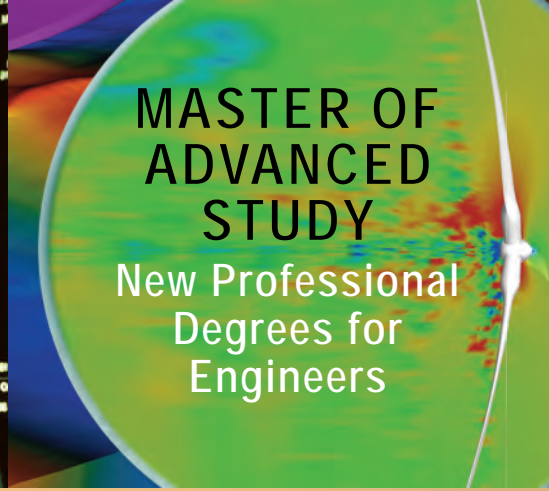


Jacobs School of Engineering News
Summer 2011

Pulse



**MASTER OF
ADVANCED
STUDY**
New Professional
Degrees for
Engineers



New Interdisciplinary Degree Programs for Engineering Professionals

The most exciting and innovative engineering often occurs on the interface between traditional disciplines. We are extending our interdisciplinary collaborations — which have always been at the core of the Jacobs School culture — to new graduate education programs for engineering professionals.

Beginning this fall, the Jacobs School will offer four new interdisciplinary Master of Advanced Study (MAS) programs for working engineers: Wireless Embedded Systems, Medical Device Engineering, Structural Health Monitoring, and Simulation-Based Engineering.

These master degree programs are engineering equivalents of MBA programs at business management schools. Geared to early- to mid-career engineers with practical work experience, our new MAS programs align faculty research strengths with industry workforce needs. The curricula are always jointly offered by two academic departments, so that the training focuses in a practical way on industry-specific application areas that are not available through traditional master degree programs. The four new programs bring our total number of professional engineering master degree programs to five. The fifth is our successful Master of Advanced Study program in Architecture-Based Enterprise Systems Engineering, a collaboration with the UCSD Rady School of Management.

The pace of technological innovation increases every year, and engineering leaders must be dedicated to lifelong learning. In order to stay relevant, it is mandatory for most working engineers to update their knowledge, especially on the interface between disciplines. The Jacobs School Master of Advanced Study programs offer this opportunity.

The new Wireless Embedded Systems curriculum, for example, provides engineers with the necessary background and expertise in hardware, software, systems and communication theory to prepare for the next step in the wireless revolution.

Threads common to each program are teamwork, networking, design projects, and relevance to industry needs. Students in the Medical Device Engineering program have the opportunity to design a medical device and prepare to bring it to market. The Simulation-Based Engineering program is the first in the nation focused on the emerging field of computational simulation, which is a primary means of analysis and decision making in national laboratories and many industries.

As a leading research engineering school, the Jacobs School produces the intellectual and human capital that drives innovation and keeps companies competitive. Training engineering professionals to become technical leaders in emerging fields — such as structural health monitoring from a systems-level approach — is an important part of our engineering talent pipeline. If you know engineers who might benefit from one of our programs, please spread the word. Applications are now being accepted for fall classes.

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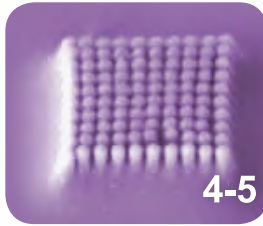
Denine Hagen, Catherine Hockmuth,
Ioana Patringeraru and Andrea Siedsma

To Reply to the Editor

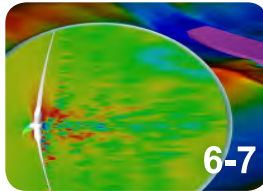
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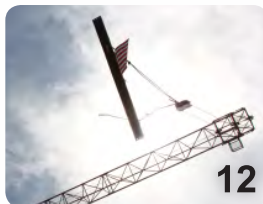
Master of Advanced Study



Research Expo



Alumni



Back Cover



Cover: Beginning this fall, the Jacobs School will offer four new interdisciplinary Master of Advanced Study (MAS) programs. Each program provides technical executive education for engineering professionals. See story on Pg. 6. Learn more: <http://maseng.ucsd.edu>

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Building a Regional Ecosystem for Innovation

10 YEARS entrepreneurism

Ten years ago, the von Liebig Center for Entrepreneurism and Technology Advancement was launched by the Jacobs School of Engineering to help faculty members turn their research into marketable products, launch companies, and educate students about how entrepreneurial companies of all sizes innovate and compete globally. Today, the Entrepreneurism Center has evolved into a regional hub for industry partners, nonprofit organizations, government agencies and universities across Southern California to accelerate the translation of university discoveries into viable products or services through a combination of pre-venture grants and commercialization mentoring.

