

SPECIAL POINTS OF INTEREST:

- USD rises in rankings of 'Best Undergraduate Engineering Programs'
- Find out how ISyE seniors made helping Goodwill their senior project.
- Updates from more than 50 alumni!

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What's So Special About Engineers From USD?

When employers or prospective students (and their parents) ask us what distinguishes USD engineers from the graduates of other programs we always cite the unique B.S./B.A. degree claiming that it helps develop graduates with outstanding communication skills who immediately become contributors to their organizations. Now we have the number to back those claims up.

Recently, we surveyed graduates to learn how well we prepared them for success. The response was fantastic – we heard from 65.4% of the graduates we surveyed. (Nationwide survey response rates are closer to 5%.) We then asked employers of recent graduates to compare USD Engineers to others and 40% of the 25 employers we targeted responded. What did they say is different about the USD Engineer? The top 5 answers: 1) Broad education in the engineering discipline and strong liberal arts, 2) Communication Skills, 3) Interpersonal and leadership skills, 4) Quality interaction with faculty, and 5) Hands on experience and practical engineering skills.

#1 Broad Education

The broad education that comes from a unique BS/BA degree that includes both breadth in the engineering discipline and extensive liberal arts was cited by more than 1/3 of respondents as a key difference between them and their colleagues. Graduates noted knowledge in engineering topics rather than specialization and the applicability of their liberal arts background. We also asked whether this difference was an advantage; the answer was an overwhelming yes.

(Continued on page 2)

USD Engineering Ranked 25th!

US News & World Report's ranking of the best colleges just came out and our programs once again moved up in the rankings. We are now ranked 25th in their listing of 'Best Undergraduate Engineering Programs.' There are approx. 300 institutions with accredited non-doctoral-granting engineering programs.

\$500,000 NSF Award for Engineering

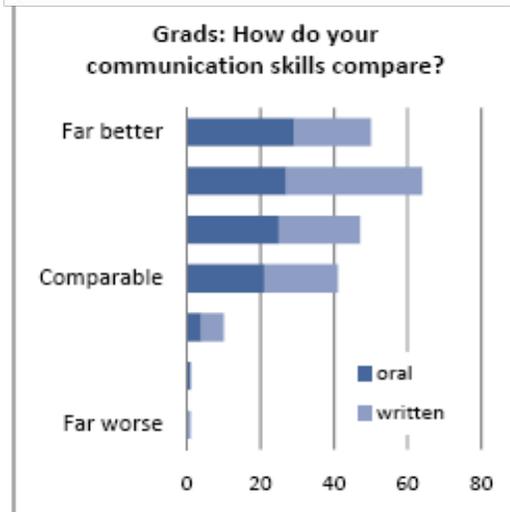
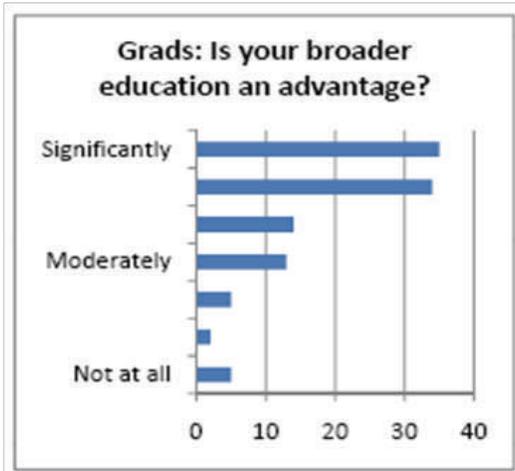
National Science Foundation (NSF) awarded \$500,000 for a five-year project entitled "A Mentoring Scholarship Model for the Engineers of 2020" to Professors Ming Z. Huang, David Mallyck and Kathleen Kramer. The \$500,000 will support academically qualified, but financially needy students in engineering by providing signifi-

cant scholarships, and will provide scholarship recipients with active mentoring programs and professional development activities. The work is funded by the Science, Technology, Engineering and Mathematics (S-STEM) Program, Division of Undergraduate Education of NSF. The 14 scholarship recipients, start at USD this fall!

(Continued from page 1)

#2 Communication Skills

We expected to hear that USD graduates communicate well, and both sets of survey results supported our claims. Not only do graduates meet the expectations of employers, they write and speak more effectively than graduates from



Over 60% of graduates report that they are either always or almost always in a leadership role at work.

other programs. Many also cited their communication skills as the key advantage that resulted from their broad education.

#3 Interpersonal and Leadership Skills

The third most common difference noted by graduates related to their interpersonal skills and the corresponding readiness for leadership. Several graduates saw this as an advantage that resulted from the broad education and the communication skills. Said one, “I am able to function with members of other non-engineering disciplines much better than many of my peers.” We also asked graduates about the degree to which USD Engineering alumni take on leadership roles at work. Although most of our graduates are in the early stage of their careers, the vast majority indicated that they take a leadership role on the job. This doesn’t mean that all of the graduates are in management positions, but it clearly shows that USD alumni are graduating with the skills needed to make a difference. Their ideas are being heard and influencing the designs and decisions made by their organization.

#4 Quality Interaction with Faculty

Said one alumni, “The most important distinguishing factor was the one-on-one interaction with professors who required me to elaborate my thoughts to someone with a much broader range of engineering experience.” Another alumni noted this interaction and said, “In industry, the same applies and because I was already used to this...I didn’t have any problems in meetings.”

#5) Hands on Experience and Practical Engineering Skills

As one grad said, “The hands on learning...gave me the ability to jump into designing and testing which helped me to learn quickly and adapt to a new job.” Employers, too, noted grads’ strong technical skills and ability to learn on their own as a major difference.

USD Engineering is proud of our role in developing unique graduates and we take great pleasure in hearing about their successes; just a few of which can be found in this newsletter.

