2015 Honors and Awards Banquet

Double Tree Suites, Anaheim CA
Saturday, February 28, 2015
CREATING A BETTER TOMORROW

AECOM is proud to sponsor the Orange County Engineering Council's 2015 Engineers' Week Honors and Awards Banquet. We congratulate all the award recipients.
The USC Viterbi School of Engineering joins the OCEC in honoring

Beherman Jafarpour
Outstanding Engineering Educator Award

Behrokh Khoshnevis
Distinguished Engineering Merit Award

Chung-Chieh Kuo
Outstanding Engineering Educator Award

Juli Legat
STEM Service Award

Ellis Meng
Distinguished Engineering Merit Award

Donald Paul
Distinguished Engineering Merit Award

Francisco Valero-Cuevas
President’s Award

Body Engineering
Los Angeles (BE-LA)

Krishna Nayak
Outstanding STEM Program Award

CREATE

Milind Tambe
Project of the Year Award - Innovation

Research Experience for Teachers (RET)

Maja Matarić & Gisele Ragusa
Outstanding STEM Program Award
California Resources Corporation
Is pleased to support the Orange County Engineering Council 2015

Want A Professional Meeting Planner To Research, Review, and Create a Thorough Report of All Hotel Venues For Your Next Event Plus, Negotiate the Contract?

FREE

Michelle Gentzen Finds Your Perfect Venue And Bottom Line Value With Pre-Negotiated Contracts!
ConferenceDirect has pre-negotiated contracts with all the major hotel companies and books more than 5 million hotel rooms per year! A 25-year meeting planning veteran, Michelle has been with ConferenceDirect seven years.

Contact Michelle Gentzen about FREE hotel site selection and contract negotiation services at michelle.gentzen@conferencedirect.com or 918-232-4141.
A Special Thank you!

The OCEC Committee would like to extend a special thank you to all of our sponsors!

Platinum Sponsor: $2,000
University of Southern California

Gold Sponsor: $1,000
AECOM
CWE
Port of Long Beach

Silver Sponsor: $500
Conference Direct

Bronze Sponsor: $200
California Resources Corporation
Table of Contents

Banquet Agenda 9
Board of Directors and Advisory Board 10
OCEC President's Message 11
Keynote Speaker bio and Abstract of Keynote Speech 13

OUTSTANDING ENGINEERING STUDENT AWARDS
Lawrence Bustos 14
Rebecca Chen 15
Surbhi Dadlani 16
Uyen H. Nguyen 17
Ana Quezada 18
Najmeh Rahimi 19
Hao Su 20
Shahab Taherian 21
Stella Taleverdi 22
Lauren Won 23

YOUNG ENGINEER AWARDS
Cynthia Carter 24
Paola G Chavira 25
Philip De Armendi 26
Katie Harrel 27
Tasha M. Kamegai-Karadi 28
Mica Lee 29
Gidti Ludesirishoti 30
Darcy N. Sulz 31
Eric Walker 32

OUTSTANDING ENGINEERING MERIT AWARDS
Vik Bapna 33
Chad Dorgan 34
William H. Guoan 35
Nikki Kerry 36
Theodore (Ted) D. Kerzie 37
Michael Lahlou 38
Natalie Meeks 39
Victoria Pilko 40
Robert Schaf 41
Byron Tobey 42
Scott Walker 43

DISTINGUISHED ENGINEERING MERIT AWARDS
Yazdan Emrani 44
Behrokh Khoishnevis 45
Ellis Meng 46
Donald Paul 47
OUTSTANDING ENGINEERING SERVICE AWARDS
Abdulmgeed (AB) Abdulrahman 48
Rafael Contreras 49
Seyed (Amir) Torabzadeh 50

OUTSTANDING STEM SERVICE AWARDS
Jack Gupton 51
Juli Legat 52
Saba Yohannes-Reda 53

OUTSTANDING ENGINEERING EDUCATOR AWARDS
Anthony E. Farmand 54
Judith L. Forbes 55
Behnam Jafarpour 56
Wenlong Jin 57
Chung-chieh Jay Kuo 58
J. Michael McCarthy 59
Nina Robson 60
Eric Shen 61
Brinda Subramaniam 62
Kawai Tam 63
Parviz Yavari 64

OUTSTANDING STUDENT PROJECT AWARDS
CSULB Baja SAE Student Project 65
CSULB Formula SAE Student Project 66
CSULB Experimental Sounding Rocket Association (ESRA) 67
UC Irvine Design, Build, Fly Team 68

OUTSTANDING STEM PROGRAM AWARDS
Body Engineering Los Angeles (BE-LA) GK-12 Program 69
INSCOVER 70
K-12 STEM Outreach: Speaker’s Bureau 71
Research Experience for Teachers (RET) Program 72

ENGINEERING PROJECT ACHIEVEMENT AWARDS
Balboa Blvd. Beautification 73
Bristol Widening Phase II 74
Burris Pump Station Project, Phase I 75
Corona Del Mar Water Transmission Main 76
Eastbluff Drive – Ford Road Bike Lane Improvement Project 77
Emergency Roof Stabilization, Tustin Hangar I 78
Irvine Regional Park Maintenance Building Replacement Project 79
Lake Forest Sports Park 80
Newport Forcemain Project 81
Park Place 82
Sand Canyon Avenue Grade Separation 83
Santa Ana River Interceptor (SARI) Relocation 84
Skimming the Water of Newport Harbor 85
SR-57 Improvements 86
Sunset Ridge Park 87
The West County Connectors Project 88
ENGINEERING PROJECT OF THE YEAR – INNOVATION AWARD
GT-Metro: Game Theoretic Scheduling of Metro Security Patrols  

ENGINEERING PROJECT OF THE YEAR AWARD
Anaheim Regional Transportation Intermodal (ARTIC)

