Dear Graduates,

The Berkeley Engineering curriculum is one of the most rigorous in the world. To master it is a singular accomplishment. Congratulations!

Many of you also found success outside the classroom: from leading clubs to working in research to sharing your knowledge with the community beyond Cal. You’ve worked hard to meet academic and non-academic goals. We celebrate your achievements.

In this uncertain economic climate, our college and our alumni network are here to support your career dreams. Make use of every available resource and stay connected with one another and with us. Don’t underestimate your abilities: Each of you has the capacity to lead multidisciplinary teams to create exciting new technologies and address some of the world’s most pressing problems. We look forward to hearing about your future accomplishments.

On behalf of all of us in the Berkeley Engineering family, congratulations again and best wishes!

—S. Shankar Sastry (M.S.’79 EECS, M.A.’80 Mathematics, Ph.D.’81 EECS)
Dean, College of Engineering
Roy W. Carlson Professor of EECS, ME and BioE
Director, Blum Center for Developing Economies
Senior moments from Engineering News

Class of 2009 members distinguished themselves in many ways...

**EDUCATORS** A group of engineering students, including ME senior Perry Johnson and BioE senior Mike Lin, launched BEAM (Berkeley Engineers and Mentors), an outreach program run entirely by undergraduates that places engineers in local schools to teach weekly science activities and spend one-on-one time with kids. So far, 40 Berkeley Engineers have mentored about 100 middle and high schoolers, many from disadvantaged backgrounds. Pictured above, an engineer teaches kids about DNA through a fun activity.

**LEADERS** MSE/BioE senior Ahmad Namvargolian and ME senior Sam Woodard helped kick-start an initiative to reinvigorate engineering’s official student governing body, the Engineers’ Joint Council (EJC), which had become less active in recent years. Writing proposals and hosting meetings, the two received the go-ahead from college officials and EJC leaders, putting the spotlight on EJC’s mission and advocating for better service to the engineering community.

**VICTORS** “My only disappointment was that we didn’t set a new speed record,” said EECS senior Larry Van Pham Ly (pictured far left), referring to his team’s win of Natcar, the yearly competition between 20 or so college teams that race their autonomous radio-controlled cars for the fastest time, sponsored by National Semiconductor.

**ALTRUISTS** Ask CEE senior Jessica Huang about Sushi 4.0. She was part of a team that tackled the problem of arsenic in Cambodia’s groundwater supply by building a device to remove it using a low-cost process. During a lighthearted lab moment, the team dubbed its prototype Sushi after the layers of rolled iron sheets.

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If Coleman Fung (B.S.’87 IEOR) had twittered his life up until now, it might look something like this:

**Arrived in New York City where my dad lives.**

**Excited. English is a challenge. Oh, I’m 16 and from Hong Kong.**

**Majoring in physics at Rensselaer. Interning at a GE lab. Lightbulb moment! Don’t want to work in a lab.**

**Left college. Traveled across the U.S. Not sure what to do.**

**Enlisted in the Army — Rebelling against the traditional Asian-American thing. Been all over Europe, Egypt, Israel. Met people from all walks of life.**

**IEOR major at Berkeley. It’s challenging. But intellectually satisfying ;-) Amazed at Berkeley’s openness... Loving it.**

**Yes, I’m a derivatives trader on Wall Street. Job is great. Systems are terrible.**

**Launched OpenLink Financial. Developing the ultimate trading and risk management software. Looking for first client...**

**Left CEO job after 15 years, still chairman. 2008 company stats: sales: $184M; one-year growth: 32%.**

**Introducing the Coleman Fung Foundation. Funded $18M. Grants to educational causes, including Berkeley COE. It’s important to give back.**

All this is true except that the 46-year-old Fung, who considers himself a technologist, doesn’t twitter. “I don’t want to be a slave to it,” he explains.

And that, in a nutshell, is the message he hopes to share at Commencement: Don’t get lost in the technology; harness it for a higher purpose. “Berkeley engineers have the expertise and the leadership potential to ensure technologies make a real impact and provide better humanistic connections,” he says.