Under the leadership of Executive Director Rosibel Ochoa, the Entrepreneurism Center delivers on its mission through tailored research challenges called Technology Acceleration Programs (TAPs) and educational programming for students, who

That mindset has driven the Entrepreneurism Center's own growth over the past decade, building a network of advisors, alumni and expert colleagues from around the world. Improvements include a focus toward graduate students, including MBA students, and engaging entrepreneurial female students through a new program with the UCSD Rady School of Management called mystartupXX.

It has also engaged partners who are looking to stimulate university research to solve real market needs. The California HealthCare Foundation (CHCF) together with Booz Allen Hamilton and the Robert Wood Johnson Foundation is funding technologies that would make it easier for underserved populations to access care, such as at-home management of chronic disease or laboratory testing in retail settings.

"CHCF is eager to help spark innovations that can reduce the costs of health care and expand access to services for the underserved," said Veenu Aulakh, senior program officer in the organization's Innovations for the Underserved program.

The Entrepreneurism Center is also turning its focus towards renewable energy and wireless health technologies for military medicine.

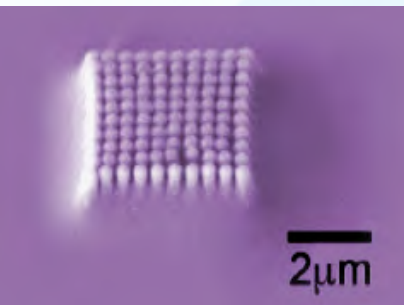
The Entrepreneurism Center worked with

the UCSD Rady School of Management and San Diego State University to secure a three-year, \$1.05 million grant from the Department of Energy to create the San Diego Regional Renewable Energy Technology Acceleration Program, which will provide three science and engineering students with a von Liebig Fellowship award of \$45,000.

In partnership with the U.S. Army Telemedicine and Advanced Technology Research Center (TATRC) and Qualcomm Wireless Health, the Entrepreneurism Center last May awarded up to \$92,000 to each of three teams working on technologies with both military and civilian applications.

This strategy marks a distinct shift away from traditional commercialization programs focused on turning existing research into something marketable. Since 2008, the Entrepreneurism Center has offered five TAPs challenges in clean technology, renewable energy, health care and wireless health. TAPs help steer early stage university discoveries in a direction that meets the specific needs of a target community such as the military or healthcare providers. They also respond to local interest in adding industry clusters in San Diego and leverage the already thriving wireless, biotech and medical device industries in Southern California.

To learn more about the Entrepreneurism Center's initiatives visit www.vonliebig.ucsd.edu and www.facebook.com/entrepreneurism.



UCSD bioengineer Massoud Khraiche's nanowires for retinal prostheses are designed to replace the eyes' natural photoreceptors and restore sight. He received research funding through a wireless health challenge run by the Entrepreneurism Center.

will need to innovate whether they plan to start companies or work in them.

"You have to have an entrepreneurial mindset in order to thrive in any organization," said Ochoa.

In Memory of Jack Keil Wolf, Prominent Information Theorist



Jack Keil Wolf

Jack Keil Wolf, a pioneer in information theory and its applications, died in La Jolla, California on May 12 at the age of 76, following a battle with cancer. A member of both the National Academy of Engineering and the National Academy of Sciences, Wolf made profound contributions to digital communication and data storage technology. He served as a professor of electrical and computer engineering at UC San Diego since 1984.

In June, Wolf was awarded the Marconi Prize, the equivalent of the Nobel for Information Technology, for his life's work. He shared the prize with Qualcomm co-founder and former chairman Irwin Jacobs.

"It's hard to overstate Jack's role in getting the information theory community interested in data storage," said Paul Siegel, an electrical engineering professor at the Jacobs School of Engineering and Director of UCSD's Center for Magnetic Recording Research, where Wolf held an endowed chair.

