

**SPECIAL
POINTS OF
INTEREST:**

- Energy solutions from faculty, students, and alumni
- First ever USD Engineering Summer Camp
- Updates from more than 60 alumni!

**INSIDE
THIS ISSUE:**

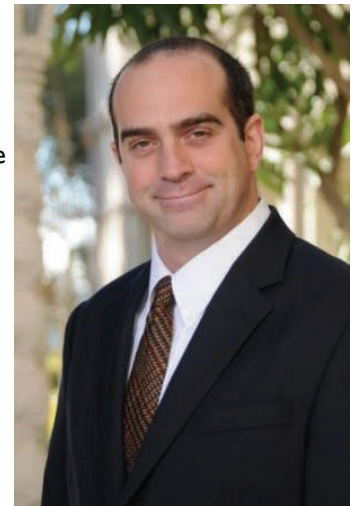
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ME Students Look for Solutions in Alternative Energy

As the population of the world continues to grow and modernize, the global demand for energy is dramatically increasing. This increased demand puts our society at a crossroads as traditional sources of energy become prohibitively expensive. The need to supplement or replace the traditional energy source is one of the most important issues facing us today. In a senior-level course taught by Matthew McGarry, Assistant Professor of Mechanical Engineering for the last two years, students tackled the problem of Alternative Energy. Prof. McGarry's expertise in alternative energy stems from his years of research on topics that includes extensive study of fuel cells and bio-fluid mechanics.

To understand how to design new solutions, students first study the traditional energy sources that rely upon hydrocarbon combustion. Students explored the chemical thermodynamics of hydrocarbon combustion, but an understanding of the inter-related economic factors is also essential background. Next, they studied five current methods being developed to supplement and possibly replace hydrocarbon combustion: hydrogen fuel cells, wave and tidal power, solar power, wind power, and biomass. For each method, the fundamentals of engineering (conservation of mass, momentum, and energy) and economics still apply. Students' comprehensive understanding of how the technology works, the major advantages, and disadvantages of each technology culminated in student design of their own fuel cells in this innovative course.

Several students involved in this course were able to apply what they learned to their own energy-related designs in two semester student capstone projects, including one student team that developed a wave energy generator for the Scripps Institute of Oceanography. Energy topics have increasingly become a focus of activity among students, faculty, and alumni of USD Engineering, *turn to pages 2 and 3 for related stories.*

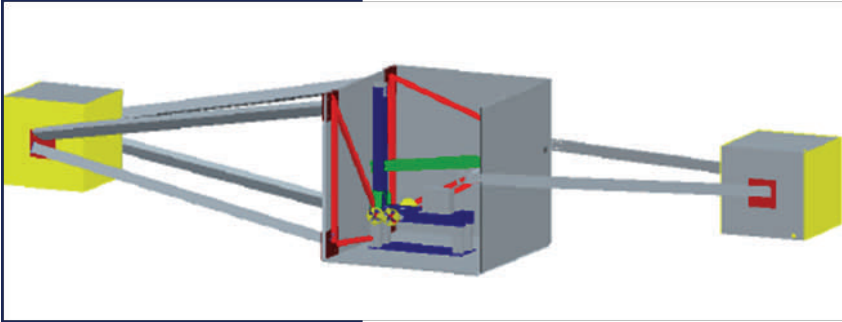


Matthew McGarry,
Assistant Professor of
Mechanical Engineering

Engineering is Growing at USD! Largest ENGR 101 Enrollments Ever

This fall's entering engineers, as measured by enrollment in the first semester freshman engineer course, ENGR 101: Introduction to Engineering, has reached record levels. As of mid-August, there are 89 of these students. These would-be engineers will be designing robots that will compete in the USD Engineering Robot Throwdown on December 3. Contact usdengr@sandiego.edu for more information.

Energy Key Focus for Students on Six Student Capstone Projects



All three of the two semester capstone projects in Electrical Engineering (EE) had an energy theme and three of those in mechanical engineering (ME) also had devices and solutions that were energy related this year.

Wave Energy Conversion Device (ME)

Students: Mike Buelsing, Kevin Glass, Neil Lum, John Sophabmixay

Advisors: Dr. David Malicky and Dr. Matt McGarry
Sponsor: Scripps Institute of Oceanography

This device was designed to provide power to the Scripps Institute of Oceanography's wire walker undersea data collecting device. 10 W of power are provided using an articulated buoy system as a wave energy conversion device. It consists of a buoy with one rigid and one pivoting arm where buoyancy causes up and down motion from which energy is extracted. The power conversion unit transforms the energy of the arm motion via a high ration gearbox. The device was designed to be able to withstand ocean weather and water conditions.

Electromagnetic Energy Harvesting (EE)

Students: Hanner Hart, Kely Lanhan, Michael Sass

Advisor: Dr. Tom Schubert

Sponsor: SAIC

This project required students to develop a system that harvests S-band radio frequency energy from the air in order to provide power to a typical micro-processor system. The energy harvesting system was optimized to capture radio location and shipboard radar transmissions between 3.2 and 3.4 GHz. The completed design is composed of 1) a microstrip patch antenna, 2) a seven-stage charge pump circuit, and 3) a super-capacitor based energy storage and distribution system.

The Power Workout: Converting Exercise into Electric Energy (EE)

Students: Elizabeth Huber, Richie Sanchez, Shin Sato

Advisor: Dr. Tom Schubert

The Power Workout project designed a renewable energy source based upon an elliptical trainer. The energy expended in a typical workout at the gym is usually wasted in the mechanics of the equipment. This project harnessed the mechanical energy of the machine and converted it to electrical energy using a generator-based system. The exercise equipment can then be attached to a generator. This creates a DC voltage fed into a circuit and then stored in a battery for future use.

Micro Electricity Generation (ME)

Students: Amanda Berlinsky, Christina Callas, Logan Johnston, Rigoberto Laborin

Advisors: Dr. David Malicky and Dr. Matt McGarry

This project is intended to meet the needs of the 2 billion people in the world who do not have access to electricity by providing for generation of electricity with a system that works with the just a stove, a wood fired cooking stove used in some developing countries. A Beta Sterling engine was designed and constructed to provide energy conversion based upon the temperature pressure differences generated by the heat within the stove. The output from this engine is intended to be used to run a small generator providing small amounts of power to meet the needs of a single household.