Final tweet: “Don’t limit yourselves.”
Citation Winners

Kate Liddle, BioE
Hometown: Lafayette, California
GPA: 3.970
Plans after graduation: Applying to medical school while working in a biomechanics lab
Best Berkeley moment: “Starting an impromptu karaoke session in a lecture hall late one evening with two friends. In the middle of busting out some Journey, the janitor walked in and gave us this look.”
Words of wisdom: “I couldn’t have survived Berkeley Engineering without the collaborative efforts of my friends and classmates. I know for sure that I wouldn’t have had as much fun.”

Helen Chow, CEE
Hometown: Daly City, California
GPA: 3.886
Plans after graduation: Traveling in Asia, then looking for a job
Best Berkeley moment: “My freshman year a friend and I stayed up late struggling to finish our first engineering project in E 28. At those moments, you realize the importance of teamwork.”
Words of wisdom: “Enjoy what you do. It’s important to put your heart into your profession because we have the ability to affect others’ lives.”

Chayut Thanapirom, EECS
Hometown: Bangkok, Thailand
GPA: 3.990
Plans after graduation: Graduate school at Berkeley in physics
Best Berkeley moment: “Last summer, I traveled to visit friends a lot. There are so many places near Berkeley that are worth visiting such as Napa Valley, Lake Tahoe and Yosemite. It was a wonderful summer.”
Words of wisdom: “Time and stress management. Berkeley does a good job training you in these skills.”

Hometown: St. Louis, Missouri
GPA: 3.980
Plans after graduation: Graduate school at Stanford in applied physics
Best Berkeley moment: “Spending time in the physics reading room doing homework with classmates and working in the Quantum Nanoelectronics Laboratory.”
Words of wisdom: “No matter where you are or how little time you have, do your best to learn and experience all you can.”

John Baumler, IEOR
Hometown: Portland, Oregon
GPA: 3.970
Plans after graduation: Graduate school at Berkeley in IEOR
Best Berkeley moment: “For my senior project, I worked with my group to accurately predict shipping costs at Charles Chocolates in Emeryville. One day, when we were visiting the factory, they were missing some regular employees on the production line, and we were drafted to help make chocolate- and nut-covered caramels. Almost as good as my childhood dream of working in Willy Wonka's Chocolate Factory.”
Words of wisdom: “See more of the world.”

Ivan Wong, ME
Hometown: Pleasant Hill, California
GPA: 3.980
Plans after graduation: Graduate school at Stanford with a focus on biomechanics
Best Berkeley moment: “I have two. The first time my group's mechatronics project worked. And during a gospel choir performance when we got the audience to their feet singing and clapping. It was a benefit for cancer survivors.”
Words of wisdom: “Don’t bury yourself in your books. Cal has so much to offer besides academics.”

Kari Thorkelsson, MSE
Hometown: San Jose, California
GPA: 3.915
Plans after graduation: Graduate school at Berkeley's MSE department with a focus on polymer-nanoparticle nanocomposites
Best Berkeley moment: “From the thrill of discovery when my research worked correctly, to the dawning of comprehension as I worked out a complex concept, to the simple joy of hanging out with friends, it’s all been pretty good.”
Words of wisdom: “Do your work, but don’t let it overwhelm you.”

Ragnar Stroberg, NE
Hometown: Ojai, California
GPA: 3.850
Plans after graduation: Graduate school at Michigan State University in nuclear physics
Best Berkeley moment: “Sophomore year I was involved in a rivalry with some track team friends in which we took turns kidnapping this ugly ceramic statue of a bag of French fries. One night, we pulled off a particularly crafty theft. At 3 a.m., I awoke to one of my rivals, buck naked, running and screaming through our house. He ripped the sheets off a friend’s bed and ran out the front door wearing them like a cape. After the dust settled, I checked our hiding place, and the statue was gone. Clearly, we’d been outclassed.”
Words of wisdom: “It’s amazing how far you can get just by showing up.”

