



CALIFORNIA STATE UNIVERSITY
FULLERTON™



Research Experience: No Longer
Just For Grad Students

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Alumna's Career Accomplishments
and Community Service are Honored

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CONNECTION

NEWS FROM THE COLLEGE
OF ENGINEERING AND
COMPUTER SCIENCE

Issue Two // Spring // 2012

Making a Lasting Impression in the Aerospace Industry

The competitive aerospace industry is one of the most challenging proving grounds in the marketplace. It has defined lifestyles and inspired advancement in travel, logistics, telecommunications, electronics, computing, materials science, construction, manufacturing, and defense. It is also where Mona Simpson ('87, ME) thrives and continually strives to make a lasting difference in the world.

"This industry has been a good fit for both the skills I have learned and for my natural curiosity about how things work," says Simpson, director of site services at The Boeing Company.

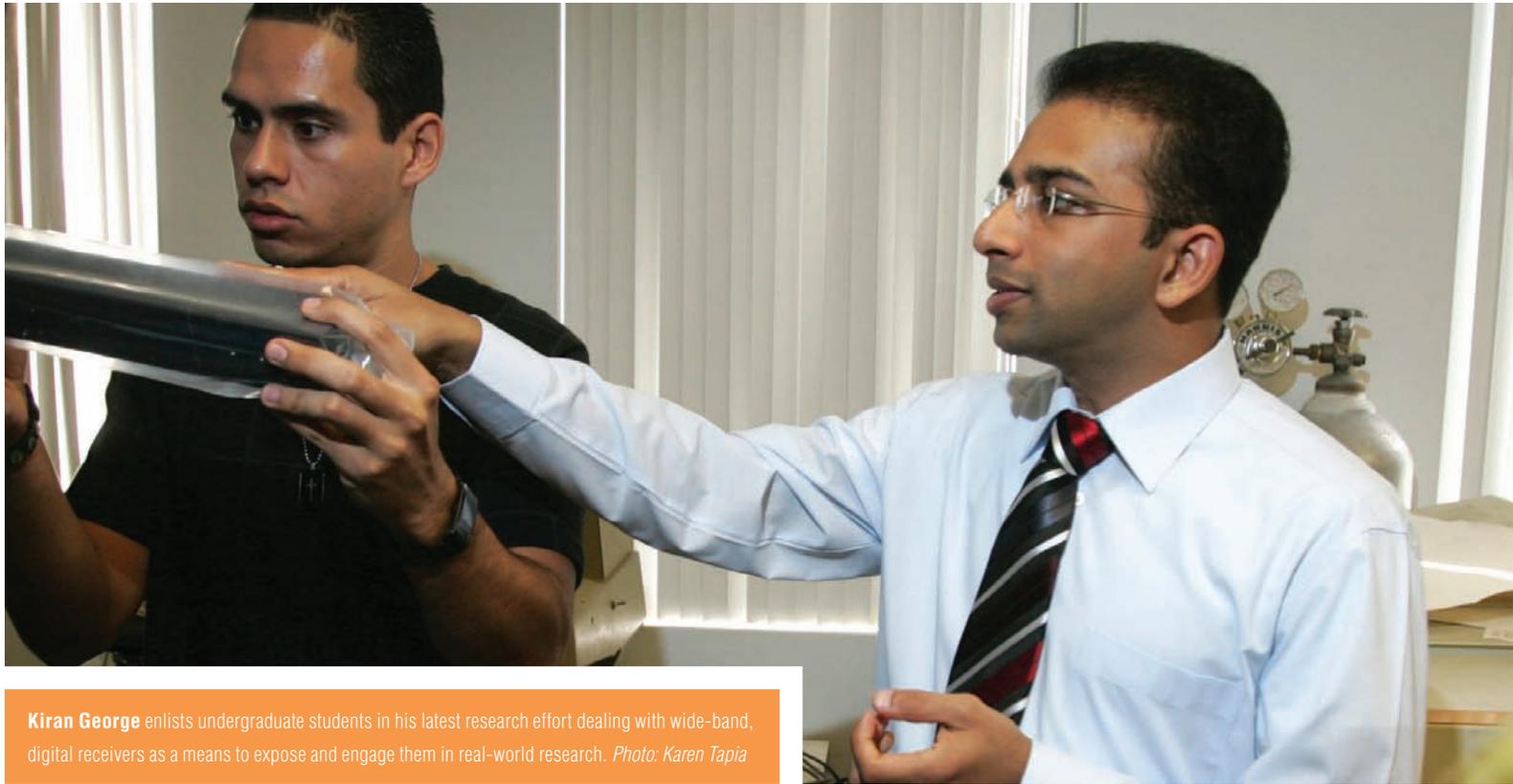
When Simpson graduated, she was hired by McDonnell-Douglas (later purchased by Boeing), where she set to work designing commercial aircraft.

"I spent the first third of my career designing aircraft and then having the privilege of seeing them fly," she explains. "Later, I was

able to apply my engineering and project management skills to other opportunities within the company. That's what I find so exciting about Boeing – anyone can have many careers here."

