usd engineer

FALL 2012

UNIVERSITY OF SAN DIEGO

NATIONAL HONOR SOCIETY TAU BETA PI INSTALLED

STUDENT-ATHLETES ARE SHIFTING THE PARADIGM

USD HELPING WOMEN CLOSE THE GENDER GAP

ALI ALMATROUK IS ONE IMPRESSIVE ALUMNUS

director's letter

Outstanding in Their Field

Celebrating the many achievements of USD's Engineering program

I am excited to present our third issue of *USD Engineer*. With each issue, engineering at USD has continued to grow. Last year, for the first time, we crossed the mark for more than 300 students. This fall, we've set yet another record, and welcome more than 350 new and returning aspiring engineers to our program. In May, we celebrated the commencement of 44 freshly minted USD engineers. And, as the number of students and alumni grows, so too does the diversity of their accomplishments, both inside and outside the classroom.

The first feature story in this issue highlights the achievements of our engineering student-athletes. While it's unusual for students majoring in engineering to participate in NCAA athletics at most schools, at USD, it's much more common. This story reveals how their athletic pursuits complement their engineering studies, helping to make them complete engineers who can succeed both technically and professionally.

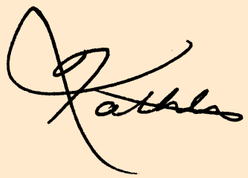
Another story recognizes the academic accomplishment of our outstanding students by chronicling the installation of a new chapter of Tau Beta Pi at USD. Tau Beta Pi is the first and most distinguished engineering honor society. Its values of distinguished scholarship, exemplary character and the desire to foster a liberal culture resonate strongly with USD engineering's mission. The formation of a USD chapter is a milestone event that gives national recognition to the caliber of our programs and the quality of our students.

While our current students impress us with their achievements on campus, some of our alumni are applying their engineering background to accomplishments well beyond engineering. Ali Almatrouk '07 (EE) is one such alum. He has been applying himself to a variety of international and entrepreneurial activities, and I am pleased to be able to share his story.

But these three stories offer just a few of the ways the USD engineers stand out in their studies, work and communities. Many other stories, as well as news from the latest graduating class and more than 60 alumni, help to complete the picture. I hope you enjoy catching up on the accomplishments of your colleagues, and I look forward to being able to include news from you next year.

Of course, as the ranks of our students and alumni continue to grow, it becomes more difficult to maintain the close relationships that enrich our programs and are of great value to our faculty and staff. For several years, we've maintained the University of San Diego Engineering Alumni LinkedIn group, and we encourage you to join us there, even if you aren't an engineering alumnus. And last spring, we began hosting engineering social events at USD's O'Toole's lounge on campus, and will be adding more alumni events throughout the year. The first of these will be an inaugural Homecoming and Family Weekend event on Sat., Oct. 13. We hope to see you there.

Finally, feel free to send me or my "friend," USD Engr, a Facebook friend request (https://www.facebook.com/usd.engr), because any friend of USD Engineering is a friend of mine.



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Director of Engineering Programs

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FALL 2012
UNIVERSITY OF SAN DIEGO

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Prestigious Milestone

National honor society Tau Beta Pi installed at USD

by Ryan T. Blystone

The year was 1991. USD's first graduating class of engineering students — consisting, in its entirety, of five electrical engineers, who all followed a unique dual-degree (BA/BS) curriculum taught by a small-but-dedicated group of faculty members — proudly went forth into the wider world. To say the program has been on a growth spurt since would be an understatement.

Case in point: Two major disciplines — industrial and systems engineering along with mechanical engineering — have been added, graduated classes and achieved ABET accreditation. Supremely creative students have come up with ideas ranging from robots to sustainability, all the while embracing interdisciplinary projects that have impacted communities around the globe.

And in late February of 2012, USD's engineering programs took another significant step forward as current students and alumni participated in the official USD chapter installation for Tau Beta Pi, the oldest (established in 1885) and most prestigious of engineering national honor societies.

"This recognition from Tau Beta Pi is a very important milestone in the development of our distinguished engineering programs," says USD's Director of Engineering Programs Kathleen Kramer. "It's an excellent fit with our emphasis on development of the whole person, or what I call 'the complete engineer.' Tau Beta Pi has a strong interest in promoting the liberal culture with schools of engineering, and emphasizes both distinguished scholarship and exemplary character."

J. ANTONIO GEREMIA

Society President of Tau Beta Pi Larry A. Simonson, USD Tau Beta Pi Student Chapter President Jessica Buckley and Director of Engineering Programs Kathleen Kramer at the official chapter installation.

News of the programs' chapter acceptance was particularly pleasing for Barbara Kanneman, wife of the late Thomas Kanneman, the USD engineering program's founding director. Barbara made a generous gift to the engineering program to help pave the way for USD's chapter and honor her husband, who came to USD in 1986 and was a Tau Beta Pi member.

"I'm just really pleased that this has finally happened," she says. "It's something I know that Tom always wanted to see happen at USD. He belonged to several honor societies and it was important to see the students at USD honored for their achievements."

Kramer says the petition process to get chapter approval began in 2010 after the program met several mandatory eligibility requirements, including community service.

"Our service project this year was the FIRST Lego League Tournament at Escondido Charter High School in November," Kramer says. "We served nearly 160 students, ages 9-13, who were discovering engineering through an engineering challenge on food safety."

In October 2011, Petitioning President Joseph Ellis '12 and Electrical Engineering Professor and Faculty Advisor Susan Lord presented USD's case for final approval to the Tau Beta Pi Executive Council. Mechanical Engineering major Jessica Buckley was elected the first student president of the new chapter of Tau Beta Pi, California Alpha Epsilon.

The initiation featured students and alumni, a mix that Kramer welcomed. "We're extremely happy that so many of our finest alumni were a part of this. We definitely look forward to more alumni initiations in the future."

The next initiation for the California Alpha Epsilon chapter of Tau Beta Pi is scheduled for Dec. 11, 2012, in the Degheri Alumni Center.

NICK ABADILLA

Shining Stars

USD faculty members recognized for stellar work at nation's top engineering education conference

by Davis Jones '14

The USD Department of Engineering garnered an impressive pair of accolades last June, as faculty members Thomas Schubert and Susan Lord (pictured above) were honored at the American Society of Engineering Education (ASEE) conference and exposition in San Antonio, Texas.

Lord's collaborative research paper titled "Race, Gender, and Measures of Success in Engineering Education" won this year's William Elgin Wickenden Award, which recognizes the highest standards of scholarly research among the 29 articles published in the *Journal of Engineering Education* in 2011.

"This was indeed an honor," the USD optoelectronics director says. "ASEE is an important part of my professional community, so being recognized in such a forum by so many colleagues was very meaningful."

