



CALIFORNIA STATE UNIVERSITY
FULLERTON™



Alumnus Honored as Visionary

P2



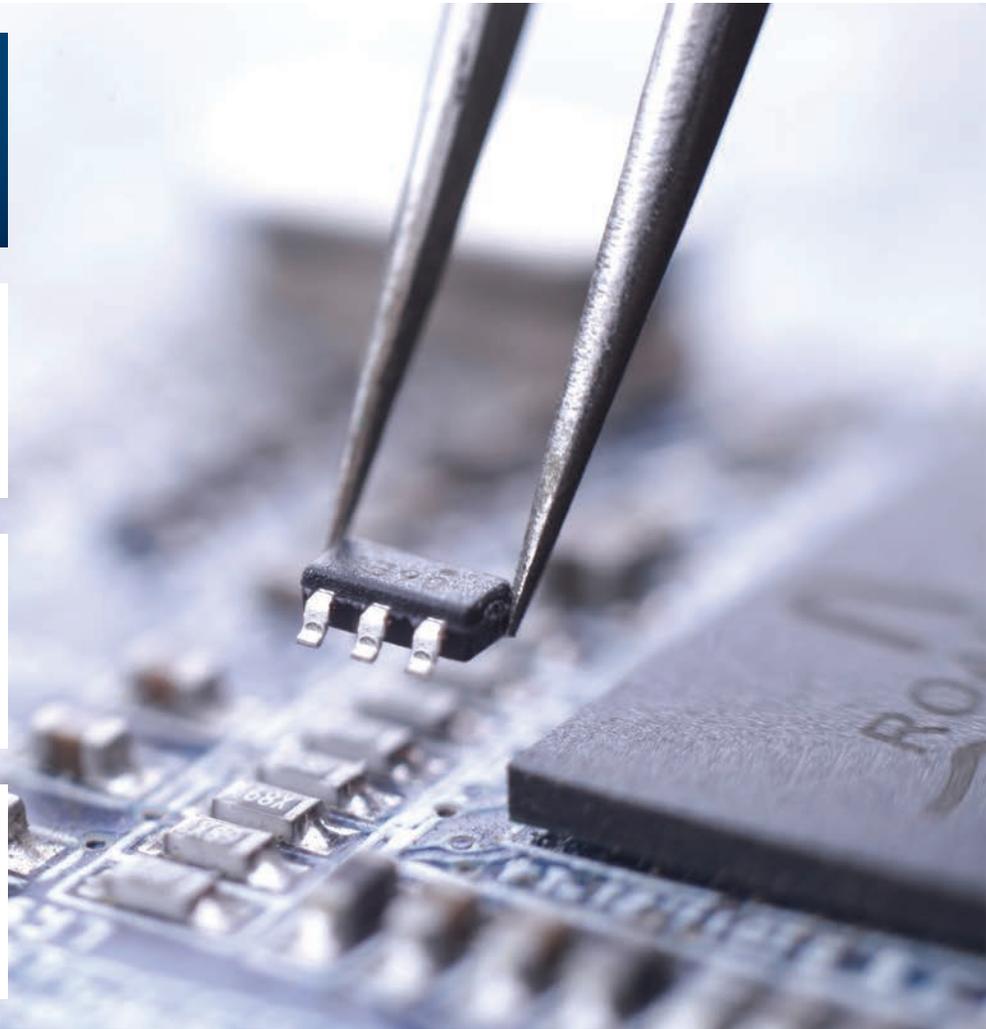
Hands-on Learning:
Student Perspective

P3



Uksun Kim receives the
2014 Outstanding Engineering
Educator Award

P5



CONNECTION

NEWS FROM THE COLLEGE
OF ENGINEERING AND
COMPUTER SCIENCE

Issue Six // Spring/Summer // 2014

Entrepreneurship on His Terms

For Hal Walbrink (EE '75), entrepreneurship is just another way to spell freedom.