Simpson has since taken on increasingly greater responsibilities in her rise within the company. She managed unionized final assembly work teams and led general procurement organizations in defense and commercial business units. She has also supervised supplier management from

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Kiran George enlists undergraduate students in his latest research effort dealing with wide-band, digital receivers as a means to expose and engage them in real-world research. *Photo: Karen Tapia*

Research Experience: No Longer Just for Grad Students

Years ago, it was relatively rare for undergraduate students to participate in real scientific research. Today, the opportunities for students to research and make real contributions, well before they take on graduate work, are much more common. That is a change Kiran George, assistant professor of computer engineering, applauds.

“Including undergraduates in research gives them many advantages: they get a taste of what a career in science would be like; they have an edge in applying for graduate school or a job; and they have a personal connection to the work as well as a feeling of ownership,” says George.

Last year, George gave his senior design students the opportunity to work with him to build a state-of-the-art supercomputer with digital radar receiver capabilities. This was not busy-work. The U.S. Army Research Laboratory provided over \$100,000 in funding and is counting on George and his students to advance digital signal receiver

technology. George received an additional \$180,745 from the National Science Foundation to conduct innovative research that will use specialized hardware to speed up the algorithm in digital receivers.

“Our efforts last year and this year have the potential to enhance accurate signal detection for biomedical and aerospace applications,” he explains.

Working alongside George, the students—who receive stipends for their time in the lab—explore and transform ideas into reality. They learn the importance of collaboration across disciplines as they apply their knowledge of math, science and engineering to enhance algorithm and develop hardware. They also gain hands-on experience with new technologies, which proves beneficial after graduation in the job market or in the application process for graduate school.

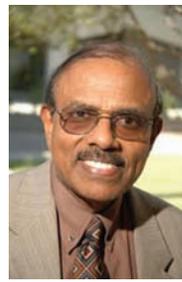
But the benefits of undergraduate research are by no means one-sided. The faculty members who collaborate with students on research projects offer a deeper learning

experience in the classroom and benefit from a productive research agenda. Presentations and publications that result from the research serve to increase the university’s visibility in the scientific community. In addition, research activities serve to stimulate ideas for new course offerings.

“We are looking at integrating our research findings into core computer engineering courses and devising new courses in high-performance computing,” George says.

Taking the chance on working with undergraduate students in research has been a benefit to George professionally as well. He was selected to participate in the National Academy of Engineering’s Frontiers of Engineering Education Symposium for his role in implementing innovative educational approaches in engineering. ⚙️

FROM THE DEAN



2011/2012 is shaping up to be a watershed academic year in the growth and advancement of the college. Continuing the trend of the last several years, ECS exceeded our spring 2012 enrollment target and are on track to exceed our fall 2012 enrollment target. Additional areas of growth and advancement this year have included:

- Dr. Kiran George, assistant professor, computer engineering, received the prestigious NSF Faculty Early Career Development Award, becoming only the second Cal State Fullerton faculty member to do so.
- Approved tenure-track positions in computer science, mechanical engineering, and civil and environmental engineering are being filled.
- We are launching an online MS in environmental engineering in fall 2012.
- Our computer engineering program is poised to become a full department within the college in the 2012/2013 academic year as we introduce Master's level classes in computer engineering for a new integrated BS/MS in computer engineering.
- CS-109 has been upgraded and converted to serve as the ECS graduate study room, and E-201, formerly the drafting lab, is being converted into a 70-seat smart-classroom.
- We are expanding our international reach. Memorandums of understanding are being signed with Bahra University, Shimla Hills, in India for a pilot program in computer science, and with National Changhua University of Education (NCUE) in Taiwan for possible graduate and undergraduate programs in electrical engineering. Letters of intent are being signed with Meenakshi University, Chennai, India for a program with their undergraduate students in computer engineering, and with PSG College of Technology, Coimbatore, India for a graduate program in civil engineering.

Such growth is welcome, but it also brings challenges as class sessions become larger and laboratory space becomes more competitive. Unlike the other colleges at Cal State Fullerton, ECS does not provide general education classes for non-majors, making it, by full-time enrollment, the smallest college on the Cal State Fullerton campus. As such, ECS does not receive the same level of financial support for faculty positions and faculty development. This makes external, private support critical to our college.