THE JAMES E. BALLINGER ENGINEER OF THE YEAR AWARD
Matt G. Ulukaya

OCEC PRESIDENT’S AWARD
Francisco J Valero-Cuevas

Advertisements

AECOM –back of front cover

California Resources Corporation – page 4

Conference Connect – page 4

CWE – back cover

Port of Long Beach – front of back cover

University of Southern California – page 3
National Engineers Week
2015 Annual Awards Banquet

- Reception and Networking
- Color Guard, Pledge of Allegiance and Invocation
- Welcome Address
- Dinner

- Keynote Speaker: Yannis Yortsos,
  Dean of Viterbi School of Engineering,
  University of Southern California

- Awards Ceremony
  - Outstanding Engineering Student Awards
  - Young Engineer Awards
  - Outstanding Engineering Merit Awards
  - Distinguished Engineering Merit Awards
  - Outstanding Engineering Service Awards
  - Outstanding STEM Service Awards
  - Outstanding Engineering Educator Awards
  - Outstanding Student Project Awards
  - Outstanding STEM Program Awards
  - Engineering Project Achievement Awards
  - Engineering Project of the Year - Innovation Award
  - Engineering Project of the Year Award
  - The James E. Ballinger Engineer of the Year Award
  - OCEC President’s Award

- Adjournment
Board of Directors

President                              Dr. Spiros Courellis
Past President                       Mohammad Sadiq, P.E., ASCE
Senior Past President               Dr. Peter Kurzhals, CM. F., AIAA
V.P. Engineering and President-Elect  Dr. Steve Cheung, LASPE
V.P. Professional Societies          Dr. C.T. Bathala, P.E., ASCE
V.P. Education                      Dr. Jesa Kreiner, P.E.
V.P. Communications                  Noah Flaum, IEEE
Treasurer                           Phil Ridout, FIAE, AIAA
Secretary                           Debora Clarke, SWE
Executive Director                  Dr. Sam Sarem, P.E (OK), LASPE

OCEC 2013-2015 Advisory Board

Dr. Sam Sarem, Chair
Dr. Spiros Courellis, OCEC President
Paola Chavira, SWE President
Don Clarke, AAPG President-elect candidate
Dr. John Collins, Past IEEE OC Chair
Dr. Tapas Dutta, Past President, ASCE
Joseph E. Justin, Boeing, Chair AIAA, OC Section
Douglas Kruse, President, D. C. Kruse, Inc.
Rupal Nguyen, MicroVention, Inc. A Terumo Group Co.
Jeff Plank, California State Lands Commission
Matt U1ukaya, VP, Orange and Ontario Operations Mgr AECOM Transportation
Raj Upadhyay, LASPE, Past VP Prod Research, Unocal Science and Tech
Marina Voskanian, Div. Chief Mineral Resources Management, Cal State Lands Commission
OCEC President’s Message
Dr. Spiros Courellis, OCEC President

On behalf of the Orange County Engineering Council (OCEC), I would like to welcome all the attendees to OCEC’s Honors and Awards Banquet 2015, a premiere event in Orange County celebrating scientists and engineers of Southern California, and their achievements. OCEC’s Honors & Awards Banquet aims to bring to the work of scientists and engineers the recognition it deserves, and acknowledge individual engineers, scientists, educators of science and engineering, and supporters of the engineering profession for their accomplishments.

Every year, during National Engineers’ Week, OCEC’s Honors and Awards Banquet joins the festivities that celebrate the engineering profession, supporting and amplifying locally the intent and the spirit of Engineers’ Week. The National Engineers’ Week aims to call attention to the engineering profession and the contributions of engineers to society. It also intends to promote the significance of math and science as requisite quantitative tools to solve complex technical problems. Engineers Week not only celebrates the tremendous difference engineering accomplishments make in every facet of our society, but also promotes public dialogue about the need for engineers, and inspires the youth to pursue careers in engineering, so that they make a difference in our society in the future.

The Orange County Engineering Council was established more than fifty years ago by a group of visionary engineers and engineering leaders of Orange County with the aim to promote the engineering profession in Southern California. Ever since, OCEC has grown to become an organization that facilitates the dialogue among engineering disciplines, offers a forum for engineers of various disciplines to identify and pursue their common goals, and provides a platform for all engineering disciplines to coordinate their combined outreach activities. Through monetary awards in the form of grants and through volunteerism of its member corporate and educational partners, and professional societies, OCEC has supported and continues to support a number of STEM Education Programs implemented directly by middle-schools, high-schools, and local universities, by MESA, or by independent groups dedicated to STEM education. Increasing its emphasis on sponsoring STEM Education programs in the future, OCEC aspires to initiate and co-sponsor events that will promote real life exposure of elementary, middle, and high school students to the engineering profession and encourage mentorship opportunities between students and engineering professionals and educators.

OCEC relies on member fees and sponsor contributions to accomplish its outreach activities. Comprised of individuals, companies, academic institutions, and professional societies, OCEC members and sponsors have the opportunity to interact with their peers socially and professionally in OCEC organized events and through volunteer activities. OCEC members and sponsors are listed on OCEC’s website and included in all the publicity associated with activities organized and sponsored by OCEC, and the programs funded by OCEC.