“The best thing about being an entrepreneur is the opportunity to determine your own direction, destiny, and lifestyle,” says Walbrink, founder and CEO of Xinetix, Inc., a business and technology development firm that assists medical device companies with business development, strategic and operational planning, and product development.

For Walbrink, that freedom has translated into some exciting experiences outside of work, from producing the “Emergency” album recorded by Sarah Green at Capital Records in Hollywood, to participating in church missions trips, mentoring young engineers, and playing keyboard in a rock and roll band. It has also provided him with an opportunity to become engaged in community. “As an entrepreneur, I am able to stay in Southern California and raise my family instead of chasing after executive positions at medical device companies across the nation, as many of my business associates have done,” he says.

But that freedom has been hard-won for Walbrink, who applied his knowledge of electrical engineering to a career path that has included project management with several aerospace and commercial companies.

“After graduating from Cal State Fullerton, in the first seven years I was employed by three different companies and went out on my own as an independent contractor twice,” he explains. “I did not consciously consider being an entrepreneur. However, early in my career, I found that I was bored easily if I was not challenged or given new assignments on a regular basis.”

CONTINUED ON PAGE 2 ›

Alumnus Honored as Visionary



It came as no surprise to see one of our own alumni honored at this February's Cal State Fullerton's Vision & Visionaries dinner and celebration;

after all, being honored is not a new experience for Darrell Jodoin (ME '85).

As an undergraduate, Jodoin was honored as the 1985 Student of the Year by the American Society of Mechanical Engineers. He was recognized again in 2004 as a Mechanical Engineering Distinguished Alumnus and was named one of Cal State Fullerton's 50 Prominent Alumni in celebration of the institution's 50th anniversary.

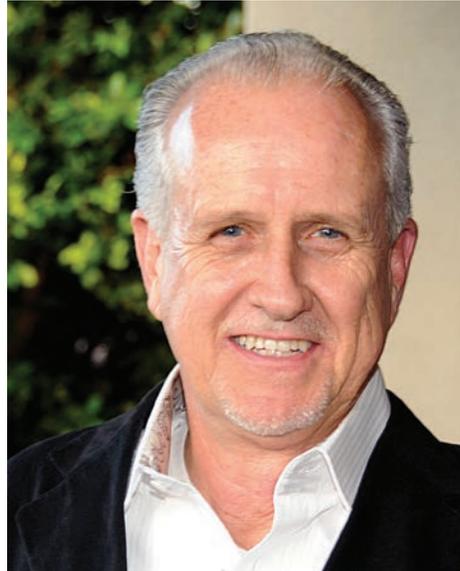
Now, Jodoin, director of design and engineering for the Disneyland Resort and a member of the College of Engineering and Computer Science's College Leadership Council, received the Vision & Visionaries Distinguished Alumni Award. He was commended for his achievements, which include helping develop the ride system for the award-winning "Mission: SPACE" in Epcot at Walt Disney World and leading industry boards. Jodoin also helped secure grant funding from Disneyland Resort to support senior design and collegiate design projects for Cal State Fullerton's College of Engineering and Computer Science.

Jodoin is a member of ASTM International and a participant on the ASTM Committee F24 on Amusement Rides and Devices, which helps set international engineering, design, and safety standards for amusement park rides and attractions. A dedicated advisor, Jodoin is a member of the ECS College Leadership Council and has served on the Mechanical Engineering Industry Advisory Board.

Honored as the 1985 Student of the Year by the American Society of Mechanical Engineers, Jodoin was a student chapter leader of the organization while attending Cal State Fullerton. He was honored as a Mechanical Engineering Distinguished Alumnus in 2004 and was named one of CSUF's 50 Prominent Alumni in celebration of the institution's 50th anniversary.

Entrepreneurship on His Terms

CONTINUED FROM PAGE 1



"I especially like to work late at night with the radio on to block outside distractions and with only a desk lamp on to keep me focused on my work. That's when breakthroughs happen for me."