New Engineering Advisory Board Members

New Engineering Advisory Board member **Ron Hawkins** is Vice President and General Manager at Sony Electronics, where he is responsible for sales and marketing of the Sony Reader product line. From 2001 to 2004, Ron was vice president of broadband services at Sony Corporation of America, where he developed technology strategy and provided program management for Sony's broadband business initiatives. Mr. Hawkins is a technology industry veteran and has held management and engineering positions at several technology companies involved in digital video and audio electronics, telecommunications, and information systems. He was awarded the master of

information systems degree from Virginia Tech and the Bachelor of Science degree in electrical engineering from the U.S. Naval Academy.

New Engineering Advisory Board member **Alejandro R. Holcman** is a Vice-President of Engineering for QUALCOMM, Inc. in San Diego, CA. Alejandro joined QUALCOMM in 1991 where he participated in QUALCOMM's pioneering work in development of the CDMA system. He is currently the engineering lead for QUALCOMM's Engineering Services Group (ESG), assisting mobile operators worldwide in accelerating new technologies to market. He is the author of

14 issued patents and has 6 patents pending. Alejandro received a B.S.E.E.C.S. degree from the University of Illinois at Chicago in 1990, followed by M.S.C.S. work at San Diego State University. He received an M.S. in Telecommunications from the Australian Telecommunications Research Institute in Australia.

For additional information on the Engineering Advisory Board (EAB) and also our program advisory boards (EEAB, ISEAB, and MEAB) see our webpage at www.sandiego.edu/engineering.

Honors and Awards

Professors **Huang, Malicky, and Lord** had their paper, "Choosing Optimal Pedagogies: A Design Approach," from the *Proceedings of the 2006 Frontiers in Education Conference*, named a top 5 finalist (among 537 accepted conference papers) for the Benjamin J. Dasher Award.



Professor **Michael Morse**, authors two articles included in "Forensic Casebook," a collection of articles from the magazine *Electrical Construction & Maintenance* named the Western Region "Gold" (first-place) winner for an article in a magazine with large circulation by the American Society of Business Publication Editors.

Susan Lord, Professor of Electrical Engineering, was awarded a University Professorship for 2007-08. Her project-based professorship is to pursue a work entitled, "Equitable Pedagogies: Transforming Engineering Education". Recipients of Project Based Professor-

ships are recognized for an outstanding project proposal which fosters both the faculty member's scholarly achievement and the University's mission and goals, for the ultimate benefit of USD students. She and other university faculty had their achievements highlighted, and certificates awarded at the President's Convocation on September 7.

Electrical engineering **senior Alfredo Bermudez**, USMC, and was promoted on March 2, 2007, from Sergeant to Staff Sergeant in a ceremony outside of Sacred Heart Hall.

USD Hosts Southern California Botball Tournament

2007 marked the third year that USD Engineering and the USD Institute of College Initiatives hosts the Southern California Regional Botball Tournament for 31 teams of 7th-12th grade students. In February, teachers and students partici-

parted in a two-day workshop conducted by Dr. David Miller of the KISS Institute for Practical Robotics that emphasized learning basic principles of engineering and programming

through direct experience in building and programming working robots. During the next seven weeks students designed autonomous robots that would help protect "Botguy" from falling lava. Then on March 31, the teams descended on the Sports Center for the competition with the winning teams being invited to the international finals in, appropriately enough, Hawaii.

USD Engineering provided a great deal of support to this year's Botball tournament. Dr. Rick Olson coordinated USD's participation, current

sophomores helped during the teacher workshops, and members of the student societies gave up part their Spring Break to help set-up and tear-down the tournament. Dr. Thomas Schubert and alums Carlos Dominquez, Tom Guzman, Estrellina Pacis and Tyler Quan all volunteered on the day of the event and supported the hard work of the middle and high school students. We're already planning for the spring 2008 event and hope to see you there.

At the follow-on 2007 National Conference on Educational Robotics held in Honolulu, Hawaii, EE alumna Estrellina Pacis was one of five invited speakers. She and Linda Lingle, Governor of Hawaii, spoke at the conference opening session on July 10, 2007. Ms. Pacis spoke about her work as Project Manager for SPAWAR System Centers Robotics Technology Transfer Project where she oversees collaborations to evaluate and advance robotic technology from R&D into real applications.



Engineering Alumni Turnout for FIRST Lego League

Every December several hundred budding roboticists descend on Legoland in Carlsbad, CA, to participate in the Southern California Championships of the FIRST Lego League. This time, several USD Engineering alumni joined Dr. Chuck Pateros and Dr. Rick Olson as volunteer judges. During the day the 4th-9th grade students gave presentations to the judges describing how they designed their autonomous robots and summarizing their research into the potential of

nanotechnology. The highlight of the day though, is the competition between the student teams as their robots work to complete a set of tasks in the competition stadium amid the cheering of their partisan fans. The robots are based upon Lego Mindstorms NXT system which was the platform a recent Electrical Engineering senior design project and which are being incorporated into the lab activities for engineering freshmen.



USD Engineering Alumni and Faculty supporting the First Lego League Competition: (Left-to-Right: Keith Resch, Estrellina Pacis, Chuck Pateros, Daniel Empeno, Rick Olson, Tyler Quan)

Rick Olson Is SDSA Volunteer of the Year



(Left-to-Right) SDSA Robotics Program Manager Jeff Major, SDSA Board Member Nan Katona, Rick Olson and SDSA Vice President Richard Warburg

The San Diego Science Alliance (SDSA) works to inspire students to consider careers in science and engineering by providing opportunities to perform science and engineering and participate in special educational programs. At the SDSA Partnership Award Event on May 10, 2007, the SDSA Board of Directors recognized **Rick Olson, Ph.D., Associate Professor of Industrial and Systems Engineering**, as an **SDSA Volunteer of the Year** for his work on several projects in support this mission. During the presentation, the SDSA noted that Dr. Olson serves on the SDSA’s robotics committee and that his contributions of leadership and facilitation have proven indispensable to the annual Botball competition held at USD the past three years. In addition, he was also recognized for his recent efforts supporting SDSA’s GetSSet program. Says SDSA, “His knowledge and insights are helping to make the program stronger as SDSA enters its second program offering.”

