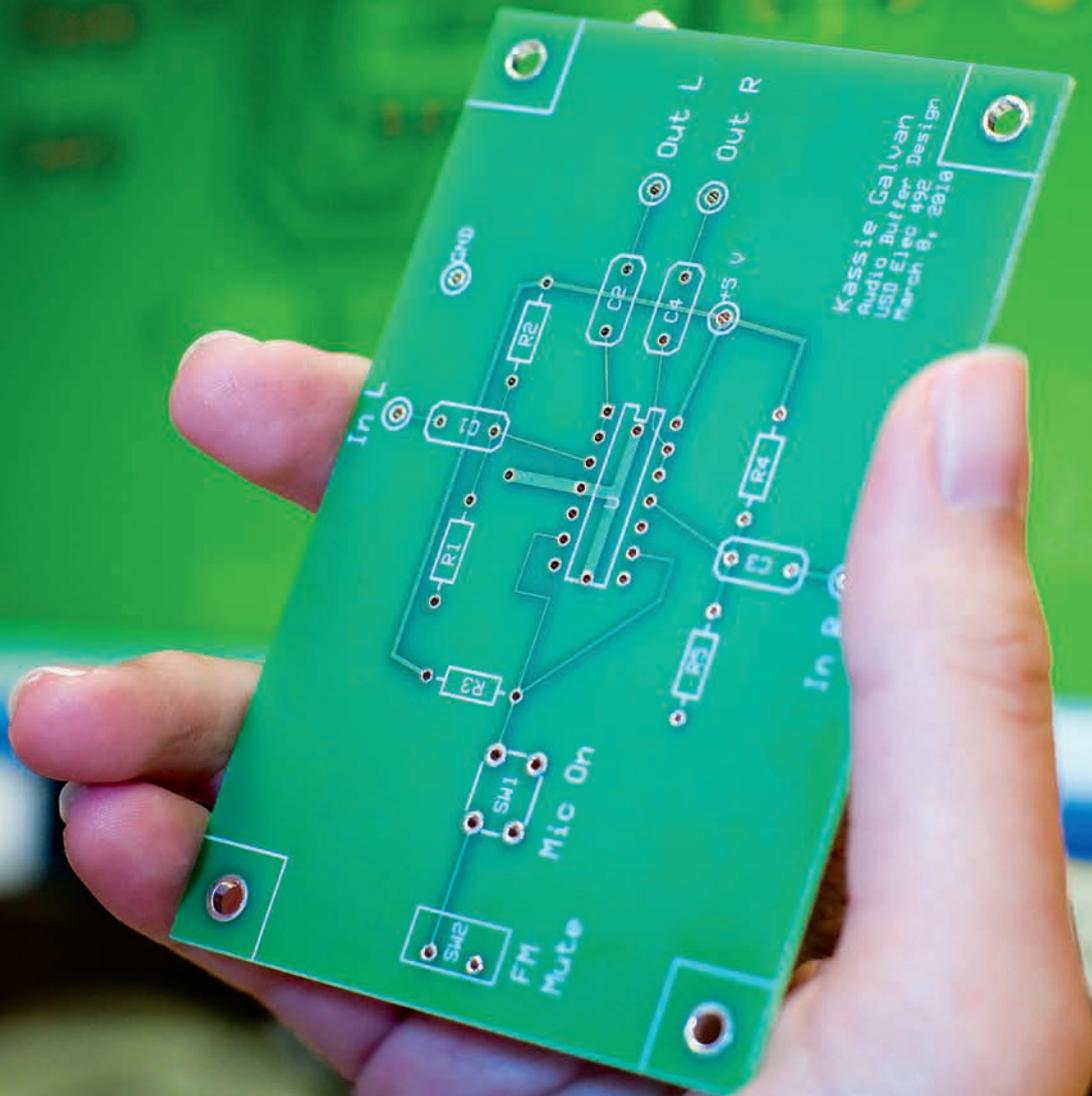


# usd engineer

FALL 2010  
UNIVERSITY OF SAN DIEGO



USD ROLLS OUT THE  
RED CARPET FOR VETS

ANDREW SHELLEY'S  
LIFE-CHANGING JOURNEY

NEW GRADUATE IS  
REAL-WORLD READY

KINETIC CHANDELIER  
LIGHTS UP COMPETITION

# The Measure of Our Success

## Crafting graduates that embody the “Engineer of 2020”



You are holding the inaugural issue of *USD Engineer*, which replaces the *Engineering Insights* newsletter. This annual publication is just one of several projects that we have pursued during the past year, all of which reflect the continuing growth and maturation of USD Engineering.

Our unique dual BA/BS degree, our emphasis on hands-on design and laboratory experience, our focus on the development of the whole person: all of these make up a multi-pronged approach that develops graduates who have both technical skills and the comprehensive education needed to be leaders in the global engineering environment. We are carefully crafting professionals, graduates that embody what the National Academy of Engineering calls the “Engineer of 2020.”

We measure our success by the success of our students and alumni, and you will see those achievements reflected throughout the magazine. We are proud of, and inspired by, the story of electrical engineering alumnus Andrew Shelley, whose global travels are documented in the forthcoming film, *Beyond the Chair*. Our most recent student capstone projects show not just that our students solve real problems to help real people, but that they demonstrate expertise in areas such as art and business that range far from the skills and interest of “typical” engineers. You’ll also learn about faculty research that is sure to impact the future of engineering by exploring solutions to the issue of the low proportion of women in the field.

This magazine represents just one of the projects undertaken this year to improve the visibility and recognition of USD Engineering.

We are also conducting outreach and marketing efforts focusing on the recruitment of new students, including a push to recruit military veterans to embark on earning an engineering degree from USD after completing their service to our country. Our efforts to identify and attract veterans also resulted in the production of our “Engineer Your Future” video; I can truly say that this project turned out to be one of the most fun and glamorous activities of my career.

Perhaps most exciting, people across campus have been working to identify the best organizational structure that will allow us to sustain the high quality that our students, alumni and employers have come to expect. I am very proud that this work culminated in the Academic Affairs committee of the USD board of trustees voting unanimously at the end of April to approve the creation of a Blue Ribbon Committee to propose a plan for the future USD School of Engineering. Becoming a school is a vision that we have had for many years. While more hard work will be required to reach the goal, this is an important milestone, and you all share in this success.

So please take a few minutes to read the magazine and celebrate our collective accomplishments. Your hard work is reflected here, and you truly deserve the recognition.

A handwritten signature in black ink, appearing to read 'Kathleen Kramer'. The signature is stylized and fluid.

**Kathleen Kramer**

Director of Engineering Programs

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# Troop Transitions

## Veterans urged to consider a career in engineering

by Liz Harman

As thousands of veterans return to civilian life from Iraq and Afghanistan and other military service, the University of San Diego's Engineering Programs are taking a leading role in encouraging them to consider engineering as a career.

Armed with a \$185,000 grant from the National Science Foundation, USD's Engineering Programs produced a video earlier this year to attract veterans to the profession. And in mid-June, they held a workshop on the best practices in educating veterans, with administrators and professors from 19 colleges and universities in California, Arizona and Nevada.

With the Post-9/11 GI Bill and Yellow Ribbon Program, veterans have an "amazing opportunity to apply their benefits toward some really fine universities," said Kathleen Kramer, engineering professor and

chair. For example, USD has entered into an agreement to fund tuition expenses that exceed the cost of California's most expensive public institutions. Combined, the scholarship funds provided by USD and the Veterans Administration cover approximately 75 percent of USD's tuition for eligible veterans and their dependents.

Many of the representatives at USD's workshop already have worked with veterans. "I haven't seen a single vet who hasn't graduated," noted John Tester, associate professor of mechanical engineering from Northern Arizona University (NAU) and an Air Force veteran.

But while veterans have great abilities, they also present some special challenges for universities. Some, particularly enlisted personnel, may not be familiar with the criteria needed to compare the quality of academic programs.

Many have worked in areas such as electronics, aviation and construction, but may not have had formal mathematics or science training since high school, so gauging their abilities and giving them credit for the experiences can be difficult.

USD has had a Naval Reserve Officers Training Corps (NROTC) program for nearly 30 years with a strong tradition of supporting the military and veterans. "We know veterans will feel very comfortable on our campus," Kramer said. "We have also worked to identify the support services needed to help veterans succeed in the first years of engineering study, with particular emphasis on the needs of disabled veterans, women and other groups under-represented in engineering."

Workshop participants said a coordinated effort with a minimum of red tape also would be key in attracting veterans to their institutions.