Hal Walbrink (EE '75)
Founder and CEO of Xinetix, Inc.

Channeling that drive, Walbrink concentrated on managing some high-profile projects. While working for Hughes Ground Systems, he contributed to the design of the military Airborne Warning and Control System, which was the seed technology for the Global Positioning System and cellular phone systems in use today. As a project manager for Telease Technology, Walbrink designed one of the first digitally encrypted cable television systems. He was also responsible for the acquisition and commercialization of the proprietary Argon Beam Coagulation technology, which was the first revolutionary breakthrough technology in electrosurgery. Becoming fascinated with medical device technology, Walbrink considered going back to school to become a physician. Instead, he launched Xinetix.

"Xinetix is a creative outlet for me, providing a variety of technological and business challenges with each new client and project," he says. "It's fulfilling to know that the products Xinetix designs significantly contribute to the wellbeing of the patients who use them."

Like many other successful entrepreneurs, Walbrink has a voracious appetite for information. "I read constantly to stimulate ideas and better understand consumer psychology and the business dynamics that foster successful products and businesses," he explains, exposing his engineer's

how-does-it-work curiosity. "I take things apart to discover their underlying operating principals and how they are designed."

But it's often the first or last hours of the day when Walbrink wrestles with an impending deadline, when inspiration strikes. "I especially like to work late at night with the radio on to block outside distractions and with only a desk lamp on to keep me focused on my work. That's when breakthroughs happen for me," he says.

Xinetix was recognized by the Orange County Business Journal as the 10th fastest growing privately held company in Orange County for 2013. Walbrink was also nominated the same year for an Excellence in Entrepreneurship Award by the journal. These awards recognize a distinctive competency of entrepreneurship, which is clearly demonstrated by Walbrink and his company: leveraging new and fresh approaches to problem solving.

"One of the reasons I enjoy working with recent grads is that they are more receptive to thinking outside the box. They have fresh ideas and come from a generation that grew up with the Internet, which is now one of the most valuable information-gathering tools we use in development of products," Walbrink concludes. ☺

The Role of High-Impact Practices in Engineering Education

Experiential learning – also known as high-impact practices – is receiving keen attention among engineering educators who want to prepare and graduate successful students.

These kinds of hands-on learning opportunities have long been part of a Cal State Fullerton engineering education. While students' engagement in faculty-led research projects, design projects, and collegiate competitions during one or more of their years as a student in ECS is not uncommon, we strive to offer all students experiential learning opportunities. An increased effort is under way to ensure every ECS major is offered an opportunity to participate in hands-on learning experiences as part of their engineering education.

When ECS high-impact practices such as design projects and collegiate competitions include industry sponsorship and mentors, they are called Professional Practice. More often than not, these projects are multidisciplinary, involving students from numerous majors.

Alcoa and the Alcoa Foundation support professional practice and are investing to enhance these opportunities for ECS students with a \$150,000 grant to develop a more comprehensive Engineering Professional Practice Program. The Program will increase student participation in industry-sponsored student research and design projects, enhance interdisciplinary instructional opportunities, provide a forum for industry to influence student learning outcomes, and support innovation in curriculum development. The grant will also provide dedicated faculty and programmatic resources to develop a common professional practice program template that can be implemented across all academic departments in the College. Part of the grant will also enhance the various design project labs used by the students.

“High-impact practices include learning communities, writing-intensive courses, undergraduate students engaged in faculty research, service learning, and internships in the major.”

Mildred García

An objective of the University's recently adopted strategic plan is to increase the number of CSUF students participating in these types of experiences by 25 percent. This objective also addresses one of President Mildred García's top priorities: to improve the University's six-year graduation rate and become a national model public comprehensive institution with regard to student learning, retention, and graduation.

“High-impact practices include learning communities, writing-intensive courses, undergraduate students engaged in faculty research, service learning, and internships in the major,” García said during her first convocation address last year, when she challenged the campus to figure out how to “enhance successful, high-impact practices for student success.”