The prestigious award is named in honor of William Elgin Wickenden, whom ASEE describes as an "engineer, educator, philosopher, administrator and humanitarian." Schubert, who co-founded the engineering program in 1987, received the Robert G. Quinn Award for "outstanding, sustained contributions in providing and promoting excellence in experimentation and laboratory instruction." Among his numerous career highlights, he cites developing many of the laboratory courses and exercises in the electrical engineering program, as well as helping to develop both the industrial and systems engineering program and the mechanical engineering program, as the accomplishments he's most proud of.

"Basically, what I have done is to dedicate my efforts as an engineering professor to creating an environment conducive for young adults to grow into engineering professionals," he says. "To me, that means putting the welfare of the students and the quality of my courses above all else."

Both professors' accomplishments are reflective of a surging program that continues its rise toward national prominence.

"Honors such as these help bring the university's name to the forefront for others across the nation and the world," Lord says.

Exercises in Ingenuity

Capstones give students room to strut their stuff

Thirteen senior capstone projects were presented at the 2012 Engineering Programs Spring Open House. Students say that the projects integrate the knowledge and skills they've learned throughout their engineering studies.

by Ryan T. Blystone

There's nothing funny about the idea of an engineer's mind having a creative side.

Just ask senior mechanical engineering student Patrick Walton, who took "a funny idea" for a project and quickly turned serious. He and three classmates developed the Kinetic Fountain, which powers water spouts with music. That unlikely marriage between art and science was front-and-center at the engineering programs' 2012 Spring Open House.

"We've been building this version for four to five months, but the testing to get to this point was nine months," says Walton, who worked with classmates William Lehman, Gabriel Mendiola and Michael Spies. "It's been a lot of work, but it all came together and we got what we were hoping for."

The team displayed the fountain for open house visitors in the shady, verdant Loma Hall/Warren Hall patio, and it was definitely an eye-catching display. The blue rectangular box was designed "to recreate the visual output of an equalizer with multiple fountain outputs," explains Walton. "All jets of the fountain receive flow from one large pump that's controlled by a ball valve connected to a CNC stepper motor. An Arduino board filters the musical input to then send the given outputs to the stepper motor controllers."

The Kinetic Fountain was one of 13 senior capstone projects presented among the electrical (EE), mechanical (ME) and industrial and systems (ISYE) engineering disciplines. There were also posters on the second and third floors of Loma Hall to showcase Six Sigma-infused products by ME and ISYE students: a durable "bulletproof" school binder; tents that provide ample ground-up storage space; and a headphone storage device.

The four ME capstones, in addition to the Kinetic Fountain, were: an Energy Relay Competition where students created four self-propelled devices utilizing the contest's theme of alternative energy sources in a relay-race styled competition; a T-shirt folding machine; creation of new tennis ball designs that, through testing of their spin rates and velocity, attempt to slow down the sport of tennis for the sake of crowd entertainment; and continuation of a wind tunnel project that uses lab experiments involving fluid dynamics and heat transfer.

The five electrical engineering capstone projects were: Biomedical Vision Sensor System (BioVSS); Curl Environmental Lab; ElectriCool Magnetic Slot Racing; Emergency Vehicle Alert System; and a Java Cores, Inc.-sponsored project wherein students developed a modern demonstration platform, using components found in current consumer electronics.

The BioVSS student team, composed of Anthony McConnell-Collins, Allen Cadreau and Matthew Jauregui, created a mobile device with biometric and environmental sensors. Their idea has three components: the sensors (EKG, core temperature, external temperature and gas sensors); a microprocessor to capture, run and send data; and a mobile device application to send information from multiple units to a central server. The BioVSS was sponsored by KAB Laboratories, which sought to invest in a system that can provide automatic reports of field position and status in both civilian and military fields. This summer, the BioVSS team co-authored a paper on the project, "Biological Vision Sensor System (BioVSS) for Providing Live Biotelemetry and Environmental Data," for the 2012 International Conference of the IEEE Engineering in Medicine and Biology Society.

Each ISYE capstone assessed ways to improve existing businesses: examining drive-thru throughput at fast food restaurants; improving overall efficiency for L&T Precision, a machining and sheet-metal fabrication company; and improved layout of operations at USD's E-Waste Collection Center. The Kinetic Fountain, BioVSS and the fast food drive-thru capstones received special awards. Six judges determined the winners on technical merit, presentation, demonstration and a written report.

Students remarked upon how much they enjoyed creating their capstone projects, especially because the projects integrate knowledge and skills they've learned throughout their engineering studies.

And that's no joke.

NICK ABADILLA

faculty notes

Every full-time member of the University of San Diego Engineering Program's faculty has not just a PhD, but a breadth of practical experience along with a strong commitment to student learning and scholarship. The quality of USD's faculty is one of the reasons the program is so highly rated among its peer insitutions.

NICK ABADILLA

Bradley Chase, associate professor of industrial and systems engineering, presented "From Explicit to Implicit Speech Recognition" at the 34th Annual International Conference of IEEE Engineering in Medicine and Biology Society in August 2012. The presentation was part of his ongoing research on the use of electrophysiological monitoring and its integration in brain-computer interfaces. He continues research efforts on human physical and cognitive performance in conjunction with UC San Diego's College of Medicine and Department of Cognitive Science, along with multiple research labs at the Naval Health Research Center in San Diego.

Ming Huang, mechanical engineering program coordinator, has published an article, "A Study on Dimension Synthesis for the Peaucellier Mechanism" in the *Journal of Mechanics Engineering and Automation*, which he co-authored with senior ME student Jessica Buckley. He also recently completed an article titled "Performance Analysis and Design Optimization of 5R Planar Parallel Robots," to be presented at the 2012 International Mechanical Engineering Congress and Exposition in Houston, Texas. This presentation is part of his ongoing research on integrating CAD, robotics and soft computing.

Frank Jacobitz, professor of mechanical engineering, published two papers on helical properties of turbulence. Mean helicity was considered in the article "Influence of Initial Mean Helicity on Homogeneous Turbulent Shear Flow," published in *Physical Review E*. Local helicity was studied in an article titled "On Helical Multiscale Characterization of Homogeneous Turbulence" that will appear in the *Journal of Turbulence*. The articles are part of an ongoing collaboration with Kai Schneider (Marseille), Wouter Bos (Lyon) and Marie Farge (Paris); aspects of this work have been presented at a variety of conferences over the past year. Jacobitz (pictured above), also investigates properties of the microcirculation in muscle fascia with mechanical engineering senior Niki Yamamura and in the human conjunctiva with engineering sophomore Will Dow. During the past academic year, Jacobitz also taught the first honors freshman engineering preceptorial and follow-up course.

James Kohl, associate professor of mechanical engineering, and Truc Ngo, assistant professor of industrial and systems engineering, along with external research colleagues, have written an article entitled "An Investigation of Scratch Testing of Silicone Elastomer Coatings with a Thickness Gradient," published in the May 2012 issue of the *Journal of Applied Polymer Science*.