□  
*USD Engineering is proactively seeking veterans to enroll in the program, while working to make sure students will have the support services they need.*



BARBARA FERGUSON

Accelerated programs to help them graduate sooner may be particularly popular. Veterans are eager to begin new careers and want “to get in and get out” when it comes to education, said C. Andrew Griffin, director of Veterans Affairs and Emergency Management at NAU.

Participants said that USD’s workshop was a great opportunity to share experiences and learn from other institutions. Representatives from San Diego State University and San Diego City College described their partnership, which is aimed at evaluating credit for military training.

Forums like this “bring us together in a way that’s very powerful,” said S.K. Ramesh, dean of the College of Engineering and Computer Science at California State University, Northridge. He added that industry is eager to partner with schools in hopes of both attracting veterans and helping to relieve the shortage of engineers. Many current engineers are starting to retire, leaving a void of experience and leadership skills in the field. Veterans can help fill that gap, but “it’s up to us to create these paths” for them to find success, Ramesh said.

Kramer said that USD is doing a great job of coordinating efforts among admissions, student life, counseling and other departments, and it is starting to pay off. While the Navy is actually the number-one employer of USD’s engineering graduates, veterans in USD’s programs have been in short supply. But in the wake of the Post-9/11 GI Bill and Yellow Ribbon Program, this summer, veterans accounted for one-third of the 18 transfer students. On the entire USD campus, the number of undergraduate and graduate students who are veterans has nearly doubled from 60 to 113, she said.

Kramer thinks other institutions attending the workshop will replicate USD’s efforts. “I was really impressed that the academic professionals from such a large number of different universities were so passionate about the need to better serve these students after they have given their service to our country.”



NICK ABADILLA

# Problem Solvers

## Students, faculty collaborate on capstone projects

by Lisa Zamosky

Each spring, engineering seniors get involved with a host of innovative projects as they head into their final months at USD. These “Capstone Collaborations” are joint efforts between students and faculty who often work with companies to solve real-world problems.

This year, 10 seniors from all three disciplines — mechanical, industrial and electrical engineering — were immersed in solving problems that ranged from substandard housing inspections to challenges in accessing and delivering health care. Others worked on inspired creations such as a kinetic sculpture, a model airplane and a human powered vehicle.

The kinetic sculpture is a chandelier with multiple tiers of suspended tubes, each controlled by a motorized mechanism; mechanical engineering students Averi Thomas, Bryce Abraham and Matt Foster were the designers.

“Our goal was to construct a

kinetic sculpture, a combination of the two fields of art and engineering, to promote interdisciplinary achievements and showcase student work from the engineering program,” said Thomas.

The project’s completion took on a special significance as USD mourned the untimely loss of Foster, who passed away June 1, 2010. From the start, the students had hoped to have their final product become a permanent fixture on the USD campus.

Ryland Gill, Chase Tushaus and J.D. Norris worked on a project to improve health care processes. The industrial engineering trio sought a solution to the inefficient scheduling and unmatched supply and demand associated with CT and MRI imaging.

“The part that most surprised us was the fact that such a small device with a simple mechanism could be so tedious in design stages, and how regulated the medical industry is as far as codes and stan-

dards for devices,” said Jones.

Mechanical engineering students Jeff Bentz, Lauren Doruth and Mike Jarosinski created a two-wheel recumbent vehicle in response to a call from the American Society of Mechanical Engineers for innovative human-powered vehicles, while the collaboration among Matt Gabbard, Bryan Reed, Vicky Vargas and Casey Weiss produced an original radio-controlled model airplane.

Finally, Industrial and Systems Engineering students Justin Hall, Veronica Molina and Javvad Syed developed a tracking system aimed at identifying components of circuit boards that required frequent replacement. Doing so creates widespread damage, which results in scrapping entire circuit boards that could have otherwise been saved. In response, this team evaluated several existing commercial tools for tracking the repair work and made recommendations to L-3 Communications.

# Hear Us Roar

**Professor working to understand how engineering can attract more women**

by Lisa Zamosky

Even in the year 2010, the field of engineering is not always seen as a natural fit for women. But if USD electrical engineering professor Susan Lord has her way, the number of female engineering graduates in the United States will increase and help pave the way for women to play a significant role in meeting the technological and economic challenges of the 21st century.

According to the Bureau of Labor Statistics, through 2014, four of the 30 fastest-growing occupations will be related to engineering. Today, women make up nearly 58 percent of all college graduates but only about 17 percent of engineering students.

"There is still an implicit message that engineering and science are male and that liberal arts is female," Lord said.

In an effort to determine why so few women enter college as engineering majors, Lord and her colleagues at USD and Purdue University have been working with a massive database of undergraduate students in order to understand why women are more likely to opt for professions such as business, medicine and law over engineering. By evaluating the matriculation and graduation trends of women in engineering, Lord hopes to shatter existing stereotypes and contribute to ongoing efforts to turn more women into engineers.

One study published by Lord and her colleagues in 2009 in the *Journal of Women and Minorities in Science and Engineering* challenges a long-held perception that women who begin college with a major in engineering are less likely to stay on and graduate with a degree. Lord's study found that, in fact, women who major in engineering graduate at rates comparable to those of men.

"This belief that women are more likely to drop out of engineering is the academic equivalent of an urban myth," said Michelle Madsen Camacho, USD associate professor of sociology.

The study evaluated more than 79,000 students who majored in engineering at nine public universities in the Southeast between 1987 and 2004. Funded by a \$500,000 National Science Foundation grant, the study found that overall, women persist in engineering through four years at the rate of 54 percent, compared to 55 percent for men.

These results suggest that the lower representation of women in the engineering field has more to do with the fact that fewer women enter the field at all, rather than the long-held belief that they just can't cut it once engaged.

Lord points to another recent study that looked at women who chose non-engineering majors, which found that women simply didn't think they'd like

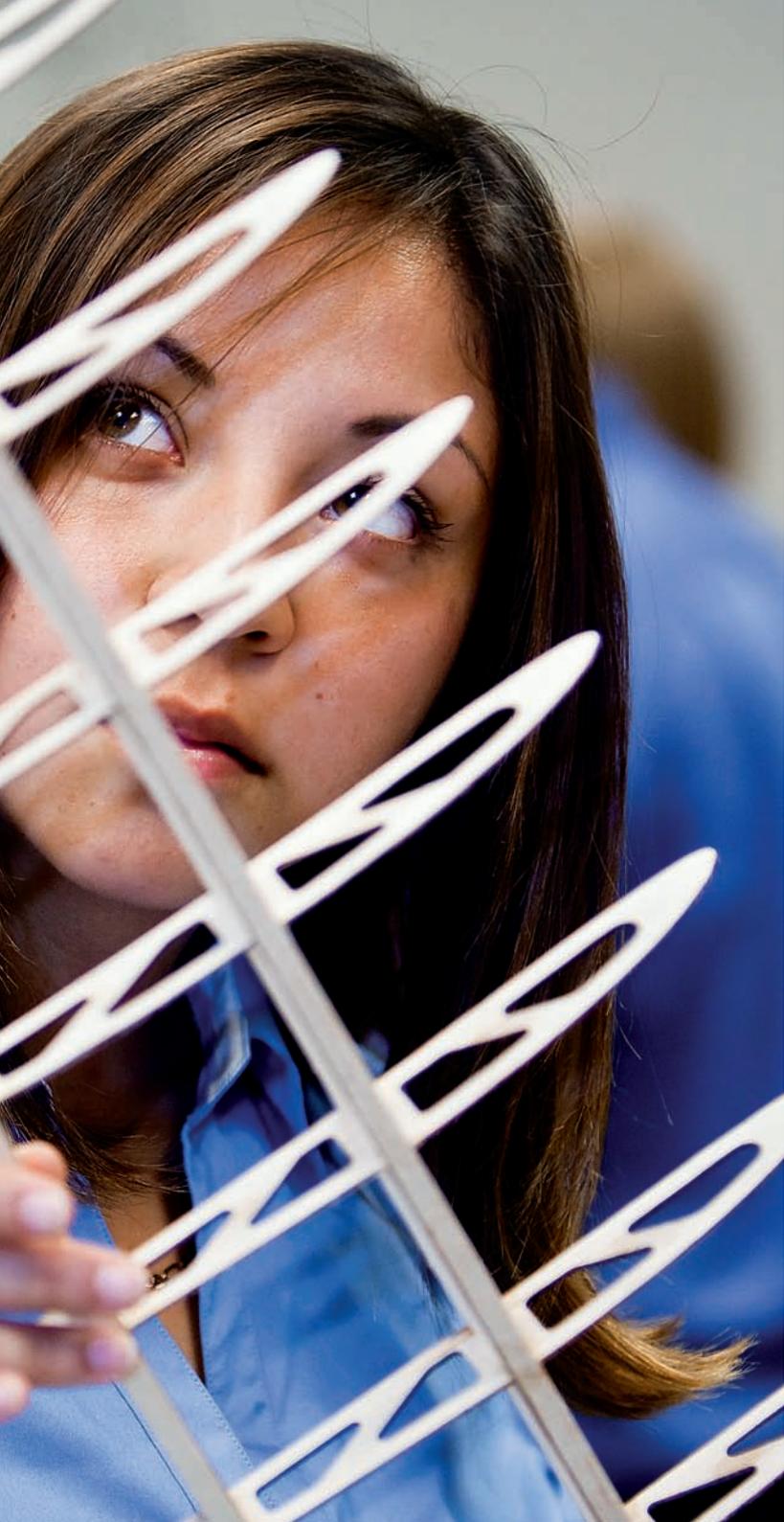


engineering classes.