In the 1980s, Wolf was instrumental in bringing a technique known as maximum likelihood detection to the field of data storage. Essentially every hard disk drive, tape drive and DVD player made in the last 20 years uses some form of this technology.

"Adopting the maximum likelihood detection technology allowed hard drives to more accurately and rapidly read ones and zeros," said Andrew Viterbi, a co-founder of Qualcomm and president of the Viterbi Group.

Wolf also served as a consultant and later as a part-time employee for Qualcomm for more than 25 years, and had a number of influential patents that were realized in commercial wireless communication systems.

Of his many contributions, Wolf is perhaps best known for what has come to be called the Slepian-Wolf Theorem. In 1973, Wolf and colleague David Slepian published a ground-breaking paper in which they proved a fundamental theorem about the efficient compression of correlated streams of data.

A devoted husband, father, and grandfather, Wolf is survived by his wife Toby, his children, Joe, Jay, Jill, Sarah and her husband Charles, and his grandchildren, Rachel, David, Becca, AJ and Julia.

Google Wolf's obituary in The New York Times to learn more about his achievements.

A fundraising initiative had been launched at UC San Diego to honor Jack with an endowed chair in his name. Gifts may be directed to the UC San Diego Foundation for the Jack Keil Wolf Endowed Chair in Electrical Engineering, fund #4671, and mailed to: UCSD, Jacobs Hall/EBUI, 7th Floor, 9500 Gilman Drive #0403, La Jolla, CA 92093-0403. Attn: Lisa French. Ms. French can be contacted at 858-246-0593 or lfrench@ucsd.edu.

Students Build Entrepreneur Culture on Campus

The UC San Diego Entrepreneur Challenge is, at its core, about how people develop ideas, connect and build companies out of groundbreaking research. Founded and run entirely by students, the Entrepreneur Challenge has raised and awarded more than \$400,000 in its first five years.

"This has been a watershed year for the Entrepreneur Challenge that has validated our mission to fundamentally change both student culture as well as the San Diego economy," said Jason Steiner, the chief executive officer of the 5th Annual Entrepreneur Challenge and a Ph.D. candidate in Materials Science at the Jacobs School.

Two UCSD Jacobs School student teams, DevaCell and Oculeve, won awards on June 1 at the Challenge's premier event, the Business Plan Competition. The teams plan to commercialize a handheld device that detects viral and bacterial infections (DevaCell, 2nd place overall) and a device that stimulates tear production for the treatment of debilitating severe dry eye disease (Oculeve, 1st place life sciences).

Past Challenge participants have since formed companies that have raised nearly \$10 million in private funding. In March, Fast Company magazine named 2007-2008 winner NeuroVigil one of the world's 10 most innovative health care companies.

Follow the Entrepreneur Challenge (challenge.ucsd.edu), and attend their upcoming events at no cost.



The UCSD Entrepreneur Challenge held its first ever Startup Job Fair in May.

Master of Advanced Study

New Professional Degree Programs for Engineers

Beginning this fall, the Jacobs School will offer four new interdisciplinary Master of Advanced Study (MAS) programs that provide technical executive education for engineering professionals. These high quality master degree programs are closely aligned with Jacobs School faculty research strengths as well as industry workforce needs. Training focuses on industry-specific application areas that are not available through traditional master degree programs.

- Courses taught by world-class Jacobs School faculty
- Earn your degree in two years on a convenient schedule for working engineers
- Interdisciplinary curricula in industry-specific application areas
- Network with engineering professionals and technical leaders on teams and in small classes
- Five MAS programs: four new programs (right) and AESE (below)

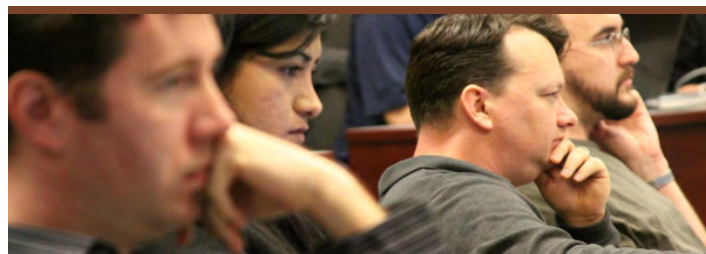
Applications are now being accepted for fall classes

<http://maseng.ucsd.edu>

Specific questions?

Considering an information session at your company?