Pictured: 1) Student design of an articulated buoy system that converts wave energy. 2) Prof. Lord tries out the Power Workout project

(Continued on page 6)

Don Jenkins (EE '94) Helps USD Manage Power

After serving 22 years in the U.S. Navy and Marine Corps, Don Jenkins decided to put his expertise to use in the energy industry in Boston, MA. He currently manages three teams in the Network Operations Center (NOC) of a clean energy company, EnerNOC. He oversees execution of remote energy reduction efforts for more than 3000 MW of electricity throughout North America. His work unexpectedly has brought him back to his USD alma mater. One of the first programs managed by EnerNOC is the San Diego Gas and Electric CleanGen Program, of which USD is a participant. CleanGen allows for distributed generation of up to 25 MW of electricity in San Diego during peak load times, based upon a network of generators at major facilities across San Diego, including four generators at the University of San Diego. USD relieves the grid in times of urgency by transferring its own load to generators and exporting the excess capacity to the grid. USD was actually the first to come on-line in November 2006 with three 2,000-kW diesel-fired generators that meet the higher standards required of CleanGen generators. USD gets payments for the use of its generators and EnerNOC takes responsibility for ongoing generator maintenance. According to Roger Manion, assistant vice president, facilities management at USD, this gives the university a greater sense of security that its generators will operate when needed. In addition, USD is also notified when the grid is at risk, which is important information for a 7,600-student campus. During the October 2007 fires, for example, multiple shortages were caused by wildfires all over southern California and CleanGen was able to supply 17 MW. Events aren't limited to extreme emergencies like the wildfires, and when an event is called, USD does not notice the transition because the generators run parallel with the grid. If there is a blackout despite an event being called, USD won't notice because it will already be running on backup generators.



Don Jenkins manages 3 teams in EnerNOC Network Operations Center

Ecotronic Toys – No Batteries Needed

Ernest Kim, Associate Professor of Electrical Engineering, has been working on “ecotronic toys” with toy company Russimco for the last few years. In 2008, these toys debuted with the introduction of eco-friendly toddler toys, character flashlights, radios and gadgets. In 2009, the new water line was introduced, including a submarine and a tugboat. What's so eco-friendly about these toys? No batteries. The need for millions of batteries that go from toy to landfill site each year are eliminated since the energy to power these is generated by shaking the toy from side to side.

Ecotronic tugboat, one of the new toys with design contributions by Prof. Ernest Kim



USD Engineering Hosts Navy Junior ROTC Camp

by Liz Harman



Pictured: 1) Prof. Tom Schubert explains circuitry to two cadets. 2) NJROTC campers show their enthusiasm.

Sixteen-year-old Nicole Paredes used to think she'd major in English. But now she's not so sure. After joining the Navy Junior Reserve Officers Training Corps and spending a week at an academic boot camp at the University of San Diego, she's thinking of engineering as a real possibility. NJROTC "has given me so many opportunities," she said, her face beaming, after a week spent (July 13-18) in computer science and engineering classes at USD. The week culminated with a day spent walking on water with self-propelled buoyancy shoes, launching catapults with bungee cords and tennis balls, and taking part in a robotics competition.

Paredes, who is from Gloucester, VA, was part of a group of 160 top high school cadets from around the country who attended the camp hosted by USD's Engineering Programs. Many of the cadets are from under-represented minority groups and 40 percent are female. Many were visiting a university for the first time and would be the first in their families to attend college.

"We hope this fun, hands-on week of activities gives these promising students an opportunity to think about careers in mathematics, engineering or the sciences that they may not have had before," said Rick Olson, Associate Professor of Industrial & Systems Engineering. Dr. Olson, along with many of his colleagues in Engineering and two computer science faculty, are happy to have taught Engineering's first ever summer camp.

According to J.D. Smith, NJROTC director, the Navy is looking for ways to increase the participation of members of under-represented groups in science and technology fields. A similar camp was

held earlier this summer at Embry-Riddle Aeronautical University in Daytona Beach, Fla. High-achieving high school juniors and seniors were selected for both camps by their naval instructors. “The NJROTC academic camp is an opportunity for some of our more talented NJROTC cadets to sample and experience undergraduate technical education,” Smith said. “The classes being taught by USD professors are a real plus. It is our hope that due to this camp, cadets will accept the challenge to strive for college and major in science, technology, engineering or math.”

Before leaving for home, cadets took part in a graduation ceremony and were addressed by Rear Adm. Michael C. Bachmann, commander of the Space and Naval Warfare Systems Command in San Diego.

The camp culminated in a day of competitions, including USD Engineering’s first ever student catapult competition that was led by Prof. Ming Huang.



New Advisory Board Members

Our program advisory boards include San Diego industry and program alumni who are active engineers in their fields providing leadership within their profession. Members of these boards help the programs to better serve their students by providing industry input and support on a variety of issues.

The Electrical Engineering Program is pleased to announce its newest advisory board member, Michael Colburn. Mr. Colburn is Electric Distribution Engineering Manager for San Diego Gas and Electric Company. He has a BSEE from Cal Poly San Luis Obispo, and has been a registered Electrical Engineer in the state of California since 1987. operations, standards, electric operations (control center), and financial planning. His other interests include electric transportation/ alternative fuel vehicles, aviation, and wireless communications. Mr. Colburn will be working with the Electrical Engineering program on a variety of projects related to students and careers.

The Mechanical Engineering Program is pleased to announce its newest advisory board member, John Gabbard. Currently, he directs project development for the western region for Trane. Mr. Gabbard has over 25 years of industry experience, including work as Vice President of Technical Services for DG Energy Solutions and Vice President of the Western Region for EDG Power Group. He has a BSME from San Diego State University and holds a PE. Mr. Gabbard’s son, Matthew Gabbard, is a current senior in Mechanical Engineering at USD.