"Some people say women don't go into engineering because they don't see the connection to serving the public or helping people. So there are big efforts under way by the National Academy of Engineering and others to 'change the conversation' and describe engineering in

different terms," according to Lord.

"There are a lot of messages young girls get, particularly in middle school, that it's not cool to be doing this math/science thing, so instead of facing the challenge of it and maybe really enjoying it, they say 'well, I'm not really interested in that anyway,'" Lord said. And as young women



NICK ABADILLA

# [news briefs]

**Engineering is among** the fastest growing and most in-demand occupations, yet less than a fifth of college-level engineering students are women. With a range of outreach programs aimed at school-aged girls, USD's Engineering Program seeks to highlight the exciting career opportunities available to women who choose this field of study. In collaboration with the region's research, industry and academic institutions, USD's BeWISE event is designed to engage girls aged 7 through 12 in science, technology, engineering and math (STEM) learning. The program aims to help elementary-aged girls to develop a community engaged in science learning through out-of-school activities, while increasing their STEM knowledge and interest by interacting with engineering professionals. The theme of this year's event was "Bright Ideas: Engineering with Light." Participants learned how fiber optics are used in telephones and remote control communications.

**"Girls Day Out,"** which was held on May 8, brought 30 local middle and high school girls and their parents together to learn more about engineering as a potential field of study and career path. They were also encouraged to begin thinking about their plans for college. Participants also heard from guest speakers, engaged in breakout sessions and took a USD campus tour.

**A consortium of** San Diego women's organizations in conjunction with the University of San Diego joined together this spring for an event dubbed "Expand Your Horizons." Meant to raise student awareness of the wide variety of career opportunities available in the fields of science and technology, the March 6 event sought to build young women's enthusiasm for science and technology through hands-on activities and seminars, as well as by providing personal access to female role models. The girls had the opportunity to program a robot, analyze DNA like a crime sleuth, learn about marine animals and explore other exciting workshops.

**"Wow! That's Engineering!"** took place on Aug. 7. An effort by the Society of Women Engineers to engage middle and high school-aged girls in hands-on activities, the event introduced girls to women engineers and technologists, and explored the exciting career paths available in engineering. Engineers play a critical role in shaping our society, and women have a critical contribution to make toward this end. Through education and by increasing awareness, these outreach programs continue to open girls' eyes to rewarding careers in engineering.

distance themselves from scientific fields of study, it becomes more difficult down the line for them to make their way back.

"If you don't take the math and science classes, then you cut yourself off from the choice later on," according to Lord.

By helping students understand what a significant impact

they can make as an engineer in virtually any field — air travel, medicine, telecommunications — there is likely to be more interest from women.

"Engineers play a critical role in shaping our society," Lord said. "It's imperative that all of the best minds be involved in this endeavor." 

# 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 our faculty is one of the reasons the program is so highly rated among its peer institutions.

## **Bradley Chase, associate professor of industrial and systems engineering**

Over the summer, Professor Chase planned to continue his work on electrophysiological measures of human operator performance. The two main projects undertaken in the ergonomics lab include an integration of eye tracking and postural stability assessment, with a large-scale project on electroencephalography (EEG) and speech recognition to begin in late summer or early fall. Joining with colleagues at UCSD, Stanford, NHRC, DARPA, NWRA and SDSI, he will be collecting EEG data and working to develop signal-processing tools aimed at automatically finding high-performance classification features from several EEG data sets. The aim of this project is to develop a system that uses EEG signals to greatly improve speech recognition through word or phrase disambiguation and error correction. Work undertaken in a separate continuing project entails investigating advanced postural stability assessment and oculomotor activity metrics as field

deployable technologies for assessing the effects of blast injuries.

## **Ming Huang, professor of mechanical engineering**

Professor Huang has recently completed an article called, "Computer Aided Design of Planar Parallel Robots for Optimal Workspace and Dexterity," which will be presented in 2010 at the International Mechanical Engineering Congress and Exposition in Vancouver. The presentation is part of his ongoing research on integrating CAD, robotics and soft computing. He also developed and co-taught a new interdisciplinary technical elective course during the Spring 2010 term, titled "Product Design and Development Using Six Sigma." This was a first-time offering of an engineering honors course with Lenny Perry, associate professor of industrial systems and engineering. Huang was also recently promoted to the rank of full professor.

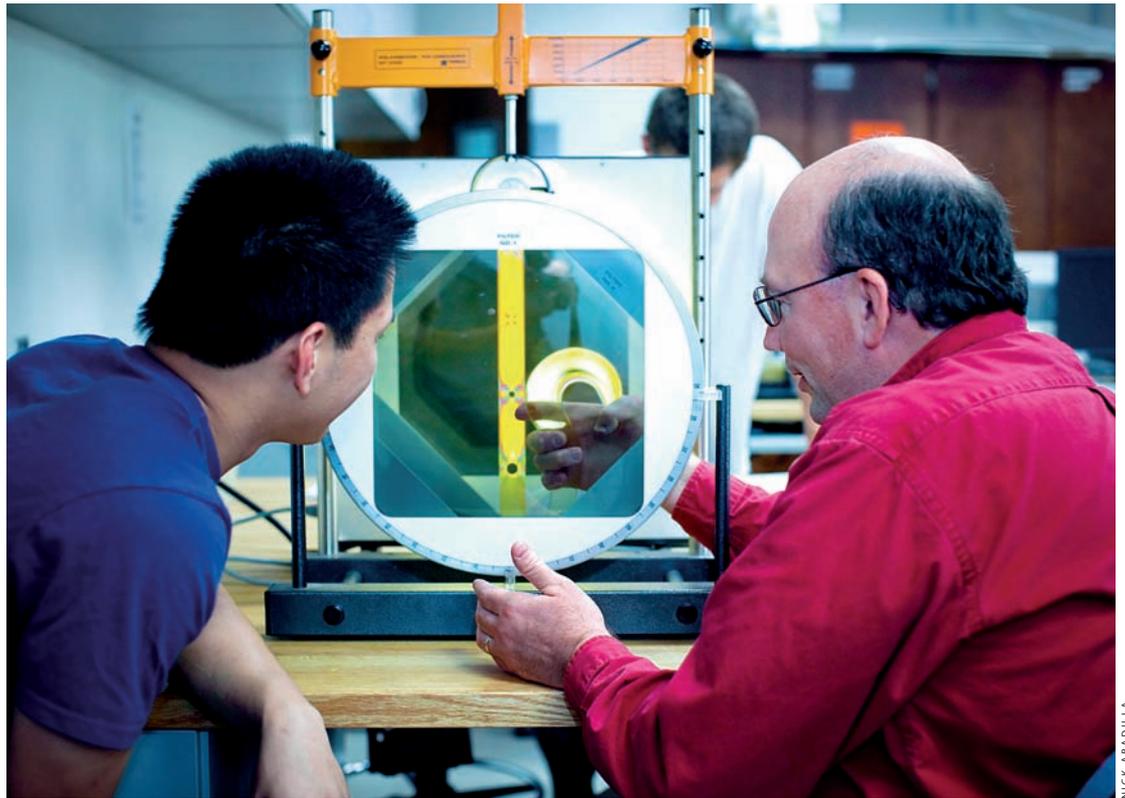
## **Frank Jacobitz, professor of mechanical engineering**

A manuscript titled, "On the Struc-

ture and Dynamics of Sheared and Rotating Turbulence: Anisotropy Properties and Geometrical Scale-Dependent Statistics," authored by Professor Jacobitz (San Diego), Kai Schneider (Marseille, France), Wouter Bos (Lyon, France) and Marie Farge (Paris, France) was accepted for publication in *The Physics of Fluids*. The work considers the effect of shear and rotation on the evolution of turbulence. Jacobitz was also invited to present this work at the German Aerospace Center in Goettingen, Germany ([www.dlr.de](http://www.dlr.de)) and at the Institute for Advanced Study in Berlin, Germany ([www.wiko-berlin.de](http://www.wiko-berlin.de)).