This year’s OCEC’s Honors and Awards Banquet is one of the largest recognition events of scientists and engineers in Southern California with increased emphasis on recognizing students, student projects, STEM educators, and STEM programs. I would like to thank the selection committee, comprised of members of the Executive Committee and the Board of Directors of OCEC, for dedicating time and effort to evaluate the nominations, and OCEC’s VP of Engineering for organizing this memorable event. I would also like to thank our sponsors for believing in OCEC’s mission and generously supporting OCEC’s outreach activities with their contributions. Thank you all for joining OCEC and the engineering community of Orange County in this gala celebrating the engineering profession. Be well, take on the science and engineering challenges presented to you with determination and optimism, and come up with the ingeniously creative solutions that will bring us together next year, at OCEC’s Honors and Awards Banquet 2016, to celebrate your accomplishments, your achievements, and the engineering profession.
Dr. Yannis C. Yortsos has served as Dean of the USC Viterbi School of Engineering since June 2005. Under his leadership, the Viterbi School rose to 10th worldwide for engineering, computer science and technology, and has earned the top ranking in Distance Learning in the same fields. Since 2009, ten faculty members have been listed in the MIT Technology Review list of Innovators under the age of 35, more than any other school or organization in the world. In August 2014, National Science Foundation (NSF) announced that it will provide a multimillion-dollar grant to create a hub of innovation that unites public and private institutions throughout Southern California, headquartered at and administered by USC, Cal-Tech, and UCLA. It aims to foster innovation by encouraging the translation of ideas and research beyond the laboratory to create social and economic impact.

Dean Yortsos received his B.Sc. from the National Technical University, Athens, Greece, and M.Sc. and Ph.D. from the California Institute of Technology, all in chemical engineering. He is a member of the U.S. National Academy of Engineering.

Abstract of his keynote speech: Technology is enabling increasingly larger segments of human endeavors at an increasingly faster pace with transformative consequences. The evolution of technology through its leveraging of phenomena from physical to biological, and now, even social, will be presented. The Grand Challenges in Engineering and their societal importance, as a call for attracting the interest of the young generations, will also be discussed.
Outstanding Engineering Student Award

Lawrence R. Bustos  
Petroleum Engineering  
University of Southern California

Bustos is a graduate student at the University of Southern California pursuing a MS degree in Petroleum Engineering. On his campus he is a leader in many organizations. He is passionate about personal growth, service to others and leadership.

He is the motivating president of the Society of Petroleum Engineers at the University of Southern California. He works with the SPE executive board to manage and implement the organization’s mission and vision for the student professionals. Currently he is collaborating to create exciting offshore operation fieldtrips, onshore facility field trips, invigorating workshops, enlightening lectures by SPE distinguished members and memorable social events.
Rebecca Chen is a talented young lady, with her ability to navigate and positively influence those around her. Her willingness to learn, as well as her adaptability to situations allows her to balance between challenges of academia, as well as multiple leadership opportunities at school. Coming in as a committee member for two large engineering clubs on campus, the American Institute of Chemical Engineers (AIChE) and the International Society of Pharmaceutical Engineering (ISPE), her creativity and proactive character gained her both trust as well as respect among her peers. She steadily gained accountability and recognition for her work, and took on larger roles from Mentorship Chair to External Vice President of AIChE, and Research Chair to Internal Vice President of ISPE come junior year. Always striving to learn, she has had extensive internship experiences from working in consumables, to aerospace and defense, as well as non-profit industries.

Together with her strong leadership qualities and prior work experiences, her positively motivating style of leading with visionary perspective lead to the pioneering of the Society of Petroleum Engineers (SPE) club on campus. Rebecca showed admirable initiative, inquisitiveness, and appropriate levels of risk taking and leadership, consistently thinking to give back to the community as a role model to her peers.
Outstanding Engineering Student Award

Surbhi Dadlani
Civil & Environmental Engineering
University of California, Irvine

Surbhi is a MS student at the Civil & Environmental Engineering Department of the University of California, Irvine. Her focus area is structural engineering with emphasis on green materials and sustainable structures. She received her Bachelor degree in Civil Engineering from Jai Narain Vyas University in India with a GPA of 3.5/4.0. Her current cumulative GPA at UCI is 3.514/4.0.

Surbhi M.S. Thesis project focuses on development of Concrete Canvas which is flexible cloth made of fibers and filled with dry concrete mix which gains strength within 24 hours after water is poured. In addition, she is taken a leading role in two research projects including structural evaluation of 3D Sandwich Composite floors. She has been involved in a pioneering project investigating the use of bamboo arch structures and evaluating both the short- and long-term behavior of such natural construction system. She has been also involved in research projects involving analysis and design methodologies for steel members subjected to tension.

Surbhi is an outstanding student, who regularly impresses her peers and professors with her commitment and discipline. As a graduate researcher, Surbhi has proven her creativity and leadership and assumed significant research responsibilities.
Outstanding Engineering Student Award

Uyen H. Nguyen
Bioengineering
University of California, Irvine

Ms. Uyen Nguyen has won many scholarships and awards: SPE, LA Basin Scholarship, 2014; Boeing Scholarship, 2012; UCI Dean’s Honor List 2012; UCI Sage Finalist, 2012; Henry Samueli School of Engineering Scholarship, 2011; Science Scholarship Fund of Orange County Community Foundation, 2011; and Leadership Award. Orange Coast College, 2010-2011.

As President of Society of Petroleum Engineers, UCI, she has led the board of 10 members to operate a newly found organization, develop long-term strategy, organize field trips, technical workshops, and professional networking events to advance student professional skills in the areas of engineering.

As Vice President External of AICHE- American Institute of Chemical Engineering, UCI, she organized company speaker meetings, tours, and professional training workshops to provide undergraduate chemical engineering students with industry exposure.

She was also the Teaching Assistant at Thanh Linh Vietnamese Language School, Fountain Valley where she gives free language lessons for elementary students.

Uyen is a member of the National Society of Leadership and Success, UCI-National Honor Society of Chemical Engineering, and Toast Master.
Outstanding Engineering Student Award

Ana Quezada
Bioengineering
University of California, Riverside

“Ms. Ana Laura Quezada is a bright student who yearns to learn different subjects. She has an amicable personality, which enables her to interact with her peers effortlessly. She takes her work very seriously, listens well and works a lot to advance her knowledge. For her Master’s thesis, Ana had worked on discrete element analysis of reliability of implants made from ceramic materials. She had done Research and Development work at two Mexican Technical Centers for 4 years. She will be working on bio applications related to modeling and understanding heat transport and temperature variations within biological tissues and body organs which are key issues in medical thermal therapeutic applications. The biological media can be treated as a blood saturated tissue represented by a porous matrix. Ana had done a comprehensive investigation of bioheat transport through the tissue/organs.