Finally, ECS will welcome our new president this June. Dr. Mildred García is currently president of CSU Dominguez Hills. We look forward to working with President García and want to express our appreciation for the support and leadership of Dr. Willie J. Hagan, interim president, and Dr. Steven N. Murray, interim provost and vice president of academic affairs, during the Cal State Fullerton presidential transition. ⚙️

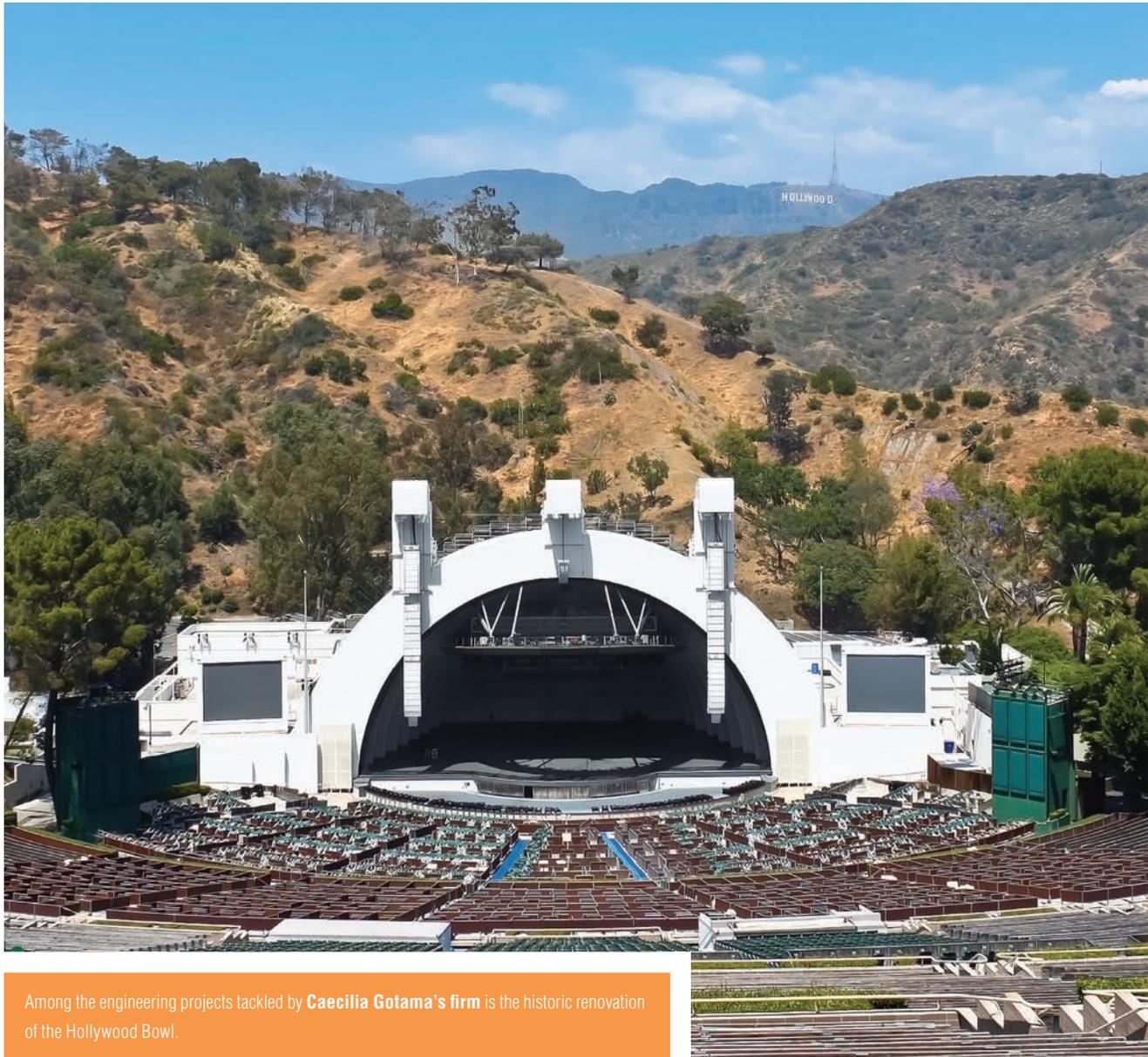
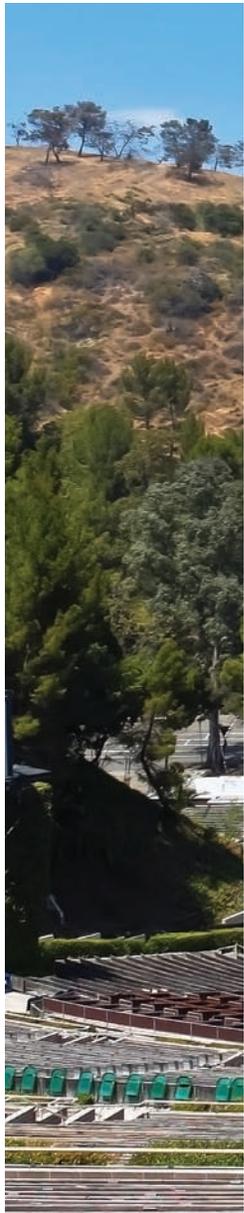
School Awarded \$5.9M to Prepare, Recruit, and Retain Qualified Underrepresented Students in Engineering and Computer Science

Cal State Fullerton is one of three partner schools awarded a five-year, \$5.9 million federal grant to increase the number of Hispanic and other low-income students attaining degrees in the fields of science, technology, engineering, or mathematics (STEM).

