



University of San Diego Engineering Newsletter

Editor: Dr. Kathleen Kramer
Volume 4 Number 1

May 2000

USD Engineering Graduates Its 10th Class!

The class of 2000 is USD Engineering's 10th graduating class. Another significant milestone is that the class of 2000 includes **USD's first graduates in Industrial and Systems Engineering** and the greatest number of engineering majors in the history of USD Engineering.

The Industrial and Systems Engineering graduates are already working in their chosen field. Grant Markewitz is working at Honeywell Home and Building Control as a lead evaluation engineer. While at USD, Grant had internships at Medtronic and at Honeywell. Emiliano Gallego, the other Industrial and Systems Engineering to graduate this year, is working as an industrial engineer at PAGASA, a Tijuana- and Mexicali-based producer of pastas and cookies.

There are 16 Electrical Engineering students in the class of 2000. Some of them have chosen both to go into industry and to pursue graduate studies. Most have already started working in industry.

see Class of 2000 on p. 4

Accreditation and Alumni

Now that USD has graduated its first ISE majors, the ISE program can apply for accreditation. As part of the self-study for accreditation, USD Engineering is surveying alumni from each of its past classes. Alumni should receive this survey with this newsletter. We want your input!

You Are Invited to the Engineering Open House

On **Thursday, May 11, 12:00 to 1:30 pm**, ISE and EE students from three different courses will be displaying projects. Refreshments will be served.

On the second floor of Loma, first-year students will be demonstrating their NIFTY projects. In Loma 207, senior Electrical Engineering majors will be presenting the results of one semester's work on their senior projects. Junior ISE majors will be presenting their manufacturing projects in Loma 201. All presentations are in an open poster session and demonstration format. Alumni are warmly invited and interested members of the public are welcome. Please contact the USD Engineering Department at 619-260-4627 for more information.

USD Engineering Is Nationally Ranked

In Fall 1999, *U.S. News and World Report* ranked USD Engineering **26th in the nation** among the 132 accredited non-doctoral granting engineering programs. We are pleased to be included among the top schools in our category. To arrive at the rankings, the magazine asked deans and senior faculty to rate the academic quality of peer institutions in their disciplines. USD Engineering was ranked 30th when U.S. News and World Report last ranked such programs in 1996.



A USD student pilots shoes in WOW 2000

Walk-on-Water Featured on Dateline NBC

The Walk-on-Water (WOW) Competition made prime time network television this year. On Tuesday, April 4, video footage taken by Dr. Bradley Chase of Walk-on-Water competitors was featured on Dateline NBC as a picture of the week. The footage featured USD students and high school students in various “shoes” designed to allow them to walk across the USD swimming pool. The annual Walk-on-Water Competition, under the supervision of faculty advisor Dr. Thomas F. Schubert, is jointly sponsored by USD student branches of the Institute of Electrical and Electronic Engineers and the Society of Women Engineers.

Introducing Dr. Bradley Chase

by Dr. Rick T. Olson

The newest member of the USD Engineering faculty is Dr. Bradley Chase, Assistant Professor of Industrial & Systems Engineering.

Dr. Chase earned his Ph.D. in Industrial Engineering (Human Factors) at the University of Louisville, conducting his research with Dr. Waldemar Karwowski, director of the Center for Industrial Ergonomics. Dr. Chase also has an M.S. in Industrial Engineering and a B.A. in Psychology from the University of Louisville. Dr. Chase's research interests lie mainly in the broad area of human interface with technology. Specifically, his interests lie in human cognitive performance, biomechanics of lifting, stress and workload, thermal environments, and applications in service industries (especially health care).



Dr. Bradley Chase

Dr. Chase is married and has one daughter. His wife, Dr. Holly Irwin-Chase, is an Assistant Professor of Psychology at Point Loma Nazarene University. Dr. Chase enjoys hiking, camping, various outdoor sports, his research, and reading books on religion and philosophy.

The Engineering Department hopes to hire two additional faculty members next year, one in Electrical Engineering and one in Industrial and Systems Engineering.



ISE students demonstrating their course projects in Dr. Chase's Human Factors course



Student team with their NIFTY project

NIFTY Projects for Frosh

Students have been doing NIFTY (eNginering Improvement in a FirsT Year) projects in their ENGR 20 course. NIFTY is an innovative, hands-on educational laboratory methodology where students design, build, and improve small-scale computer-controlled systems. The students, working in teams, emulate the methods followed by practicing engineers. At the end of the semester, students present their work to high school students as part of community service learning.

Some of the niftier projects designed by students include an alarm system, an automated cafeteria server, a bottling plant, a candy dispenser, a car wash, a drawbridge, an elevator, a ferris wheel, a golf tee loader, a keg conveyer, and a metal separator.