Ana’s dedication, hard work and her knowledge base will certainly help her succeed very well in her doctorate studies here at UCR. Additionally, she is a good role model for women in her country of Mexico since her work will inspire them to pursue higher education.

Ana has been very inquisitive about the research subjects, asking the professors about the methodologies and concepts to obtain a better understanding of the material. Ana has extremely good work ethic; she always puts in her best effort towards producing quality results. Ana is an excellent student and has a substantial amount of experience knowing how to work under adverse conditions. Currently, bioengineering is one of the primary fields of interest in our scientific community since its aim is to provide a world-class health care
Outstanding Engineering Student Award

Najmeh Rahimi
Mechanical and Aerospace Engineering
California State University, Long Beach

Ms. Najmeh Rahimi is a MS Student in the Mechanical and Aerospace Engineering Department at California State University, Long Beach expected to graduate by August 2015. She is a Graduate Assistant in the MAE department involved with helping instructors for several engineering courses. Her performance as a Graduate Assistant has been outstanding. Currently, she is conducting a research project on “Modeling Combustion Processes for Tracking and Controlling Emission Gases”, a research area desperately needed to reduce and control harmful emissions from combustion engines.

Before joining CSULB in 2013, she was a graduate student at Iran University of Science and Technology. She received her BS in Mechanical Engineering from Shiraz University, one of the top technical universities in Iran. In addition to her master thesis, Ms. Rahimi has conducted several research projects including: “Development of an Algorithm for Analyzing Air Flow Around Airfoils” for Boeing NACA2412 using various CFD packages; “Sensitivity Analysis of Attack Angle and Initial Mach Number on Flow Mach Number”, “Design and Performance Analysis of a Ramjet Engine”; and “Development of an Algorithm for Analysis of Thermal and Momentum Boundary Layers in Natural Convection”.

She served as a Design Engineer with Iran’s Petrochemical Company for one year. She was involved with design and development of pressure control devices and nozzles for cylindrical oil tanks.

Najmeh has excellent technical skills and knows many software programs. She is active in several student and professional organizations including the American Society of Mechanical Engineers, the Society of Petroleum Engineers. She volunteers for department, college, and university open houses as well as community services.
Outstanding Engineering Student Award

Hao Su
Mechanical Engineering
California State University, Long Beach

Miss Hao Su is a senior in Mechanical Engineering at California State University, Long Beach, expected to graduate by May 2016. She transferred to CSULB from Fullerton College in 2013. Before that she was at Michigan State University where she completed some of math and science courses there before coming to Southern California. At Fullerton College, she completed the required general education courses. Hao has been very interested in engineering from childhood. At CSULB, she has been involved with engineering organizations and promoting science and engineering. She participated in the “Girls Engineers at the Beach” events which brought hundreds of middle school and high school students to CSULB to familiarize them with various engineering disciplines and provide them with hands-on engineering experiences.

Miss Su is interested in attending graduate school and will continue her education towards a MS degree.
Outstanding Engineering Student Award

Shahab Taherian
Engineering and Industrial Applied Mathematics
California State University, Long Beach

Mr. Shahab Taherian is a Ph.D. candidate in the Engineering and Industrial Applied Mathematics degree program jointly offered by California State University, Long Beach and the Claremont Graduate School, expected to graduate by May 2015. He is also a part-time lecturer teaching several engineering courses.

He received his BSME from Eastern Mediterranean University in Cyprus, his MSME degree from CSULB, and was a Graduate Assistant and a lecturer. Mr. Taherian has already published and presented 3 refereed papers, 3 conference papers and a poster.

His Ph.D. dissertation focuses on “CFD Modeling and Analysis and Study of Particle Transport and Deposition in Pulmonary Airways”. The objective is to develop a non-invasive diagnostic tool for the human respiratory system. Currently, physicians have to use two or three different modalities to evaluate a patient’s lung. Shahab’s research results would allow doctors to evaluate a patient's pulmonary status non-invasively. Through use of CT and MRI scans, Shahab can develop a 3-D model of a patient’s lung and conduct computational analysis to estimate degree of progress of a disease. His model can also demonstrate the effect and amount of pollution deposited into the lungs and the respiratory tract. His research results can be used to design new inhalers and surgical masks, more effective drug delivery systems, and improved preventative measures for controlling air quality.

He received 2014 CSULB Innovation Challenge Award; NCST 2014 Outstanding Student of the Year Award from METRANS transportation center; 2013 Outstanding Graduate Student Research Award from CSULB. He is active in professional and honor societies and serves as a volunteer for many organizations on and off campus.

OCEC Engineers’ Week Awards Banquet, February 28, 2015
Outstanding Engineering Student Award

Stella Taleverdi
Chemical Engineering
California State University, Long Beach

Ms. Stella Talverdi is a senior student expected to graduate by Fall 2015. She is currently serving as an Engineering Intern at Southern California Gas Company working as a Project Control Intern with Pipeline Safety Enhancement Plan (PSEP) Team and the California Public Utilities Commission (CPUC). She worked as a Student Research Assistant with faculty on a collaborative research project between Chemical Engineering and Civil Engineering departments to reduce emissions, particularly NOX, from cars and other vehicles.

Ms. Talverdi is very active in SPE Student Chapter at CSULB where she has served as the Secretary. She was instrumental in reviving the chapter and helping with improving its programs. Stella is also heavily involved with America Institute of Chemical Engineers (AICHE), Society of Women Engineers (SWE), and Tau Beta Pi Engineering Honor Society.