Helping Girls Get SSET for Success

Get SSET! is another way that USD Engineering is reaching out into the community by helping 9th and 10th grade high school girls understand that engineering can be used to address a wide range of problems. Sport Science, Engineering and Technology (SSET, get it?) form the basis for a 4-day, 3-night Academy led by Dr. Jani Macari Pallis of Cislunar Aerospace and USC’s Jill McNitt-Gray. For the second year, happy campers learned about materials, and biomechanics by designing running shoes, and using special software to perform video analysis of athletic activities.

They also built cycling helmets and test them in a wind tunnel. Along with the academic content, there future engineers had an opportunity to network with SWE members at an executive breakfast and professional athletes at a banquet.

USD Engineering was well represented the entire camp as Dr. Rick Olson arranged for Loma Hall to be the base of operations. Dr. Kathleen Kramer participated in the Executive Breakfast and current USD engineering students Emley Brooks, Ashley Kane and Megan Menconi were the student assistants for the program. This



Sports, Science, Engineering and Technology (SSET)

gave the campers a chance to learn about college life first-hand; especially the last night when everyone stayed up late to watch fireworks and hear the story of the Blue Nun.

4 day and 3 night academic Academy for girls entering grades 9-10. Fun, educational hands-on activities introduce young women to the basic physical science, math, and engineering of sports.

Latest Senior Projects

RFID Sensor for LEGO Mindstorms NXT (EE)



ViaSat

The project team designed and interfaced a sensor having an RFID (Radio Frequency Identification) reader for the LEGO Mindstorms NXT robot. This allows Mindstorms users to create robots that can sense objects in their environment using RFID tags and provides a ro-



Prof. Kramer, Ali AlMatrouk, Alfredo Bermudez, and Jeff Kakinami

botics-based prototyping system that can be used as a model for solving real world problems in industry, research, education, and public safety.

Advisor: Prof. Kramer

Industry Sponsor: ViaSat, Inc.

Engineering: "The application of scientific and mathematical principles to practical ends such as the design, manufacture, and operation of efficient and economical structures, machines, processes, and systems."

COOL Water Purification Project (ME)

The goal of the COOL Water Purification Project was to make potable water using electro-mechanical power to boil contaminated water and extract clean vapor. The project uses a windmill to convert mechanical power into electrical power through a generator. This electric current runs through the contaminated water transferring heat, causing it to boil. The water vapor created then condenses through a concentric tube heat exchanger and the result is potable water. This team competed in the Spring 2007 ASME student design competition for a "human-powered boiler".

Advisors: Profs. Malicky and McGarry



Cheryn Engebrecht, Ian Metzger, Matthew Petrucci, Colin Porterfield, and Prof. Malicky

Goodwill Industries Improvement Project (ISyE)



Rashed Al Sheryani, Jonathan Martinez, Joe Quiroz, and Birsin Sivar with their clients



Goodwill Industries is a non-profit organization providing job training and employment services to people with disabilities. For its funding, the organization relies upon donations (clothes, furniture and house wares), which are sold at its retail stores.

The goal of this project was to find ways to increase Goodwill's revenue. This was accomplished by determining how to more efficiently process blue donation bins and how to reduce waste associated with transportation. The existing system for processing blue bins was

examined and possible recommendations to increase throughput were identified. Analysis of the current processing system was conducted, and strategies proposed for improvement. Truck scheduling was observed and analyzed to identify more efficient ways of utilizing the trucks. This will result in less fuel consumption and idle time. Also, the work done at the San Ysidro warehouse was observed, and ways to minimize time that the trucks spend there was established.

Advisor: Prof. Olson

High Performance Hybrid Car (ME)

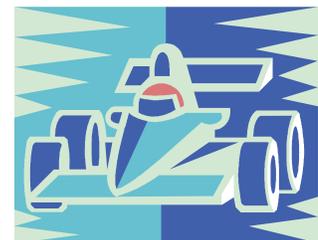


Prof. McGarry, Andrew Burke, Evan Ewald, Ian Hardey, Prof. Malicky

Alternatives to conventional combustion engines already on the market have severe shortcomings that limit the market of people that would be interested in buying such a product. One market that is severely lacking alternatives to conventional gasoline vehicles is the high performance hybrid sports car. The project goal is to create a one-quarter-scale model of a high performance hybrid car. This vehicle will be powered by high-torque, direct current,

electric motors instead of a conventional combustion engine.

Advisors: Profs. Malicky and McGarry



Latest Senior Projects –cont'd



Sharp Team - Dana Hernandez, John Nison, Donna Chavez, Ben Fieman

Sharp Rees-Stealy Oncology Dept Analysis

The student team was asked to perform a project for the Sharp Reese-Stealy Oncology Department in response to concerns that the length of the physicians' clinical day was increasing. The team investigated the processes and workloads

of the doctors in order to identify the root cause of this problem and to provide any feedback for improvements for the clinic. They shadowed the physicians and medical staff. High level process maps were created and other analysis tools including SIPOC, spaghetti chart, and cause and

effect diagrams were used. Changes in clinic operations that will allow more efficient use of physician time without reducing physician/patient contact were recommended.

Advisor: Prof. Olson

Intelligent Residential Thermal and Compressed Air Storage (ME/EE)



The goal of this project — the first inter-major senior project—is to reduce the need for peak hour energy while replacing it with cheaper energy. The system that is being designed uses compressed air to run a motor which then drives a generator to power

systems within a house. They are trying to improve the

total efficiency of the system by using all of the input and outputs including thermal generation due to the compressor and cold air exhaust. By storing the thermal energy coming from the compressor in a thermal storage unit, it can be used later during the decompression cycle to improve the efficiency of the air engine.

Advisors: Profs. Malicky & McGarry



Prof. McGarry, Greg Tolchinsky, Guy Robertson, Michael Loomis, Prof. Malicky

U.S. Navy SWRMC Engineering Support Division System Analysis

The Southwest Regional Maintenance Center (SWRMC) provides diverse maintenance services to the U.S. Navy. The mission of the Engineering Support Division is to provide engineering expertise and oversight in the repair and maintenance of US Navy ships and vessels. The Engineering Support Division asked the team to assess the current performance of the DSR process,

and provide recommendations for improvement.