Energy Projects

(Continued from page 2)

Human Powered Vehicle (ME)

Students: Chris Jacobs, Konrad Myca, Louis Barrios
Advisors: Dr. David Malicky and Dr. Matt McGarry

A skeleton recumbent bicycle was designed and successfully competed in the American Society of Mechanical Engineers April 2009 Human Powered Vehicle Competition. The device consisted of 4 subsystems: single-chain multi-gear drive train, braking system, steel tubing based frame, and steering.

Pyron Solar Monitoring System (EE)

Students: Guy Goya, Ian Duffy, Alex Chock
Advisor: Dr. Tom Schubert

This project designed a monitoring system for a solar generating system, such as the Pyron Solar Triad. The system was designed to meet the following requirements: 1) measurement of the solar power generated by solar panels based upon currents, voltages, temperature, and solar radiance, 2) system flexibility to allow for changes in sensors and additional readings, and 3) an ability to withstand outdoor conditions.

Student Capstone Projects

In addition to the six energy related projects (see p. 2), this year's student capstone teams across engineering disciplines tackled a variety of other problems related to industry and medicine.

Pain Relief Glove for Spasticity (ME)

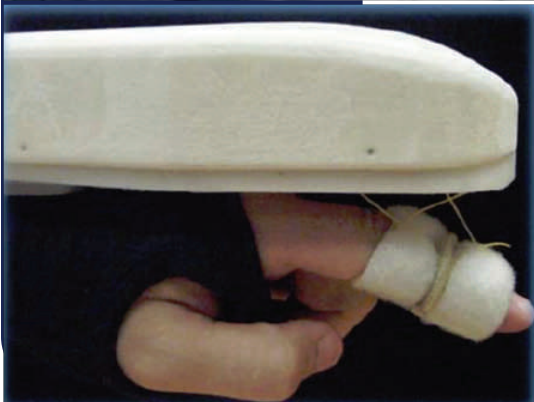
Students: Spencer Anderson, Matt Arnold, Vincent Atofau, Sergio Valdez
Advisors: Dr. David Malicky and Dr. Matt McGarry

This project addresses the problem of stroke survivor hand spasticity by providing a device that assists in the opening and closing of a hand, helping to relieve pain in the patient and lessen the need for an aide. The mechanism mimics hand motion by following and supporting motion from above the fingers. Cables are routed from the distal phalanges, over the metacarpal and carpal bones, to a crank pulley mounted on the forearm.

Silverware Wrapper (ME)

Students: Alex Moscos, Jarrod Pitts, Mike Spillner, John Tinsley
Advisors: Dr. David Malicky and Dr. Matt McGarry

This project design produced a device that rolls utensils into a standard-sized cloth napkin at a rate that takes no longer than 30 seconds per roll. This is typically a labor-intensive task needed to serve each customer at many mid-level restaurants. The device was implemented successfully into a system that automatically controls several motors and accomplishes the task using these steps: 1) napkin is placed flat on platform and silverware is placed in groove, 2) an arm swings under the platform while spring-loaded hinges fold the napkin around the silverware, 3) an arm grips the napkin and silverware and spins it into a roll, and 4) an arm transports the rolled silverware into a bin.



Pictured: 1) Student designed human powered vehicle. 2) Pyron Solar panels. 3) Pain relief glove

Welding Station and Fume Extractor (ME)

Students: Michael Correia, Ryan Fisher, Matt Leigh, Zach Lamar
 Advisors: Dr. David Malicky and Dr. Matt McGarry

This device is intended to meet the needs of USD’s Mechanical Engineering laboratories for a well-functioning welding table with fume extractor. The device includes a low-noise 3-HP, 1500 cfm centrifugal blower, submicron MERV filtration, multiple pick up hood, and a sound-insulated casing. The table itself includes an aluminum top and steel frame, along with multiple holders for the welding torch and other tools and must hold at least 400 lbs.

Fuel Lab and Rotor Cell Repair (ISyE)

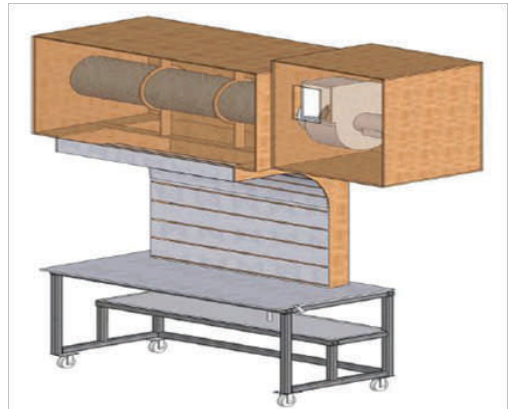
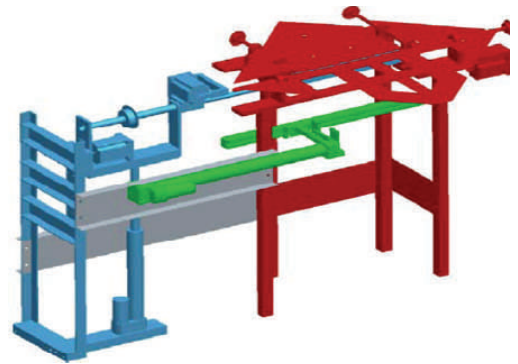
Students: Ryan Echer, Megan Menconi, Frederick Montgomery
 Advisor: Dr. Brad Chase

Sponsor: Hamilton Sundstrand
 Hamilton Sundstrand designs and manufactures aerospace systems for commercial, regional, corporate and military aircraft. With warehouse space being a premium, Hamilton Sundstrand was interested in consolidating space in their facility. This facility redesign project investigated the potential of combining two areas within their facility; the Repair and OEM Fuel Lab and the Repair and OEM Rotor Cell departments. The project investigated the current demand, equipment utilization, and process layout. The team provided recommended layouts, feasibility analysis, and streamlined processes.

