community. We welcomed many new faces at our General Meetings and Socials, which included BBQs (by the Campanile and the Marina), bowling at Albany Bowl, and a pizza party! In addition, we continued our longstanding tradition with APM as we organized the annual Student-Faculty Lunch—a great way to connect with fellow students and professors in the IEOR Department. Our Corporate Team also planned various Infosessions throughout the year to help with the ever-so-exhausting and stressful recruiting process. Adding on to the list of projects we had last year, we also volunteered at Engineering 4 Kids (E4K) and participated in ESC's Engineer's Week. As one can imagine, last year was filled with activities, fun, and laughter. We are excited for this upcoming year and the adventures it will bring with a brand new team of officers!

This year, we hope to have even more Socials, Infosessions, General Meetings, and opportunities for people to gather and hang out. Events for this upcoming year are already being planned, and there is a continuously expanding list of companies for Infosessions and Workshops this Fall. The future is exciting for our organization, and we really hope to see your smiling face at an event this upcoming year!



Alpha Pi Mu

President: Riley Murray

2013 – 2014 was a big year for Alpha Pi Mu. Although we have long been a presence on Berkeley's campus, for years we were not a registered student organization. Former APM President Ian Herbert led the way in getting Alpha Pi Mu recognized by both the LEAD Center and the ASUC.

That same year, APM designed, marketed, and sold (to great success!) an IEOR departmental t-shirt (we have a handful left if anyone would like to purchase one, email: apm@berkeley.edu). At the tail end of spring semester, APM collaborated with IIE for a successful student-faculty lunch, and welcomed 6 new members into our ranks (for a total of 14 for the year).

This year, we will be working to broaden APM's scope. Proposed topics internal to the department include the creation of an alumni database, instructional videos, and "guides" for navigating through the unique process of majoring in IEOR (some tailored for transfer students, or first-year students with a large number of AP credits, and a more general case).

Looking outward, Alpha Pi Mu will be seeking opportunities to partner with the Berkeley campus to optimize its operations where possible. In our journey to help the university work better, we fully expect to find intertwined systems demanding more than single-objective optimization. But as with all branches of engineering, Alpha Pi Mu's Industrial Engineers will fall back on creativity, perseverance, and diligence

to find elegant solutions to the complex problems that we face.

Recruiting begins in September. If you would like to be a part of IEOR's finest, serving both the department and the university, then keep an eye on your "@berkeley.edu" inbox. We'll be in touch!