Several of our outstanding student project teams and their accomplishments are highlighted in the *Student Achievements* section of this newsletter. 🌟

Hands-on Learning: Student Perspective



His love for the automotive industry drove mechanical engineering major Derek Bosman to join the 2012–13 College of Engineering and Computer Science student team building Titan VI, a Formula SAE race car that competed this summer at the 2014 Formula SAE at Lincoln Airpark in Lincoln, Nebr. where the team earned 12th overall in the competition.

The collegiate student design competition is organized by SAE International (formerly Society of Automotive Engineers) and attracts more than 80 teams from universities worldwide. The CSUF team has about 30 participants, including members from the College's Society of Automotive Engineers and American Society of Mechanical Engineers student chapters. Bosman said his two-year participation in the program is providing hands-on opportunities to apply the theories he's learned in the classroom.

“You know instantly what you need to work on and what you don't know,” he said. “It's taught me a lot about the ways I can improve both academically and professionally.”

“You know instantly what you need to work on and what you don't know...”

Derek Bosman



^ ARTICLE TAKEN IN PART FROM
<http://news.fullerton.edu/2013su/High-Impact-Learning.asp>

Welcome New Faculty

This fall we welcome eight new tenure-track faculty:

Yoonsuk Choi (Computer Engineering) joins us from University of Nevada, Las Vegas, where he recently completed his Ph.D. in electrical and computer engineering.

Kristijan Kolozvari (Civil and Environmental Engineering) enters our faculty from University of California, Los Angeles, after recently completing his Ph.D. in civil engineering.

Sudarshan Kurwadkar (Civil and Environmental Engineering) joins us from Tarleton State University, where he was an assistant professor of environmental engineering. He earned his Ph.D. in environmental engineering from the Missouri University of Science and Technology.

Joel Lanning, P.E., (Civil and Environmental Engineering) recently completed his Ph.D. at University of California, San Diego, in structural engineering and now joins us.

Salvador Mayoral (Mechanical Engineering) is another one of our newest members from University of California, Irvine, where he recently completed his Ph.D. in mechanical and aerospace engineering.

Joseph Piacenza III (Mechanical Engineering) joins us with a Ph.D. in mechanical engineering from Oregon State University and an M.B.A. from the University of South Florida. Before pursuing graduate studies in engineering, he owned and operated an automotive company specializing in European vehicle restoration.

Deepak Sharma (Civil and Environmental Engineering) enters our faculty from the Merrick School of Business at the University of Baltimore, where he was a visiting assistant professor of information systems and decision science. He earned his Ph.D. in civil engineering from the University of Maryland, College Park.

Abhishek Verma (Computer Science) joins us from Bucknell University, where he was a visiting assistant professor of computer science. He also holds a Ph.D. in computer science from the New Jersey Institute of Technology.

From the Dean

ECS Journey from Survival to Excellence

A few years before I began my tenure as dean of ECS in 2001, serious discussions were under way to dissolve the College. In the face of declining enrollment and operating deficits, campus leadership considered closing ECS.



Thirteen may merely be an unlucky prime number but it has been a good one for ECS since 13 years later the outlook for the college today is remarkably positive. We can,

without exaggeration, say we have successfully completed a journey from survival to excellence.

- **568 students** (252 BS and 316 MS) comprised our largest graduating class to date.
- Overall college enrollment has surged over the last two years to **3,341** (2,448 undergraduate and 893 graduate students), making ECS the fastest growing college on campus.
- **717 first-time freshmen** will begin their engineering or computer science program with ECS in Fall 2014, the largest incoming freshmen class in our history.
- **An influx of new faculty**, talented and vibrant, is bringing renewed energy to ECS. We welcomed three new tenure track faculty in 2013/14, will welcome eight in 2014/15 and have been approved to hire an additional 16 over the next two years. Twenty-seven new scholars will make the face of ECS very different.



“Our students are competing and winning...”