She is among the top 10% of her class, and has been on the President and Dean’s lists, was recipient of BP America scholarship, Certificate in Student Leadership from Society of Petroleum Engineers, and Process Safety Certificate from American Institute of Chemical Engineers. Stella is a problem solver with excellent leadership and communication skills. She is a team player, a team leader, and an independent thinker.

She was a major contributor in the MESA Day at CSULB for the last 2 years. She has served as the Coordinator for the AGBU Project since 2010. She was a volunteer with the “Girls Engineers at the Beach” providing mentoring to middle school and high school girls to attract them to engineering and sciences.
Outstanding Engineering Student Award

Lauren Won
Mechanical Engineering
California State University, Fullerton

Lauren Won will receive her B.S. in Mechanical Engineering degree in May of 2015. Not only is she an excellent student and team leader of the Capstone Senior Design project but she is also leading the Solid Works Design Project testing the structural integrity of the Formula One vehicle. She has also optimized the design of a land rover by using sophisticated computer software. Miss Won is serving as the president of Tau Beta Pi, engineering honors society where she demonstrated superb leadership qualities and is also active in ASME and KSEA professional engineering societies. Throughout her studies at Cal State Fullerton she has been on the Dean’s list in view of her high GPA. During her studies she interned at NASA-Jet Propulsion Laboratories and UPS-United Parcel Service where she wrote reports about the ongoing projects with respect to feasibility and planning for future activities.
Young Engineer Award

Cynthia Carter
Air Quality Specialist
South Coast AQMD

Cynthia Carter has been protecting public health for the past 8 years. She has been a major contributor for better air quality by reducing air emissions from the petroleum industry and industrial facilities. She has been an excellent achiever for the South Coast Air Quality Management District (SCAQMD) by issuing over 250 air permits and handling environmental-technical documents.

Cynthia received her B.S in Mechanical Engineering from the University of California, Riverside and her M.S. in Mechanical Engineering from Cal Poly Pomona. She currently serves on the Board of the Air & Waste Management Association, Society of Women Engineers –OC, Toastmasters, and Pomona Valley Bicycle Coalition.

Some of her career highlights consist of working on SCAQMD’s lawsuit for their Supreme Court Case, working with EPA to handle a refinery’s compliance issues, assisted with the Planning Department’s emission reduction of SOx for the entire basin and special projects on researching FCCU emissions and Boiler Ratings.

Her new role as an Air Quality Specialist has allowed her to increase her responsibility at the agency by handling high profile/controversial projects (i.e. Refinery Integration and Lead Recycling Facilities). In her new position she manages complex projects, works professionally with other public agencies, attorneys, and the public community.

She pays attention to details and produces a high level of quality work. She is observed to be deeply involved in her work, meetings with industry and collaboration with other departments. She has shown to be a competent engineer and can be counted upon as a valued team member.
Young Engineer Award

Paola G Chavira
Account Executive, SoCal Gas
Section Representative (SWE)

In her years at SoCal Gas company Paola has developed great relationships with her customers, making her their first point of contact for their energy efficiency incentive needs. One of her proudest moments was being able to close the Tunnel Washer project from Valet Services. This project became truly difficult, but with the help of Shaena Walker, Eric Kirchhoff and Debbie Eggers, Paola was able to close that project and keep the customer pleased. As a result, this customer was highly motivated to participate in numerous project and program opportunities at the Gas Company. All customers Paola has had interaction with in 2012 have been very happy. They have stated that she is responsible, punctual, very organized and always helpful.

Her outstanding communication and organization skills have also helped her maintain customer credibility in SCG’s EE programs; thus, making sure those customers will also participate in future years. Paola’s professional leadership skills have made her an excellent Account Executive. She has been able to serve their needs and help them navigate SoCalGas’s departments and programs in an efficient manner. Paula has been able to direct her customers to the best EE programs that fit their goals. She has used Program for Resource Efficiency in Private and Public Schools (PREPPS) to help various school districts effectively plan projects to use their Prop 39 funds. She has also identified customers that will benefit from the Industrial EE program and has successfully enrolled her second customer on Continuous Energy Improvement Program (CEI). Paola has also taken advantage of SCG’s Savings by Design program and has a project in the works with her biggest customer. She also helped review future EE programs that might be added to SCG’s portfolio. She has maintained an amazing reputation with her customers. This year Paola continues to be involved with AEE and SWE in leadership roles, thus helping SCG have presence in both organizations while developing her management and organizational skills.
Young Engineer Award

Philip De Armendi
Electrical Engineer
The Boeing Company, Huntington Beach

Philip de Armendi is an Electrical Engineer with Boeing Huntington Beach (started in May 2011). Philip has great potential and a track record excelling as an Electrical Engineer in circuit design, digital logic, and VHDL programming (Very-High-Speed-Integrated-Circuit [VHSIC] Hardware Description Language), a programming language that can describe the functionality and timing of the hardware. He is currently assigned to a Proprietary Program.

Previously, he was assigned to Strategic Missile Systems on a Minuteman Intercontinental Ballistic Missile (ICBM) research and development program, and on an AF-funded Alternate Pendulous Integrating Gyroscopic Accelerometer (Alt-PIGA) effort. Philip was also a lead Field Programmable Gate Array (FPGA) designer on a Minuteman Alignment Set Test Station program. Prior to SMS, Philip started his Boeing career in FAB-T (Family of Advanced beyond-line-of-sight Terminals) where he was part of a Functional Qualification Test team.