Dynamic Adaptive Radiotherapy (ISyE)

Students: Agnes Castillo, J. Mike Hoxter, Ramon Siswojo
 Advisor: Dr. Brad Chase

Sponsor: Moores UCSD Cancer Center
 The field of radiotherapy is on the verge of new technological advances called dynamic adaptive radiotherapy (DART). Physicians and physicists need of a system or approach to quality that allows safe, accurate, and reliable use of the DART approach for radiotherapy treatments. These new advancements using technology to assist and replace many of the currently human-driven tasks will create an environment where certain aspects can be more closely measured and thus controlled. This project investigated the possible ways to implement a quality plan for the adaptive treatment process, which would ensure a better radiotherapy cancer treatment process using DART.



Pictured: 1) Silverware wrapping requires a system of motors. 2) Welding station with fume extractor. 3) Dynamic adaptive radiotherapy requires close control.

Our Newest Faculty Member

USD Engineering is pleased to welcome its newest tenure track faculty member, Truc Ngo, Assistant Professor of Industrial & Systems Engineering. Dr. Ngo is a graduate of Georgia Tech with a BS degree in Chemical Engineering and a PhD in Chemical Engineering. At Georgia Tech, her bachelors degree was awarded with highest honors and she was an NSF Graduate Research Fellow. After graduating from Georgia Tech, Dr. Ngo worked in industry for more than two years as a senior process engineer at Intel Corporation in Santa Clara, CA and Hillsboro, OR. Following her work with Intel, Dr. Ngo served as head of Manufacturing Technology at San Diego City College before joining USD.

Truc Ngo, Assistant Professor of Industrial and Systems Engineering



Class of 2009



The class of engineering graduates from USD this year was the biggest ever with more than 40 students. Among the 40 who completed January or May 2009, there were 13 Electrical Engineers, 8 Industrial & Systems Engineers, and 19 Mechanical Engineers. Our most recent graduates are taking on jobs and studies all over the world. Here's what they have told us they are doing since graduating:

- **Yasser Abdulfattah (ISyE)**, a dual citizen of the US and Saudi Arabia, recently returned to Saudi Arabia after working as a Process Engineer at **K&S Auto Sales** in San Diego, CA.
- **Nathaniel Allera (ME)** is a mechanical engineer at **CP Kelco**, in San Diego, CA.
- **Christina Aneshansley (EE)** is an electrical engineer at **General Atomics Aeronautical** in San Diego, CA..
- **Louis Barrios (ME)** has joined **Teach for America**.
- **Emley Brooks (EE)** is an electrical engineer at **General Atomics Aeronautical** in San Diego, CA.
- **Agnes Castillo (ISyE)** is an Industrial Engineer working as Buildings and Facilities Coordinator for the South California District of **UPS** in the Los Angeles area.
- **Alexander Chock (EE)** is an engineer at **Tesoro Hawaii Corporation**, an independent refiner and marketer of petroleum products.
- **Elijah Crow (ME)** is a mechanical engineer at **RBC Bearings**, in Rancho Dominguez, CA.
- **Arnel De Guzman (ME)** is a mechanical engineer at **Vought Aircraft** in Hawthorne, CA.
- **Ryan Echer (ISyE)** is currently training for **NFL tryouts**.
- **Andrew Gerry (EE)** has been commissioned as an ensign in the **U.S. Navy** and, after attending flight school in Pensacola, FL, is in Corpus Christi, TX training to fly a T-34C.
- **Christopher Gianelli (EE)** will be attending graduate School at the **University of Florida** to pursue a Master of Science in Electrical Engineering.
- **Benjamin Hunter (ME)** has been commissioned as a **U.S. Navy** ensign and will be attending flight school in Pensacola, FL.
- **Matthew Irwin (ISyE)** has been commissioned as an ensign in the **U.S. Navy** and is a surface warfare officer on the USS Benfold.
- **Bryce Knudson (ME)** initially accepted a position as Machine Design Engineer at **Autosplice** in San Diego, CA.
- **Keith W Kotecki Jr. (ME)** is a Product Engineer at **Parker Hannifin** in San Diego, CA.

- **Christopher (Sean) Leake (ME)** will be attending graduate school in architecture at **Harvard University**.
- **Christopher LeFon (EE)** has been commissioned as an ensign in the **U.S. Navy** and is attending flight school in Pensacola, FL.
- **Megan Menconi (ISyE)** is an engineer at **Hamilton Sundstrand Power Systems** in San Diego, CA. There, she is in charge of operational excellence and ensures that senior management is aware of cost reduction activities that affect the success and competitive advantage of the company.
- **Frederick L. Montgomery Jr. (ISyE)** is a systems engineer at **Raytheon** in San Diego, Ca.
- **Michael Nieman (EE)** is an Electrical Engineer with **Pyron Solar**, in San Diego, CA. They manufacture concentrating photovoltaic (CPV) generation systems for utility-scale customers.
- **Jarrod Pitts (ME)** is a business development associate for the Australian company, **Solar Systems, Ltd.** He is now based in the Dallas/Ft. Worth area.
- **Karl Riesen (EE)** is an electrical engineer for **Western Digital** in Irvine, CA.
- **David Riess (EE)** is currently enrolled in a pre-MBA program at **Stanford University**.
- **Ricardo Sanchez (EE)** has continued working in systems test at **Entropic Communications** in San Diego, CA.
- **Shinichiro Sato (EE)** is an electrical engineer at **Mobile PC** in San Diego, CA.
- **Reginald Taylor (EE)** was commissioned as a Second Lieutenant in the **U.S. Army** at Fort Lewis, WA. Reginald is USD Engineering's first Army graduate.
- **John Tinsley (ME)** is a mechanical engineer at **Miles & CIE** in KG, Germany.

USD Engineering Petco Park Night

On May 4, Engineering alumni, faculty, and students celebrated at the first ever USD Engineering night, as part of USD's own night at the ballpark. Engineering folks had a blast beforehand at MerK Bistro Italiano, where Edward Kaen (EE '00) is the proprietor. We are already looking forward to next year's big night.