- **Our students are competing and winning** in nationally recognized collegiate competitions, demonstrating the strength of our program. As a proud parent, I can boast that when ECS students compete, first-place finish is becoming the norm. When the Civil Engineering Team participated in the national tall building design competition, we knew that they would return from Boston with a first-place finish at the Structural Engineering Congress. When a Computer Science team competed in the IEEE GameSIG 2014 with ten other teams, we knew the first place would come to our college. Of course, it did.

Our alumni network continues to grow and our industry partners continue to deepen their engagement, participation, and philanthropic support. We have come from survival to excellence; now we want to sustain excellence. Here is where you come in: I invite you to become our partner in maintaining our excellence for years to come. 🌟

Raman Unnikrishnan, Ph.D.
Dean

Faculty on Sabbatical

Taking sabbatical in spring 2015 are:

David Cheng, Ph.D. (ELECTRICAL ENGINEERING)

Jidong Huang, Ph.D. (ELECTRICAL ENGINEERING)

Ning Chen, Ph.D. (COMPUTER SCIENCE)



Faculty Achievements:

Our faculty consistently demonstrate outstanding achievement in scholastic research and are the drivers of technological progress that is shaping our future. Congratulations to the following faculty members for their accomplishments.

David Falconer, Ph.D. (COMPUTER SCIENCE) is retiring after 33 years of service, and he will return to the classroom on a part-time basis as associate professor emeritus of computer science.

Jesa Kreiner, Ph.D. (MECHANICAL ENGINEERING) is retiring after 45 years of service to the campus. He joined CSUF in 1969 as a lecturer and accepted a tenure-track faculty appointment after completing his Ph.D. in 1979.

Pratanu Ghosh, ASSISTANT PROFESSOR OF CIVIL AND ENVIRONMENTAL ENGINEERING, collaborated with his counterparts at Duy Tân University in Vietnam, where he trained Vietnamese civil engineering faculty members about the U.S. education system and provided information about the design, construction standards, and code specifications of reinforced concrete structures in this country. The training, coordinated by University Extended Education at Cal State Fullerton, was part of an ongoing collaboration between the two universities.

Faculty Recognition

The following Engineering faculty members were among 77 Cal State Fullerton faculty recognized this spring for their scholarly and creative activities, and outstanding teaching and service to the campus and community:

Phoolendra Mishra, ASSISTANT PROFESSOR OF CIVIL AND ENVIRONMENTAL ENGINEERING

Kenneth “John” Faller, ASSISTANT PROFESSOR OF COMPUTER ENGINEERING

Kevin A. Wortman, ASSISTANT PROFESSOR OF COMPUTER SCIENCE

Shahin Ghazanshahi, PROFESSOR OF ELECTRICAL ENGINEERING

Chean Chin Ngo, ASSISTANT PROFESSOR OF MECHANICAL ENGINEERING

Uksun Kim



Uksun Kim, chair and associate professor of civil and environmental engineering, received the 2014 Outstanding Engineering Educator Award from the Orange County Engineering Council.

“It is a great honor to receive the award and I hope this will help increase the visibility of Cal State Fullerton's outstanding engineering programs.”

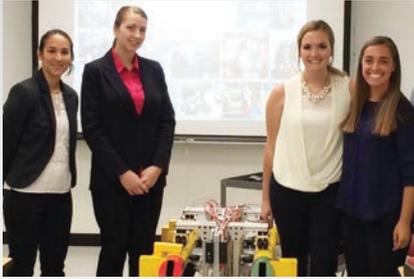
Uksun Kim

In Memoriam

Leroy L. Sanchez ('06, MS CIVIL ENGINEERING) ECS alumnus and Civil Engineering Lab Technician passed away SATURDAY, JULY 19, 2014. Leroy was involved in a single-vehicle motorcycle accident on FRIDAY, JUNE 27, and remained in ICU following the accident. Leroy will be remembered by ECS students and alumni as an engaged, supportive mentor and instructor who worked diligently to ensure students learned in well-run and well-equipped civil engineering labs.