## **Ernest Kim, associate professor of electrical engineering**

Professor Kim has recently had two journal articles he co-authored published in the *IEEE Transactions on Education*. One was titled, "Engaging Students in Applied Electromagnetics at the University of San Diego," written with Mikaya Lumori. The second article is, "Exploring Three-Phase Systems and Synchronous Motors:



NICK ABADILLA

A Low-Voltage and Low-Cost Experiment at the Sophomore Level,” with Thomas F. Schubert and Frank Jacobitz. A paper Kim co-authored with Thomas Schubert for the 2010 American Society of Engineering Education Conference was selected to be one of five nominees for the best paper in the Design in Engineering Education Division. The paper is titled, “Emulating Industrial PCB Design Practice by Designating the Course Instructor as the Fabricator: A Cost Effective Design Experience For Electronics Circuits Laboratories at the Junior Level!”

**James Kohl, associate professor of mechanical engineering**

Professor Kohl is collaborating with the Tribology and Mechanics Lab at the University of California, San Diego, on evaluating coatings applied to disks for use in heat-assisted magnetic recording (HAMR) devices. He is also collaborating with the materials and sensors branch at the Naval Research Laboratory in Washington D.C., working on various coatings and composite material research. His already established research on silicone foul release coatings used on ships’ hulls includes two recent journal articles he co-authored. The first, “Synthesis and Characterization of a Hyperbranched Hydrogen Bond Acidic Carbosilane Sorbent Polymer,” was published in the *Journal of Polymer Science Part A: Polymer Chemistry*. His second journal article, “Statistical Assessment of Flank Wear Perimeter, Crater Size and Microhardness of Cryogenically Treated versus non-Treated Cutting Inserts,” was published in the *Journal of Engineering Technology*, with associate professor Leonard Perry as one of his co-authors.

**Kathleen Kramer, professor of electrical engineering**

Professor Kramer is lead author

on a paper titled, “Target Registration Correction Using the Neural Extended Kalman Filter,” which was recently published in *IEEE Transactions on Instrumentation and Measurement*. Her research on data fusion was highlighted in the *San Diego Union-Tribune’s* weekly feature, “Meet the Engineer/Meet the Scientist.” She and Michael Anderson of SPAWAR Systems Center successfully introduced a new PIC-based maze-solving robot in the junior-level course on microcomputer systems.

**Susan Lord, professor of electrical engineering**

As president of the IEEE Education Society, Professor Lord delivered the opening keynote address at the first IEEE Global Engineering Conference (EDUCON) in Madrid, Spain in April 2010. At this conference, she also presented results from two of her NSF-supported research projects on lifelong learning and the persistence of women in engineering. In February, Lord was also recognized with the Outstanding Engineering Educator award during the San Diego County celebration of National Engineers Week.

**Mikaya Lumori, professor of electrical engineering**

Professor Lumori is involved in collaborative research on nonlinear system identification with Johan Schoukens, chair of the Department of Electrical Engineering at the Free University of Brussels, Belgium. Results from this collaboration include a recently published journal article titled, “Identification and Quantification of Nonlinear Stiffness and Nonlinear Damping in Resonant Circuits,” published in the *Mechanical Systems and Signal Processing (MSSP) Journal*. Lumori was recently promoted to full professor of electrical engineering; earlier this year, he was honored by the Mortar Board Society for his “significant contribution to the academic achievement and personal growth” of a student.

**David Malicky, assistant professor of mechanical engineering**

Professor Malicky’s research is in orthopedic biomechanics and engineering education, with a recent publication in the *Annals of Biomedical Engineering* on strain in human shoulder capsule during dislocation. He teaches courses in solid mechanics, senior design and shop practice, incorporating an acoustic guitar project into the latter for acquisition of woodshop skills.

**Matthew McGarry, assistant professor of mechanical engineering**

Professor McGarry has recently published two journal articles. The first article focuses on reducing harmful emissions for fossil fuel combustion and appears in the *Journal of Heat Transfer*. The article is titled, “A Numerical and Analytical Study of Thermally-Driven Combustion Oscillations in a Perfectly Stirred Reactor.” The second article deals with quantifying leakage rates from punctured vessels (such as ruptured oil pipelines, for example) and is published in *Engineering Applications of Computational Fluid Mechanics*. The article is titled, “Leakage Rates from a Punctured Vessel under Pulsatile Flow Conditions.” In addition, McGarry is the principal investigator of a grant project called, “Bridging the gap between local community colleges and engineering at the University of San Diego.” This project, in collaboration with Susan Lord, Ming Huang and Rick Olson, received funding of \$500,000. It extends scholarships to 12 transfer students from local community colleges to attend USD.

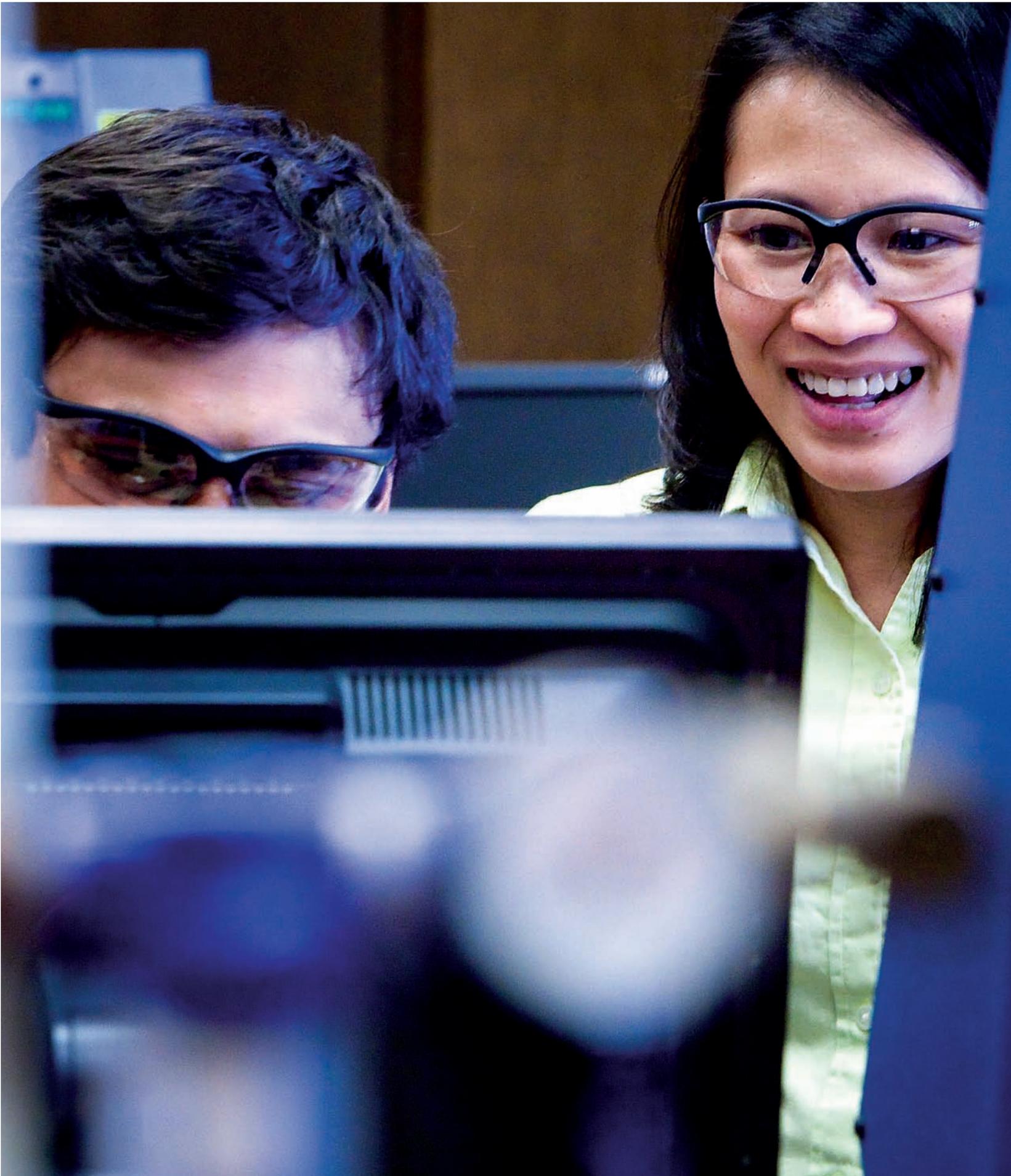
**Truc Ngo, assistant professor of industrial and systems engineering**

Professor Ngo collaborated with a Nicaragua-based surfboard manufacturing company, Ocean Green Surfboards, on a research

project studying the biodegradability of green surfboards. This research was presented at the 2010 IIE annual conference. Ngo also spent the summer doing research at SPAWAR Systems Center Pacific, working with the Advanced Systems and Applied Sciences Detection, Sensors and Systems Technology Group, studying the feasibility of a novel processing technique for pentacene-based semiconductor devices, using supercritical carbon dioxide. At SPAWAR, she worked with a senior USD engineering student on this project, which was sponsored under the Naval Research Enterprise Intern Program. Back on campus, she developed new labs for the Manufacturing Systems and Manufacturing Processes classes, including welding, rapid prototyping and robot programming and operations labs.