Social Networking and USD Engineering

Due to multiple alumni requests, this year we started a LinkedIn group for USD Engineering. It is a great resource for keeping in touch with your fellow USD Engineering alumni and getting the latest news. We love it because it helps us not only to keep in touch, but to see how and what our alumni are doing professionally. The LinkedIn group: "University of San Diego Engineering Alumni" already has about 1 in 3 of the engineering alumni as members. We hope to provide a web community that spotlights our graduates' activities and interests and gives them a group that is informative, interactive, and useful.

USD Engineering now has both a fan page and a group on Facebook. Please join us on Facebook for the latest fun news. Our Facebook fan page is "University of San Diego - Engineering". Since fan pages let you post, but don't give you the ability to collect albums of information, such as when there is a picture of you that we want you to tag from the USD Engineering Petco Park night, we also have a Facebook group "USD Engineering". We invite all interested to join us on Facebook.

Join our group on



Alumni News

1993

Richard Nguyen (EE) is a senior software engineer at Northrop Grumman in San Diego.

1994

Lisa Smith Corcoran (EE) is an SAP Analyst at Givaudan in Cincinnati. Givaudan is a Swiss-based global producer of flavors and fragrances. ...**Daniel Ettlich** (EE) and his family have just moved to San Diego. He is now the Material Officer for Submarine Squadron 11 at Point Loma. He and his wife Jenna have three children, Faith (age 6), Noah (age 4), and baby Adam. They are expecting a fourth early next year. ...**Dominic Pimentel** (EE) is pictured with wife Arlene and their three children: Alisa (age 10), Troy (age 7), and young Luke is hiding in the stroller.

...**Michael Shultz** (EE) and his family are now based in Seattle, WA. Michael is a sales engineer and LEED AP at Custom Mechanical Solutions, specializing in HVAC systems. ...**Donald Jenkins** (EE) is living in Boston and is a manager of three teams at EnerNOC working to help utilize energy efficiently across the country. His wife, Lori, teaches special needs kids at the local elementary school and his daughter, Alex, recently qualified for the World Championships in Irish dancing to be held in Glasgow.

1995

Mike Malone (EE) is a CM Analyst at Defense Web Technologies in San Diego, CA. DefenseWeb delivers customized software solutions for Federal health care, well being and family readiness organizations. ...**Kiyoshi Kanzawa** (EE) is a Senior IT Manager at Amira Pharmaceuticals. Amira Pharmaceuticals, Inc., a molecule pharmaceutical company, engages in the discovery and early development of compounds to treat inflammatory diseases. It develops compounds to treat inflammatory disease linked to the eicosanoid pathway, a signaling process controlling for conditions, including asthma and cardiovascular diseases. The company was founded in 2005 and is headquartered in San Diego, California.

1997

Lieutenant Commander **Tom Mack** (EE) is serving at Space and Naval Warfare Systems Command (SPAWAR) in Charleston, SC. Tom is transferring to SPAWAR Headquarters, in San Diego this January. ...**Romeo (JR) Rodriguez** (EE) is a senior staff project engineer and manager at Kyocera Wireless in San Diego, CA.

2000

Grant Markewitz (ISyE) is an Account Manager with the MMM Group in Toronto, Canada. MMM provides responsive and innovative consulting engineering, planning, project management, surveying and commissioning services to private sector owners, architects, contractors, investors and government clients across Canada and internationally. ...**Ricardo Valerdi, PhD** (EE) and his wife Briana welcomed their second son, Lucca. Ricardo recently took a trip to Singapore, India and Japan. He is also completing a collaboration with the University of Bath (UK). His research group at MIT is wrapping up a study on the economics of Human Systems Integration for the Air Force Office of the Surgeon General. In the fall they will be starting a project with the Army Unmanned & Autonomous Systems group at White Sands Missile Range. Ricardo continues to teach his cost estimation class in the MIT



Pictured :1) Dan Ettlich with wife Jenna and their children. 2) Dom Pimentel with wife Arlene and their children. 3) Ricardo Valerdi's sons Rocco and Lucca .

Aeronautics and Astronautics Department. ...**Ryan Ingram** (EE) joined Northrop Grumman Mission Systems Division in San Diego as a Test Engineer in January 2009. He is now doing production test engineering for software-defined radio. ...**Soren Solari, PhD** (EE) completed his PhD in Integrative Neuroscience, Dynamic Systems, and Control at UCSD this spring. His thesis is entitled, "A unified anatomical and computational model of cognitive information processing in the mammalian brain and DNA reco codes". This spring, as an adjunct faculty member at USD, he also taught a senior elective in neuroscience to students across engineering majors. He is now a senior analytics consultant with Opera Solutions, a firm that provides high-end analytics expertise to a variety of business problems, particularly involving the understanding and uncovering of information in vast seas of data. ...**Daniel Empeno** (EE) continues his engineering work at SPAWAR, but he and his wife, Jessica, have started Chocolate Fountains of San Diego, Inc. This company provides chocolate fondue fountains for special events. ...**Yasir Alqassemi** (EE) is working with the family business, Gulf Group Holding. He and his wife, Raghdah, have a son, Ahmad (age 6), and a daughter, Noor (age 1).

2001

Amanda Bishop (EE) is a Sr. Product Manager at whitepages.com, based in Seattle, WA. ...**Mark Heffernan** (EE) married Jennifer Ann Boston November 15, 2008 at the Immaculata. ...**Adam Whelan** (EE) was finishing a tour as an instructor pilot at NASNI in Coronado, CA, this January. He married Jen Neill, a USD alum, in August 2007. ...**Sally Mahdavi** (EE) just graduated with an Executive MBA from SDSU. She is an Operations Research Analyst for the U.S. Navy. ...**James Cena** (EE) has continued with the U.S. Navy, and is now an Engineering Duty Officer. This job allows him more time with the family and allows him greater opportunity to use his engineering degree. He and his family are enjoying being back in Bremerton, WA.

Pictured (clockwise): 1) Yasir Alqessemi's daughter Noor and son Ahmed. 2) Mark Heffernan and Jennifer Boston. 3) James Cena and his family. 4) Adam Whelan and Jen Neill. 5) Sally Mahdavi at graduation.