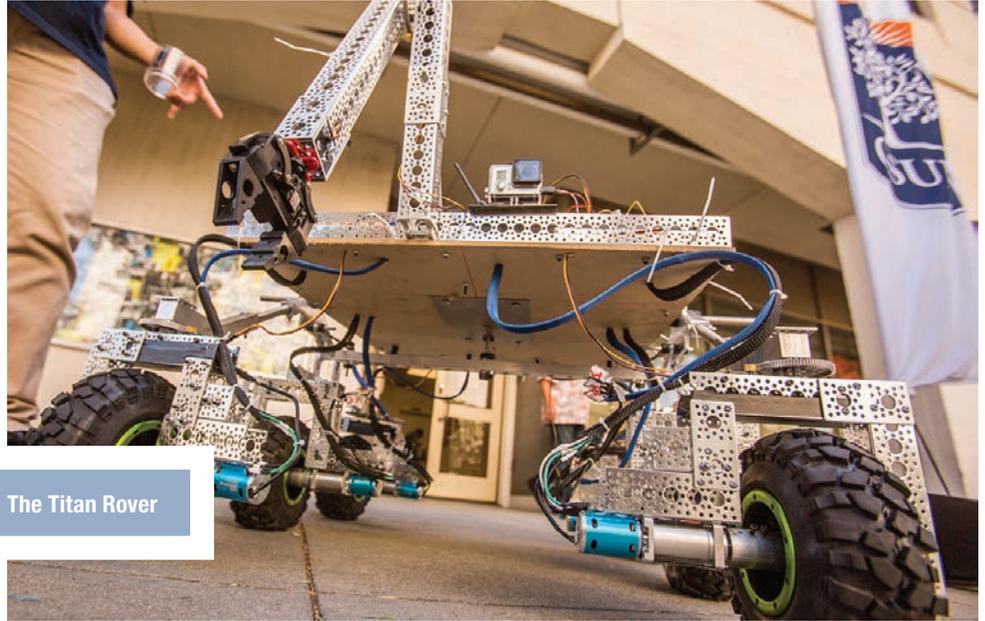
Seniors Design Inspection Systems for Disneyland



Mechanical engineering students, from left: **Alexandra Dominguez**, **Syvannah Kooyman**, **Lexi Schaffer**, and **Rachel Caballero**, for their senior project, designed and built “Inspector Willie,” a mechanical system to replace the current manual inspection process on the Indiana Jones Adventure attraction at Disneyland Resort. The team, which includes senior Hung Pham, an electrical engineering major, designed the system to travel under the floor of the attraction, where cameras take photographs of the welds that are difficult to reach manually. The Inspector Willie project can potentially save 250 to 300 hours of labor each inspection cycle.

The *Inspector Willie* project can potentially save 250 to 300 hours of labor each inspection cycle.

Student Focus:



The Titan Rover



The Exo Limb

Students Show Off Innovative Engineering Design in Inaugural Showcase and Competition

Students had an opportunity to display innovative projects at the inaugural Cal State Fullerton Engineering and Computer Science Student Projects Showcase and Awards. The showcase featured 25 student-designed projects, 10 of which were selected as competition finalists. The “Exo Limb,” a hands-free crutch that is cost-effective and easier to use than standard crutches, won Best in College Overall. The “Sample Return Robot: Titan Rover” won the Ed Huizinga Innovative Idea/Best Multidisciplinary Project award. The Titan Rover is designed to navigate over terrain and around obstacles in varied lighting in order to identify, retrieve, and return samples, all without using sensors that rely on the earth’s magnetic field or earth-based navigation aids like Global Positioning Systems.



Sweeping Win for Electrical Engineering Students

CSUF electrical engineering students won first, second, and third places in the graduate category at the recent 2014 Natcar competition at UC Davis. The collegiate competition attracted a field of 30 teams mostly from California institutions who designed, built, and raced their autonomous cars. Congratulations to first-place winner **Michael Yeh**, second-place winner **Ye Lu**, and third-place winner **Chung-Wei Yang**.

