

engineeringNews

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PHOTO COURTESY OF CHI EPSILON



SMART AND TALENTED

CAN YOU DO THAT? It's not a choreographed exhibition, just a moment of springtime spontaneity in front of the camera for these members of Cal's chapter of Chi Epsilon, the civil engineering honor society. The talented are, from left, sophomore Irene Kwan, juniors Grace Lin and Alan Wang and sophomores Elaine Kwan and Eric Pon.

Engineering4Kids

Undergrads organize new outreach event to cultivate "junior engineers"



PHOTO COURTESY OF ENGINEERING4KIDS

What do engineers do? On Saturday, February 23, seven engineering societies participated in "Engineering for Kids Day," a new outreach event conceived and run entirely by Berkeley students to answer that very question for local school children.

"Basically we wanted to define engineering," says ME senior Nick Galano, the event organizer. "When I was a kid, I didn't know what engineers did. Was it just

math? We wanted to show kids that engineering is fun, and we wanted to plant a seed."

That meant translating math and science principles into a program of fun activity stations, where 80 children walked around Etcheverry Hall gathering stamps in an "engineering passport." After finishing each activity, they received a stamp on their paper passport, and at the end

Continued on page 2

POP QUIZ



Have you been following the presidential race?



Ari Rabkin, EECS grad student
"I take a relaxed approach to politics, but I've been paying attention. Berkeley is a good vantage point to watch from. People tend to shriek loudly here."



Kyrolos Paul El Giheny, ME/MSE junior
"I wish Edwards were still in it, but the media killed him."



Zohora Iqbal, BioE senior
"I'm supporting Obama, but it's kind of confusing. I don't think it helps to say all that negative stuff about someone in your own party."



Frank McCarthy, EECS junior
"I've been following it a little. There's no clear front-runner. The only way to go from here is up, though, and any of the three of them have a chance to do that."

Engineering4kids

Continued from page 1

of the day, kids with a complete passport took home certificates that read, "You're a Junior Engineer!"

It all started last summer when Galano and a friend fell into a discussion about the need for Berkeley engineering clubs to collaborate on more community outreach. So after months of planning, Engineering for Kids Day took place.

Complete with small explosions.

Cal's section of the Society of Women Engineers (SWE) ran a popular activity in which young engineers-in-training built mini bottle rockets out of camera film canisters. After combining baking soda with vinegar and fastening the lid, Galano says, kids loved watching the caps pop off. SWE members explained that it was the result of gas that had formed from the chemical reaction of an acid and a base.

There were also sinking boats. Tau Beta Pi members challenged participants to make a boat out of aluminum foil, float it in water and see how many pennies they could add before the boat sank. Along the way they talked about the principle of buoyancy and the importance of volume in keeping a boat afloat.

Members of Pi Tau Sigma, the mechanical engineering honor society, had no problem luring children to their table, where participants directed Lego robot cars to drive in various directions. The activity demonstrated the relationship between the robot's light sensors and its movements.

In addition, the Supermileage Vehicle Team showed children the outer covering of its car, explaining how engineers use math and science to build cars that are fuel efficient and better for the planet.

All in all, more than 45 undergraduates ran the day's activities, and anecdotal feedback from participants was largely positive, Galano reports. "I talked to one eighth grader who said he really liked the robot activity," Galano says. "It was great to see him so excited. Math was his favorite subject, and we talked about the importance of staying in school to keep doing math. There is a point to calculating the sine of a 30-degree angle!"

The event, sponsored by the Engineers' Joint Council, capped off Engineering Week. Galano, who graduates this spring, hopes the program will occur next year and become a Berkeley tradition.



<http://pts.berkeley.edu/eng4kids>

SUDOKU

Enter digits from 1 to 9 into the blank spaces. Every row must contain one of each digit. So must every column, as must every 3x3 square. The answer will appear in the next issue. Below is the answer to last issue's puzzle.

1	4	7	3	2	9	8	5	6
6	5	7	8	1	3	4	2	9
9	2	8	5	4	6	3	7	1
7	8	6	3	2	5	1	4	9
3	1	6	4	5	8	2	9	7
2	5	4	1	9	7	8	3	6
5	2	2	0	1	3	4	8	8
4	0	1	0	5	7	2	3	6
0	8	3	7	4	1	5	9	6

		3			9	8	6	
	8			3			1	
								5
			8	9				
6	3	4	2		5	8	9	1
				1	6			
8								
	1			4			5	
2	7		9			3		

Puzzle by websudoku.com

It's time to give back!