NIFTY Elevator

The project is sponsored by a NSF-ILI grant to Dr. Jose Macedo, Dr. Susan Lord, and Dr. Rick Olson to develop an innovative first-year engineering education laboratory. For their NIFTY work, these three USD professors received the "**Engineering Education Project Achievement Award**" from the San Diego Engineering Council as part of the celebration of the 2000 National Engineers Week.

Special Topics in Electrical Engineering

As engineering has grown, the Electrical Engineering Program has begun to offer its students some (dare we say it and still be true engineers?) *choices* about what technical courses they might wish to take. The course number EEE 194 has been used to provide some students with elective courses. Thus far, two different courses have been offered and a third is scheduled for Spring 2001.

The first of these courses, ***Optoelectronic Materials***, was offered by Dr. Susan Lord in Spring 1999. The laboratory for this course was held in the USD Optoelectronics Laboratory. The course introduced students to optoelectronic materials and devices including such topics as fabrication, compound semiconductors, emitters, detectors, and fiber optics. The course also aimed to aid students' professional development by addressing issues such as the ability to critically evaluate technical papers, conduct effective literature research, and express information orally and in writing.

The second, ***Wireless and Digital Communications***, was offered by Dr. Kathleen Kramer in Fall 1999 after her recent sabbatical work in the field. The course was a popular one and has been requested by current students to be repeated in Fall 2001. One student project from the course, "UHF RF Signal Strength Variations in the Far Field Region," by Ricardo Valerdi, won third place in the IEEE Southwest Area Technical Paper Competition. Several students who took the course are already using their knowledge at jobs in the communications industry.

cont'd

Special Topics (cont'd from p. 3)

The third, **Radio Frequency and Microwave Engineering**, will be offered by Dr. Ernest Kim in Spring 2001. The objective of the course is to develop a firm theoretical foundation in high frequency circuits that can then be applied to practical applications. Topics include transmission line design for printed circuit boards, RF filter and amplifier design, oscillator and mixer design. These topics have applications for many high-speed communications circuits.

Want to take the **Radio Frequency and Microwave Engineering** course?

Distance learning opportunities for other engineering professionals in the San Diego area are currently in development. The course will be 4-units consisting of 3 hours of lecture and 3 hours of laboratory per week. Contact Dr. Ernest Kim at 619-260-4609 or ekim@acusd.edu for more information.

Class of 2000 (cont'd from p. 1)

What are some of the engineers in USD's class of 2000 doing?

- ❖ Daniel Empeno is an RF engineer at Wireless Facilities Inc (WFI) in San Diego. He is in the Multichannel Multipoint Distribution Services Group developing a technology to provide two-way broadband services to homes and businesses.
- ❖ Thomas Guzman has been accepted into the Navy's Nuclear Power School. He will leave San Diego for Surface Warfare School in Newport, RI this November.
- ❖ Michael Hartshorne is working at Burr-Brown in Tucson, AZ. He hopes to attend graduate school at the University of Arizona this fall.
- ❖ David Huang is taking classes to finish his second major in Mathematics and hopes to attend graduate school.
- ❖ Ryan Ingram will be working at Hughes Space and Communications in El Segundo, CA.
- ❖ Chris Miller is working at Hewlett Packard in San Jose, CA.

- ❖ Stephen Muller is working at Sun Microsystems in San Jose, CA. He works in Electronic Component & Interconnect Technologies, evaluating board-level designs for system integrity issues and approving parts and manufacturers for all of Sun. He hopes to begin studies for an MS degree at Stanford or UC Berkeley within the next year.
- ❖ Stephen Reichert is working as an Applications Engineer at Applied Microcircuits Corporation in San Diego. He is developing boards that demonstrate advanced broadband communications chips.
- ❖ Soren Solari is a prototype and test engineer for Cadence Design Systems in San Diego.
- ❖ Ricardo Valerdi is currently working at Motorola in their two-way radio group as a Systems Engineer. At Motorola, he is involved in the design and implementation of trunked and conventional communications systems for public safety and utility customers. He is also pursuing a Masters Degree in Electrical Engineering at SDSU with a focus in Communications. His other interests include his band, Kim County, that is in the process of recording their second CD at Sony studios in Santa Monica. He's also Dr. Schubert's new neighbor, having recently moved into the condominium complex where Dr. Schubert lives.
- ❖ Tiare Wright is working on a new radar for the F-18 at Raytheon in El Segundo, CA.



Faculty Happenings

News Update – Dr. Susan Lord, Associate Professor of Electrical Engineering, and her husband, Mr. Victor Chang, are the proud parents of a new daughter, Marissa, born May 2, just as this newsletter was going to press.