Contact Faye Kurpanek
JacobsMAS@ucsd.edu
or 858-361-8160



The **Architecture-Based Enterprise Systems Engineering (AESE)** program offers working engineers a comprehensive and balanced understanding of complexity and the tools for building effective enterprise systems. Graduates gain an understanding of program and project management approaches to dealing with challenges of complex large scale enterprise systems and unexpected complex events. Graduates are well prepared to assume a leadership role in enabling their organizations to respond innovatively to the challenges of the dynamic, competitive and event-driven environment.

Learn more: <http://aese.ucsd.edu/>

Faculty Directors

Harold Sorenson: Mechanical and Aerospace Engineering (MAE)

Ingolf Krueger: Computer Science and Engineering (CSE), Adjunct appointment in Rady School of Management

Four New Master of Advanced Study Programs



The **Wireless Embedded Systems** program provides training for professional engineers who plan to become technical leaders in embedded wireless technology. In the near future, wireless embedded systems will connect everyday devices to each other and to larger systems in nearly every market sector, including medical devices, personal electronics, transportation infrastructure and manufacturing. The unique design requirements of these next generation embedded wireless devices dictate a holistic design approach. Their form factor, cost, and power consumption must be dramatically lower than existing cellular phones. To meet these design requirements, the Wireless Embedded Systems program offers a unique interdisciplinary background in systems, software, hardware and communication theory.

Learn more: <http://maseng.ucsd.edu/wes/>

Faculty Directors

George Papen: Electrical and Computer Engineering (ECE)
Ryan Kastner: Computer Science and Engineering (CSE)



The **Medical Device Engineering** program provides focused cross-disciplinary technical education geared to engineers and scientists from medical device and instrumentation companies. Graduates will have the expertise to design medical devices that take advantage of new technologies based on recent advances in bioengineering, biomaterials, genomics, computing and telecommunications. The curriculum includes instruction in life science technologies, embedded controls, computer-aided design, clinical needs assessment, mechanics and transport, anatomy and physiology, biomaterials, and an introduction to business issues.

Learn more: <http://maseng.ucsd.edu/mde/>

Faculty Directors

Juan C. Lasheras: Mechanical and Aerospace Engineering (MAE), and Bioengineering (BE); Director of the Center for Medical Devices and Technology
John Watson: Bioengineering (BE); Director, Whitaker Center for Biomedical Engineering

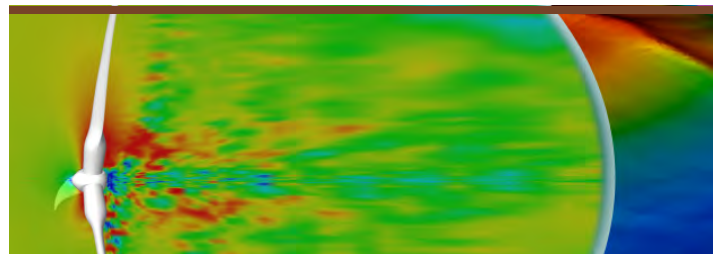


The **Structural Health Monitoring** program prepares engineers to lead in the fields of structural health monitoring and prognosis. Graduates gain expertise in the key technology areas needed for structural damage detection and prediction. This approach is crucial for optimal life-cycle management of the structure from design to retirement, including minimizing maintenance and operation costs, and maximizing performance. The systems-level approach of the Structural Health Monitoring program ensures that graduates' technical expertise can be applied to practically any aerospace, civil, or mechanical structural component or system.

Learn more: <http://maseng.ucsd.edu/shm/>

Faculty Directors

Michael Todd: Structural Engineering (SE)
Truong Nguyen: Electrical and Computer Engineering (ECE)
Charles Farrar: Los Alamos National Laboratory / Adjunct Professor Structural Engineering (SE)



The **Simulation-Based Engineering** program prepares graduates to solve multi-physics engineering problems using the techniques of modern computational analysis. Employing computer simulation techniques to study and predict physical events and the behavior of engineered systems promises to revolutionize the way engineering and science are conducted in the 21st century. The program offers a mix of cutting-edge computational mechanics theory and practice. Graduates will have the tools to solve engineering problems of interest and importance to industry and national laboratories. This is currently the only professionally geared master degree program in simulation-based engineering offered in the United States.