**Rick Olson, associate professor of industrial and systems engineering**

Professor Olson and Scott Anders of USD’s Energy Policy Initiatives Center (EPIC) have been awarded a grant to develop a tool that will allow regional decision-makers to assess the impact of policy options greenhouse gas mitigation in San Diego County. The \$53,250 award from the San Diego Foundation’s Environment Blasker Fund will allow policy analysts to examine the trade-offs among different reduction strategies and policy options to meet near term (2020) and medium term (2035) greenhouse gas emissions targets. This work will build on earlier work done by EPIC in developing a greenhouse gas inventory for San Diego County. Andrew Narwold from USD’s School of Business Administration and Nilmini Silva-Send of EPIC are also participants in this work. Olson has also been elected to the board of the Industrial Engineering Division of the American Society for Engineering Education. During the next year he will serve as the division’s secretary/treasurer. 



# Distinctive Strengths of Engineering at the University of San Diego

## Nationally Renowned

Our students, graduates and faculty have garnered impressive achievements; most recently, our program ranked 21<sup>st</sup> among non-doctoral engineering programs in the 2011 edition of *U.S. News and World Report's* rankings. We set a high academic bar for our incoming students, and those rigorous standards continue throughout their time at USD, resulting in a solid skill set for all of our graduates.

## Your Diploma is Worth More

Our students get twice as much hands-on lab and design experience than those at many of our peer institutions. The result is the extremely competitive academic profile we have developed among our peers. The rigor of our program — coupled with the quality of USD's campus life and dedication to preparing students to excel in their profession — helps USD engineering graduates excel across the board.

## Dual Degree Program

USD has the only program in the country that ensures a dual BA/BS degree. This tells employers that our engineers are not just technically skilled, but also well rounded, a pairing that assures their success. And given our focus on laboratory and design, our programs have much more in common with polytechnic schools than traditional programs, making our graduates exceptionally prepared for the workforce.

## Emerging Leaders

At the University of San Diego, engineering students gain the skills and experience needed to become world-class engineers. They emerge from our program able to take charge while remaining mindful of the need for a global perspective. A large majority of our graduates report that they frequently take on leadership roles at their places of employment.



To learn more, call (619) 260-4627 or go to [www.sandiego.edu/engineering](http://www.sandiego.edu/engineering).



# Far Beyond the Chair

## A thirst for freedom made Andrew Shelley '03 (EE) take off on the international adventure of a lifetime

by Justin McLachlan

In 2007, Andrew Shelley suddenly announced that he was quitting his job as an electrical engineer at Lockheed Martin to travel the world. He wanted to meet new people, see new places, maybe even fall in love. He wasn't interested in hitting the usual European tourist destinations. He'd set his sights on more exotic locale: Thailand, Cambodia, India, the United Arab Emirates — places a little more *National Geographic Explorer* than *Condé Nast Traveler*.

For Shelley, the itinerary was more than a bit of a gamble. He has muscular degenerative disease, a genetic disorder that put him in a wheelchair not long after he finished college. That meant at best, the trip would be difficult. At worst, it would be life threatening. But he pushed that concern far to the back of his mind. After all, he reasoned, even the shower can be a dangerous place for someone with a disability.

Dusty Duprel's first glimpse of just who Andrew Shelley was came in the Craigslist ad he'd posted looking for a roommate in 2006. Shelley — who graduated from USD with a degree in electrical engineering in 2003 — described himself as a backpacker, someone who loves wilderness, the outdoors and adventure.

Duprel was intrigued, and the

two arranged to meet at Shelley's house to talk about living together.

When Duprel rang the bell, Shelley, whose gaunt frame betrays his medical problems, came to the door without his chair. His walk, hampered by weakened muscles, is an uneasy lumber. At first it caught Duprel off guard, but after they sat down and started talking, all that faded away.

"You really see past the chair and everything else fairly quickly," Duprel said.

Muscular degenerative disease attacks the body's muscles, causing them to waste away. Shelley was diagnosed as a baby but has been able to walk, albeit not well, for most of his life. While a student at USD, he'd occasionally use a small scooter to help him get around campus, but he always preferred the freedom of using his own legs.

But soon after graduation, walking grew harder. He started falling and injuring himself so often that it eventually became clear he needed a wheelchair, if for nothing else than his own protection.

He wasn't happy about the idea. "My thoughts were, 'This is terrible. I don't want a chair. I'm not going to be able to do anything; I won't be able to go anywhere.' It was kind of a depressing thought," Shelley said.

Then, in early 2006, he came

across a type of chair he'd never seen before. It was made by an Australian company and was specially designed for all-terrain, off-road travel. Shelley was ecstatic. It seemed like the chair was made just for him.

"I saw this chair and said, 'Whoa, this is a cool chair. It's got ATV tires. It'll take me anywhere. I can go to the beach, go hiking, mountain climbing.'"

Duprel moved in not long after the two first met, just a few months after Shelley had gotten his new chair. Until he asked Duprel and his girlfriend, Rachel Pandza, to join him on his annual trip to Lake Tahoe, neither had really seen Shelley do much more than go to and from work. The trip turned out to be another glimpse of the real Andrew Shelley, one that surprised them both when they saw him take to the wilderness around the lake. Duprel describes it: "He's just going on these trails, literally climbing mountains with his chair," he said.

He and Pandza were both film students at San Diego State: They sensed a story.

"There was just something interesting about the kind of character that was trying to escape the body and the chair. It was interesting to actually see that spirit of adventure," Duprel said.

They didn't know it at the time, but that zest for new experiences

□  
Andrew Shelley's all-terrain, off-road wheelchair gave him the freedom to embark on a two-month trip that included stops in New Zealand, China, India and Cambodia. That journey was documented by a film crew that hopes to have the movie completed in time to submit to the next Sundance Film Festival.



TIM MANTOANI

was goading Shelley to make a big life change. Not everyone was as sure as he was that quitting his job to travel the world was a great idea; his parents, in particular, had strong reservations. But despite the potential for problems, he opted for the exotic.

“The last thing it seems like Drew considers when he does anything is his disability. It’s not factored into anything he does. It’s commendable, but at the same time, he puts himself into — what’s the word? Predicaments,” Duprel said.

Meanwhile, Duprel and Pandza had decided to produce a feature-length documentary about Shelley’s trip. That meant putting together a film crew and traveling with him. This appeased Shelley’s parents some, because they thought — wrongly — that Pandza and Duprel were going along to help Shelley

and keep him safe. The reality was they planned to be nothing more than detached observers.

So, in 2007, after months of fundraising to finance the production, Shelley quit his job and Duprel and Pandza took a semester off school. They left the United States a few days after Thanksgiving with little idea what to expect.

Despite what they led Shelley’s parents to believe, they intended to be nothing more than neutral observers on Shelley’s journey, there to document but not interfere or help. It was a role they took seriously. Unless Shelley’s life was in danger, they resolved to stay back and out of his way, even to the point that they made the decision mid-trip to start staying in separate hotels and eating meals apart to keep physical and emotional distance between them.

“It allowed him to have his own

personal journey without even relying on us simply as friends,” Pandza says.

In the end, the trip lasted about two months. He traveled the entire length of New Zealand, with short layovers in Australia and China on the way to Cambodia, then Thailand, all the way from the north of India to the south and a last minute stop in Dubai. Then Shelley made the heart wrenching decision to cut the trip short because the physical toll on his body was becoming apparent. He’d lost five pounds in two months, weighing just 95 on a good day.