ENGAGE in STEM (Encouraging New Graduates And Gaining Expertise in Science, Technology, Engineering and Math) brings together Santa Ana College, Fullerton College and Cal State Fullerton. Together, the partner institutions serve 57 percent of the Hispanic students attending public higher education institutions in Orange County. Representing Cal State Fullerton in the project are the College of Engineering and Computer Science and The Center for Teaching. The goal of the grant is simple: prepare more qualified underrepresented students who would come and remain in engineering and computer science at Cal State Fullerton.

ENGAGE in STEM aims to make substantial change by addressing the need for a STEM-knowledgeable and prepared workforce, increase the transfer rates of Hispanic and other minority students in STEM majors, and address the critical shortage of highly-qualified and diverse K-12 teachers (especially for math and science). The project targets the development of two specific articulated STEM pathways – one into ECS and the other leading to the teaching credential in Earth Sciences.

Awarded by the U.S. Department of Education Hispanic-Serving Institutions STEM and Articulation Program, the funds may be used for a variety of purposes. These include scientific or laboratory equipment for teaching, the construction or renovation of facilities, purchasing educational materials, academic tutoring or counseling programs, teacher education, and student support services. The grant is expected to provide for expansion of the STEM centers, such as the Center for Academic Support in ECS (CASECS) and STEM teaching centers, at each institution. ⚙️



Among the engineering projects tackled by **Caecilia Gotama's firm** is the historic renovation of the Hollywood Bowl.

VISIONS & VISIONARIES DISTINGUISHED ALUMNI

Alumna's Career Accomplishments and Community Service are Honored

Caecilia Gotama ('82 BS, '86 MS) has been awarded the 2012 Visions & Visionaries Distinguished Alumni Award in honor of her outstanding career accomplishments and community service.

"In a profession that continues to be dominated by men, Caecilia has risen to hold several leadership positions, has established her own successful design/build firm, and is one of Cal State Fullerton's Women of Distinction," says Dean Raman Unnikrishnan. "She personifies

the capabilities of a successful engineer and principal in the field of mechanical, electrical, and plumbing engineering."

Established in 1994, Vision & Visionaries recognizes those who have distinguished themselves through their achievements. Past honorees represent diverse fields ranging from business and communications to science and technology. The awards are the highest honors bestowed on Cal State Fullerton alumni and honorary alumni.

“I am very proud to be recognized this way, and honored to be representing women in engineering,” acknowledges Gotama. “I owe my successes as an engineer and as a business leader to the fine education I received at this University, and by accepting this award I acknowledge and thank the supporters and mentors I was fortunate to have.”

Gotama’s career in building services engineering includes a wide variety of coordinating, managing, and master planning projects. She has served as a project engineer for Ove Arup & Partners as well as vice president for Syska & Hennessey, where she launched an international division of the firm.

In 1998 she established Gotama Building Engineers, which designs mechanical, electrical, plumbing, and low-voltage engineering systems. These systems focus on sustainability. Her firm has tackled projects ranging from the historic renovation of the Hollywood Bowl, to a Polynesian-themed lobby bar and restaurant for the W Hotel in Los Angeles, to a 1000-bed hospital for the Kuwaiti Ministry of Health.

“Two things that have made entrepreneurship so rewarding for me have been the opportunity to make a difference in the community and the chance to develop a mentorship program within our office,” she explains.

Gotama encourages her employees to volunteer their talents in the community. “This is where they can make a difference to their world and to themselves by learning new skills, practicing the skills used in the workplace, broadening their network, and advancing their careers,” she explains.

According to Gotama, career development also includes mentorship. “I believe it is essential to encourage and develop young engineers by pairing them with older, established engineers in order to gain knowledge in their specified fields while working on projects together.”

Mentorship pervades the organization at every level, with on-going education. Employees have the opportunity to listen to outside experts during in-house lunch-and-learn presentations as well as the opportunity to attend seminars outside the office.

Gotama is also a consummate volunteer and green-building advocate. She serves as the Programs Chair of the Long Beach Branch of the U.S. Green Building Council, Los Angeles chapter.

“When I have an opportunity to promote sustainable building practices through my designs, I believe I am able to make a difference in my community,” she says.

Pledged to working to protect the environment for the benefit of current and future generations, Gotama’s firm is staffed with five LEED-accredited professionals who bring opportunities for sustainability and recyclability to the table for every project. New energy-efficient technologies and products are adopted wherever budgets allow. Gotama Building Engineers, Inc. has been responsible for a diversity of LEED certified projects including Bronson Court in Los Angeles, a new three-story, 54,000 square foot affordable housing facility; the Hyperion Environmental Learning Center in El Segundo, an interactive learning center for students that focuses on sustainable concepts and resource replenishment; and San Jose State University Student Health and Counseling Center.

“I have a responsibility to the clients who hire me as well as to the world we live in to make the best possible recommendations that protect the environment and deliver optimal performance,” Gotama affirms.

As an example to this commitment, in 2007 Gotama moved her office to Long Beach to an existing two-story office building. She had the building renovated using LEED criteria, including energy efficient lighting, low-flow plumbing fixtures, and skylights for natural lighting.