Learn more: <http://maseng.ucsd.edu/sbe/>

Faculty Directors

Yuri Bazilevs: Structural Engineering (SE)
David Benson: Structural Engineering (SE)
Marc Meyers: Mechanical and Aerospace Engineering (MAE) and NanoEngineering (NE)

Powerful Posters at Research Expo 2011

Unmanned aerial vehicles that fly like birds. Devices that could revolutionize medical technology. Tools for faster and better programming. Systems to make rail travel safer. These were just a few of approximately 250 innovations on display at the graduate student poster session at the Jacobs School's Research Expo 2011. This year's expo, sponsored by ViaSat, Life Technologies and Qualcomm, also included faculty tech talks and a keynote by Greg Lucier, CEO of Life Technologies. At the poster session, graduate students from all six departments showcased their work and networked with attendees from industry, government and nonprofit sectors. Judges singled out six posters — one per department and one overall top prize. Read on to find out more and search abstracts from the expo: <http://www.jacobsschool.ucsd.edu/re/exhibits.sfe>



Save the date: Research Expo 2012 is on April 12th.



Electrical engineering Ph.D. student Chirag Patel won the top prize at Research Expo 2011.

Winning Switch Technology

Electrical engineering Ph.D. student Chirag Patel won the top prize — the Rudee Outstanding Poster Award — for his work on innovative RF MEMS metal-contact switches.

The winning switches route electrical signals using electrostatic fields. They are smaller, lighter and more reliable than the current technology known as “conventional electromagnetic relays,” which route electrical signals using current pulses and magnetic fields. The switches could make their way into MRIs and other medical equipment, as well as satellites and electronic instrumentation, including spectrum analyzers and signal sources.

The weight and space savings the new switches provide could lead to large cost savings for satellite

systems. Every gram counts when you put things into space, explained Patel, who works in the laboratory of Professor Gabriel M. Rebeiz from the Department of Electrical and Computer Engineering. The new switches also consume less power than conventional electromagnetic relays and could be used in demanding RF environments, including switching networks for automated test equipment, low-power base stations — and even cell phones of the future.

At the expo, Patel received some unexpected feedback on his work. During the final round of judging, the faculty judge from bioengineering asked what would happen if he put the switch in water. We would want to hire you tomorrow if this thing worked in water, the bioengineer said.



MAE graduate student Kim Wright

Birds: the Future of UAVs?

The engineers who build unmanned aerial vehicles (UAVs) inspired by birds won the best Mechanical and Aerospace Engineering poster award at Research Expo.

Led by Professor Tom Bewley and graduate student Kim Wright, they analyzed several slow-motion videos of birds landing to generate a working hypothesis for how wing morphing and flapping can be mimicked to engineer an aircraft that could land on a perch and conduct surveillance.

They then built a prototype UAV capable of wing sweep, a key feature of perching. The craft was made from balsa wood and foam using standard hobby aircraft construction techniques. Wings were crafted with carbon fiber, fiberglass, high density foam and rip-stop nylon. Carbon fiber tubing was used for the shoulder joint structure and fiberglass reinforcement was used in heavily stressed areas on the fuselage.

“Birds can move their wings in a myriad of ways, providing a level of aerodynamic control that is unmatched by UAVs,” Wright said.

Developing Wireless Sensors for a Better Patient Experience

Imagine being able to take an EKG or EEG without needing cables, wires or sticky gels on your skin. Imagine monitoring your heart rate wirelessly while you run. That's the aim of the technology graduate student Mike Chi is developing with Professor Gert Cauwenberghs. Chi recently made a breakthrough toward high-quality wireless sensors that earned him the best Bioengineering poster award at the expo.

His team developed a custom chip for sensors that detect electrical signals from the body without direct skin contact and act as extremely sensitive amplifiers. The new chip has dramatically improved signal quality, Chi said, and the sensors' signals now are much closer to what you would expect with a standard, medical adhesive electrode.

Chi recently graduated from the Jacobs School and is focusing on Cognionics, the company he co-founded with Cauwenberghs. Next up: eliminating noise and improving signal processing — and some business challenges too.

"We are working on developing a killer app for this," Chi said.



Mike Chi shows how his wireless electrodes could be placed on a patient's head.



Launching Micro-rockets to Detect Cancer, DNA, RNA

The video is striking: a nano-scale rocket barrels through a solution placed on a chip, and binds onto a cancer cell. Work on the rockets earned graduate student Dan Kagan the best NanoEngineering

poster award at the expo.