“He was progressively going to harder and harder countries to navigate. I think he still thought he could go on, but the way things were, physically, it wasn’t going to end well,” Duprel said.

Shelley’s been back in the United States now for about two

years, and life has changed. He now plans to become a motivational speaker. His last-minute stop in the United Arab Emirates at the end of the trip was so he could talk to students at the American School of Dubai, where he went to high school. He told them that if he could travel the world in a wheelchair, that they could do anything.

It’s a message he hopes Duprel and Pandza’s documentary of his trip, “Beyond the Chair,” can carry for him when the time comes that he can’t. The film is currently in the editing stage; they hope to have a final cut completed this fall. The prospect brings a smile to Shelley’s face.

“I’ve learned a lot,” he says. “And I want to share my experiences with others.” 

**To learn more, go to [btcmovie.com](http://btcmovie.com).**



*"I gained a lot of confidence from attending USD. I had close interaction with faculty members, and I attribute a lot of my success to the top-notch faculty. Having the constant interaction, asking questions when I needed answers, was huge."*

— Michael Sass '10 (EE)

# Real-World Ready

## Dual degrees produce great future for engineering graduate

by Ryan T. Blystone

For nearly five years, Michael Sass started his day knowing it would be a busy one.

Enrolled in the University of San Diego's electrical engineering program, one of three engineering disciplines utilizing a unique nine-semester, BS/BA dual degree program that balanced lab time with critical thinking skills in non-engineering courses, Sass was gaining a well-rounded academic education.

"A lot of schools look at engineering as more of a trade. You learn specific facets of the trade, almost like you're a carpenter. I don't think that's right," Sass said. "I think you need to put engineering in the context of where it fits in society. That's where I think USD does a really good job."

Equally important to Sass was the personal life education he received as an officer in the Naval Reserve Officer Training Corps (NROTC) San Diego program. Though no one in his immediate family served in the military — his paternal grandfather did serve in the Army — Sass' interest heightened in the wake of 9/11.

"I was an idealist growing up, and I always had that sense of wanting to give back to my country, that sense of patriotism," he said.

The NROTC provided Sass with leadership and discipline skills, while also providing him with the chance to see Guam, Hong Kong and Pearl Harbor while aboard the USS Key West and USS Ronald Reagan.

"It's been a challenge and it's demanding, but it also changed me a lot. It prepared me and gave me

a different perspective on how to handle life," he said. "There were a lot of leadership opportunities. I was a battalion commander. There's an internal student chain of command. It was a really great developmental tool."

The combination of a solid classroom education — Sass graduated in May with a 3.97 grade point average and minors in naval science and mathematics — along with the experience gained through NROTC, where in May he was commissioned as an ensign, earned him special recognition.

Sass was the 2010 recipient of the Armed Forces Communications and Electronics Association (AFCEA) Educational Foundation's Commissioning Award. Given in recognition of distinguished academic performance since the award's inception in 1991, Sass is the first USD Navy ROTC student to receive the national honor.

"I was really humbled," Sass said. "It's a huge honor from a great organization."

He can trace his subsequent successes all the way back to his decision to attend USD; the award is just one manifestation of Sass' academic and personal development. When he was searching for a university, two things were at the top of his wish list: a strong engineering program and a military connection.

Online, he scouted several colleges, including Purdue, Northwestern, Minnesota, Notre Dame and Georgia Tech. Most had what he was seeking, but a family trip to military-centric San Diego during his

junior year of high school, coupled with an impromptu visit to USD's campus, made a lasting impression.

Small class sizes and access to professors who knew your name was a plus. The dual degree, which the department describes as a way to tell employers, "our engineers are not just technically skilled, but well rounded," was a major selling point. The NROTC San Diego program, partially based on the USD campus, was well established in scope, focus and prestige.

Sass was sold.

He enjoyed the demands of the electrical engineering program and his teachers took notice.

"He took two classes with me, and both were pretty difficult," recalled Mikaya Lumori, associate professor of electrical engineering. "One was Applied Electromagnetics. He got an 'A' grade, the only one in the class. He took Control Systems Engineering and, again, received the only 'A.' He surprised me a bit because my classes are difficult, but he's a wonderful student. He's very inquisitive. He absorbs things fast. He's very bright. He's one of the best students I've ever met."

Another professor, Michael Morse, taught an elective class on themes in engineering and law. Sass, who has law school aspirations, gained a better understanding of nuclear engineering and the ways that law makes a connection.

And course offerings outside the engineering lab left a favorable impression. Sass cites two College of Arts and Sciences professors, Lukas

Pruski (mathematics and computer science) and Randy Willoughby (political science), for their contribution.

"In Dr. Pruski's math class, I worked hard, but I learned a lot. In Dr. Willoughby's class it was fascinating to talk about U.S. national security policy. We spent a good part of class talking about the development of the U.S. nuclear policy," he said. "It took what I've learned in engineering and put it into focus from a greater political and social standpoint."

It was one of many clarifying, educational moments Sass experienced and cherished throughout his time as a USD student. "You might not realize it at first while you're sitting through nine semesters when you're taking that world religions class, a sociology class, political science or biology class. At times you can feel like you're running uphill a bit. But, I think, at the end, I definitely realized that it's put what I'm doing in better context so that I can be a better engineer. I think it helps you to better understand engineering, because it really is an art form, in one respect, and I think you can understand anything better when you study other art forms."

Put all of his USD experiences together and Sass, the college graduate, greets each day knowing he's ready for anything in the real world.

"A good portion of what engineering is revolves around communication. You might think you have the best technical solution, but if you're not able to effectively communicate that in written form or verbally, it's essentially useless." 



# 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.*

[1991]

**Roy Raphael (EE)** retired from the U.S. Navy and accepted an offer to stay on as director at the Navy Satellite Program Office. Raphael is responsible for overseeing the development, testing and porting of the Mobile User Objective System (MUOS) air interface, a next-generation narrowband tactical satellite communications system designed to significantly improve ground communications for U.S. forces on the move. He is the proud father of an engineer; his daughter Torey graduated from USC last year with a degree in aerospace engineering and is now working at Pratt & Whitney.



[1992]

**Mike Buckley (EE)** has been on active duty with the U.S. Navy since graduating from USD. In addition to numerous squadron assignments and deployments around the world as a helicopter pilot, he most recently was assigned to Naval Aviation System Command, where he addresses various program management and acquisition issues for the Navy. He was selected to be the next naval attaché to Turkey, starting training in January. Buckley, his wife and three children will live in Turkey for three years starting June 2011.



**Glenn Hickok (EE)** has been working in the biometrics industry in Washington, D.C., for the last four years, running Cross Match Technologies' largest business unit. He and his wife, Shannon, have two children: Charles, 3, and Reagan, 18 months.



[1993]

**Tarek Derbas (EE)** has been working as a senior hardware development manager at Oracle Corporation since 2000. Derbas manages a team of 25 managers and senior staff engineers responsible for all server and storage system-level development and simulation modeling and power architecture. He lives in the San Francisco Bay Area with his wife and daughter.



**Mauricio Lopez-Hodoyan (EE)**

forecasts global demand for wireless devices with Qualcomm's chipset division as a senior director of strategy. He and his wife, Gabriela, have been happily married for four years and have two children: Valeria, 3, and Mauricio Enrique, 1.

**Ron Montehermoso (EE)** is a lieutenant commander in the U.S. Navy,

working as an assistant regional supply officer at the Fleet and Industrial Supply Center Sigonella in Rota, Spain. He lives with his wife, Renelynne '95. The couple has been married nearly 14 years and has three children. They are expecting their fourth child in December.



**Richard Nguyen (EE)** and his wife, Nikki, are the proud parents of a daughter, 5-year-old Audrey, who will be starting kindergarten soon.

**Rolando Ogot (EE)** works in the Bluetooth Group at Broadcom as a

principal integrated circuit design engineer. He is married with two children.

[1994]

**Daniel Ettlich (EE)** has been in the Navy for 17 years, and is a repair and logistics officer at Submarine Squadron Eleven in Point Loma, Calif. He is responsible for the material condition of the seven tended Los Angeles Class Attack submarines. He and his wife, Jenna, welcomed their fourth child, Caleb Isaiah, into the world this year.

**Barbara Hammack (EE)** and her husband, Fred, run Hammack Audio Video Solutions. They are also involved in many volunteering activities at Albert Einstein Academy, a San Diego International Baccalaureate and German immersion charter school that their son Joseph, 9, and daughter Jacqueline, 7, attend.