Philip is in a MS in Computer Science program from Columbia University with an expected completion in 2016
Young Engineer Award

Katie Harrel
Civil Engineering
CWE

Katie has been working for CWE, a civil, water, and environmental engineering firm in Fullerton since 2012. She has significantly contributed to many of its major projects, such as, “Enhanced Watershed Management Program”, “City of Torrance Storm-water Basin and Treatment Wetlands Enhancement and Construction Management”, “North Fork Matilija Creek Geomorphology, Fish Passage, and Engineering”, “Port of Long Beach Port-wide Capital Improvement Storm-water Master Plan”.

Katie is an active member of ASCE. She received her BS, Civil Engineering degree from California State University, Long Beach and is expected to graduate with an MS in Civil Engineering from CSULB in 2015. She was the CSULB team captain for its 2013 National Concrete Canoe Competition. She received a $10,000 grant through the Metropolitan Water District of Southern California to investigate a concept to conserve water resources without sacrificing the natural and green environment provided to communities through water irrigation.

Over the past 10 years, Miss Harrell has volunteered for Mercy House, an organization that provides housing and supportive services for a variety of local homeless populations
Tasha Kamegai-Karadi has made significant contributions to the environmental engineering field since obtaining her B.S. degree in Civil and Environmental Engineering from UC Berkeley in 2009 and M.S. degree in Environmental Engineering from Stanford University in 2011. After graduating from UC Berkeley, she worked for the Department of Defense as a Nuclear Engineer, performing engineering analysis for the Navy’s fleet of submarines stationed in Hawaii. Additionally, she managed the design of a high purity water treatment system for reactor core cooling water in Guam.

After graduating from Stanford University, she joined Geosyntec Consultants as an Environmental Engineer in their Remediation Department. With Geosyntec, she has contributed significantly to technical design and project management for large scale remediation projects in California. Her projects have included assisting with design and management of a large scale groundwater extraction and treatment system for potable use, multiple vapor intrusion investigation and assessments, LNAPL conceptual site model, and groundwater monitoring. Ms. Kamegai-Karadi is a California Registered Professional Engineer.

In addition to her professional contributions, Ms. Kamegai-Karadi is dedicated to the advancement of women in the engineering field as an active leader in the Society of Women Engineers (SWE). Currently, she is the vice president of the SWE Orange County Section and has served as the Professional Development Chair for the SWE Hawaiian Islands Section. Additionally, Ms. Kamegai-Karadi has organized multiple outreach events for K-12 students.
Young Engineer Award

Mica Lee
Senior Consultant
Deloitte

Mica Lee is a Senior Consultant at Deloitte, serving clients in a variety of industries, including Financial Services, Consumer Products, and Healthcare. She leads project teams in helping clients enhance their operational processes and develop their information security strategy. She earned a degree in Industrial and Systems Engineering with an emphasis in Information and Operations Management and was recently named a Certified Information Systems Security Professional through her work at Deloitte.

Mica has been involved with the Society of Women Engineers (SWE) since her undergraduate years at the University of Southern California, and has been awarded several scholarships by the national SWE organization. She also continues to serve the professional SWE-OC chapter by coordinating social events and driving SWE-OC’s corporate relations initiatives by partnering with local engineering firms. She organizes technical tours for SWE-OC’s members to gain exposure to engineering careers, equipment, and processes at various local manufacturing facilities.
Young Engineer Award

Gidti Ludesirishoti
Project Engineer
HDR Engineering Inc.

Gidti recently served as the President for the American Society of Civil Engineer’s (ASCE) Orange County (OC) Younger Member Forum (YMF) and is currently the YMF Liaison to the Los Angeles Section for its 6 younger member groups. Gidti has a comprehensive vision on leadership, operations, and marketing of ASCE. His successive contributions during his tenures as Community Service Chair, Secretary, Vice-President, President, and now both OC YMF Past-President and LA Section YMF Liaison are unmatched. Gidti has been making a point to effectively transfer his knowledge by developing and implementing the OC YMF University Program since his Presidency. During his Presidency, Gidti was involved in overseeing 72 events, notably for: a local Industry Leaders Speaker Series, 2 Corazon home builds, a meal cooked for Ronald McDonald House, a PSBC, a Jog-A-Thon fundraiser for 3 local Universities, and inauguration of a mentorship program in Orange County.

Gidti is recognized by his peers for his advanced technical skills, having made significant contributions to advance the engineering techniques in the water/wastewater industry. Gidti was essential in leading the successful completion of the coordination of construction services for the $100M Santa Ana RiverInterceptor Relocation – Orange County Sanitation District (2011-2014) for which effective collaboration with several entities has been essential. Gidti is currently leading the design of a Salt Model, as part of the Recycled Water Salt Management Plan – Irvine Ranch Water District (2013 – Present).
Young Engineer Award

Darcy N. Sulz
Engineer II
AECOM

Darcy has been making significant contributions to airfield projects and has become a key member of the AECOM team. He has shown excellent technical skills, taken ownership of the tasks and shown capacity to be thorough and complete. One project in particular in which he has been excelling, is the Los Angeles World Airports’ (LAWA) Capital Improvements Project, in which he has taken a lead role in addition to his excellent engineering skills.

Darcy’s contributions have been recognized for his strong performance and value to AECOM.
Young Engineer Award

Eric Walker
Engineering Assistant
Stantec

Eric worked with ASCE Student Chapters boards and individual student chapter leaders to mentor and oversee their growth. He attended organized events such as, Fundraisers at local restaurants, and Engineering Career Fairs, and the Pacific Southwest Conference.

He increased the participation of students at YMF and branch events, Students are regularly a significant portion of attendees to YMF technical, social, and K-12 or Community Outreach events.

Eric and his committee organized workshops for the various Universities to help students learn practical skills and supplemental topics not covered in the engineering curriculum. Eric teamed up with industry surveyors to visit the local campuses and teach about Surveying and the interconnectedness between the disciplines. The committee also recognized the importance of educating students about Plan Sets.