CITED: From left, Ragnar Stroberg, Chayut Thanapirom, Kari Thorkelsson, Kate Liddle, James Lee, John Baumler, Helen Chow and Ivan Wong. These students have been recognized by their departments for excellence.
INSTRUMENTAL: The Cal Marching Band featured 27 engineers out of 233 members this year. A few pause for our photographer after practice.

“LITTLE” BIG GAME: Each year, the Cal and Stanford chapters of Tau Beta Pi, the engineering honor society, play a game of touch football on the day of the Big Game to win engineering’s version of the axe. Guess who prevailed?

WIGGED OUT: CEE graduate student Daniel Work (left), Patricia Decker (M.S.’05 CEE) and CEE assistant professor Alexandre Bayen at the Disco Prom.

ICEBLOCKING: BioE sophomore Hinesh Patel flies down 4.0 Hill.
IMMERSED: These CEE seniors investigated how to improve the reuse of water from bathroom sinks and showers, called graywater.

NUMBER ONE: Berkeley engineers win the Academic Olympiad at the Society of Hispanic Professional Engineers’ annual conference in November.

AMBER WORLD: The 15,000 square foot cleanroom in the new Marvell Nanofabrication Laboratory

GAMER: For an EECS class, students built the “Go-Bot,” which challenges human opponents to the eponymous game.
2009 SENIOR ESSAY: “Solutions never come without hardship”
By IEOR senior Yue Tu

On August 29, 2005, during my first week at Cal, Hurricane Katrina made landfall at 6:10 a.m. just east of New Orleans, Louisiana. The Category 3 storm devastated the region and resulted in what I regard as the worst civil engineering disaster in American history.

Yet, in that moment of crisis, there existed immense opportunity. Teams of engineers from UC Berkeley rushed to investigate why the levees failed and why the city was flooded. They developed a list of recommendations for a long-term flood defense system that not only are helping in the reconstruction of New Orleans, but also offer the opportunity to improve these systems around the world. Within my first week here, I got a small taste of what it meant to be a Berkeley Engineer. I felt proud to be surrounded by men and women who apply their knowledge toward improving the lives of others around the world.

These four years at Cal have been filled with different experiences. Many of us have branched out to explore all the amazing things Berkeley has to offer. From bonding nights hosted by our student clubs to cheering our Cal Bears at various sporting events, these enriching experiences have shaped our individual college experiences.

One thing has remained constant, though. As Berkeley Engineers, our path has not been an easy one. Many of us have faced daunting exams, grueling team projects and many nights of burning the midnight oil.

Berkeley Engineering is certainly not for the timid. Nor is it for those who give up in the face of hardship, those who cut corners instead of following through, or those who want to sit back and enjoy the rewards of others’ hard labor. It is this training in perseverance that makes us Berkeley Engineers. We thrive on seemingly insurmountable challenges, such as engineering a competitive solar-powered car or drafting a business plan for a new venture.

The challenges ahead are serious and many. This past year, the global economic crisis has dissolved personal assets, corporations and even governments. How will we respond? With each crisis comes a need for change, a need for solutions. That is precisely what engineers are trained to do.

Though I’m a student in the Department of Industrial Engineering and Operations Research, I’ve been impressed by and proud of all the departments and programs in the College of Engineering in our increasingly global community.

Engineers are trained to speak and deliver ideas not just with words but in programming codes, CAD drawings, event diagrams and circuit models. This gives us an incredible skill set to tackle many of the problems and challenges we face today. From finding a cure for cancer to implementing sustainable energy systems, we have a long list of challenges. At Cal, we have received a world-class education so that we can strive to meet these challenges. The foundation has been set. The tools are ready. It is our turn to build.
Take this quiz and learn about GOLD, COE’s program for recent graduates

1. What does GOLD stand for?
   a. Graduated Officially, Living my Dreams
   b. Get Oski a Large Drink
   c. Gazing On my Lovely Diploma
   d. Graduates Of the Last Decade (2000–2009)

2. True or False: GOLD is free and automatic to join and encourages recent graduates to stay connected with the college and network with each other.