Gotama is driven in her achievement of excellence by a commitment to be a good example, and to light the way for future engineers to make a difference. “I hope that other women and students at Cal State Fullerton will be inspired to keep pursuing their dreams in this field,” she says. “Engineers are in demand worldwide and this demand will grow as our lives depend more and more on technology.” ☀️



Caecilia Gotama

ABOUT CAECILIA GOTAMA ('82 BS, '86 ME)

Education

- BS/ MS Mechanical Engineering – Cal State Fullerton
- MBA – Pepperdine University

Memberships

- American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE), Member
- US Green Building Council, LA Chapter, Member and Local Branch Program Committee Chair
- ECS Dean's Advisory Council

Honors

- American Society of Mechanical Engineers Fellow
- LEED AP Building Design and Construction certified

A Family Tradition in the Making

Cupp Brothers Tradition: Celebrating at Jared's graduation are (top row from left): Myles, Austin, mother Rebecca, father Charles, Owen, Jared, Dr. Mostafa Shiva, Charity.



“Scientific curiosity runs in the family. We’ve always been encouraged to think analytically.” – Myles Cupp

Family heritage and legacy can run the gamut from a shared name, a regular reunion event, or a prized heirloom passed from one generation to another. Built on tradition, these legacies are valued, cherished and are points of pride for the families of which they are a part.

For brothers Owen, Jared, and Myles Cupp, part of that legacy may turn out to be graduating from the electrical engineering program at Cal State Fullerton.

Neither their father, a retired Air Force officer and electrical engineer, nor their mother, also an Air Force officer veteran and pharmacist, ever forced their sons on the path to electrical engineering. They did, however, raise their sons to be inquisitive, diligent, and to value family relationships.

“Scientific curiosity runs in the family,” says Myles (EE, '12). “We’ve always been encouraged to think analytically.”

That curiosity was enough to start them on the course of becoming engineers. Growing up, the Cupp brothers were encouraged to ask questions, read, and use their imaginations – skills they all consider important building blocks for their success both as students and as electrical engineers.

The first brother to start college was Owen (EE, '07; MSEE, '10). Before he enrolled, his father made a thorough assessment of the educational opportunities available in the Cal State Fullerton engineering program.

“Dr. Shiva, the chair of the electrical engineering department, remembers well my dad exploring the facilities, asking

questions, and verifying that the program, professors, and learning environment would result in a quality education,” says Myles. “Owen enrolled, and the tradition began.”

Owen wasted no time distinguishing himself on campus, joining the engineering honor society Tau Beta Pi, serving as president of the local Institute of Electrical and Electronics Engineers, Inc. chapter (IEEE), and helping other students as a math tutor.

As Owen moved on to his master's degree work in electrical engineering, his brother Jared started at Cal State Fullerton in the same major.

“I don't see it as following in Owen's footsteps exactly,” says Jared (BSEE, '10; MSEE, '12). “It is more like following the same trail. Electrical engineering offers so many opportunities.”

Jared made the best use of his time at Cal State Fullerton, becoming the Inter-Collegiate representative of Tau Beta Pi, tutoring other students in math, and participating in IEEE. He also explored astronomy and alternative energy studies for which he received the Eisenhower Transportation Award.

“My experience at Cal State Fullerton included many life-changing events. The greatest of these was when I met my wife Charity (BA, '07),” Jared says. He is now working toward obtaining a professional engineer license in the state of California and beginning a PhD program.

While Jared was finishing his undergraduate education at Cal State Fullerton, his younger brother Myles began pursuing his degree in

electrical engineering. “What I like about electrical engineering is that it provides you with the tools you need to make the world a better place. I like a good challenge!” explains Myles.

While just as independent as his brothers, Myles appreciates that both his older siblings provide a guiding influence as he takes on his undergraduate work.

“I'm thankful that my brothers are able to keep an eye on me even while they pursue their educations and careers,” he continues. “They have helped me understand the different options within engineering, which allowed me to make an informed decision based on my own strengths and preferences. I owe a great deal of my success to their patient help and to the wisdom gained from their experiences.”

Myles, also a math tutor and member of Tau Beta Pi and IEEE, is most interested in electromagnetics. “This work is a unique opportunity as it offers great promise for energy harvesting,” he says.

With so much in common, natural competition sometimes results between the brothers, which they work out on the golf course.

This year, Myles will graduate with his degree in electrical engineering; but that may not be the end of the Cupp legacy on campus. Youngest brother Austin is waiting in the wings, expecting to continue the tradition in 2012. ☀



Tanya Samra, left, **Lexi Schaffer** and **Ashley DeLuca**, members of Cal State Fullerton's Society of Women Engineers, prepare to launch their pumpkin. The all-women team took second-place honors against a field of 15 in the contest. *Photo by Karen Tapia*

Fourth Annual Pumpkin Launch Profiles the Fun of Engineering

The annual Cal State Fullerton Pumpkin Launch in November provided a splattering-good time for more than 7,000 people who enjoyed an event that has achieved almost cult-like following in four years.