Alumni News cont'd

2002



Rasheed Behrooznia (EE) and his wife, Michelle, are enjoying their daughter Khina as she approaches her first birthday. Rasheed is a Software and Systems Engineering Lead at Lockheed Martin in San Diego. He recently joined the USD Electrical Engineering Advisory Board and came by in April to speak to the USD IEEE on careers. ...**John Kammerer** (ISyE) is studying towards an MBA from the Naval Postgraduate School. He is also a project manager and engineer at SPAWAR in San Diego....**Bill Bachman** (ISyE) is working towards an MBA from USC's Marshall School of Business. He is also Brand Manager at Americhip, Inc. in the Los Angeles area and currently resides in Marina del Rey. ...**Oscar Arzu** (EE) is still at Raytheon in the Los Angeles area. He and his wife are enjoying their baby daughter, Nyla, now age 18 months. ...**Chris Smith** (EE) and his wife Melanie are pleased to announce the birth of their baby girl, Presley Hope Smith born on May 11, 2009. She was 6 lb. 10 oz. Chris continues his design engineering at Northrop Grumman where he's had the opportunity to design parts for two CREW (Counter Radio-Controlled Improvised Explosive Device Electronic Warfare) radios and the Airborne-Maritime-Fixed Station Joint Tactical Radio System. ...**Lisa Duvall** (EE) purchased a home near Lake Hodges, CA. She is proud to note that

their first overnight guests will include USD Engineering alumni from the Class of 2002. She is a Sr. Account Manager at Maxim Integrated Products. **John Duca** (EE) is continuing with Raytheon in Los Angeles and was recently promoted to E4. He completed his MSEE at Loyola Marymount in May 2007. On May 25, 2008 he and his wife welcomed a baby girl, Addison Jayne Duca. ...A US Navy Aviator, **Brandon Decker** (EE) is now an Instructor Pilot for Patrol Squadron Thirty and based in Jacksonville, FL. He and his wife, Anna, are expecting their first child.

2003

Rachel TenWolde (ISyE) has been working at the Unmanned Systems Branch at SPAWAR for about a year and a half now where she is a project manager/production lead on the MDARS program (Mobile Detection and Response System), which is an automated intrusion detection and inventory assessment vehicle. She married Ben Cichy in April 2008. ...**Howard Diaz** (EE) is an electrical engineer at the Naval Facilities Engineering Command (NAVFAC) in San Diego. ...**Dan Brennan** (EE) is a Lean Six Sigma Black Belt at GE Energy and is based in the Atlanta area. ...**Ryan Zierolf** (EE) is a Systems Test & Qualification Engineer at General Atomics Aeronautical in Poway, CA. He and his wife, Emily, are proud to announce the birth of their son, Jacob, on January 5. ...**Joseph Herrera** (ISyE) is a BPS/Lean Specialist at B. Braun Medical Inc. in Irvine, CA. He is due to complete his MS in Industrial & Systems Engineering at USC this fall. ...**Nic Bingham** (ISyE) is a Group Manager at Jivaro Professional Headhunters, based in the San Francisco area. ...**Matthew Craig** (ISyE) has returned from China and accepted a new position as the Director of Store Operations for Meijer. Meijer is a Grand Rapids, MI based company of supercenters. He has just started study towards an MBA at Michigan State University's Eli Broad Graduate School of Management.

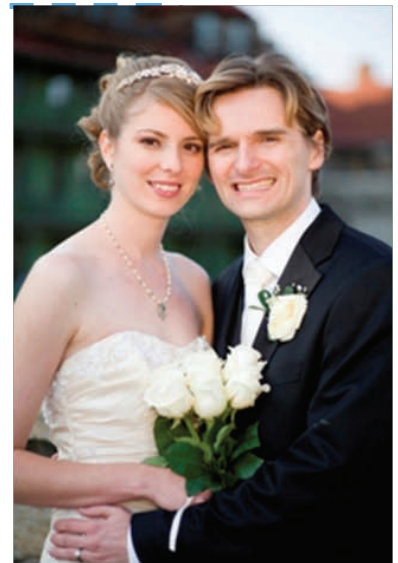
He and his wife Jessica are happy to announce the birth of Kaley Elaine Craig on March 4, 2009. She weighed 6.38 pounds then, but she's grown a lot since. ...**Christian Caracoza** (EE) is a systems engineer at Boeing Integrated Defense and will begin studying towards a Masters degree this fall.



Pictured : 1) Rasheed Behrooznia and daughter Khina. 2) Oscar Arzu's daughter Nyla. 3) Chris Smith's daughter Presley. 4) John Duca and his family.