Senior Gift Campaign benefits student programs

As soon as he graduates, ME senior Cesar Avalos will install a "Berkeley Engineering Alumni" license plate frame on his turbocharged Honda Civic. He received the frame (not available in stores!) for donating \$70 to the Senior Gift Campaign, which is raising funds for the College. But the frame wasn't his only reason for donating.

"Berkeley has given me so much that I wanted to give back," he explains. "I have knowledge; that's the big thing." During spring break, Avalos shadowed a working engineer and says he not only understood what the engineer was talking about but could also hold his own in conversations. "That made me feel really good!"

Giving back is what the Senior Gift Campaign is all about. The campaign is asking every senior to make a donation. Make a gift at the campaign table at North Gate on April 16 and 17; online at www.coe.berkeley.edu/seniorgift; or in person at 201 McLaughlin. Aside from the frame, which comes with a \$35 gift or more, donors who give any amount will be listed on the College website's donor honor roll and in the College's Commencement program and Annual Report.

Gifts are directed to the Berkeley Engineering Fund, which pays for

such programs as engineering student scholarships, undergraduate research and student societies.

Avalos participated in several of these programs, including the Formula SAE student race car team and the Center for Underrepresented Engineering Students.

The campaign's goal is to achieve a 50 percent participation rate. To motivate seniors to make a gift, alum Bob Sanderson (M.S.'66 Ph.D.'70 IEOR) has pledged to make a matching gift that will double the class total.



RACHEL SHAFER PHOTO

PARTICIPATION COUNTS: Donor Cesar Avalos knows what it's like to be on a budget. He works 19 hours a week to pay for his rent. "But if everyone gives \$40, it will add up," he says.



www.coe.berkeley.edu/seniorgift

< announcements >



Get the complete College calendar at www.coe.berkeley.edu/events.

Commencement 2008

Commencement 2008 will be a traditional all-College ceremony held from 8:30 a.m. to 12 p.m. Saturday, May 24, at the Hearst Greek Theatre. Departmental receptions will follow at various locations on campus. To register for the ceremony and reserve your tickets, go to www.coe.berkeley.edu/commencement. There is a six-ticket limit per graduate. Questions? Contact Dawn Kramer, commencement manager, at dkramer@berkeley.edu.

Time is running out

Separate from the Cal Senior Class Gift Campaign, the College's 2008 Senior Gift Campaign raises critical funds that directly impact engineering student programs and activities, including scholarships, research, student societies and much more. All seniors who give \$35 or more will receive a free "Berkeley Engineering Alumni" license plate frame! Time is running out, so make your donation today at www.coe.berkeley.edu/seniorgift or stop by our table on April 16 and 17 at North Gate.

Earn \$100!

Apply to be a Student Assistant at the College's Commencement on Saturday, May 24. Earn \$100 for required attendance at a two-hour orientation the week before Commencement and six hours on the day of the event. Job duties include assembling ceremony participants backstage, distributing programs and leading candidates to their seats. To apply, contact Dawn Kramer at dkramer@berkeley.edu by Wednesday, April 23.

Researchers speak out

Undergraduate researchers will share their research at the Spring Science and Engineering Poster Session on Tuesday, April 22, from 11:30 a.m. to 1 p.m. in the Betty and Gordon Moore Lobby, Hearst Memorial Mining Building. For more information, go to www.coe.berkeley.edu/uro.



< career corner >

WITH ME ALUM ALAN SALDICH

After graduating from Cal, Alan Saldich (B.S.'87 ME) worked for six technology startup companies. "Two have gone public," he explains, "one got acquired, one ran out of cash, one had a product no one wanted, and one was probably 10 years before its time." He is now vice president of product marketing and alliances at Riverbed Technology, a wide-area data services company in San Francisco, where he oversees marketing, sales and technology partner/reseller relations.

What do you like about your job?

I really enjoy working on new technology, and Riverbed has a fantastic team of people. There is very little BS here. People have lots of experience and just want to get a great product to market.

How did you find your career interest?

The first job I got was with a tech startup called RasterOps in Cupertino. I worked as the production control manager, which

essentially oversaw inventory and production at our manufacturing partners. The company was wildly successful for its time, and in the course of expanding, it needed someone to move to the UK on short notice and handle marketing and sales support functions for Europe. Since I was single and had no real commitments, I jumped at it. That led to another sales/marketing position in New York, and things went on from there.