End of the school year events such as the Beach Day also serve as great recruiting tools. Perhaps the best recruiting tool of all has been the establishment and expansion of the Student Chapter Liaison Positions. Each year, new recent graduates are selected to serve as a link between YMF and the Chapter they just graduated from.

This past year, Eric has really taken the Student Activities Chair position to the next level. His passion for the position has resulted in the growth not only in the number of students participating, but in growth of activities of each of their respective chapters. Accountability for financials, activities, awards, scholarships and more are all at a level higher than the previous years. He has built a reputation for helping the student; serving as a mentor, coordinator, and friend helping the next generation of leaders grow and develop within ASCE.
Outstanding Engineering Merit Award

Vik Bapna
Civil Engineering
CWE

Vik’s contributions to the engineering profession have been driven by his dedication to providing engineering solutions to improve the quality of life for Southern California’s families, communities, and the company’s stakeholders.

Many of Vik’s most notable contributions have involved multiuse, regional projects to promote groundwater recharge, water conservation, water quality improvements, flood control, recreational opportunities, and public education. He managed the City of Torrance Stormwater Basin and Treatment Wetlands Enhancement Project. Vik also managed the City of Los Angeles Garvanza Park Rainwater Capture and Use Project. These projects won awards in 2012 and 2014. Vik is pioneering the development of one WMP and six EWMPS for watershed management groups throughout the Los Angeles County. These EWMPS are the first of their kind, and Vik was selected to develop them due to his reputation for and track record of providing comprehensive, innovative stormwater regulatory compliance solutions.

Vik is also very active in the Orange County community and frequently judges high school science competitions. He was a mentor for the US First Robotics team; co-chair of the CASQA Industrial General Permit Subcommittee, and co-chair of the Los Angeles LID Guidance Manual Technical Advisory Committee. He participated in numerous environmental cleanup events, including Coastal Cleanup days to plant trees and reduce carbon footprint.

Vik graduated with a BS, Civil Engineering degree from New Jersey Institute of Technology.
Outstanding Engineering Merit Award

Chad Dorgan  
Vice President Quality and Sustainability  
McCarthy Construction Company

Chad has become a recognized leader in sustainable design and construction, quality processes, and applied mechanical engineering. A USGBC LEED Fellow, Chad has been the leader at McCarthy Building Companies in establishing them as a national green contractor, with over 300 LEED Professionals, 100+ LEED projects, and sustainability a core value at the company. This has also included his creation of a 30-hour “builder-based” sustainability course that focuses on how contractors can integrate sustainability into the way they execute their work, not just in the end product they create.

In Quality, a recipient of the Benner Award for making “commissioning business as usual”, Chad has been a key member in defining and implementing the Commissioning Process for owners through ASHRAE Guidelines and USGBC. This includes training of over 2,000 individuals in the commissioning process, currently streamlines alignment of commissioning and McCarthy’s internal quality process on 100+ projects annually, and has integrated commissioning into their on-line quality tool (BIM 360 Field).

With respect to quality in construction companies, Chad has set the standard of excellence through his program at McCarthy. This includes eliminating industry risks from failures of building enclosures, flooring systems, concrete, and roofing systems through the creation of industry-leading quality metrics and data analysis. In addition, Chad established and is the current president of the Construction Quality Executives Council – a peer group of quality executives, whose mission is to define and advance the quality culture in the design and construction industry.

Finally, Chad has published numerous technical papers and authored a dozen books which defined new concepts in heating, ventilating and air-conditioning (HVAC) design, which have now become standard systems in the industry, including thermal storage, cold air distribution, dedicated outdoor air systems, and advanced heat recovery systems.
Outstanding Engineering Merit Award

William H. Guoan
Flight Test Engineer
USAF (25 years), Northrop Grumman (B-2A), Lockheed Martin Corp. (F/A-22)

Mr. William H. Guoan, is a Retired USAF Officer with 25 years of military service. His career began in 1960, when he received a military education with a degree in engineering. His first assignment after training was with flight testing of various Standard Launch Vehicles (Missiles) as well as Test Team Member on the Titan III M, “Manned Orbital Laboratory (MOL). He was then selected for retraining as a Flight Test Engineer.

Upon completion of training he was assigned as a Project Test Engineer on the USAF/NASA X-24B. As his career progressed he eventually was assigned to such test projects as the A-10A, F-15C/D, F-16C, and the F-16XL. Upon retirement from Military Service, he joined the Northrop Corp. (later Northrop Grumman Corp) team as a Flight Test Avionics Integration Engineer. He was responsible for Radar/Navigation design, laboratory systems testing and flight testing for the B-2A, Advanced Technology Bomber Radar/Navigation Systems.

Mr. Guoan was selected as a prime Aircrew Member as a result of his past flight test experience and flew the USAF, NKC-135A, (Advanced Avionics Test Bed) for the purpose of conducting flight testing of the B-2A’s Radar / Navigation systems. He acquired a total of 600 hours of in flight testing the of the B-2A’s advanced systems.

Mr. Guoan is a Northrop Grumman Corp Retiree. Mr. Guoan’s flight testing career continued after retirement from Northrop with a five year employment with Lockheed Martin Corp. as an Avionics Integration Manager, with the Lockheed Martin F/A-22’s Communications/Navigation system. In addition to flight test evaluation of the F/A-22’s avionics systems, he participated in infight Safety Chase on several test missions. As a retiree, he has authored a book entitled “Pathway to the Stars.” In addition, he provides technical services to the USAF Test Pilot School.
Outstanding Engineering Merit Award

Nikki Kerry
Project Manager
Kimley-Horn and Associates

Ms. Nikki Kerry is a professional engineer with 22 years of experience in planning, design, and construction management of large mixed-use multi-discipline projects. Her experience is in managing urban infill projects, often involving public private partnership with multiple agency and stakeholder coordination and consensus. As project manager, she oversees all aspects of a project and specializes in preparing complex master plans, design guidelines, performance based LEED specifications, and environmental and regulatory approvals. Nikki oversees projects from entitlements through construction translating planning documents into implementation through CC&Rs, lease agreements, and subdivision mapping. She works on a multitude of projects in healthcare and education infrastructure that truly showcase her personal desires to influence the greater good rather than emphasizing personal gain in her work. She strives to work on projects that are near and dear to her heart.