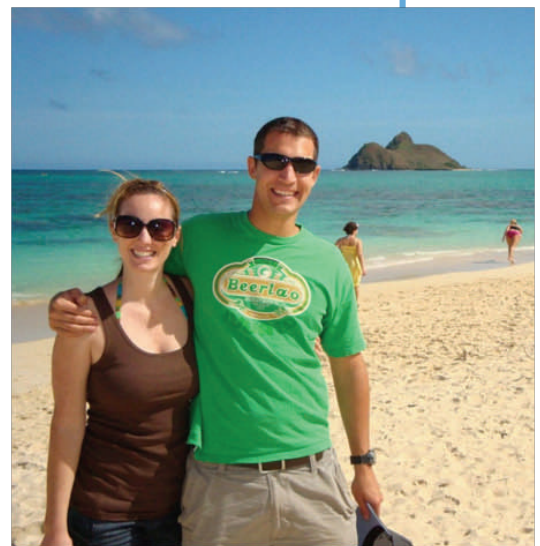
2004

Aaron Milam (EE) is very happy at Northrop Grumman in Los Angeles. He recently finished two Masters Degrees, one in Mechanical Engineering and one in Systems Engineering, at Loyola Marymount University. He is hoping to go to Law School and eventually work in product litigation. Aaron is also the president of the Babe Ruth Baseball League of Pasadena. As the Los Angeles Coastal Regional Director of the Sigma Chi fraternity, he works with five universities and is helping to plan the 25 year reunion of Sigma Chi at USD which will take place over the homecoming weekend....**Jared Smith** (ISyE) earned his MS in Systems Architecture and Engineering from USC in 2007. In Spring 2009, he came back to USD and taught Systems Engineering to the ISyE undergrads as an adjunct. He spends much of his time as a senior systems engineer at Raytheon's System Architecture, Design, and Integration Directorate in San Diego. ...**Russell DeCaprio** (ISyE) is a Senior Consultant with Booz Allen Hamilton. He joined that company in January and is based in San Diego. ...**Alex Rosas** (ISyE) joined Northrop Grumman as a Quality Engineer in November. He is based in the Los Angeles area. ...**Derek Maxwell** (EE) and his wife, Jamie, are living in Sandy, Utah and are working there way through a list of 200 scuba diving destinations (mostly outside of Utah). He is an engineering lab manager at Fusion-io. Fusion-io is a new company that provides application-centric, enterprise storage architecture that replaces traditional disk-based storage systems. The performance of an entire disk array can be placed inside a server. ...**Melody Ablola** (ISyE) is still living in London and working as a logistics consultant for ARUP. Among her interesting assignments, she is the primary logistics consultant for the 2012 Olympics' Athletes Village legacy residential development. She has also worked on operations and transportation security for the Dubai Opera House, and has worked on logistics strategies for Masdar Institute of Science & Technology in Abu Dhabi which includes the the world's first implementation of carbon-free freight rapid transport. Melody passed the EIT exam in 2008 and is considering an MSc in International Transport and Logistics.



2005

Brian Momeyer (EE) is a senior electrical engineer at Qualcomm, Inc. in San Diego. His technical expertise is in designing and evaluating acoustics, audio path circuitry, amplifiers and filters in single and dual microphone devices running noise-reduction echo-cancellation algorithms. He is studying towards an MBA from the University of San Diego. ...**Zlatko Flipovic** (EE) is one of the inventors for a "MultiSubstrate RF Module for Wireless Communication Devices", U.S. patent no. 7,348,842. ...**John Crawford** (ISyE) is an Avionics Quality Engineer at Space Exploration Technologies and is currently building Falcon 9 launch vehicles. Prior to SpaceX, he was a Senior Quality Engineer at Raytheon Space and Airborne Systems for 4 years supporting high-reliability satellite programs. In June 2009, John completed the requirements to be named an ASQ-Certified Quality Engineer (ASQ CQE). ...After obtaining her PE last year, **Erin Fullinwider** (EE) was lucky enough to be sent to work in Hawaii for a few months and was able to visit with HI resident Tom Davis. She has recently taken on a new position as Senior Electrical Engineer at the Los Angeles office of Buro Happold, a large engineering consulting firm based in the UK. ...**Michelle Esteban** (EE) is finishing up her last year of law school and will be running a marathon in Berlin.



Pictured : 1) Rachel TenWolde and Ben Cichy. 2) Matt, Jessica, and newborn Kaley Craig. 3) Ryan Zierolf's baby son Jacob. 4) Erin Fullinwider visiting Tom Davis.

Alumni News cont'd

2006



Baxter Box (EE) is working towards an MBA in the Southern Methodist University's Cox School of Business. After graduating from the USD, he worked in research and development for Respirations Technologies in San Diego, CA. As an R&D Engineer for Restech, he designed Dx-pH Sleep Adapter which allows connectivity between the Dx-pH Measurement System and PSG (Polysomnography) sleep lab machines. He also put his antenna RF design expertise to optimize the telemetry of the wireless Dx-pH Measurement System. A pH Measurement device measures the amount or concentration of acidity in the upper airway (esophagus, throat, and nasal cavities). This allows physicians to determine if a patient's symptoms are caused by acid reflux. Since November 2007, he has been a Research Analyst/ Equities Trader for Bonanza Capital's Management Program in Dallas, Tx. As a side venture, he is Founder/President of NastyGoat Corporation, a website investment group, developing creative and innovative solutions to capitalize on online market opportunities. ...**Lori Rasmussen** (ISyE) married Hannes Egbers in Minnesota on July 11, 2009. Among Hannes' other good qualities, he's an industrial engineer. Lori continues to work as an applications engineer for the Level Products Group of Emerson. Her job has taken her to the oil fields in northern Louisiana and Dallas, and to Sweden- which is less like Minneapolis than people think....**Jen Taburiaux** (ISyE) is working as a Quality and Systems engineer for a Direct Response Marketing company called Savvier in Carlsbad, CA. She manages call center operations and works on research and development of new fitness equipment. She earns quite a lot of air miles traveling to China to see the new designs implemented in the factory and verify that quality standards and inventory requirements can be met. She recently obtained her Quality Process Analyst certification from ASQ and plans on becoming a certified Quality Engineer. ...**Matt Nelson** (ISyE) was selected as Centennial Colorado's 2008 Entrepreneur of the Year for his latest venture: Drop Shots Tennis. Drop Shots is a tennis and golf facility geared specifically to children ages 2 to 8 years old. It uses kid-sized courts, equipped with smaller nets, rackets, clubs, and balls, so small children will have a much more rewarding tennis and golf experience. Drop Shots has already opened a second location. **Ryan Gallagher** (ISyE) is still in Cost Analysis after completing a 2.5 yr internship at SPAWAR. He's worked on a variety of programs, including unmanned underwater vehicles, sonobuoys, meteorological hummers, command & control software, shipboard/satellite networks. He is pursuing an MBA at CSUDH. ...**Marcos Vargas** (EE) is a microwave engineer at Kyocera America in San Diego. He and fiancée Veronica Ceseña will be married at the Immaculata this October.