**Don Jenkins (EE)** is senior manager of event operations and data analytics at EnerNOC. In December he was awarded the MegaWatt, the award EnerNOC bestows upon its employee of the year. He lives with his wife, Lorrie, who is studying for a degree in criminal justice, and his daughter, Alex, a senior in high school and competitor in the World Championship of Irish Dance.



**Dominic Pimentel (EE)** has been with Synopsys for more than six years. He lives with his wife, Arlene, and three children. They regularly surf and play soccer.

[1996]

**John Simbulan (EE)** investigates electronic crimes with the Defense Criminal Investigative Service (DCIS) as a criminal investigator and special agent. DCIS is the federal law enforcement arm of the Department of Defense Office of the Inspector General. His primary duties as a DCIS special agent are investigating electronic crimes involving computer intrusions, child exploitation and activities related to the misuse of government computers.

**Langford Wasada (EE)** is director of verification and test in the Wire-

less Connectivity Group Business Unit at Broadcom.

**[1997]**

**Maureen (Feiner) Colucci (EE)** lives with her husband, Paul, and three sons in Carlsbad, Calif. She is a full-time mom.

**Scott Denton (EE)** founded uPlay, a GPS-enabled distance measurement device for golfers. The device won the 2009 *Popular Science* "Best of What's New" award. His company was bought by Callaway Golf, where he currently works as senior director of integrated devices. Denton works to develop a broader range of electronic products.

**Christine Bridewell Keefe (EE)** works for Alcatel-Lucent in the systems engineering department of Long Term Evolution, a fourth-generation wireless product. She lives with her husband and two daughters in Northern Virginia. Bridewell Keefe volunteers her time at both of her daughters' schools, as well as with the Juvenile Diabetes Research Foundation (JDRF) and Avon Walk for Breast Cancer.

**Lt. Cmdr. Thomas Mack (EE)** is serving as an engineering duty officer for the U.S. Navy, and currently works as engineering advisor to the Royal Saudi Naval Forces in Riyadh, Saudi Arabia. He is scheduled to transfer to the Space and Naval Warfare Systems Command (SPAWAR), San Diego in February 2011.

**[1999]**

**Zaldy Valenzuela (EE)** is currently finishing up a tour on board the USS Blue Ridge (LCC 19) as the communication system officer, and is slated to go to the Program Executive Office, SPAWAR San Diego, Calif., in December 2010. He is happily married to wife Joanna and has two sons, Zach, 5 and Jacob, 2.



**[2000]**

**Steve Reichert (EE)** is at Entropic Communications, working as a staff hardware engineer, designing circuit boards in support of Entropic's latest flavors of silicon for enabling high bandwidth in-home networking over

coaxial cable. He married Deborah Mason in October 2009; the couple just bought their first home and are the proud parents of three cats.

**Ricardo Valerdi (EE)** is at MIT doing research in a variety of areas, including cost modeling, unmanned and autonomous systems, and process improvement. He recently traveled to China to lecture at the Chinese Academy of Sciences, Institute of Software. Next year he will be the founding co-editor-in-chief of the *Journal for Enterprise Transformation*, a joint publication of IIE and INCOSE. He won the Best Paper of the Year award in the *Journal of Systems Engineering* and the Best Faculty Advisor Award at MIT.



**Alika Vasper (EE)** is working as a nuclear engineer at Pearl Harbor Naval Shipyard in Pearl Harbor, Hawaii. His wife, Michella Reyes Vasper '01 (EE) recently left BAE Systems and joined her husband as a nuclear engineer. The couple recently married in Waikiki, and welcomed their first child, a son, A.J. Kupono Vasper, on May 26, 2010.

**[2001]**

**Amanda Bishop (EE)** is senior product manager at WhitePages.com, where she is leading a team of 10 engineers and two designers. She is excited that the consumer product they have been developing since January 2010 is about to launch.

**James Cena (EE)** transferred into the engineering duty officer community and currently holds the billet of shipyard docking officer at Puget Sound Naval Shipyard. A major focus of his work is putting submarines, carriers and various surface craft on blocks in the middle of a dry dock. He and his family live in Bremerton, Wash.

**Mark Heffernan (EE)** went to Israel for his job earlier this year for the

fourth time. While there, he proudly wore his USD engineering shirt to meetings. Heffernan and his wife, Jenni, are expecting their first child in November.

**[2002]**

**Jacalyn (Thomas) Azevedo (EE)** will finish the MBA program at San Diego State in December and works at Motorola as a project hardware engineer. Her husband, Alcino Azevedo (EE), works at Lockheed Martin as a lead software test engineer and lab manager. They live with their two dogs in San Diego.

**Lisa Duval (EE)** works as a senior account manager at Maxim Integrated Products. She lives in Escondido, Calif. with her husband and new daughter, Lilly Ava, born in February 2010.

**Jaclyn Sonico (ISYE)** left Callaway Golf after eight years and began a new career in health public service. She is currently a management consultant with Accenture in Washington, D.C. Sonico married Joe Hebreo on Sept. 5, 2009. Her husband's military orders moved him from a small town in North Carolina to a fellowship program in nephrology at the National Navy Medical Center, Bethesda.

**[2003]**

**Dalia Tawy (EE)** is working happily at Solar Turbines. Previously, she was a certification design engineer. She is a full-time six sigma black belt. She also teaches Arabic in a language school in Mission Valley in the evenings twice a week. In May, she graduated with an MBA from San Diego State University.

**Carlos Williams (EE)** is a design and project manager at Naval Facilities Northwest in Bremerton, Wash. He works in electrical engineering design and manages facilities projects. Williams retired from the U.S. Navy as a lieutenant commander af-



ter 21 years of service. He has been married to his wife, Jody, for over 21 years. The couple has four children, who range in age from 9 to 21.

**[2004]**

**Melody Ablola (ISYE)** is a logistics consultant for ARUP. She was among 13 engineers honored as the "New Faces of Engineering" during National Engineers Week in February, and the second USD alumnus in two years selected by the Institute of Industrial Engineers. This award recognizes young engineers who have been in the workplace less than five years who have shown outstanding abilities in projects that significantly affect public welfare or further professional development and growth.



**Markos Kalemkeris (EE)** has moved to Melbourne, Australia so that he can see a new world.

**Eric Petersen (EE)** is excited to have joined the engineering team at General Atomics Aeronautical Systems.

**Jared Smith (ISYE)** works as lead systems engineer at Northrop Grumman Information Systems in Kearny Mesa. Smith works with the Broad Maritime Surveillance System (BAMS) and Intercommunication System (ICS). BAMS will be the Navy variant of the Global Hawk UAV. ICS allows pilots and other operators to communicate with other crew members that are both in close proximity and remote.

**[2005]**

**Michelle Esteban (EE)** recently graduated from the University of San Francisco School of Law, and is currently studying to take the California Bar Examination. Afterwards, she plans to travel through Southeast Asia and over the entire continent of Africa. In October, she'll begin work as an attorney for a large intellectual property law firm in San Francisco. She will run her fourth marathon in November.

**Daniel Villalva (ISYE)** has been working with Northrop Grumman for the past five years. His current position is with the Master Planning and Scheduling Group. Villalva is also very involved in coaching his son's Little League baseball team and traveling club soccer team.



[2006]

**Sarah Berrera (ISYE)** is currently working for Cisco Systems in San Jose, Calif., as a system engineer in technical sales. She participates in business planning activities, supports technical training and works on solution selling and market strategies. Berrera enjoys Cisco's focus on cutting-edge technology and that her job allows her to interface with people who have tremendous experience in the industry.

**Matt Nelsen (ISYE)** is working as a program manager with Dish Network in Englewood, Colo.; he still owns Drop Shots Tennis & Golf for Kids. Nelson came back to San Diego to run in the Rock'n' Roll Marathon in June, where he proposed to his girlfriend, Aubrey, as they made it to the finish line (she said yes.)

**Leah Ribble (ISYE)** transferred within Boeing about a year and a half ago and moved from Seattle, Wash., to San Antonio, Texas. She's now working on the KC-135 Aerial Refueler Program Depot Maintenance, a military aircraft. She enjoys that her job varies day by day.

**Veronika Rice (EE)** will begin studying for a master's degree in mechanical engineering at the Naval Post-Graduate School (NPS) in Monterey, Calif. She previously served as an ensign onboard the USS San Jacinto (CG 56) based out of Norfolk, Va., and was deployed for seven months to Senegal, the Mediterranean and the

Black Sea. She spent six months on a counter-narco terrorism deployment in the Eastern Pacific. She currently holds the rank of lieutenant and is expected to graduate from NPS in July 2012.