Civil Engineering Students Take Home First Place

Civil engineering students, from left: Abraham Flores, Jeffrey Addison, Tyler Kaplan, and Cole Stafford won first place in the 2014 Structures Congress at American Society of Civil Engineers (ASCE) Structural Engineering Institute. Their project, called Independence Tower, featured a high-rise office building and retail complex designed to withstand a major earthquake in downtown Los Angeles.

Students Leverage Crowdfunding to Compete in Unmanned Aircraft Contest

Titan engineers raised \$5,300 on a unique crowdsourcing site to send them to the 12th Annual Student Unmanned Air Systems Competition with the Association for Unmanned Vehicle Systems International this summer. By leveraging the crowdfunding website *WeDidIt*, the students' campaign raised 106 percent of their funding goal, allowing them to enter their custom-built unmanned aerial vehicle (UAV). The unmanned aerial vehicle is designed to locate and recognize targets using real-time processing. To participate in the competition, the UAV must be capable of a specific 30-minute autonomous aerial humanitarian aid mission for the competition.



Geo-Congress Champions

Civil engineering students from left: Santiago Caballero, Matthew Farrington, John Stapleton, John Thurlo, Daniel Judge, and Sneha Upadhyaya were the top qualifiers for the Geo-Institute of the ASCE geo-wall design competition. The team of Thurlo, Farrington, Judge, and Stapleton built the best retaining wall in the 2014 Geo-Congress national competition, outperforming 15 other schools.

By leveraging the crowdfunding website *WeDidIt*, the students' campaign raised 106 percent of their funding goal.



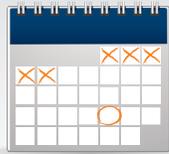
CALIFORNIA STATE UNIVERSITY
FULLERTON™

College of Engineering and Computer Science
2600 Nutwood Ave., Suite 850
Fullerton, CA 92831

Change Service Requested

Family members, please note: If recipient is no longer at this address, please send his or her current address to uarecords@fullerton.edu or call 675.278.7917.

NONPROFIT
ORGANIZATION
U.S. POSTAGE PAID
FULLERTON, CA
PERMIT #487



STAY CONNECTED

Update your address and business information online at: www.fullerton.edu/alumni/updatesmyinfo.

The College prepares students for careers in engineering and computer science and for further study and specialization in graduate work.



TOP RANKED ¹

The College's online graduate program in software engineering ranks No.10 on the list of "2013 Best Online Graduate Engineering Programs" among 70 evaluated by *U.S. News*.



INNOVATIVE PROGRAMS ²

ECS is home to STEM recruitment & retention programs including Engineering Innovation – a pre-college summer program partnership with Johns Hopkins University.

Sources:

¹ U.S. News and World Report online programs ranking

² Whiting School of Engineering, John Hopkins University website

DEAN:

Raman Unnikrishnan, Ph.D.

ASSOCIATE DEAN:

Susamma Barua, Ph.D.

ASSISTANT DEAN:

Victor Delgado, M.B.A.

GRAD/INTL ADMISSIONS COORDINATOR:

Priscilla Powers

DIRECTOR OF DEVELOPMENT:

Hart Roussel

Civil & Environmental Engineering

Uksun Kim, *Chair*

Jeff Kuo, *MSEE Program Coordinator*

Computer Engineering

Susamma Barua, *Program Coordinator*

Computer Science

Shawn Wang, *Chair*

Electrical Engineering

David Cheng, *Chair*

Mechanical Engineering

Roberta Rikli, *Acting Chair*

Software Engineering

James Choi, *MSE Program Coordinator*

College of Engineering and Computer Science

P.O. Box 6870, Fullerton, CA 92834-6870

657.278.3362 | www.fullerton.edu/ecs