...**Lori Rasmussen** (ISyE) married Hannes Egbers in Minnesota on July 11, 2009. Among Hannes' other good qualities, he's an industrial engineer. Lori continues to work as an applications engineer for the Level Products Group of Emerson. Her job has taken her to the oil fields in northern Louisiana and Dallas, and to Sweden- which is less like Minneapolis than people think....**Jen Taburiaux** (ISyE) is working as a Quality and Systems engineer for a Direct Response Marketing company called Savvier in Carlsbad, CA. She manages call center operations and works on research and development of new fitness equipment. She earns quite a lot of air miles traveling to China to see the new designs implemented in the factory and verify that quality standards and inventory requirements can be met. She recently obtained her Quality Process Analyst certification from ASQ and plans on becoming a certified Quality Engineer. ...**Matt Nelson** (ISyE) was selected as Centennial Colorado's 2008 Entrepreneur of the Year for his latest venture: Drop Shots Tennis. Drop Shots is a tennis and golf facility geared specifically to children ages 2 to 8 years old. It uses kid-sized courts, equipped with smaller nets, rackets, clubs, and balls, so small children will have a much more rewarding tennis and golf experience. Drop Shots has already opened a second location. **Ryan Gallagher** (ISyE) is still in Cost Analysis after completing a 2.5 yr internship at SPAWAR. He's worked on a variety of programs, including unmanned underwater vehicles, sonobuoys, meteorological hummers, command & control software, shipboard/satellite networks. He is pursuing an MBA at CSUDH. ...**Marcos Vargas** (EE) is a microwave engineer at Kyocera America in San Diego. He and fiancée Veronica Ceseña will be married at the Immaculata this October.



2007

Joe Quiroz (ISyE) is continuing to become more involved as a second level engineer with the Global Hawk Ground Segment IPT at Northrop Grumman. His work load and responsibilities include preparation of planning documentation, driving the production schedule, following repairs, overseeing hardware installations and testing, performing inspections at suppliers, and loading and transportation operations. He loves the travel and finds the necessary coordination with various departments in our sector a valuable networking tool. He looks forward to the future of unmanned aerial vehicle (UAV) programs. ...**Birsin Sivar** (ISyE) is an Organization and Information (O & I) Relationship Manager at Bayer Healthcare in the Bay Area. She recently completed a certificate in project management at UC Berkeley. ...**Ali Al Matrouk** (EE) is a Core Network Engineer with Zain (formerly MTC). Zain is the pioneer of mobile telecommunications in the Middle East and plays a major role across the African continent. He successfully managed, with a team of four members, the replacement of the Home

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Pictured: 1) Lori Rasmussen and husband Hannes Egbers. 2) Mark Kondrat aboard the Navy SH-60B 3) Mark Kondrat and Brittney Murrieta showing extraordinary patriotism.

Location Register (HLR) to the distributed architecture version (HLRd). He worked closely with Nokia Siemens Networks (NSN) to implement, test, and launch the project successfully in June 2009. Ali recently married Maiss Marafie. ...**Mark Kondrat** (ISyE) is flying the Navy SH-60B helicopter and currently based in Jacksonville, FL. In September, he is slated to head to Kaneohe Bay, Hawaii, to begin a three year tour. He recently became engaged to Brittney Murrieta, another USD alum. ...**Ben Fieman** (ISyE) recently graduated from Pepperdine University in Malibu, CA, earning an MBA with Beta Gamma Sigma honors. He has since moved back home to Hawaii where he is slowly taking over his father's swimwear company, Loco Boutique

2008

Jason Gasmin (ME) is working on Cost Out Engineering and Quality/Lean Projects at Eaton Corporation in Sumter, South Carolina. ...**Brigitte Wesslink** (ISyE) is in Costa Rica as a Peace Corps volunteer. She has a blog at <http://brigittewesslink.blogspot.com>. Brigitte is working in the Community Economic Development Program that works on projects in business improvement/development, environmental topics, organic and local agriculture, sustainable tourism, English teaching, computer classes, and much more. She is excited to be in a beautiful country with great people, amazing natural beauty to explore, lots of other volunteers and then a wonderful community that she will be serving in for the next two years. She asks that friends stay in touch and contact her if they find themselves in beautiful Costa Rica! ...**Ian Hardey** (ME) is an officer in the US Navy and pursuing a Masters Degree in Mechanical Engineering at the University of Washington. His thesis concerns the design of prosthetic legs and his objective is to develop a one-degree of freedom prosthetic limb for a trans-tibial amputee providing ankle articulation in the sagittal plane. ...**Omar Damluji** (ISyE) was nominated by the Institute of Industrial Engineers as one of the 'New Faces of Engineering' for National Engineers Week 2009. He has his EIT and is currently obtaining his Six Sigma Black Belt. He is working as a process improvement engineer with BAE Systems. He was originally hired as a systems engineer, but was soon transferred when his eye and passion for waste reduction, quality, and improving systems became evident to management. ...**George McColgan** (EE) recently passed the final comprehensive exam and, as of July 31, 2009, he officially graduates from Naval Nuclear Power School in Charleston, South Carolina as part of class 0903-1. He is now off to prototype training for six months and then will be sent to submarine officer training in Groton, CT. ...**Scott Cuzner** (ME) recently reached his halfway mark in the Johnson & Johnson, Global Operations Leadership Development Program (GOLD). This 2 year rotational program provides recent college graduates the opportunity to work in engineering, operations, & quality while developing business management skills in three different healthcare sectors. He is half way through his second of three rotations with the different operating companies within Johnson & Johnson in the United States & Puerto Rico.



Pictured : Brigitte Wesslink enjoying the beauty of Costa Rica.

Faculty News

Matt McGarry, Assistant Professor of Mechanical Engineering, and his wife Vilma, welcomed their first child, son Diego McGarry, who was born April 22, 2009 at 9 lbs 4 oz. Good name to show school spirit, Dr. McGarry.

Truc Ngo, Assistant Professor of Industrial & Systems Engineering and her family welcomed a second child, daughter Trianna Thy Bui, who was born on June 23, 2009, at 7 lbs 8 oz.

Pictured : Diego McGarry and Trianna Thy Bui



Engineering Insights is an annual publication of the USD Department of Engineering. The Editor thanks the numerous faculty, staff, alumni, and students who contributed to this issue, particularly Mrs. Lorena Silvas. Special thanks to Liz Harman for use of her work.

News or updates? Write to usdengr@sandiego.edu or www.sandiego.edu/engineering/alumni



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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.