3. For Bay Area alumni, GOLD offers social activities and career advancement opportunities such as
   a. 3 a.m. karaoke nights in the basement of Etcheverry Hall.
   b. water cooler etiquette workshops.
   c. special industry events and happy hours at fun, local spots.
   d. extreme speed networking: find your next employer in two seconds or less.

4. Where should I go for more information?
   a. On Facebook, GOLD Berkeley Engineering
   b. E-mail gold@coe.berkeley.edu
   c. On the web, www.coe.berkeley.edu/support-the-college/giving-opportunities/gold
   d. All of the above

Answers: 1.d 2.true 3.c 4.d

Stay connected with your alma mater through GOLD!

Welcome new Berkeley Engineering Alumni!

54,000 STRONG: As a new graduate, you are now a member of the Berkeley Engineering alumni family, a community of graduates in every state in the nation and all over the world. You can stay in touch in many ways: submit a class note, read our biannual Forefront magazine, visit us at Homecoming or mentor an engineering student, to name a few. Alumni also serve on college boards and participate in the annual Berkeley Engineering Innovation Awards.

Go to www.coe.berkeley.edu/alumni and join @cal, our online community.
Q&A: What’s your reaction to graduating from college? What will you remember most about Berkeley and your time here?

Alan Wang, CEE  
**Hometown:** North Potomac, Maryland  
**Plans:** Interning at a structural engineering firm, then starting graduate school at Berkeley in CEE.  
“I’ll remember watching CEE professor Michael Riemer juggle bowling balls.”

Jennifer C. Pang, IEOR  
**Hometown:** Cerritos, California  
**Plans:** Working at Accenture as a technology consulting analyst.  
“On the one hand, I’m glad to start working and apply my skills to the real world — midterms and finals are getting old. On the other, I’m a tad scared that I can no longer hide behind the general cover of being a student. I won’t forget IEOR’s professors (all eight or so of you). Thank you for making a difference in my life!”

Martin L. Wissink, ME  
**Hometown:** Marysville, California  
**Plans:** Graduate school at Berkeley in ME, then work in the energy industry.  
“I’m the first person in my family to graduate from a university, so this is a proud moment for my parents. I feel to some extent I’m living the American dream. I’ll remember the weirdos on Sproul Plaza, eating sushi for the first time, watching the tree-sitters, and the rally after Obama’s victory and later his inauguration. I wouldn’t have wanted to go to school anywhere else.”

Ganesh Nagaraj, BioE  
**Hometown:** Union City, California  
**Plans:** Work for two years at a biotech company, then go to medical school.  
“Co-founding the Art of Living Club has been one of my most memorable experiences at Cal!”

Amanda J. Laska, BioE  
**Hometown:** Pebble Beach, California  
**Plans:** Medical school at the national military Uniformed Services University of the Health Sciences.  
“I’ll remember the interesting engineering classes I took; they were all on different topics that are pertinent to what I’ll be doing in the future.”

Kyrolos El Giheny, ME/MSE  
**Hometown:** Albany, California  
**Plans:** Working at Chevron now in materials engineering and in December will earn a master’s in mechanical engineering.  
“I will miss you all so much.”

Amber V. Woodburn, CEE  
**Hometown:** Fort Myers, Florida  
**Plans:** Working as a civil engineer with the Federal Highway Administration.  
“I busted my a** 24/7. Worked a total of six jobs. Finished almost all my problem sets. And I lived to tell the tale!”

Robert Crabbs, Engineering Physics  
**Hometown:** San Juan Capistrano, California  
**Plans:** Working at Lawrence Berkeley National Laboratory for six months and afterward working in Washington, D.C., as a patent examiner.  
“Commencement will be the culmination of everything I’ve worked for. It will be odd when it’s behind me. But leaving here is not the end of the world — just the end of an era. I look forward to what the next era has in store.”