They focused on problems in the processes which lead to poor customer satisfaction and late product delivery. This analysis provided baseline performance standards for division activities and identified ways to reduce the division's dependence on human knowledge.

Advisor: Prof. Olson



SWRMC Team - Joe Burns, Brett Cameron, Mark Kondrat, Hunter Barns

Global Perspectives: Former Ambassador Speaks to Engineers at USD

On June 26, 2007, Jeffrey Davidow, former Ambassador to Mexico and Venezuela and current President of the Institute for the Americas, was the keynote speaker at USD for the International Council on Systems Engineering (INCOSE) Latin America and Caribbean dinner, sponsored by Northrop Grumman. The mission of INCOSE is to advance the state of the art and practice of systems engineering in industry, academia, and government by promoting interdisciplinary, scalable approaches to produce technologically appropriate solutions that meet societal needs.

The sold-out event, organized by Dr. Ricardo Valerdi (EE '99), INCOSE Associate Director for International Growth, was co-hosted by USD Department of Engineering, and offered students a tremendous opportunity to develop global perspectives and awareness needed to succeed in engineering. The event welcomed engineering and business leaders from many organizations, including INCOSE, IIE, IEEE and SWE, and USD faculty from Engineering and the School of Business Administration



USD Engineering Student Leaders with Prof. Olson, Amb. Davidow, and Dr. Valerdi (Left to Right: Joe Quiroz, Rick Olson, Jeffrey Davidow, Birsin Sivar, Ricardo Valerdi, Alfredo Bermudez, Ali Almatrouk)

Welcome Kirby Stenger

Kirby Stenger joined the Department in January as the newest technician. She moved to San Diego from Minnesota to attend the University of San Diego, and recently graduated from USD with a BA in Visual Arts (emphasis in Painting and Sculpture) and a minor in Architecture. Ms. Stenger is interested in engineering skills and techniques that will further her ability to create art. She enjoys creating -- art or more practical objects such as furniture. She also enjoys woodworking, metalworking and any other activity that allows her to be hands on and creative. Eventually, she hopes to pursue an MFA. Kirby first came to the attention of the department when she worked for the Mechanical Engineering Program part time in Fall 2006 as a student putting her metalworking skills to engineering use. We are excited to have her with us.



Kirby Stenger, Department Technician

SWE



SWE officers at USD's American Cancer Society Making Strides Against Breast Cancer Walk

ISyE major Brigitte Wesselink is this year's president of the Society of Women Engineers (SWE). The USD SWE student section is off and running on the new school year with their first meeting planned for September 20.

One of SWE's major priorities is to inspire girls and women from diverse backgrounds and life stages to aspire to engineering for meaningful and rewarding careers. Several of its members participated in the Get SSET program held this summer (see p. 5) at USD. The group is also working with the San Diego Science Alliance on two other major events to serve the local community and SWE's mission to inspire girls to achieve: BEWiSE, planned for

December 1 and Expanding Your Horizons, planned for April 12. See www.sdsa.org for more information on those programs.

Its annual **Evening With Industry** event will be held on February 12. For fifteen years, the USD SWE student section has contributed to the leadership and professional development of engineering students at USD by bringing together students and industry representatives in the combined banquet and career fair. The group welcomes additional industry sponsors, please contact usdengr@sandiego.edu.

SWE works to provide opportunities for women to attain, enhance, and demonstrate leadership, professional, and technical excellence that results in career aspiration, advancement, achievement, and satisfaction.



The USD student branch of the Institute of Electrical and Electronics Engineers (**IEEE**) is being led by Chair Shawn Lyons. Their first meeting is scheduled for September 18. IEEE is the world's leading professional association for the advance-

ment of technology. It works to advance global prosperity by fostering technological innovation, enabling members' careers and promoting community worldwide. Through its global membership, the IEEE is a leading authority

on areas ranging from aerospace systems, computers and telecommunications to biomedical engineering, electric power and consumer electronics among others.



Last year, the USD section of the Institute of Industrial Engineers (**IIE**) received a VIP backstage tour of Industrial Engineering at Disneyland and sent officers A. J. Purdy and J. D. Martinez to the IIE Regional Student Conference. In addition, the group represented USD Engineering at the IN-

COSE Latin American Dinner held at USD (see p. 9). IIE is the world's largest professional society dedicated solely to the support of the industrial engineering profession and individuals involved with improving quality and productivity. IIE provides leadership in developing industrial engineering; in representing the industrial engineering profession; and in enhancing the capabilities of those who are involved in or manage the application, education, training, research or development of industrial engineering.



IIE student tour at Disneyland



Alejandro Perez, President of the USD student section of the American Society of Mechanical Engineers (**ASME**) has a full slate of activities planned for the coming year, including a kick-off barbeque on Sept. 11 and a first general meeting on Sept. 20.

Among the most notable accomplishments last year for were regional awards for student projects. USD students won second place in both the technical poster competition and the web page design competition at the region level this spring. Ian Metzger and Cher

Engbrecht placed second in the poster competition for undergraduate research performed with Prof. Frank Jacobitz. Ian Metzger, 2006-07 ASME President, placed second in the Oldguard ASME technical webpage competition. In addition to these awards, a student team also participated in the ASME student design competition for a human powered boiler (see p. 6)

ASME promotes the art, science & practice of mechanical & multidisciplinary engineering and allied sciences around the globe.

ASME Credo

Setting the Standard...
 ... in Engineering Excellence
 ... in Knowledge, Community & Advocacy
 ... for the benefit of humanity



ASME Award-winning Poster for Ian Metzger and Cher Engbrecht

Class of 2007



The USD Engineering Class of 2007 included 24 students, including its first-ever class of Mechanical Engineers, its first-ever Honors Program graduate, and summer graduates from all three majors with 8 students expected to complete their graduation requirements this August. Next year's class promises to be far bigger than any class before. Here's what they are doing now:

Ali AlMatrouk (EE) graduated summa cum laude in August. He plans to work as an EE for a year before going on for an MBA.