Susan M. Lord, coordinator and professor of electrical engineering, along with co-authors from USD Sociology, Purdue, and Rose-Hulman, won the American Society of Engineering Education Wickenden Award for the best paper published in the *Journal of Engineering Education* in 2011. In October 2011, Lord received the IEEE Education Society Distinguished Member Award "for outstanding service to the education society as an officer and society president, for service to IEEE and the profession, and for significant contributions in electrical and computer engineering education" as well as the Schmitz Award for outstanding service to the Frontiers in Education Conference. Lord was on sabbatical for 2011-2012; she spent the spring 2012 semester teaching electronics and doing engineering education research at Southeast University in Nanjing, China. It was an amazing experience for her whole family.

Mikaya Lumori, professor of electrical engineering, has conducted ongoing technical research in system identification with 2012 publications that include, "Estimation of the Period and Spectral Content of Multi-Frequency Signals Using Minimal Data Without User Interaction," in Proceedings of the IEEE International Instrumentation and Measurement Technology Conference in Graz, Austria, in May 2012 and "Approximate ML Estimation of the Period and Spectral Content of Multi-Harmonic Signals Without User Interaction" in *IEEE Transactions on Instrumentation and Measurement*.

David Malicky, associate professor of mechanical engineering, was a co-author on "Removal of Pseudobarnacles (Epoxy) from Silicone Coatings with a Thickness Gradient Due to an Applied Transverse Force," recently published in *Progress in Organic Coatings*. The work is part of his ongoing collaboration with associate professor James Kohl on silicone coatings research, currently developing a finite-element model examining interface stresses. He also recently developed a new professional development seminar taught in Spring 2010 for the NSF Engineer of 2020 Scholars, including topics on job searches, career development, graduate school and business practices for engineers.

NICK ABADILLA

Truc T. Ngo, assistant professor of industrial and systems engineering, is currently mentoring a SURE student on a collaborative research project dealing with organic thin film semiconductor material processing at SPAWAR Systems Center — Pacific (Navy research lab) in San Diego. She has also attended the 2012 Annual Institute of Industrial Engineers Conference in Orlando, Fla., where she co-presented her research study on biodegradable composite materials with a USD undergraduate engineering student.

Rick Olson, associate professor of industrial and systems engineering, has received additional funding from the San Diego Foundation to support the development of a greenhouse gas mitigation and cost effectiveness tool. This extension of a project that Olson was awarded, along with Scott Anders in USD's Energy Policy Initiatives Center, will help communities in San Diego compare alternative strategies for meeting greenhouse gas emissions targets set for 2020 and 2035. During the coming year, he will be the program chair for the Industrial Engineering Division of the ASEE, and will be organizing the IED sessions at the 2013 ASEE Annual Conference.

Leonard Perry, coordinator of industrial and systems engineering, focuses his research efforts in the area of system improvement via quality improvement methods, especially in the area of applied statistics, Six Sigma, and design of experiments. He recently collaborated with clinicians from Scripps Health in the area of Six Sigma to publish an article in the *Journal of Nursing Administration*. In the area of teaching, he co-taught the interdisciplinary technical elective in the Spring 2012 term with Mechanical Engineering Coordinator Ming Huang entitled "Product Design and Development Using Six Sigma."

Thomas Schubert, professor of electrical engineering, recently received three awards: the American Society for Engineering Education's 2012 Robert G. Quinn Award "in recognition of outstanding contributions in providing and promoting excellence in engineering experimentation and laboratory instruction"; the San Diego County Engineering Council named him 2012 Outstanding Engineering Educator ("in grateful recognition of outstanding academic contributions and service to the engineering profession and the community"); and the USD Trio/Ronald E. McNair Postbaccalaureate Achievement Program named him 2012 Faculty Mentor of the Year ("in appreciation and recognition of [his] dedication to our McNair Scholars"). Schubert (pictured at left), along with Frank Jacobitz and Ernest Kim, recently published two journal articles: "Student Perceptions and Learning of the Engineering Design Process: An Assessment at the Freshman Level" in *Research in Engineering Design*, and "An Assessment of Student Perceptions on the Use of Multiple Engineering Textbook Editions to Reduce Cost to Students" in the *Journal of Applications and Practices in Engineering Education*.

ON the BALL

Engineering student-athletes are shifting the paradigm

by Mike Sauer

These days, it seems there are as many clichés attributed to team sports as there are, well, teams themselves. We all know that there's no "I" in "TEAM," that you win as a team and you lose as a team, that individual success means nothing if the team fails, and, of course, that it's a team effort.

But while they can be an integral part of pre-game huddles and post-game locker room speeches, clichés have never helped orchestrate a tide-turning touchdown drive. Nor have they booted a game-winning goal, or served out a tightly contested tennis match. Come to think of it, they don't matter one iota to a crew team member straining to cross the finish line first.

Thankfully for fans of Torero athletics, those pressure-packed responsibilities are the purview of USD's stellar student-athletes, many of whom hail from the university's burgeoning Department of Engineering. And whether you're watching USD Offensive Lineman of the Year Christian Fetters (ME) protecting the quarterback, Women's Soccer Co-Captain and All-Conference Midfielder Elissa Magracia (ISYE) delivering the perfect pass, Women's Tennis MVP Juliette Coupez (ME) hitting winners with laser-like accuracy or four-year men's crew team member Nick Delgado (EE) outpacing the competition, you get the sense that these are student-athletes whose drive, desire and dedication are the foundation for their success — both on the field of play and in the classroom.

"The most successful engineers are the ones that work effectively on teams with people who have different backgrounds and skills, and I've learned to expect that engineering student-athletes have a willingness to achieve that success," says USD Director of Engineering Programs Kathleen Kramer.

Unfortunately, it's also cliché in some circles to assume that student-athletes who pursue degrees in fields related to STEM (science, technology, engineering and math) can't excel in college sports, given the amount of time needed to commit to their studies. Not true, says Fetters, who managed to hold down a 3.2 grade-point average (GPA) while locking down some of the Pioneer Football League's best defensive linemen.

"You can do well at both, but you better be really good with time management. Engineering is one of the more demanding majors given the amount of time you have to commit to labs and studies. You've got to be focused, because you really don't have much free time to spare. There were definitely times where I wished I picked a major that allowed me to sleep more, but it was all definitely worth it."

Fetters' ability to balance sports and scholastics earned him selection to the National Football Foundation and College Hall of Fame Honor Society, as well as an internship with aerospace and defense conglomerate ATK, where he hopes to develop technologies that provide U.S. troops with the edge they need for success on the battlefield.

"Being in San Diego with the military presence here, it's something I'm very respectful towards and thankful for. The idea of being able to help our troops by providing them with the most advanced technologies is something I've been interested in since I first got involved in USD's engineering program."