Dr. Kathleen Kramer and Mr. Jorge Geremia were married at Founders Chapel on August 14, 1999. She and Jorge thank all the faculty, alumni, and students who helped to make it a blessed day for them.

The Engineering Department congratulates Drs. Susan Lord, Jose Macedo, and Rick Olson on their promotions to the rank of Associate Professor.

Dr. Susan Lord, working with USD engineering students, has established an Optoelectronics Laboratory in the University Office Park at USD. Funding for the facility was provided by the National Science Foundation (NSF) and USD. Facilities include optical tables, an atomic force microscope, spectrometer, and various optoelectronic mounting and measuring equipment. For more information, see www.acusd.edu/usdengr/Opto/

Dr. Michael S. Morse graduated with a JD from the USD School of Law. In Fall 1999, he was admitted to the State Bar of California.

Dr. Jose Macedo has been selected to participate in the NASA's Summer Faculty Fellow program at the Jet Propulsion Laboratory (JPL) in Pasadena, CA. He will be conducting research in the area of computer vision in collaboration with NASA's scientists. The research project will focus on developing algorithms for robust visual position estimation.

Dr. Thomas A. Kanneman will be taking a sabbatical leave in Fall 2000. While on sabbatical, Dr. Kanneman plans to work at USD on his project in the area of computer-based system design and implementation - particularly for motion control.

Alumni News

Class of 1991

Greg Norombaba is a Digital Engineer at the Elgar Corporation in San Diego. He is responsible for the design and programming of embedded systems for power supply applications. These applications include user interfaces and remote communications. His non-engineering activities include competitive mountain bike racing, golfing, and backcountry hiking.

Class of 1992

Lt. Mike Buckley is stationed at North Island Naval Air Station and is currently enrolled in the Master of Science in Global Leadership Program at USD's School of Business Administration.

Michaela Wright is the Director of Sustainable Design Services at HDR Architecture. Her work is focused on building designs that reduce impact on the environment as well as building occupants. Some of the current clients include the Iowa Department of Natural Resources, the General Services Administration, and the Omaha Botanical Gardens. Michaela is still trying to find a client that will bring her to Southern California on a regular basis!

Class of 1993

Barbara Allen is working in Minnesota with her husband to preserve the environment.

Robert Boerner worked at Sabina Motors in Irvine as an engineer, but has since moved on to real estate and is living in Pacific Beach with his new wife, Laura, who works as a nurse at Mission Bay Hospital.

Ron Montehermoso and his wife, Ren, are the proud parents of a two-year-old son, Matthew. They are living in the Eastlake Community in the South Bay.

Rolondo Ogot is working at Patriot Scientific Corporation. He and his wife, Teresa, have a two-year-old son, Aidan.

cont'd



USD Engineering: The Next Generation

Pictured are Aidan Ogot, son of Rolondo Ogot ('93), and Alisa Pimentel, daughter of Dominic Pimentel ('94), along with Chester the boxer.

Alumni News *(cont'd from p. 5)*

John Slaney is with Tadpole-RDI, Inc. in Carlsbad, CA. This company is a global leader in the design and manufacture of portable UNIX workstation and server systems.

Class of 1994

Lt. Daniel Ettlich and Lt. Michael Schultz are still in the Navy following their tours on nuclear submarines. Daniel is teaching ROTC at the University of Arizona in Tucson, AZ. He recently traveled to New Zealand and participated in the Ironman Triathlon. Michael is married and enjoys being stationed in Hawaii.

After serving three years on a nuclear submarine, Lt. Donald Jenkins is a Staff Training Group Engineer at the navy training facility in Saratoga Springs, NY. Don has been approved to attend the Naval Postgraduate School in Monterey, CA.

Andrew Isaakson is an applications engineer at Machine Vision Products the leading company in vision inspection equipment for printed circuit board manufacturing.

Derek Kranig is working at Lumonics Corp in Eden Prairie, MN doing Custom Systems Design and Integration. Lumonics makes industrial laser machine equipment, using laser light to cut, drill and weld material. He enjoys drag racing and playing hockey in his free time (as does any true Minnesotan). He reports that he is "enjoying life and taking things as they come." He is rumored to be building a house with a GIANT garage.

Anthony Massa is working at Logic Innovations. He and his wife, Deanna, are expecting a child "immediately if not sooner."

Dominic Pimentel is a Senior Design Engineer at Metaflow. He and his wife, Arlene, have an 18-month-old daughter, Alisa.

Lisa Smith Cocoran and her husband Jim are the proud parents of two-year-old Alexandra. Lisa continues to work with Delphi Automotive Systems in Ohio.