Ryan Arp (EE) is a Project Engineer for **Western Digital Inc.** in Lake Forest, CA. This company designs, manufactures, and sell hard drives. Ryan has been putting his electronics and software skills to use in product development.

Hunter Barns (ISyE) was commissioned as an Ensign in the **US Navy**. He will be attending Nuclear Power school before being stationed on a submarine.

Joseph Burns (ISyE), Brett Cameron (ISyE), Mark Kondrat (ISyE) were commissioned as Ensigns in the **US Navy**. They are attending flight school in Corpus Christi, TX.

Donna Chavez (ISyE), Dana Hernandez (ISyE), and Stephanie Hay (ISyE) are Systems Engineers for **Raytheon** in San Diego, CA.

Cheryn Engebrecht (ME) will be pursuing her Master of Science in Mechanical Engineering degree at the **University of Washington**.

Ben Fieman (ISyE) has been working as Project Manager for **Loco Boutique**, a family-owned swimwear company based in Hawaii. In this position, he has traveled extensively in Asia: Tokyo, Hong Kong, Malaysia, Indonesia, Thailand, and Taiwan. Ben was awarded a \$20,000 scholarship to attend the **Graziadio School of Business and Management at Pepperdine University**. He begins two years of full time studies toward an MBA this fall.

Robert Jones (EE) will be an engineer at **Raytheon** in Tucson, AZ. He was given a choice of working in their RF or their Life Cycle Departments and has elected to work with the RF Department.

Jeremy Salter (EE) initially stayed with the start-up company, **Lightwave Solutions, LLC** where he had worked throughout his studies at USD. But with Lightwave anticipating the sale of the company, his position ended and the gamble did not pay off as he had hoped. He is currently enthusiastic about positions with a larger-scale company, ideally in the defense industry, before he goes back to continue his education. He anticipates that he will be pursuing a joint MBA and JD. He still continues to be actively involved in USD, and with various other professional societies throughout the San Diego community.

Jeff Kakinami (EE) works as a Technical Consultant for **Educational Resource Design** in Hawaii.

Enrico Landas (ME) was commissioned in the **US Marine Corps** as a 2nd Lieutenant. Lt Landas is waiting to attend The Basic School (TBS) in Quantico, VA. Upon completion of The Basic School, which all officers must attend, he will commence flight school at NAS Pensacola.

Ian Metzger (ME) was awarded a Rothermel Graduate Scholarship from the American Society of Mechanical Engineers and will be taking courses this fall. He is applying to graduate schools.

John Nisson (ISyE) is an Associate Process Engineer in the Manufacturing Leadership Program at **Callaway Golf** in Carlsbad, CA.

Colin Porterfield (ME) is the first student to ever graduate with an engineering major from the Honors Pro-

gram. He is currently working for the **University of San Diego's** Information Technology Department.

Matt Petrucci (ME) and **Tyson Vogel (ME)** are Design Engineers for **Zimmer Dental** in Carlsbad, CA.

Joseph Quiroz (ISyE) has been hired by **Northrop Grumman** as a systems engineer where he works on a team that coordinates testing the installation of ground shelters for the Global Hawk Program.

Birsin Sivar (ISyE) has taken an engineering position at **Gen-Probe**, a company that produces diagnostic products to test for microorganisms, based on DNA probe technology.

Susan Williams (ME) is on tour with her five-person band **Galt Aureus**. She does vocals and plays guitar. Their first album, *Heralds to the Sun*, was just released.

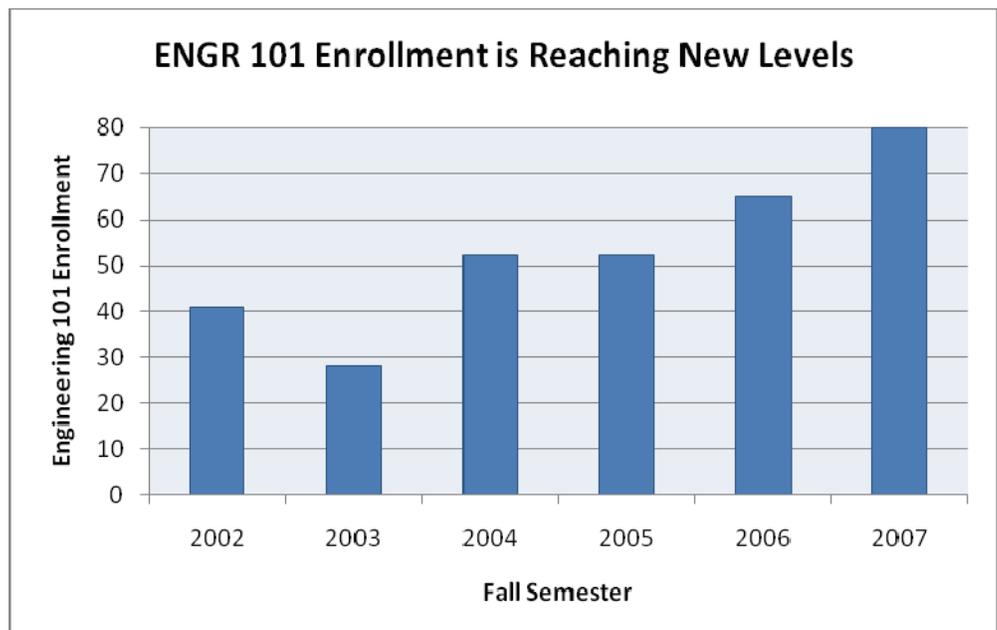


Galt Aureus' Album, *Heralds to the Sun*

We're Growing!

Next year's graduating class, the Class of 2008, promises to be the biggest ever. Why? We're growing and there are more students enrolled in engineering at USD than ever before.

Student enrollment in Engineering 101: Introduction to Engineering, the course for first-year engineering students, is far higher than in previous years.



Faculty News

Kathleen Kramer, Professor of Electrical Engineering, and her husband, Jorge Antonio Geremia, welcomed a new son, Bennett Alessandro Geremia, on October 10, 2006. This makes three for them, so they named this one after the pope.