Kagan, who works with Professor Joseph Wang, showcased two breakthroughs. He exploited a relationship between a solution's silver ion concentration and the speed of gold and platinum nanowires, which was used for sensing nucleic acids. He also found a way to make binding to biological targets, such as DNA and RNA, more effective by using microrockets propelled by oxygen bubbles.

Both breakthroughs allow scientists to look for and isolate cancer cells, DNA and RNA much faster in raw solutions. The motors and rockets also are fairly cheap to manufacture — and their motion is visible with a strong magnifying glass. "All you need to do is have commercial chips, and within an hour you'll have your results," Kagan said.

"Kremlin" Tool Spies on Programs for Their Own Good

Multicore processors have become the norm in today's computer systems but their performance gains can't be achieved unless software is effectively parallelized. Parallelization is the process that converts conventional software to exploit available multiple cores. Unfortunately, parallelization is not easy, according to Donghwan Jeon, Ph.D. candidate in the Computer Science and Engineering Department at the Jacobs School of Engineering. "A programmer can easily waste a lot of time in attempting to parallelize wrong parts of a program," said Jeon.

Jeon and fellow CSE Ph.D. candidate Saturnino Garcia, with their advisor Michael Taylor, have developed Kremlin, a tool that automatically tells the programmer which sections of code to parallelize. With Kremlin, parallel

programmers can save time and effort, and reduce the potential for errors, by focusing on only important parts of the program. The project won best poster for Computer Science at the expo. Jeon and Garcia recently presented Kremlin's original approach in PLDI 2011 — a premier conference in programming language design and implementation.



Computer science graduate students Donghwan Jeon and Saturnino Garcia

'Unbuckling' for Railway Safety

Engineers are working to tackle a little-known, but costly, foe: rail buckling due to hot weather. The leading cause of train accidents in the nation last year, this buckling causes about \$17 million in damage annually. Researchers are developing a system to detect stress on rails before they buckle.

Led by Professor Francesco Lanza di Scalea with graduate students Claudio Nucera and Bob Phillips, the team won first place in the Structural Engineering category for their poster,

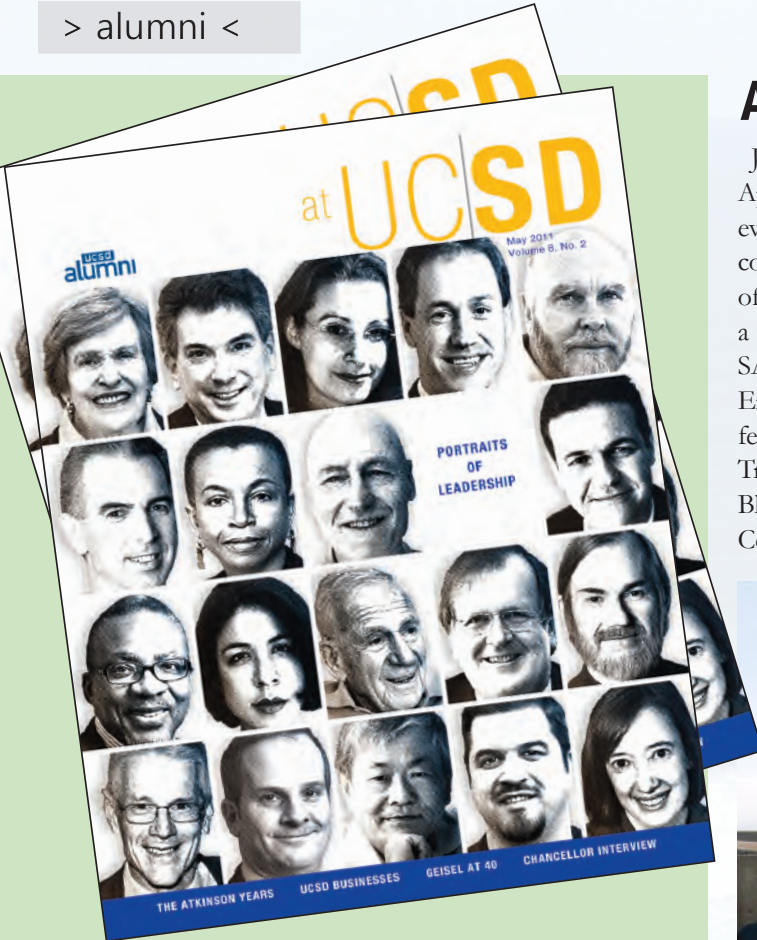


Heat can make rails buckle, as seen in this picture, causing trains to derail.