BROCK SCOTT

NICK ABADILLA

As a freshman back in 2008, Magracia knew there would be two central components to her college experience: soccer and engineering. Little did she know that in November 2011, both would play a pivotal role in helping USD athletics ascend to new heights.

Imagine this white-knuckle scenario: as the team's co-captain, she was chosen to line up a potential game-winning penalty kick against the then No. 2 ranked UCLA Bruins, a team the Toreros had not beaten during Magracia's tenure. As if that wasn't enough pressure, a win would advance the Toreros into the Sweet 16 of the NCAA Women's Soccer Tournament for the first time, and in the process, hand the Bruins their first home loss in 30 playoff games.

Never one to lose her cool come crunch time, Magracia calmly buried her shot in the back of the net … and did so by applying a basic engineering lecture topic to her approach.

"We always talk in class about efficiency, and when you're looking to score a goal, most times you're just reacting," says the senior and current member of the industrial and systems engineering honor society. "With that penalty kick, I just tried to be as efficient as possible with my shot, put it on a line towards the top left corner of the goal. I guess efficiency worked!"

Garnering maximum results in the most efficient way possible also defines Coupez's approach to her tennis game and her studies. She recently finished her senior season with a 23-9 overall record in singles play, earning her first-team All-West Coast Conference (WCC) honors. As impressive an accomplishment as that is, it's made even more so by the fact that she maintained a 3.82 GPA during her USD playing career.

From the time she was 11 years old, the French-born Coupez has learned to maximize every minute of every day, which she cites as the key to her success. "I've always wanted to find a way to combine sciences and my love for sports in general, which is why I came to USD," she explains. "The small class sizes allow you to work with your professors on developing the best schedule to be successful. I love playing and I'm used to having a very intense schedule, and I just have to be very efficient in every little thing I do."

For Delgado (pictured above), efficiency is the name of the game from sunup to sundown, and he relishes the opportunity that being a member of USD's men's rowing team provides in honing that skill. Take, for example, his auspicious schedule last season. Three days a week, he'd be at the team's Mission Bay facility by 5 a.m. to get a full practice in before his 8 a.m. electrical engineering class — the first of five for the day. As a walking, talking well of enthusiasm, Delgado feels the early mornings are one of the main reasons why he's managed to maintain a 3.2 GPA.

"It's liberating to know how much I can accomplish despite my brain and body wanting to shut down," he says, laughing. "I'm a really positive person, which I think you have to be when the alarm goes off at 4:30 a.m., but I feel like rowing has helped me develop the discipline necessary to stay focused in my classes and my labs, and I only want to get better at both my junior year."

Through their successes, all four of these exceptional Toreros are helping redefine what is possible for student-athletes, and in the process, rendering old clichés obsolete.

"It seems that many people are surprised that students can successfully combine athletics with engineering," says Kramer. "These student-athletes epitomize the 'complete engineer' that we see as the key distinction of USD engineering."

Student-athletes like Women's Tennis MVP Juliette Coupez (at right) and men's crew team member Nick Delgado (above right) epitomize the Engineering Department's emphasis on team-building and working towards a common goal.

Breaking Barriers

Helping women to close the engineering gender gap

by Karen Gross

Even though Julie Brown's own father worked as an electrical engineer while she was growing up in the fast-paced tech world of Silicon Valley, Calif., the 21-year-old senior readily admits that when she enrolled at USD, she barely knew what he — or any other engineer — actually did.

"I didn't even really figure it out until my second semester of freshman year," says Brown, now on the verge of becoming an electrical engineer herself. "I was thinking either math or physics, but when I started taking engineering classes, I fell more and more in love with that."

The revelation came as a surprise to Brown. Although she excelled in math and physics, she hadn't had any exposure to hands-on engineering during her middle- and high-school years. For girls especially, that absence of an early introduction can have a huge impact on the career path they eventually choose.

"I know there are a lot of people who don't really enjoy taking those math and physics classes," she says. "But I'm not just talking about math and physics anymore. I'm applying it to real-life situations."

Encouraging young women like Brown to pursue the so-called STEM professions — science, technology, engineering and math — has become a passion not only for USD faculty members, but also for ranks of female scientists and researchers across the country. A sweeping research survey released by the American Association of University Women in 2010 titled "Why So Few?" found that, while the picture is improving — especially in medicine, biology and the life sciences — career opportunities for women still lag far behind in physics and engineering. And in computer science, their numbers have actually declined after rising for several years.

"It's been found that if girls are not doing extremely well, they'll transfer to something else where they will do extremely well," says Kathleen Kramer, professor and director of engineering programs at USD. "It's more likely that a male student will just shrug and say, 'Cs get degrees.'"

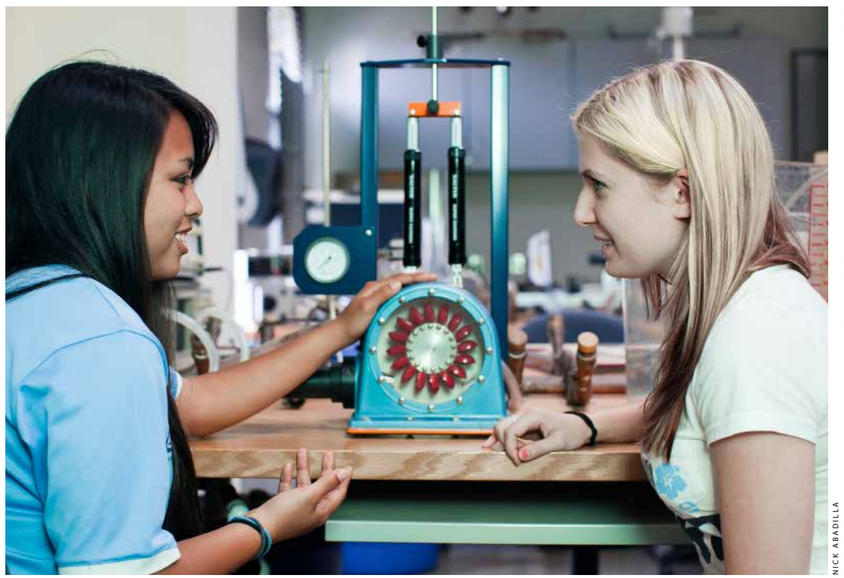
That's not the only difference. Subtle stereotypes that still imply girls are not smart enough steer them away from the so-called "hard" sciences. And studies show that women are more inclined than men to want to see the results of their work in action, and to know that they're making a difference in peoples' lives. Explaining what engineers actually do is crucial, says Debra Kimberling, a mechanical engineer at Solar Turbines and lifetime member of the Society of Women Engineers.

"Young women need to know they can make a contribution to society and that engineering is a viable field," she says. "We need to make the link to real people."

That link was established early on for Kimberly La Salle, a 21-year-old senior whose choice of mechanical engineering was guided by her desire to improve the world.