On June 23, 2007, **Leonard Perry**, Associate Professor of Industrial & Systems Engineering, married Lindsey Anderson in a Catholic ceremony at Lindsey's high school chapel, Saint Viator Alumni Memorial Chapel, in Chicago, IL, officiated by

family friend, Fr. Patrick Render. Dr. Perry completed the RCIA program at the Immaculata in April 2007. Dr. Perry and his new wife have moved to Singapore for the duration of his sabbatical. They are enjoying life there, despite the heat and humidity, and have taken several honeymoon trips to other countries on that side of the world.



Just Married: Lindsey and Leonard Perry

Alumni News

Class of 1991

Roy A. Raphael (EE), graduate of USD's first -ever engineering class, celebrated his transition from active duty in the **US Navy** to US Navy Retired on Friday, June 8th. The major event was held at the Anti-Submarine War (ASW) Base in Point Loma and was attended by many, including his former professors, Dr. Kramer and Dr. Schubert. The program included a moving tribute from his daughter, Victoria, who is an engineering student at USC. At his retirement from the navy, Roy was Assistant Program Manager for Satellite Control in the Communications Satellite Program Office.



Above: Prof. Kramer, Roy Raphael, Prof. Schubert
At right: Ceremony at the ASW Base

Alumni News (cont'd)...

Fred Simanek (EE) runs an online real estate database for commercial real estate. Their site: <http://www.mynextdeal.com/>.

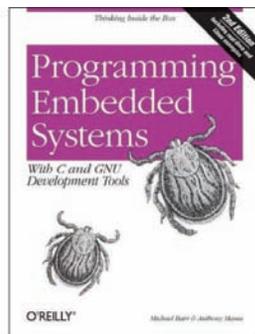
Class of 1993

Mauricio Lopez-Hodoyan (EE) and wife, Gabriela Lopez-Hodoyan, are the proud parents of their first child, Valeria Lopez-Hodoyan. Mauricio works at **QUALCOMM, Inc.**

Class of 1994

Fredrik Axsater (EE) is living in San Francisco and putting his financial skills to work at **Barclays Global**.

Anthony Massa (EE) has a new book coming out, *Programming Embedded Systems with C and GNU Development Tools*. It's available at Amazon.Com and everywhere.



Anthony Massa's latest book

Mike Shultz (EE) and wife Deborah have a two year old daughter, Kenna. Mike is a Sales Engineer at **Trane**.

Elizabeth (Lisa) Smith Corcoran (EE) has an 8 year old daughter (Lexi) and a 6 year old son (Justin) in school - and so is her husband Jim! At 41, he has joined the Police Academy to become an officer, and nothing suits him better. Lisa is still working at **Delphi** as a SAP Master Data Analyst/ IDOC Error Analyst. The job is extremely intense, and definitely keeps her busy. Home life is always busy. Lisa and her family mourned the loss of her dad this year.

Donald Jenkins (EE) recently retired from the US Navy and he and his family have moved to Boston, MA. He is working at **EnerNOC** running their Demand Response Programs from the Network Operations Center. EnerNOC is a developer of clean and intelligent energy solutions offering demand-response and energy management solutions to optimize the balance of energy supply and demand.

Derek Kranig (EE) is working at Innovative Laser Technologies, Inc. designing laser machining systems. He is doing more software and application design with similar hardware focus to his last position. They use machine vision quite extensively and their main customers are medical (welding pacemakers and their components, cutting stents, marking components, etc.). He runs an automotive repair business on the side with his brother and another partner. The proceeds fund their other interests (hot rods, motorcycling, off-road 4x4 trucks, snowmobiling...anything with an internal combustion engine).

Class of 1995

Jorge Antonio Geremia (EE) is a Senior Staff Engineer at Entropic Communications in San Diego. The company designs and develops market



Alumni News (cont'd)...

systems solutions to enable connected home entertainment. He and his wife, Kathleen Kramer, live in Carmel Valley with three children and two very large poodles.

Keith Resch (EE) is a project manager for Sony in Rancho Bernardo designing LCD and microdisplay projection TVs, as well as other related products.

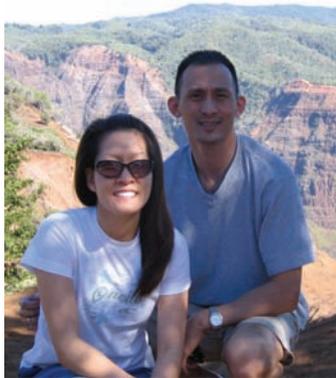
Class of 1997

LCDR Tom Mack (EE) recently graduated from the Naval Postgraduate School Monterey with an MSEE. Tom and family have now moved to Charleston, SC.

Mary Sotic (EE) joined **Rockwell Collins** in Poway, CA, as a Principal Systems Engineer. She and husband, Dennis, have two daughters, Melissa and Mei. She earned her Executive MBA. This year, she and her husband will celebrate their 10 year wedding anniversary.

Brandon M. Knaggs (EE) is also employed at **Rockwell Collins** in Poway, CA, where he works as a Senior Software Engineer on various defense and research projects. Brandon has also taken numerous programming classes and plans on obtaining a Masters in Technical Management from National University.

He and his wife, Natalie, moved back to San Diego last year. His oldest son, Evan Matthew Knaggs, is going to be 4 this August and will be starting pre-school this coming September. His youngest son, Jonathan Daniel Knaggs, is 15 months old and wants to do everything that his older brother is doing. Both kids are very happy and are doing a great job tiring out their parents!



Vu and Caroline Lac

Class of 1998

Vu Lac (EE) and wife, Caroline are now all settled into a new home in Nashua, MA. They have a wonderful Great Pyrenees dog, Maxia. Caroline has recently started working for Raymarine as a Buyer/Planner.

Class of 2000

Illya Ninchuck (EE) married Sean Phillips this past October, on Friday the 13th. She has been with **Agilent Technologies** for 7 years and was promoted to account manager for **Raytheon Missile Systems** in Tucson Arizona. (see photo and details on next page)

Soren Solari (EE) is a Ph.D. candidate studying cortical information processing function at **UCSD**. His technical approach involves a synthesis of the findings of large numbers of high-quality neuroscience investigations to produce whole-cortex and thalamus computational models that take into account correct detailed neuroanatomical organization and neuronal behavior and interaction.