"Thermal stress and buckling detection in rail by non-destructive ultrasonic testing."

The project, funded by the Federal Rail Administration, uses a "Large-scale Rail Buckling Test-bed" built at Powell Laboratories in collaboration with BNSF Railway. Students are set to develop a prototype to measure rail stress by the end of this year. Nucera is also working on a computational algorithm to help optimize the system and guide the design of a prototype.

"This could dramatically reduce the probability of derailments," he said.



A Triton Feast

Jacobs School of Engineering alumnus William J. Proffer ('76, '78 M.S. Applied Mechanics) recently came to campus to host a "Triton Tables" event for a group of current engineering students. Triton Tables events connect established alumni to students and recent graduates with the aim of strengthening the Jacobs School network of alumni, and to encourage a tradition of support among alumni. At the event, Proffer, who works for SAIC, was joined by fellow UCSD alumni Richard Kasbo ('87 M.S. Electrical Engineering) and Priyank Saxena ('07 Ph.D. Mechanical Engineering). "We felt like we all were able to get a one-on-one connection with industry," said Triton Tables attendee Osayi Edigin, president of the National Society of Black Engineers at the Jacobs School. To host a Triton Table, contact Tatis Cervantes Aiken at 858-822-6968 or ttcervantes@ucsd.edu



UCSD alumnus William J. Proffer ('76, '78 M.S. Applied Mechanics), center, hosted a Triton Table event at Muir College.

50 Years 50 Leaders

Congratulations to the seven engineering alumni highlighted in the "50 Years 50 Leaders" special feature in the May 2011 issue of *at UCSD*: our school-wide alumni magazine: Robert Akins, Carolyn Chase, Taner Halicioglu, Steve Hart (math), Richard Sandstrom, Maurizio Seracini and John Slaughter. Read about the accomplishments of all 50 honored alumni at: <http://alumni.ucsd.edu>

Jacobs School Social Media



Wondering about LinkedIn?

About 1,400 Jacobs School alumni and friends are part of the Jacobs School LinkedIn group. Subgroups within the larger Jacobs School group — including bioengineering and Team Internship Program (TIP) groups — are also forming. To connect and network with fellow alumni, register with LinkedIn, search for the Jacobs School of Engineering and join the group. <http://www.linkedin.com>



Fond of Facebook?

For the latest news, events, and tidbits from the Jacobs School, as well as some additional engineering news, "Like" the Jacobs School Fan Page: <http://www.facebook.com/UCSDJacobs>



Thinking Twitter?

Keep up with the Jacobs School in increments of 140 characters: <http://twitter.com/UCSDJacobs>

Class Notes



Jimmy Francisco

B.S. Structural Engineering 2010
**Geotechnical Engineer Intern,
MACTEC Engineering and
Consulting, Inc.**

I currently work as a staff engineer for MACTEC Engineering and Consulting, Inc. I am working on big geotechnical engineering projects with LA Metro and the Los Angeles Department

of Water and Power. Every summer, I teach high school students to create informative websites for TRIO programs at the University of Southern California. During my free time, I enjoy playing piano, guitar, and bass.



Richard Marymee

B.S. Mechanical and Aerospace
Engineering 1993
Systems Engineer, Boeing

I have been working for Boeing since 1996 (first with McDonnell Douglas) performing modeling and simulation of air vehicles using 3DOF and great modeling tools.



Neal Bloom

B.S. Mechanical and Aerospace
Engineering 2008

**Flight Operations Engineer,
Pratt & Whitney Rocketdyne**

I've been working as a performance/systems engineer for the Space Shuttle Main Engines. With NASA as my customer, I support their effort to take astronauts to space. I love to run

and completed the LA marathon in March and a relay from LA to San Diego in April. I'll be doing another relay from San Francisco to Napa this fall. I also recently sent a weather balloon up to 95,000 feet with fellow UCSD alumnus, Adam Markowitz. We took pictures every five seconds and were able to recover our payload by using a GPS-enabled phone. (Above is a picture from the experiment.)

Frank Fan

B.S. Structural Engineering 1996

After nine years working at Callaway Golf in Carlsbad, I went back to school and currently I am studying aerospace engineering on the East Coast.