"I've always wanted to help people," she says. "To see what they need, then develop something they can use." For her senior project, La Salle knows she wants to give back, and is thinking about designing a water delivery system for impoverished villages in Third World countries.

Convincing other young women and girls they can take engineering and a variety of science careers in similarly impactful directions is something USD faculty take very seriously. Last spring, the university hosted the 10th annual Expanding Your Horizons conference, where more than 400 middle- and high-school aged girls took part in hands-on workshops where they tried everything from crime scene investigation to chromatography to building towers with spaghetti and marshmallows. Other outreach efforts include partnerships with the San Diego Science Alliance's BEWiSE program, and Girls Day Out, a science and engineering fair that targets middle-school girls in San Diego.



NICK ABADILLA

NICK ABADILLA

Encouraging students like Elissa Magracia (below left), Caitlin Lambert (below right) and Julie Brown (at right) to pursue the so-called STEM professions is a goal for USD faculty and scientists across the country.

But the hurdles remain very high. Even at USD — where numbers surpass the national average — only about a fourth of engineering students and a fifth of the faculty are female. According to the National Science Foundation, just 12 percent of undergraduate engineering degrees and 17 percent of degrees in physics are awarded to women. Getting girls past these daunting statistics and stubborn barriers, implicit bias and a mostly-male work environment, can be tricky.

That jarring workplace reality hit Brown head-on, the first day of her summer internship at the offices of Ericsson's, the telecommunications industry giant based in Silicon Valley.

"It was a little bit intimidating," she says. "I walked through and it was all men." Brown's manager quickly gave her a pep talk. He told her that female engineers tend to hold back for fear of saying something wrong, and encouraged her to assert herself during meetings and conference calls.

That key piece of advice will likely be very useful to Brown and her fellow female engineers, as they bravely blaze a trail in a world that's still quite foreign to women. They might also want to consider the wise words of Kramer, reflecting on her own very successful career as a engineer and internationally acclaimed academic.

"As a female in this profession, I'm not used to being in the majority," she laughs. "If this was upsetting or threatening to me, then I'd need to change fields."

COURTESY OF ALI ALMATROUK

Ali Almatrouk's high standards and consistency served him well at USD and throughout his career. "It all keeps me quite busy, but it's all really fun," he says.

Impressive Impresario

Ali Almatrouk applies USD lessons to his Kuwaiti-based businesses

by Steve Murray

Ali Almatrouk is a busy man, and that's just the way he likes it. The CEO of Makers, Inc. — a Kuwaiti company that Almatrouk created in 2009 — recently launched a second business venture in real estate.

"I come from an entrepreneurial family," he says. "My grandfather was an entrepreneur, and my great grandfather was one of the leading merchants in Kuwait from the 1920s to the 1950s. I always looked at these two great men as idols in my life; I want to continue on their path."

Almatrouk has already traveled quite a way down that path. "I wanted to work in big corporations first, to learn what goes into running an organization. I also wanted to learn how to recognize what these organizations were doing that was right or wrong so I could use that experience when I started my own business."

He started his career in the family merchandising business — Mezzan Holding Company — and then signed on at telecommunications firm Zain Kuwait before setting out on his own. Today, Makers, Inc. promotes educational technology products in Kuwait, although Almatrouk has plans to move the company into other services, too.

"We chose education first because I had some experience in tutoring at USD and we saw that this market is underserved in Kuwait. It was a real opportunity and we jumped on it," he recalls. "I also used Texas Instruments products while I was at USD and they helped me tremendously in my engineering classes. We contacted Texas Instruments and things moved on from that."

They certainly did. "We're now the official distributor in Kuwait for two companies," Almatrouk explains. "Texas Instruments Education Technology and Vernier for Science and Technology."

He credits the USD engineering program for helping to cultivate his personal work ethic.

"We spent lots of time in the labs. We literally spent most of our weekdays, and sometimes weekends, preparing our projects and lab reports," he recalls. "But for me, the hands-on time made for the best experiences. As students, we developed very special relationships with each other because of all the time we spent working together."

Almatrouk also acknowledges close faculty relationships for keeping him focused on his goals. "The faculty knew us by name, and were interested in our success. I still keep in contact with them."

The high expectations of the engineering faculty provided lessons that still resonate. "Dr. Susan Lord, for example, forced us to be as perfect as we possibly could be," he recalls. "If you submitted something, it had better be error-free. She also pushed us to be organized. I still use her methods to organize my work today. It saves a lot of time and makes you very efficient and productive."

Lord is quick to note that the lessons flowed both ways. "A circuit simulation tutorial that Ali developed for a homework assignment was so good that we used it to train our new engineering students."

Almatrouk's high standards and consistency served him well at USD: As a student, Almatrouk served as chair of the Institute of Electrical and Electronics Engineers student chapter and was president of its honor society, Eta Kappa Nu. He earned his BA/BS in electrical engineering in 2007, graduating summa cum laude.

He is quick to credit his education at USD as a key component of his success and says that shaping employees into ethical and competent managers is a big part of his business strategy.

"USD emphasized ethics a lot in my courses, including engineering. To build a stable company, it's important that people trust you. We want the common link between all of our products and services to be high quality; honesty in dealing with clients reflects our exceptional customer service."

Others are now noticing Almatrouk's talent and drive as well. The Kuwaiti government recently selected him to be part of its Thukhur Promising Leaders program, established to nurture the future leaders of Kuwait.

"It's a competitive program. I was one of 100 people selected from 650 applicants," he says with pride. The program, which he completed this summer, involved focused business and leadership training at Cornell University.

Although he married in 2008 and welcomed the birth of his daughter, Sheikha, in 2011, family life has not slowed him down. This year, he started a new business — Oro Realty Group USA, LLC — along with his brothers, Mohammed and Hasan. Oro will manage property in both Kuwait and Southern California.

"We want to balance the risk in our businesses by diversifying our portfolios," he explains.

"It all keeps me quite busy, but it's all really fun. The days are long, lasting until late in the evening, and I also do lots of traveling between the Middle East, Europe and the U.S."

Despite his busy schedule, making time for USD is a priority for Almatrouk. When he learned that he would be a 2012 inductee into Tau Beta Pi, the national engineering honor society, he adjusted his travel schedule to make sure he'd be in San Diego for the initiation ceremony last February.

And clearly, the university will continue to loom large in his life: In 2010, Almatrouk established the USD Alumni Association chapter in Kuwait. Given his boundless energy and esteem for his alma mater, there's little doubt that this venture too will thrive.

class notes

Mission Statement: USD Engineering is distinguished by student-centered education that emphasizes modern engineering skills and development of the whole person. We are dedicated to innovative teaching, meaningful scholarship and compassionate service.