**Nancy Rodriguez (ISYE)** is a fourth year graduate student in applied mathematics at the University of California, Los Angeles; she expects to complete her PhD in June 2011. She is working with UCLA's Crime Research Group under the guidance of professor Andrea Bertozzi. Her research interests include the analysis of criminal behavior with mathematical tools; she is lead author on a paper on the topic, which will appear this year in *Mathematical Models and Methods in Applied Science*.

[2007]

**Ali AlMatrouk (EE)** is working with Zain Kuwait, a subsidiary of Zain Group, as a core network engineer in the switch division. He managed the project involving the replacement of the existing telecom network from the legacy Release 99 (R99) to the IP-Based Release 4 (R4) configuration. The project was launched successfully in the live network in March 2010.

**Stephanie Hay (ISYE)** quit her job and traveled through Southeast Asia for six months in 2009 and 2010, visiting six countries, including China, Thailand, Laos, Cambodia, Vietnam and the Philippines.

**Dana Hernandez (ISYE)** is pursuing a master's degree in art history at the University of Utah and has been working as an assistant to the curator of Utah and Western art at the Utah Museum of Fine Arts.

**Mark Kondrat (ISYE)** is currently deployed to the South Pacific on counter-drug missions. He's flying the Navy's SH-60B helicopter with the world famous HSL-43 Battlecats. He is the training officer for his detachment, which is called the "Narco Ninjas." In January, Kondrat married Brittney Murrieta Kondrat '08. The couple just purchased their first home in Carmel Mountain.

**John Nisson (ISYE)** left Callaway Golf to join the family business in Salt

Lake City. PermaPlate makes automotive protection products; Nisson has been taking on a wide range of operations-related projects.



[2008]

**Rusty Holzhauser (ME)** is a manufacturing engineer at Solar Turbines in San Diego.

**Paul Howie (ME)** is a mechanical design engineer at Solar Turbines in San Diego.

**Amanda Sonen (ME)** is a supply chain engineer at Solar Turbines' Superior Gear in the Los Angeles area.

[2009]

**Yasser Abdulfattah (ISYE)** is working at Schlumberger in Saudi Arabia. He develops systems for logistic coordination and improves current logistics systems to coordinate the movement of oil equipment around the world.

**Spencer Anderson (ME)** is a writing systems engineer on a research and development team at Hewlett Packard in Rancho Bernardo. The team is developing a high speed, variable data color printer for industrial use.

**Chris Gianelli (EE)** is attending the University of Florida and will finish his master's degree in electrical engineering in December 2010. He also passed the PhD written qualifying exam, but is still considering whether he will work toward a doctorate.

**Matt Irwin (ISYE)** is stationed in San Diego with the U.S. Navy and working as the strike officer and MWR officer on the destroyer USS Benfold (DDG-65). He recently returned from a six-month deployment to the Arabian Gulf and will be spending another year on board.

**Bryce Knudson (ME)** works for Navair North Island, and is in charge of a program that investigates areas of the F-18 Super Hornet, identifying areas of potential future problems.



**Stephen McGee (ME)** moved to New York City and works as a researcher at the financial services division of Oliver Wyman.

**Ricardo Sanchez (EE)** is an electronics engineer at SPAWAR Systems Center, and works to develop superior intelligence, surveillance and reconnaissance technology products and services vital to our national interests.

## In Memoriam

**Matthew Charles Foster**, a senior mechanical engineering student, passed away June 1, 2010 after a valiant struggle against brain cancer. Matthew was born Dec. 30, 1987 in Long Beach. He graduated from Wilson High School with Distinguished Scholars and was the Commanding Officer in the NJROTC. He earned his Quartermaster in Sea Scouts, loved to fish, cruise Catalina and teach other scouts. He came to USD in 2006 with a full naval scholarship for mechanical engineering. With a wonderful sense of humor and witty spirit, Matthew always appreciated the comic outlook on life. He was a member of a senior design team that successfully introduced USD's first-ever engineering art project, the Kinetic Sculpture. His persistence in learning, as well as his creativity, inquisitive mind and strength of character will be missed by his peers and the USD faculty.

USD's 2010 class of engineering graduates was one of the biggest ever, with more than 40 students. The class included eight electrical engineers (EEs), 12 industrial and systems engineers (ISYEs) and 21 mechanical engineers (MEs). Here's what some of them have been up to since graduation:

**Matthew Arnold (ME)** was commissioned as an ensign in the U.S. Navy and is looking forward to starting his career as a naval aviator. He'll be reporting to Pensacola, Fla., for flight training.

**Amanda Berlinsky (ME)** was commissioned as an ensign in the U.S. Navy and is excited about starting her career as a naval aviator. She'll be reporting to Pensacola, Fla., for flight training.

**Patrick Boensel (ISYE)** was commissioned as an ensign in the U.S. Navy and is eager to begin his career as a naval aviator. He'll be reporting to Pensacola, FL, for flight training

**Michael Buelsing (ME)** has just started working for Navatek Ltd. as a mechanical/controls engineer in Honolulu, Hawaii. Navetek conducts research and development of advanced hull form, naval architecture and wave energy conversion.

**Michael Correia (ME)** is a manufacturing engineer at Parker Hannifin in San Diego.

**Lauren Cronin (ISYE)** is joining BAE Systems' Engineering Leadership Development Program, which is a three-year, experience-based program designed to develop BAE's future business leaders. The program includes rotational assignments and the opportunity to earn a master's degree. She will be based in Wayne, N.J.

**Luma Desautel (ISYE)** is a customer support intern at Hamilton Sundstrand in San Diego.

**Ian Duffy (EE)** was commissioned as a second lieutenant in the U.S. Air Force and is now stationed at Hanscom Air Force Base in Massachusetts. He is working as a test engineer for the 46th Test Squadron, Detachment 1.



**Ashlee Enriquez (ISYE)** is a manufacturing engineer at L-3 Communications in San Diego.

**Ryan Fisher (ME)** is working in mechanical engineering at Curtis Wright Controls Embedded Computing.

**Kassandra Galvan (EE)** began working as an engineer at the Pearl Harbor Naval Shipyard in Honolulu, Hawaii, in August 2010.

**Kevin Glass (ME)** currently works as a mechanical engineer in the Mechanical and Optical Engineering Center at Raytheon Company's Space and Airborne Systems in El Segundo, Calif.

**Guy Goya (EE)** is working as an electrical engineer at Insynergy Engineering in Honolulu, Hawaii. Insynergy Engineering is Hawaii's largest mechanical, electrical and fire protection consulting engineering firm.

**Elizabeth Huber (EE)** was commissioned as an ensign in the U.S. Navy and is looking forward to starting her career as a naval aviator. She will be reporting to Pensacola, Fla., for flight training.

**Logan Johnston (ME)** is a manufacturing engineer at Falmat, Inc. The company is based in San Marcos, Calif., and designs and manufactures high performance cables, including those for extreme environments like space and oceanographic environments.

**Zachary Lamar (ME)** was commissioned as a second lieutenant in the U.S. Marine Corps and will be reporting to The Basic School in Quantico, Va.

**Kelty Lanham (EE)** was commissioned as an ensign in the U.S. Navy and is excited to be starting his career as a

naval aviator. He will be reporting to Pensacola, Fla., for flight training

**Matthew Leigh (ME, Honors Program)** will be attending graduate school at Middle Tennessee State University to pursue an MFA in recording arts and technology.

**Rachael McKay (ISYE)** is an industrial engineer at Boeing in Seattle.

**Thomas Mellin (ISYE)** is an associate quality engineer at NuVasive Inc., a medical device company for spinal surgeries based in San Diego.

**Hannah Meyer (ISYE)** is a manufacturing engineer at L-3 Communications in San Diego.

**Yehia Omar (ME)** is a senior development engineer at Eurus Energy America in San Diego. The company is responsible for renewable energy development in North America on behalf of Eurus Energy Holdings, owned jointly by Tokyo Electric Power Company and Toyota Tsusho Corporation.

**Jessica Skaar (ISYE)** is an associate engineer with Hamilton Sundstrand Power Systems in San Diego.

**Averi Thomas (ME)** will be attending Stanford University as a Stanford graduate fellow beginning this fall. She will be working toward a PhD in mechanical engineering.

## Send Class Notes

*Send updates about your life post-graduation to [kramer@sandiego.edu](mailto:kramer@sandiego.edu).*

*Please note that unless you indicate otherwise, class notes will also be submitted to USD Magazine.*



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