Elaine Ferraro

B.S. Structural Engineering 2005

Sales Coordinator, QIAGEN

I am working with a biotech company and have a side business in real estate.

Rick Batt

B.S. Mechanical and Aerospace Engineering 1992

Partner, Convergent Law Group, LLP

Rick Batt recently joined Convergent Law Group LLP (www.convergentlaw.com) as a partner and advises companies on creating, bolstering and managing their intellectual property, namely patents. Rick's specialty is in the medical device and diagnostic areas. Rick lives in Menlo Park, California with his wife Angel (UCSD 1992) and their three children.



Tristan Hudson

B.S. Electrical and Computer Engineering
2006

**Field Applications Engineer,
Dialog Semiconductor**

Over the past five years, I've worked to establish myself in the semiconductor industry doing technical applications work. I'm now supporting all of the technical operations in the USA for a

very fast-growing company based in Germany. We work with the biggest customers in the portable electronics industry and are constantly putting out new products employing cutting-edge power technology. My job is to make our parts work in people's systems, so I get to see all of the cool stuff before it comes out. Next time you pick up an iPhone, iPad, iPod or BlackBerry, you can feel proud that a fellow UCSD alum had a hand in bringing all of these together!



Mark Hayworth

B.S. Electrical and Computer Engineering
1981

**Doctor/Senior Scientist,
The Procter & Gamble Company**

Mark Hayworth is a senior scientist at The Procter & Gamble Company in Cincinnati, Ohio, doing digital image analysis for research and development.

What's new with you?

Jacobs School Alumni, we want to hear from you! Send us updates on your professional activities and personal achievements. Your class note will be included in our next Pulse newsletter and posted on our alumni website. While supplies last, we'll send you a Jacobs School alumni T-shirt.



**Send to soecomm@soe.ucsd.edu or visit:
www.jacobsschool.ucsd.edu/alumni**

Events

Coming in Summer 2012



...the Jacobs School's Newest Building

On May 20, 2011, the Jacobs School helped celebrate a construction milestone for the UC San Diego Structural & Materials Engineering Building / EBU IV: reaching the building's highest point. At the "topping out" party, those constructing the building and many of its future inhabitants gathered to sign a final beam (pictured, being hoisted in the air). The signed beam will be permanently placed in a public spot within EBU IV, which will house Structural Engineering, NanoEngineering, and the Center for Medical Devices and Instrumentation, as well as Visual Arts facilities.



(left) Structural engineering professor Tara Hutchinson signs the EBU IV beam. Hutchinson is leading what will be the first full-scale building experiments to evaluate the post-earthquake fire performance of a complete building system. Learn more: <http://bncs.ucsd.edu/>

(right) Under Construction: the Structural & Materials Engineering Building / EBU IV

UCSD Day at the Padres

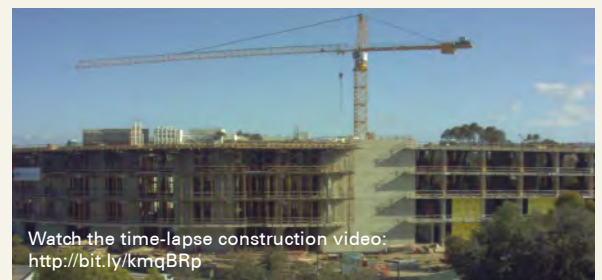
Sunday, September 18, 2011

Baseball fans, step up to the plate and enjoy a day at the park, where the San Diego Padres take on the Arizona Diamondbacks. It all starts with a tailgate party at 11 a.m. UC San Diego Alumni Association will provide appetizers and soft drinks, you bring the rest. Field-level reserved seats at PETCO Park are just \$15, including a T-shirt. Game time is 1:05 p.m. For more information, go to: <http://www.jacobsschool.ucsd.edu/events/2011/padres/>

Bay Area Alumni Technical Talk Hosted by Google

Thursday, October 20, 2011

Google will host a technical talk and reception for UCSD Alumni. Computer science professor Stefan Savage, an expert in large scale systems and network security, will give the talk. These types of events serve to build and strengthen community in the Bay Area for alumni and corporate partners. Event details will be posted on our website at www.jacobsschool.ucsd.edu and on the Jacobs School of Engineering LinkedIn group.



Watch the time-lapse construction video:
<http://bit.ly/kmqBRp>