What do you recommend students do during school to prepare for a career?

Study what you are truly interested in and don't worry about whether it will "get you a job" or not. The people who seem to be the most successful and happy in their careers

are the ones doing what they actually enjoy, whether that's engineering, sales, medicine, art or whatever.

What's the secret to landing a job?

You have to want to work in the industry and at the company to which you're applying. That really comes through in the interview. Also, you can look at the company's products, website, competitors, etc., and formulate some ideas. I'm always more impressed when candidates have taken the time to learn about our company and have really thought about how they can help us right off the bat.

Have additional questions? E-mail alan@riverbed.com.

< of note >



PHOTO COURTESY OF SARA AL-BEAINI

ME Ph.D. student **Sara Al-Beaini** won the First Place Hewlett Packard Best Paper Award at the 2007 Inter-

national Mechanical Engineering Congress and Exposition. The paper, coauthored with ME professor Van Carey, was entitled "Heat Transfer for Annular Flow in Microchannel Bends: A Free Energy Minimization Model for Square Channels." Al-Beaini's work focuses on near-electrode gas-liquid transport and its impact on fuel cell performance.

TBP offers advice for selecting humanities courses

Hello everyone,

With Tele-BEARS lurking right around the corner, we're here to discuss the one thing engineers fear most — humanities! These classes are viewed as a necessary evil by many engineering students, but they can be both low stress and fun if chosen wisely.

Reading and Composition (R&C). These courses must be taken for a letter grade. Many of you probably want to get through the two halves of this requirement with as little writing as you can. It's

impossible to avoid writing essays completely. That's the point of the requirement. However, the amount of writing can vary significantly across courses. Classes in Rhetoric and Film Studies are good choices if you prefer fewer papers. Also, classes in departments that aren't language centric, like Classics and Near Eastern Studies, tend

to involve less writing and more reading. For a full explanation of the R&C requirement and list of courses, check out www.coe.berkeley.edu/students/current-undergraduates/advising/hssreq.pdf.

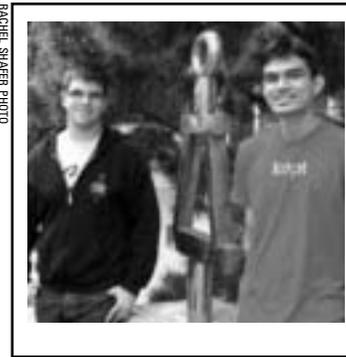
American Cultures (AC). We can take this class pass/not pass. Believe it or not, there are some AC courses that cover material interesting to engineers. Offered in the fall, Integrative Biology 35AC and Letters and Science 170AC, Crossroads of Earth Resources and Society, are attractive to life sciences buffs. (The first is especially well structured and not very writing intensive.) Practice of Art 23AC, Foundations of American Cyber-Culture, may appeal to EECS majors, and courses like Anthropology 2AC tend to interest anyone with a scientific

mindset. Finally, there are many AC classes that are also R&C classes but offered only in the spring (English 135AC, among several others). A spring class is a great way to satisfy both requirements as quickly as possible, if that's your cup of tea.

Two upper division classes. We can take these pass/not pass. One confusing part of this requirement is the series requirement. Quite simply, to complete the series requirement, you must take an upper division class in the same department as a lower division class you've already taken. For example, you can complete your series requirement by taking Psychology 150 after taking Psychology 1 or 2. Your second upper division course does not have to be in a series. Political Science 137A, for example, does not have any lower division prerequisites and, therefore, can be taken without any prior political science knowledge.

As a final thought, humanities classes give us engineers a broader educational foundation beyond math and science. And being able to write and communicate effectively is an extremely useful skill that most engineers simply do not have. Berkeley's world-class humanities help buttress these abilities, and the classes can be enjoyable as well.

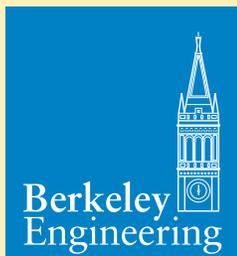
—BioE sophomore Matthew Samuels and EECS junior Akshay Balsubramani, advisers in Cal's chapter of Tau Beta Pi (TBP), offer this advice independent of the College, the Berkeley campus or the University.



RACHEL SHAFER PHOTO

HUMANITIES EXPLAINED: Matthew Samuels (left) and Akshay Balsubramani.

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