Ricardo Valerdi (EE) and wife, Briana, welcomed their first child, Rocco B. Valerdi on July 11, 2007. His grandfather, also an electrical engineer, has already bought him his first HP48 RPN calculator. Later this year, Ricardo will be publishing his first book, *Systems Engineering Cost Estimation with COSYSMO*, based on his dissertation research. The proceeds from the book will go to fund a scholarship to support student research in systems engineering. Ricardo and his family are living in Boston where he is research faculty at MIT.



**Who just had this baby?
Daddy and Rocco B. Valerdi**

Recent alum **Jeremy Salter** would like to establish a USD Engineering group at **LinkedIn**. What's LinkedIn? Think of it as MySpace for professionals: an online network of more than 13 million from around the world, representing 150 industries. Link up with Jeremy to find out more.

Class of 2001

Carlos Dominguez (EE) graduated from the Art Institute of California San Diego with a Game Art and Design degree. He has been working for the past year and half at **High Moon Studios** as a Technical Artist making amazing video games.

Mark Heffernan (EE) passed the five-year mark at **Northrop Grumman** on the Global Hawk program. He is Telemetry and Sensor Data Recorder Lead for the aircraft. He also owns an event management and marketing company called **Heff Productions**. It was incorporated last year and employs 7. The company does 3 weekly events each weekend. Mark also completed the **Caltech** Masters of Science in Systems Engineering program and recently completed the Dale Carnegie course on Effective Communication.

Amanda Bishop (EE) has completed her first year of study towards an MBA from Stanford University. This summer she interned at **NComputing**, a start-up headquartered in Redwood



John Duca and wife Kelly

City, CA, whose technology provides users with the ability to share computer resources within an organization, allowing them to expand availability of resources while cutting costs.

Class of 2002

John Duca (EE) moved to Westchester, CA and is working as a Sr. Multi-Disciplined Engineer at **Raytheon** in El Segundo, CA. He just finished his Master of Science in Electrical Engineering degree from **Loyola Marymount University**. He has been married to wife Kelly since July 28, 2006.

Lisa Duval (EE) is working now with **Maxim Integrated Products** in San Diego as a Sr. Account Manager. She lives in Carlsbad.

Dillon Mills (ISyE) is at the **University of San Diego-IT** as a Network Systems Architect. He runs the equipment and systems with govern the wired and wireless networks all over campus.

Estrellina Pacis (EE) is moving back to the Bay Area and taking a one year rotation at **NASA Ames** in their Intelligent Robotics Group, pursuing collaborative DoD/NASA robotics research related to autonomy, command and control, and



When USD Engineering alum Illya Ninichuck was married on October 13, 2006 to Sean Phillips on the water's edge in Laguna Beach, CA., Prof. Michael Morse was not just in attendance, he actually officiated the wedding ceremony. Prof. Morse reports that he so enjoyed marrying one of our alums that he hopes to have the opportunity to marry several more. This is his third wedding but the first for a USD engineering graduate.



Gabriella Mirales and her big brother Christian

Alumni News (cont'd)...

human-robot interaction. She completed the Systems Engineering certificate at UCSD Extension. She became engaged to Robert Rius on New Year's Day in Ko'Olina, HI.

Tony Mirales (EE) and wife Robin are the proud parents to Gabrielle Reese Mireles, born October 18, 2006.

Chris Smith (EE) married Melanie Espanola on April 3, 2007 on the island of Oahu, HI. Many of his fellow USD Engineering alumni were in the wedding and several more attended. Chris works at **Northrop Grumman** in Rancho Carmel on the F-22A Raptor program. Chris and several alums participated in the Race for Literacy and the Susan G. Kolman Breast Cancer walk.

Michael Spenser (EE) recently returned from 9 months as a Field Service Engineer with the Royal Australian Air Force. He has changed positions at **SPAWAR Systems Center** San Diego and is establishing an RF Waveform Center for Test at SSC San Diego.

Class of 2003

Sami Alsaialy (EE) is a Design Engineer in Product Compliance and Certification for **Solar Turbines, Inc** in San Diego, CA.

Jeffery Lavery (EE) graduated with a Master of Science from **Naval Postgraduate School** in Monterey, CA. He is married and has a daughter.

Dylan Mora (EE) works as an Electrical Engineer at **Remote Ocean Systems** in San Diego, CA.

Joshua Sample (EE) is currently a salesperson representing several companies in San Jose, CA. His firm sells microcontrollers, memory, power supplies, optoelectronics, and high speed USB hosts and peripheral products. He has been in engineering sales for the past 2.5 years and loves it.

Bob Schaefer (ISyE) has moved back to Chicago where he is working as a quality engineer for **Nypro**, the company he worked for in San Diego.

Dalia Tawy (EE) is a Senior Design Engineer, at **Solar Turbines, Inc**, in San Diego, CA where she earned a 6 Sigma Black Belt in Product Compliance and Certification

On March 2006, **Carlos Williams (EE), U.S. Navy**, volunteered for a 1-year assignment in Iraq. He was stationed at Contingency Operating Base Speicher in Tikrit, Iraq and worked for both



Carlos Williams in Iraq

the 82nd Airborne Division and the 101st Airborne Division. During this tour, he helped the Army install, maintain, and train Soldiers on the vehicle mounted equipment that counters radio controlled Improvised Explosive Devices (IEDs). He was able to use his skills as an electrical engineer to reprogram several different systems and to diagnose communications faults. He credits his excellent EE education for his ability to excel at these tasks.