[1993]
Mauricio Lopez-Hodoyan (EE) has been married for six years to wife Gaby and they are the proud parents of Valeria and Mauricio Enrique, ages 5 and 3. After 16 years at Qualcomm, he recently was promoted to vice president of strategy and analysis of QCT (Chipsets).

[1994]
Daniel Ettlich (EE) and his family moved to Northern Virginia. He is now the director of submarine safety and quality assurance at the Naval Sea System Command at the Washington Navy Yard in Washington, D.C. He and wife Jenna welcomed their fifth child, Hope Elizabeth, in January.


DANIEL ETTLICH

Andrew Isaksen (EE and IMBA'05) is now a supplier management procurement financial analyst at Boeing Commercial Airplanes (BCA) working on the 787 Dreamliner program. He and his wife are adjusting to life and weather in Seattle.

Don Jenkins (EE) is now the director of energy markets and data quality at EnerNOC, where he is responsible for the management of demand response portfolios that reduce energy usage when dispatched by the grid operators across North America, the United Kingdom, Australia and New Zealand. His wife, Lorrie, and daughter, Alex, are both in college pursuing their bachelor degrees. Lorrie is attending Bridgewater State University majoring in criminal justice with a minor in political science, while Alex finished her first year at Northeastern studying behavioral neuroscience.

Derek Kranig (EE) is living in Ham Lake, Minn. He went to Haiti in August 2012 on a mission trip with his church delivering water to families and visiting an orphanage as well as a home for the elderly. He has been an engineer with Innovative Laser Technologies in Minneapolis for seven years.

[1996]
Langford Wasada (EE) has transitioned to senior principal firmware engineer at Broadcom and is now solving puzzles in the cellular baseband arena.

[1997]
Christine Bridewell Keefe (EE) was promoted to technical manager in charge of the Multigenerational Radio Systems Engineering Team at Alcatel-Lucent. She begins her MBA studies at George Mason University this fall. She also is doing volunteer work in a variety of ways: as a catechist at her parish; on the planning board for the Cormack Finn McCarty Foundation; and for the Juvenile Diabetes Research Foundation.

Scott Denton (EE) is now principal design engineer at Luxtera in Carlsbad, Calif., working on CMOS photonics. Prior to this, he sold uPlay, the company he co-founded, to Callaway Golf and had become its senior director of integrated devices. His daughter, Olivia, is 7.

[1998]
Vu Lac (EE) is a field applications engineer with Laird Technologies. Laird provides electro-mechanical shielding products. He and his wife, Caroline, have a 1-year-old son, Aiden.

[2000]
Daniel Empeno (EE) works as a consultant at Booz Allen Hamilton. He supports the Foreign Military Sales Division of the MIDS Program Office. His wife, Jessica, is now the manager of admissions at San Diego Hospice. This year they celebrated 10 years of marriage by renewing vows on the big island of Hawaii.


DANIEL EMPENO

Ricardo Valerdi (EE) is an associate professor of systems and industrial engineering at the University of Arizona in Tucson, Ariz. In the summer of 2012, he was a visiting fellow at the University of South Australia. He authors a quarterly column in *Industrial Engineer* magazine and recently was appointed co-editor-in-chief of the *Journal of Cost Analysis and Parametrics*. He and his wife, Briana, have two sons, Rocco and Lucca, and welcomed a baby girl, Stella, last November.

[2001]
James Cena (EE) is still in the U.S. Navy and was promoted to the rank of lieutenant commander. He and his family are stationed in Monterey, Calif., while he attends the Naval Postgraduate School and pursues a Master of Science degree in electrical engineering. This year, he and his wife, Melanie, are celebrating their 12th wedding anniversary with their little girls, Deanna and Caitlyn.

Carlos Dominguez (EE) relocated to Rhode Island to work for 38 Studios on an amazing new MMO (Massive Multi-player Online) game. Sadly, it all came crashing down when the studio went bankrupt. He reports that it was an incredible experience becauses all the nearly 400 employees banded together, gaining national media coverage that generated awareness for their situation. Carlos has now joined the integrated play department at Hasbro Inc. Carlos and his wife, Nicole, also welcomed their second son in August. Nicolas, their first, is almost 2 and is enjoying life in Rhode Island.


CARLOS DOMINGUEZ

Mark Heffernan (EE) and his wife, Jenni, are welcoming their second baby girl in November.

Sally Mahdavi (EE) completed the Executive Perspectives for Scientists & Engineers Diploma at the University of California, San Diego, in May 2012.

Ika Santoso (ISYE) is based in Jakarta, Indonesia, and works at Bank Central Asia where she is a credit card unit business officer. On May 5, 2012, she married Ferdinan Marlim at Holy Family Catholic Church in Jakarta.

Alika Vasper (EE) and Michella Reyes Vasper (EE) welcomed a new addition to their family, a baby boy named Eli Hokuokalani, in March. Eli joins big brother AJ Kupono, who is now 2 years old.

[2002]
Oscar Arzu (EE) and his wife, Lauren, have two children, Nyla and Mason, ages 4 and 2. They live in Woodland Hills, Calif. Oscar is now a senior systems engineer at Raytheon in Los Angeles.


CLASS OF 2002 BABIES

Lisa Duvall (EE) is approaching seven years with Maxim Integrated Products in San Diego, Calif., where she is a senior account manager. She enjoys spending her free time with her two daughters, Lilly and Brooke, ages 2 and 1.

Estrellina Pacis Rius (EE) and her husband, Robert Rius, welcomed their first child, Roberto Vicente "Vince" Rius, in November 2011. Estrellina just celebrated her 10th year at SPAWAR Systems Center, Pacific, and continues to work in the robotics branch as a project manager. Estrellina oversees system integration of robot autonomy on small ground platforms to support various Warfighter mission applications. She also works for NASA Ames Research Center's Intelligent Robotics Group, supporting analog rover tests and research in human-robot interaction.

Chris Smith (EE) has been working at Northrop Grumman for 12 years. He and his wife, Melanie, celebrated their fifth wedding anniversary this year and enjoy spending time with their two little girls, Presley and Aubrey.


JACLYN SONICO

Jaclyn Sonico (ISYE) and her husband, Lt. Cmdr. Joe Hebreo, welcomed a son, Jaxen Philip Hebreo, in February 2012. Jaclyn is now based in San Diego.

Pedro Usma (EE) has been working for Science Applications International Corporation (SAIC) for 10 years. He is now an electrical engineer for the Logistics and Engineering Solutions Business Unit. He splits his time between the United Kingdom and the United States, testing Deployable Tactical Air Navigation (D-TACAN) systems.

[2003]
Melissa Glazebrook (EE) married Alec Kosy in May 2011. She and Alec both work for ViaSat based in Carlsbad, Calif. They are living and working in Turin, Italy, on a two-year assignment. They are taking full advantage of the opportunity and really enjoy being so close to the different countries and cultures.