Class of 1995

Jorge Geremia is a Design Engineer at Applied Microcircuits Corporation in San Diego.

Kiyoshi Kanzawa is working as a network engineer at a San Diego biotech company that was recently purchased by Merck. Michael Malone is soon to be celebrating his fifth anniversary working at Remec, Inc. in San Diego.

Keith Resch is still working at Sony in San Diego. He is engaged to Kathee Wolski, a USD grad who works in the field of human resources.

Kiyoshi, Michael, and Keith have each purchased homes in the Serra Mesa area.

Barbara Hammack and her husband, Fred, became new parents with the birth of their son, Joseph Vincent Hammack, April 1. Barbara has also been instrumental in the growth of Hammack Audio Video Solutions (HAVS). HAVS was founded in 1993 while

(cont'd)

Alumni News

(cont'd from p. 6)

Ms. Hammack was still enrolled at USD. The company currently has several employees and recently moved into new facilities in Santee. "HAVS has provided quality A/V systems throughout the southwest on a wide variety of projects, which range in complexity from camera surveillance systems to auditoriums, training facilities, boardrooms, and home theaters. Projects have included systems in government facilities, hospitals, schools, residences and many of the largest corporations in San Diego county."

Class of 1996

Daniel Leuthner is currently stationed at Camp Pendleton as a Logistics Officer in the Marine Corps. He will be promoted to the rank of Captain this summer.

John Simbulan is working for Space and Naval Warfare Systems Command (SPAWAR) as a Naval Technical Representative and works with shipboard LANs for classified and SHF communications. He is currently working in the state of Washington and doing work for the USS Lincoln.

Langford Wasada is working at Mitsubishi MCTC in San Diego

Class of 1997

Christine Bridewell has been working as the Site Lead for a new product for Lucent Technologies' wireless division. She has been living in Centreville, VA, near Washington DC. She also plans to go back to school this year to earn an MBA. In Napa Valley this summer, Christine will marry Greg Keefe, a software engineer for a consulting company in the DC area.

Lt. Tom Mack and his wife, Kary, are expecting a child this fall. Tom is currently stationed in Newport, RI, but will be reporting to the USS AVENGER (MCM 1) in Ingleside, TX (just outside of Corpus Christi) in May. He and Kary will be in Texas until November 2001 and then hope to return to San Diego for shore duty.



Joseph Vincent Hammack sleeping on the job at Hammack Audio Video Solutions

Mary Joy Sotic is married to Dennis S. Balagtas. They have a 20-month-old daughter, Melissa. Currently living in Guam and doing work as software consultants, Joy and Dennis plan to return to San Diego this year.

Scott Denton is working as a Design Engineer at Applied Microcircuits Corporation in San Diego. He will be marrying Dr. Clarissa Reese at a ceremony in Santa Barbara this summer.

Class of 1998

Devin Volpe is working at Philips Semiconductors as a front-end CPU Verification Design Engineer. He is part of the VLSI group that is in the process of designing a new 64-bit VLIW Trimedia Core. Very recently, his group received an announcement that they are spinning off from Philips to form an independent company to target the digital set-top box market with an architecture backed by Philips, Sony, and others.

(cont'd)

Alumni News

(cont'd from p. 7)

Brandon Knaggs is a Software Engineer/Analyst at Syncrotech.

Vu Lac is working as an Applications Engineer at Zilog (yes, the guys of Z80 fame) in Massachusetts.

Class of 1999

Michael Dunn is a Sales Engineer at Agilent Technologies in San Diego.

Bryan Espiritu is working at Cisco Systems in San Jose, CA.

Schaffer Grimm has been working for Booz-Allen and Hamilton, Inc in San Diego. He has recently accepted a position at TRW in Redondo Beach, CA. He will be working in the filter and antenna electronics section of the microwave and millimeter wave systems division.

Jason "Mad Dog" Mendonsa is a Project Engineer with Turpin & Rattan Consulting Electrical Engineers in San Diego.

Forest Stephens is working as a Hardware Engineer at ViaSat, Inc. in Carlsbad where he helps design satellite modems. Forest recently

became engaged to Sherry Klomp, another USD graduate who is an elementary school teacher. He is also enrolled in the Masters of Engineering program at UCSD.

Other Friends

Former Engineering Department secretary, Sandi West, gave birth to her third child, Madeleine Reece West, on November 24th. Little "Maddie" is reported to be the easiest baby yet for the West household. Sandi is currently an associate with cFour Partners, a search firm specializing in the fields of Internet, E-Commerce and Digital Media.



Madeleine Reece West

We would like to hear from all our alumni. Please update your contact information by calling 619-260-4627. If you have any news for our next issue, please email to kramer@acUSD.edu.