Engineering teams set up catapults, trebuchets, and other launching contraptions used to send approximately 400 pumpkins flying all over Titan Field. The launch activity gave ECS students an opportunity to apply engineering lessons learned in class to a hands-on experience.

Competition was foremost in the minds of those entered in the contest. Sixteen teams competed in the event, including six teams from the College of Engineering and Computer Science. This year, the first-ever all female team, the Cal State Fullerton chapter of Society of Women Engineers, won second place.

While competition was the theme on the field, the experience throughout the rest of the recreation field, organized by the college's engineering students and Discovery Science Center, was hands-on and family-friendly. Attendees had opportunities to build mini-launchers, make lava lamps, participate in a carved pumpkin contest, view a rocket building exhibition, and experience a medieval battle.

The event was sponsored by the College of Engineering and Computer Science, the Discovery Science Center, and Future Scientists and Engineers of America. 

CAL STATE FULLERTON TEAMS THAT COMPETED IN THE 2011 PUMPKIN LAUNCH:

- Society of Women Engineers (second-place winner)
- American Society of Mechanical Engineers/ Society of Automotive Engineers
- Institute of Electrical and Electronics Engineers
- Society of Mexican American Engineers and Scientists/Society of Hispanic Professional Engineers
- American Society of Civil Engineers
- Freshman students from the mechanical engineering course





From designing aircraft to managing projects and resources, **Mona Simpson ('87, ME)** has made a life-long career in the aerospace industry.



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pre-award through post-award activities and managed supply chain integration throughout the organization. Today, Simpson develops and implements tools, systems, and processes to leverage the company's size and scale. This includes overseeing aspects of payment services and human resources, flight services, and an extensive corporate real estate portfolio.

"In many ways, what I do is like being the conductor of a very large orchestra," she says. "My job is to make sure that everyone is playing the same tune at the right tempo, so that the outcome is harmonious."

As this "orchestra conductor," Simpson plays a significant role. Over the years, Boeing has purchased many companies. Simpson's role is to merge those various systems, causing them to work in tune and in tempo. It is a monumental commission, and one that Simpson savors.

"I truly believe that Boeing builds the best products in the world and that we bring all sorts of value to our customers. This is a big job, one that I am proud to do and truly enjoy. I interact with some of the best

and brightest in this industry and because of that privilege, I have received excellent technical, business, and economic training," she says.

While Simpson is naturally optimistic, she is concerned about the lack of academic interest and training in science, technology, engineering, and math (STEM) demonstrated by today's youth.

"We have a grave issue to face," she says. "Four million children start kindergarten annually in this country and less than two percent will earn a four-year degree in engineering. We are retiring more engineers than we are training. Our company, and all high-tech companies, need people who have the skill set to be innovators."

That need is so vital to Boeing that in 2010 the company invested \$50 million in external education, half of it going toward STEM initiatives. "As a company, we want to make sure we have enough people in the pipeline to continue our mission to meet the technical and innovation challenges on the horizon," Simpson continues.

Boeing's funding initiatives encompass a broad range, from scholarships and campus

programs for retention, to helping K-12 grade teachers develop curriculum to interest students in STEM. The company is also developing a creative imaging program with the Entertainment Industry Council to reframe the general public's view of engineers and the engineering profession.

"This is an exciting initiative that we are undertaking to redefine what people typically think engineering is all about," says Simpson. "The goal is to get people to understand that it's cool to be smart. This is one way to rekindle interest and excitement among students to study math, science, and technology."

While Simpson is helping to rebrand the engineer persona, there is very little she would change about her career.

"Now that I have had this marvelous experience and exposure to the business of engineering, the only thing I would change, if I could, is that I would take more business and economics courses in college," she says. "That probably would have given me a bit more perspective early in my career, and it is certainly advice I want to pass along to engineering students." 🌟

Faculty Focus

Putcha Chandrasekhar, civil and environmental engineering, has won a \$69,000 Naval Medical Research Center award for “Modeling of Human Thermoregulatory Model to Simulate.”

Kenneth J. Faller, computer engineering, received a Faculty Reassigned Time Award to pursue scholarly activity in “Estimation of Anthropometric Measurements of the Human Pinnae Using Image Processing Techniques.”

Prasada Rao, civil and environmental engineering, has won a \$36,650 in National Science Foundation grant for the “Graduate Research Fellowship Program.”

Dr. Roberta Rikli, former dean of health and human development, has been appointed as the Acting Chair of the department of mechanical engineering. This appointment is for one semester.

Dr. Binod Tiwari, assistant professor, civil and environmental engineering, led a team of undergraduate students to a second place finish in the national GeoWall competition and in the top three for the national GeoPrediction competition.

Raman Unnikrishnan, dean, will serve as Chair of the Advisory Board for the Institute of Electrical and Electronic Engineers (IEEE), Orange County section.

NSF CAREER AWARD CONFERRED

Dr. Kiran George, assistant professor of computer engineering, has been awarded a \$400,000 National Science Foundation Faculty Early Career Development (CAREER) award for his research project: “Design and Implementation of an Evolving Intelligent Wideband Digital Receiver System on a Tribid Computing Platform Capable of Cognitive Learning.” He is the second faculty member at Cal State Fullerton to receive this award.