Carlos Williams (EE) retired from the U.S. Navy in 2008 and is now an electrical engineer for Naval Facilities Engineering Command Northwest in Bremerton, Wash. In July of 2011, he received the Certified Energy Manager designation from the Association of Energy Engineers. He and Jody, his wife of 23 years, have four children.

[2004]
Scott Chicotka (EE) recently graduated with a Doctor of Medicine from the Royal College of Surgeons in Dublin, Ireland. He has just begun a five-year general surgery residency at Columbia Presbyterian Hospital in New York.

Russell DeCaprio (ISYE) is with Booz Allen Hamilton in San Diego. He works to support overseas Navy networks with the establishment of more rigorous systems engineering and configuration management practices. He and his wife just welcomed their second son, Lincoln, in April 2012. In their "free" time, the DeCaprios operate Papercut Invites, specializing in customized printed products for weddings, parties and other special occasions.

[2005]
Erin Fullinwider Alex (EE) is working to establish a new Los Angeles branch of AMA Consulting Engineers, a building service engineering firm. The firm's biggest project is the new Universal City Broadcast Center, which will be home to NBC News. Last year, she married Christopher Alex in Founders Chapel. He is an architect currently working on the new Disneyland resort in Shanghai.


ERIN FULLINWIDER ALEX

Tom Davis (EE) was married on Oahu, Hawaii, to Dr. Erin Fuller (USD '05). Erin is starting a dermatology residency program at State University of New York, Buffalo, and Tom is a senior electrical engineer at Watts Architecture & Engineering in Buffalo, N.Y.


TOM DAVIS

Michelle Esteban (EE) is a patent attorney with Schwegman, Lundberg, and Woessner, in San Jose, Calif.

Erik Loftis (EE) is an active duty captain in the United States Marine Corps, currently deployed to Afghanistan and serving as an advisor to the Afghan Uniform Police in Helmand Province.

Brian Momeyer (EE) passed the United States Patent and Trademark Office bar to become a patent agent. He is now a patent agent at Qualcomm in San Diego.

[2006]
Tolu Abe (ISYE) has completed her first year in the University of Washington's PhD program in industrial and systems engineering. She currently has a research assistantship in partnership with Health Alliance International, where she is developing a simulation-based decision-making tool to help health care management improve resource allocation in the Sofala Province of Mozambique. She recently was awarded with an Achievement Rewards for College Scientists Fellowship.

Lori Rasmussen Egbers (ISYE) and her husband, Hannes, welcomed their first child, daughter Isla Shea Egbers (initials ISE, note how close she already is to becoming an ISYE), born in December 2011. Lori is a sales engineer at Northland Engineering Sales in Woodbury, Minn.


LORI RASMUSSEN EGBERS

Paula Lucchini (EE) is in her sixth year at Chevron and has just moved into her fifth role in the company as the competency and training coordinator for the engineering department. She is living in the San Francisco Bay Area. She and her fiancé, Ben Baldwin, expected to be married in Chicago on Sept. 8, 2012.


PAULA LUCCHINI

Holly Lyons (ISYE) is currently the leader of the Supply Chain Continuous Improvement and Supplier Development Department at Goodrich Aerostructures, based in Chula Vista, Calif. The job requires that she travel about half the time to different Goodrich sites and suppliers. This has afforded her the opportunity to work with people from a variety of different cultures and see many parts of the world that she never thought she would have the chance to see and experience.

Nathan Roberts (EE) received an MS in electrical engineering from the University of Michigan, Ann Arbor, in 2011. He is now a PhD candidate at the University of Michigan studying low power RFIC design. He is engaged to Michelle Chen.

[2007]
Ali Almatrouk (EE) is CEO of Makers, Inc. in Kuwait. He founded the company in 2009. (See story on page 12.)

class notes

Hunter Barns (ISYE) is currently serving in the Yokosuka, Japan-based Submarine Group Seven directing operational support for U.S. and allied submarines deployed in the Far East and Middle East. He has been an officer in the U.S. Navy since graduation and has been deployed in locations far and near. He is studying toward an MS in engineering management from Old Dominion University.

Scott Cuzner (ME) married Mallory Miller in Newport Beach, Calif., in June 2012. Mallory and Scott met while studying abroad in Sydney, Australia, during their junior year. They live in Redondo Beach, Calif. Scott works for Neutrogena as a senior supply chain planner.

Benjamin Fieman (ISYE) has started his own bikini company, Kaimana Beachwear. Go to www.kaimanabeachwear.com.

Mark Kondrat (ISYE) returned from deployment on the *USS McClusky*. His crew was successful in interdicting more than $125 million in illegal narcotics as part of Operation Martillo. He is going to be stationed in Coronado, Calif., as an instructor pilot in the new MH-60R helicopter. He is looking forward to being home with wife Brittney, dog Keanu, and cat Baxter.

Colin Porterfield (ME) is a production supervisor at Flowserve in Los Angeles. In his work, he supervises a team of machinists, mechanics and welders repairing centrifugal equipment, such as pumps and mechanical seals. He is happily enjoying life in Redondo Beach, Calif.

COLIN PORTERFIELD

[2008]

Chris Neithardt (ME) received his MS in mechanical engineering from UCLA and began work at Glenair Inc., an aerospace manufacturing company specializing in high performance connectors and harnesses, in Glendale, Calif. He is a manufacturing engineer in the advanced prototype harnessing division. He married Emily Latronico '08 in August 2012.

CHRIS NEITHARDT

Adam "AJ" Purdy (ISYE) graduated from California State University, Monterey Bay, with an MS in coastal watershed science and policy earlier this year and was accepted to pursue a doctorate in the Earth System Science program at the University of California, Irvine. He will be in the Hydrology and Climate Research Group.

[2009]

Spencer Anderson (ME) is studying at MIT in Cambridge, Mass., as a fellow in the Leaders for Global Operations program. It is a dual-degree program leading to both an MBA from the Sloan School of Management and an SM in mechancial engineering from MIT School of Engineering.

Omar Damluji (ISYE) is studying toward a juris doctor (JD) from California Western School of Law. He has passed the U.S. Patent and Trademark Office bar and is now a registered patent agent.

LTJG Ben Hunter (ME) is finishing up a tour with Naval Mobile Construction Battalion 4. He spent nine months in Afghanistan last year. In December 2012, he will begin his next tour with the Civil Engineer Corps in Virginia.

Stephen McGee (ME) has joined United Technologies' Operational Leadership Program. As part of this two-year program, he changes jobs and companies within United Technologies. His first rotation is planned for Sikorsky Aircraft in Stratford, Conn.

Megan Menconi (ISYE) was recently promoted to International Trade Compliance Manager at Hamilton Sundstrand and moved to Boston. She and fiancé Wesley Rothman will be married in Lucca, Italy, in September 2012.

Jarrod Pitts (ME) is a power plant developer at Tenaska in Dallas.