Other highlights of Carlos' work since graduating: he attended the Navy Department Head training in Newport, RI. He was later assigned as the pre-commissioning Engineer Officer (Chief Engineer) for the Guided Missile Destroyer, USS MOMSEN (DDG 92). Since last year, he has been a Gas Turbine Propulsion Engineering Assessor. His team evaluates the material condition of ships on the west coast, focusing on specific equipment and the training level of the sailors who operate the equipment. Carlos has been married for 18 years to wonderful wife, Jody. They have four children: Cassandra (17), Matthew (15), Jaclyn (13), and Emily (6). The family has moved back to their home in Port Orchard, WA while he wraps up work obligations for the US Navy in San Diego.

Class of 2004

Eric Foronda (EE) lives in Portland, OR and works at **Intel** as an Electrical Validation Engineer in Beaverton. He teams with silicon and board designers to make ensure that the specifications for PC Interfaces are met. His latest project is the



Shauna Norbryhn Nichols and Ryan Nichols

new UMPC processor, Silverthorne and SCH (System Controller Hub).

Markos Kalemkeris (EE) is an engineer with **General Atomics-ASI**. He is currently working on the main power supply for the Predator B, and also on a flight computer. He is staying busy outside of work with lots of basketball and other activities. He and **Adriana Zammit (EE)** are writing a cook book...so if you know of any good recipes...Markos also reports that classmate **Phil Thrash (EE)** is engaged and that others might be soon.

Shauna Norbryhn (EE) got married last April to high school sweetheart Ryan Nichols. They were married on April 22, 2006 in Redlands, CA. She works as a Hardware Quality Engineer at **Boeing** in Fullerton, CA. Shauna reports she is planning on going to graduate school in 2008 to earn her Masters in Applied Mathematics.

LTJG Joshua Rehfeld (ISyE) earned his wings of gold on July 28, 2006. He and his wife, Mariella (Bravo)'03, expect to be stationed at NAS Lemoore, where Josh will fly the F-18 Super Hornet.

Kyle Thompson (ISyE) is a Manufacturing Engineer at **Northrop Grumman** in El Segundo, CA.

Jonathon Velte-Smith (ISyE) is working for **Northrop Grumman** in El Segundo in supplier quality. He is pursuing his MBA at **Loyola Marymount University**. He is engaged to Megan Wojtkiewicz and they plan to marry in Summer 2008.

Class of 2005

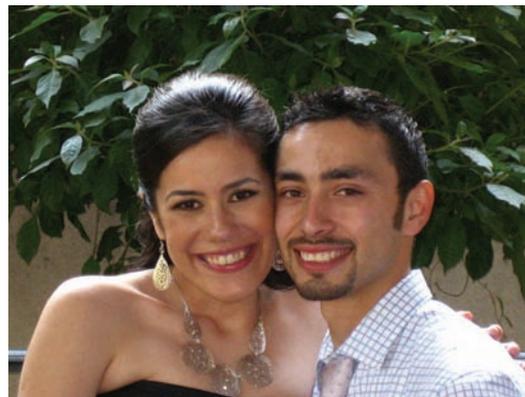
Ashur Benjamin (ISyE) is working at **Raytheon Space and Airborne Systems & Re-**

mote Sensing in Goleta CA, near Santa Barbara. At Raytheon, he is an Operations Engineer in Advanced Manufacturing.

Michelle Esteban (EE) will be starting law school this fall at the **University of San Francisco**. She will be attending their part-time program while continuing in her current position. She passed the Patent Bar last October and has been working for a law firm (an IP boutique) as a Patent Agent in the areas of electronics, electrical/computer (hardware and software) engineering-related topics, and a few mechanical areas as well. She hopes to stay on as an attorney once she finishes law school. In the past year, she ran two marathons (26.2 miles): one in Florence, Italy last November and another, the Rock and Roll Marathon, in San Diego. It's been a busy year!

Kimberly Kawahara (EE) had a baby girl, Amaya 'Ulukilupetea Akari Fuka Vaituulala, on February 24, 2007. She is engaged to Ake Vaituulala. Kim is working as an Engineer at **Maui Electric Co.**

Ebice Minjares (EE) married Aaron Montes in San Diego. Prof. Lord and Prof. Lumori were pleased to attend the bridal shower hosted by fellow USD alum, Dalia Tawy.



Ebice Minjares – just married!

Daniel Villalva (ISyE) is working at **Northrop Grumman Integrated Systems Western Region (ISWR)**. His sector is Unmanned Systems (UMS) where they specialize in strictly Unmanned Air Vehicles, such as the Globalhawk and Firescout. His role at Northrop is Material Financial Analyst. He manages the monies allocated to support two key suppliers for the Globalhawk. In his work, he uses the Earned Value Management System (EVMS) to manage the funds allocated to suppliers.

Yoshitaka (Bob) Yano (EE) was accepted to **Loyola Marymount University** and will be

Alumni News— cont'd

pursuing his Master of Science degree in Electrical Engineering there. He did an internship at **TCS** (a Japanese company with a branch in the US).

Class of 2006

Paula Lucchini (EE) works for **Chevron** as a field control engineer. Her big life news is that she just bought her first home!

Holly Lyons (ISyE) is working at Goodrich **Aerostructures** in Chula Vista, CA. Her work is in Strategic Sourcing with a big emphasis placed on finding and developing suppliers in low cost countries for parts and assemblies used on the new Boeing 787 that rolls out this year.

Nick Moiseff (EE) is working as a systems engineer for **Northrop Grumman**. He ran the San Diego Rock And Roll

Marathon this summer. Recently, he passed the EIT exam.

Matthew Nelsen (ISyE) is running the business that he started, **Dorm2Dorm**. It has expanded nationwide this year to 15 universities. They expect revenues of over \$200,000 this year, and hope to double in size again next year. He also plans to teach high school math and coach tennis in his off-season time.

Nancy Rodriguez (ISyE and Applied Math) is a graduate student at **UCLA**. She is training to do a century ride (100 miles cycling) and will be doing this to raise money for the Leukemia and Lymphoma Society. <http://www.active.com/donate/tntgla/tntglaNRodrig>.

Marcos Vargas (EE) works at **Kyocera America** in San

Diego doing microwave modeling, design and measurement of the ceramic packages. He was recently promoted within the research and development department.



Veronika Rice (EE), U.S. Navy, working in Norfolk, VA



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