This is the Foundation's most prestigious award and is offered in support of the early career-development activities of teacher-scholars who effectively integrate research and education within the context of the mission of their organization. NSF expects such activities to build a firm foundation for a lifetime of leadership in integrating education and research.

ECS Online Graduate Degree in Software Engineering Nationally Ranked by *U.S. News & World Report*

Cal State Fullerton's online master's degree program in software engineering ranks third in the nation in the engineering “student services and technology” category in U.S. News & World Report's first-ever “Top Online Education Programs.”

The magazine's online honor roll lists, published in January, also rank the university's online master's degree program in information technology No.12 in “student engagement and accreditation” and No. 14 in “admissions selectivity.”

In addition, the online master's degree program in software engineering is No. 42 in “student engagement and accreditation.”

“I am honored that our hard work and efforts have been recognized at the national

level,” says Ning Chen, professor of computer science and program coordinator. “This recognition is not only for us, but also for future students and faculty who bravely embrace online education.”

The online master's degree program in software engineering is offered by the Computer Science Department within the university's College of Engineering and Computer Science.

Mariko Molodowitch, chair and associate professor of computer science, noted that the ranking helps to raise the program's credibility.

“It definitely raises our visibility and helps validate our claim that we have a high-quality program that can compete with the best online programs in the country,” Molodowitch explains.

In the engineering student services and technology category, the selected degree programs incorporate diverse online learning technologies, which provide greater flexibility for students to take classes by the methods of their choosing at the times of their choosing.

According to the category criteria, “when used adeptly, technologies help replicate the audio and visual feeling of traditional engineering classroom experience. Outside of classes, student services available online further simulate the benefits of being on campus by providing commensurate learning and networking opportunities.” 🌟



ION Chapter Applies Creativity to Develop Sophisticated Navigation Technology

CAL STATE FULLERTON ION CHAPTER MEMBERS RECOGNIZED

- 2010 – 2nd Place, CSU Student Research Competition
- 2011 – 3rd Place, IEEE Orange County 2011 Student Design Contest
- 2012 – ION Southern California Regional Scholarship awarded to Oluseyi Owolabi

RECENT AND UPCOMING COMPETITIONS

- RoboMagellan Competition, March 10, *hosted by the Robotics Society of Southern California at Cal State Fullerton*
- 8th Annual ION Robotic Lawn Mower Competition, June 2–4, *Beavercreek, Ohio*
- Sparkfun Electronics 2012 Autonomous Vehicle Competition, June 16, *Boulder, Colorado*

Getting from point A to point B is an art, a science, and an engineering challenge – at least for the Cal State Fullerton students in the Institute of Navigation (ION) chapter. Comprised of students in electrical, computer, and mechanical engineering, as well as industrial design and art, chapter members harness their creativity to design navigation systems and apply those designs in innovative ways.

“This collaboration gives students an opportunity to learn from each other as they design complicated, sophisticated, high quality products,” says Dr. Jidong Huang, assistant professor in electrical engineering and the chapter advisor.

The students recently finished constructing an autonomous lawn mower robot and are now working on a second-generation model with a wider range of applications. This high-precision robotic lawnmower will compete in multiple competitions this summer, including the ION Autonomous

Lawn Mower competition in Ohio, Sparkfun Autonomous Ground Vehicle in Colorado, and two RoboMagellan competitions hosted by the Robotics Society of Southern California.

“Students are also working on a holonomic indoor robot designed to perform various indoor tasks,” says Huang.

The ION chapter delivers multiple benefits to its student members, Huang explains.

“Students get industrial-grade project experience, without having to pay for hardware and materials,” he says. “They get to work with sophisticated sensors and components. They have the opportunity to present their projects in ION or Institute of Electrical and Electronics Engineers (IEEE) conferences and to publish their work as conference papers or in journals. In addition, they may receive course credits and scholarships for their work.”

New Online Master of Science Program in Environmental Engineering Established

Applications are now being accepted for the new online Master of Science program in Environmental Engineering which will begin in the fall of 2012.

The program is designed to provide students with practical information and technical knowledge on contemporary environmental topics and issues including:

- potable water treatment
- wastewater treatment
- water reclamation
- groundwater & soil contamination issues
- storm water management
- waste management & landfill design
- green technologies
- global warming
- air pollution control

The program will also enhance environmental engineers’ capability to effectively manage projects involving complex managerial and regulatory issues. The degree requirements include 27 semester credit hours of graduate courses and a three-credit-hour project.