Karl Riesen (EE) recently was promoted to principal applications engineer at Western Digital in Irvine, Calif. He has begun studies toward an MBA at the University of California, Irvine.

[2010]

Vincent Atofau (ME) is a proposal analyst at Northrop Grumman in Los Angeles, Calif. His two children, daughter Lo'ani and son Noah, are keeping him fit.

Patrick Boensel (ISYE) is in the U.S. Navy and finishing advanced helicopter training in Pensacola, Fla. He will marry fiancée Christina Hayes in September 2012 in Virginia.

Justin Hall (ISYE) is hiking the Pacific Crest Trail. He was last heard from at mile 903... see www.jhalllll.blogspot.com for updates.

Kelty Lanham (EE) has been accepted into U.S. Navy jet pilot training and has moved to Meridian, Miss. He hopes to move back to California to fly F/A-18s.

Neil Lum (ME) has been promoted to quality engineer for Cobham Composite Products in San Diego.

Veronica Molina (ISYE) and Tiffany Mendoza (ISYE '11) are currently working with Raytheon Company based in San Diego. They have a temporary duty offsite assignment providing engineering support for the Navy's LPD 17 Class ships under construction in New Orleans at the Huntington Ingalls Industries shipyard. They are currently supporting the LPD 23 *USS Anchorage* and LPD 25 *USS Somerset* naval ships.

MOLINA AND MENDOZA

Averi Thomas (ME) graduated with a Master of Science in mechanical engineering from Stanford University.

[2011]

Allison Harms (EE) finished her first year at Hastings College of the Law. She is enjoying her classes and being back in San Francisco. She is currently interning at Garteiser Honea, a small IP law firm. At Hastings, Allison has won a CALI Award and a Wikin Award for being the top of her class in writing. She also was awarded for top brief in her moot court class.

Jeff Inlow (ME) is a research and development engineer with MicroVention in Tustin, Calif.

Sam Levine (ISYE) is with Hamilton Sundstrand Power Systems in San Diego, where she recently took a position in operations.

David Leyva (ME) is a mechanical engineer for Transaction Printhead Group, TPG, a dot matrix printhead company in San Diego.

Chris Steward (EE) is a radar signal processing engineer at Science Applications International Corporation (SAIC). In fall 2012, he begins graduate studies in electrical engineering at the University of California, Santa Barbara.

Casey Weiss (ME) recently became a design engineer in the R&D Irons Group at TaylorMade Golf Company in Carlsbad, Calif. He is very excited for this opportunity and looks forward to learning more about design and the world of golf club manufacturing.

class of 2012

In 2012, USD's School of Engineering conferred diplomas to 44 students, making it one of our largest graduating classes ever. The class was comprised of 14 electrical engineers (EEs), 11 industrial and systems engineers (ISYEs) and 19 mechanical engineers (MEs). Here's what some of them have been up to since graduation:

Julie Birch (EE) is a hardware engineer on the Corporate Engineering Hardware Team at Qualcomm in San Diego.

Brandon Blom (ME) is working on thermal analysis, product design and acoustic analysis as an engineer at Qualcomm in San Diego.

Jenni Boles (EE) is an electrical integration engineer at General Atomics Aeronautical in Poway, Calif.

Ryan Boufford (ME) is an energy engineer at Itron in the San Diego area.

Allen Cadreau (EE) is an engineer at Indian Energy, LLC, in San Diego.

Julio Dejesus (ISYE) is a quality engineer at L-3 Communications in San Diego.

Bethany Dimas (ME) is an applications engineer at Flowserve in Los Angeles.

Andrew Disotell (ISYE) is an industrial engineer I at General Atomics Aeronautical Systems.

Robert Driggers (EE) is a software engineer at Lockheed Martin in Boulder, Colo.

Joseph Ellis (EE) is an electrical engineer specializing in communications engineering at MITRE in San Diego. This fall, he plans to begin full-time graduate study at Columbia University in electrical engineering, specializing in image recognition.

Jayme Ross Eva (ME) was accepted into the Disney College Program.

Matt Gigli (EE and CS) is an embedded software engineer for the ground combat training systems group at Cubic Defense Applications in San Diego. This fall, he's planning to begin studies toward a Master of Science in wireless embedded systems at University of California, San Diego, while he continues at Cubic.

LUIS GARCIA

Cristina Leon Heredia (EE) is an entry associate at Aon Risk Services in Los Angeles.

Chayne Johnson (ISYE) is a subcontracts administrator for the Broad. Area Maritime Surveillance (BAMS) and Globalhawk program at Northrop Grumman in Rancho Bernardo, Calif.

Brandon Kopinski (EE) is an electrical engineer working on circuit board design and testing at Teledyne Advanced Pollution Instrumentation.

Roy Leyrer (ISYE) is a program quality engineer at Hamilton Sundstrand Power Systems in San Diego.

Anthony McConnell-Collins (EE) is a software engineer at KAB Laboratories in San Diego.

James O'Hara (ME) is a mechanical engineer with General Atomics Aeronautical Systems in San Diego.

William O'Quinn (ME) is an ensign in the U.S. Navy.

Aaron Paxton (EE) is a technical sales engineer at Texas Instruments in Dallas, Texas.

Anthony Reisch (ME) is a consulting engineer with Volt Workforce at Solar Turbines in San Diego.

Michael Rios (EE) is an electrical engineer at SAIC, but this fall he will be attending graduate school to continue studying electrical engineering at the University of Wisconsin, Madison.

Jenna Rohrbacker (ME) is a mechanical designer for Dufoe Consulting Engineer Inc. in San Diego.

Mackenzie Sparks (ME) is a systems engineer for Raytheon Integrated Defense System's Expeditionary Warfare Center in San Diego, working on ship self-defense systems for the U.S. Navy.

Renee Thomashow (ISYE) is a subcontracts administrator for the F/A-18 at Northrop Grumman in El Segundo, Calif.

Jeff Trial (ME) accepted a position as an engineer assisting the capacitor and radiation monitoring systems groups at General Atomics Electronics Systems Inc. in San Diego, Calif.

Colby Trudeau (EE) is a hardware engineer on the Corporate Engineering Hardware Team at Qualcomm in San Diego.

Anthony Van Der Zee (ISYE) is currently a second lieutenant in the United States Marine Corps at Quantico, Va.

Andrea Warren (ISYE) is a subcontracts administrator for Tactical Unmanned Systems (TUMS) for Northrop Grumman in Rancho Bernardo, Calif.

Clark Yin (ME) is doing biochemistry research while he prepares to apply for medical school.

Tay Young (ISYE) is a warranty and returns engineer for Skullcandy Inc. in Park City, Utah.

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October 13, 2012
Engineering Breakfast for Homecoming and Family Weekend

November 8, 2012
Engineering Career Fair

December 7, 2012
Fall Open House and Senior Project Exhibits