For more information, visit

www.fullerton.edu/ecs/content/gradprogram.html

Student Achievements

Wastewater Challenge Winners

Nikolas Vokhsoori (MS, environmental engineering) and **Michael Dummer** (MS, environmental engineering) were awarded first place for their efforts in the Water Environment Federation (WEF) Wastewater Challenge. Competing against 11 other teams, they designed a treatment system to handle a scenario of a failed levee system. The challenge was to design a system that would control the runoff by intercepting flow, treating the water using common household items, running the water through a composting facility, and discharging it into a wetland. Within the allotted time, enough of the water, containing low levels of dissolved oxygen and high levels of nitrate, orthophosphorus, and turbidity, had to be passed through the treatment system to reduce nutrients, to keep a neutral acidity, and to raise dissolved-oxygen levels. Dummer and Vokhsoori's entry placed first based on highest scores for design simplicity and sustainability, efficiency and structural–operational durability, creative use of engineering principles, and overall safety.

GeoCongress

- **Richard Hasting, Martha Nevarez, Alex Motzny and Mark Principe**, ECS civil engineering undergraduate students, took second place in the GeoWall Competition Nationals design report. They will compete in the National GeoWall Competition finals at GeoCongress 2012 in March.
- **Beena Ajmera** (ECS civil engineering graduate student) and **Mark Principe** (ECS civil engineering undergraduate student) took third place in the GeoPrediction Competition Nationals and will be recognized at GeoCongress 2012 in March. Last year, **Beena Ajmera** and **Sabah Fanaiyan** also placed third in the GeoPrediction 2011 competition. Beena, an NSF award-winning graduate student, served as captain of the GeoWall team for the past two years.

Game Developers Attend Conference

ECS Video Game Design Club members Andrew Soltan (Senior, computer science), Fidel Cabezas (Graduate Student, computer science), Ryan Reed (computer science) represent Cal State Fullerton at the 2012 Game Developers Conference in San Francisco, CA.

Student Research Winner

Beena Ajmera placed first in the Student Research Competition hosted by the Orange County chapter of Graduate Women in Science.

Scholars Awarded

The following senior students in electrical and mechanical engineering have been awarded Boeing Company Next Generation Scholarships:

- Jacob Bailey
- Kurosh Jozavi
- Ryan Rangel-Friedman
- Alvaro Solano
- Behnoud Lahiji
- Wally Portacio
- Danny Rivera



FORMULA SAE COLLEGIATE DESIGN SERIES

The Cal State Fullerton F-SAE Team placed 16th overall in a field of 86 competing teams at 2011 Formula SAE–West. 2012 will be the fourth time Cal State Fullerton's Society of Automotive Engineers International (SAE) and American Society of Mechanical Engineers (ASME) student chapters compete in the Formula SAE competition. Cal State Fullerton's Formula SAE project team, composed of ECS Mechanical Engineering students, ASME/SAE club members, conceive, design, fabricate, and compete with a scaled down formula-style race car as part of their Senior Design and club projects.

Pictured above: Chris Scholl ('11) and the Cal State Fullerton Titan Formula Race Car perform in the 2011 Formula SAE Competition.

BOEING SUPPORTS CONFERENCE ATTENDANCE BY STUDENTS

A Boeing Company grant to the Center for Academic Support in ECS (CASECS) provided registration fee scholarships and transportation support for the following students to attend professional conferences:

Lawrence Cagatin, Electrical Engineering
Rafael Castro, Mechanical Engineering
Kurosh Jozavi, Senior, Mechanical Engineering
Wally Portacio, Senior, Mechanical Engineering
Danny Rivera, Senior, Mechanical Engineering
Alvaro Solano, Senior, Mechanical Engineering

WESTERN DIGITAL AWARDS SCHOLARSHIPS

Western Digital has awarded the Western Digital Foundation Scholarships for Outstanding Seniors to the following students:

Everardo Acosta, Computer Engineering
Diego Moreno, Electrical Engineering
Katie Soto, Computer Science



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Mark Your Calendar



April 5: *Technology Breakfast*

Engineering for High-Speed Rail with Rick Simon, Sr. Project and Design Manager, HNTB Corp., LA to San Diego section, CA High Speed Rail project.

For more information and to RSVP, go to <http://calendar.ecs.fullerton.edu/eventlist.aspx>

April 28: *19th Annual Vision & Visionaries Award Gala*

ECS alumna Caecilia Gotama is among the eight Cal State Fullerton alumni to be honored at the Gala which will be held at the Hilton Anaheim.

For more information, go to www.fullerton.edu/alumni/event/vv/

May 20: *ECS Commencement*

For more information, go to www.fullerton.edu/commencement/graduates/ecs.html

May 31 – June 2: *ION's 9th Annual Robotic Lawn Mower Competition*

Cal State Fullerton's Institute of Navigation (ION) and Institute of Electrical and Electronic Engineers (IEEE) student chapters will compete at Siebenthaler's Beaver Valley Garden Center, Beaver Creek, OH.

June 20–23: *Formula SAE-West Competition*

Cal State Fullerton's Society of Automotive Engineers International (SAE) and American Society of Mechanical Engineers (ASME) student chapters will compete at the Lincoln Airpark in Lincoln, NE.

CALL FOR PRESENTERS: 2012–2013 TECHNOLOGY BREAKFAST SERIES

For more information, go to: www.fullerton.edu/ecs/content/affiliatespresenters.html