She has distinguished herself by not only managing a thriving practice with Kimley-Horn, establishing long-lasting relationships with clients during the course of her career, but also being able to manage her home life along with her professional life. She is a role model for mothers, employees and leaders. She spends her time outside of the office volunteering as a Bedside Reader for the Leukemia and Lymphoma Society’s Literally Healing Program; a volunteer team leader for the Greater Los Angeles Girl Scouts First Lego team. Additionally, she spends time with her kids supporting them in sports and other extracurricular activities. Nikki knows what matters most and stays in the moment. “I have a great support at home and feel good about being a working-mother role model. We are able to strike a work-life balance by enjoying the simplest moments – a walk to a restaurant, or in time spent playing with the kids.”
Outstanding Engineering Merit Award

Theodore (Ted) D. Kerzie
Director Futures Program, Boeing Directed Energy and Strategic Systems (DESS)
The Boeing Company, Huntington Beach

Ted Kerzie is responsible for advanced planning, alignment of investments, technology development, and technology demonstration programs in support of Boeing’s Conventional Prompt Global Strike, Minuteman program modifications, and major captures. Ted is the Program Manager for a recent win on an AF CDAG (Concept Concept Design & Architecture-Guidance Modernization Effort) for future AF Ground Based Strategic Defense Guidance system. He is also the Capture Team Lead of another major win for the AF Future ICBM Sustainment Acquisition Construct (FISAC) Guidance program. This major program will provide continuous level of effort support to sustain and assess the AF Minuteman (MM) III guidance systems through 2023, and is worth over $50M. Prior to this assignment, from 2003 to 2007 Ted held a number of program management positions on a major proprietary satellite program. He had managed a team accountable for over 60 space flight and qualification hardware supplier programs with contract value worth over $350M. Ted held program management positions related to the design and development of a Ground Segment Command and Control Element, as well as Operations and Maintenance activities. From 1996 to 2003, he was the Operations Readiness Manager for Boeing Satellite Systems National Security Programs.

Ted served as an officer in the United States Air Force. From 1994 1996, Ted was assigned to the 413th Flight Test Squadron, Edwards AFB as a Special Projects Test Director. From 1992 1994, Ted was assigned to the 549th Combat Training Squadron, AIR WARRIOR, Nellis AFB.
Outstanding Engineering Merit Award

Michael Lahlou
Construction Management Instructor
Westwood College

Dr. Michael Lahlou has over 20 years of experience in the planning, design and construction phase engineering services of wastewater, water reclamation, and water treatment. Dr. Lahlou worked with government officials, consulting engineers, contractors, and equipment manufacturers. His extensive experience in working with varied entities provides a unique body of knowledge related to water and wastewater planning, design, construction management, and project management.
Outstanding Engineering Merit Award

Natalie Meeks
Publics Work Director
City of Anaheim

Ms. Natalie Meeks has recently completed one of the largest and most iconic public projects in Orange County – the LEED Platinum Anaheim Regional Transportation Intermodal Center. The project received the significant recognition of the 2014 OCEC Project of the Year Award.

Ms. Meeks oversees an operation with 250 employees and a budget of $300 million. Over her career, she has established a culture of results through collaboration including a robust internship program. This philosophy has resulted in her department receiving the Top 100 Fleet, World Class Partnerships, Project Design and Project Management awards.

As part of a progressive executive team in Anaheim she takes the lead on innovative transportation projects that will provide residents and visitors greater options for travelling in and around Anaheim.

She won many awards: 2014 American Public Works Association Top Leader of the Year (Public Sector), 2010 Woman of the Year, and 2006 Government Engineer of Merit by the American Society of Civil Engineers.
Outstanding Engineering Merit Award

Victoria Pilko
Project Manager
Orange County Sanitation District

Ms. Pilko is a Project Manager within the Engineering Division’s Project Management Office of the Orange County Sanitation District. She has more than 20 years of experience in wastewater rehabilitation. Prior to joining the Orange County Sanitation District in 2006, she worked for the Metropolitan Council Environmental Service in Minnesota. In her more than 20 years in the engineering industry, she has contributed to the successful completion of major civil engineering projects including the Newport Forcemanin Project in Newport Beach, CA. This project uses several trenchless rehabilitation methods for the 5 miles of large diameter pressure dual sewer system along Pacific Coast Highway, contributing to the protection of public health and the environment by providing effective wastewater collection. Other major projects in Orange County that Ms. Pilko has managed also include the Outfall Land Section and Ocean Outfall Booster Station Piping Rehabilitation. This project was recently constructed and provided for the rehabilitation of a major portion of the ocean outfall discharge piping and a major junction box and surge towers. Now Complete, the system has been renewed for continuing to fulfill OCSD’s Mission of protecting public health and the environment by providing effective wastewater collection, treatment and recycling throughout Orange County.
Outstanding Engineering Merit Award

Robert Schaaf
Project Manager
California Resources Corporation

Robert Schaaf has been an innovator, leader, and educator in energy production. In his 15 years working internationally, he brought new technology to the rest of the world. Robert was the engineer who led the drilling of the first horizontal well in West Africa. He brought new water treatment processes to Kuwait to improve the safety and environmental impact of their operations. His leadership skills made him the choice to lead major projects all over the world. Projects that Robert has led include the $500M North Nemba project in Angola and the $1.5B Burgan Water Treatment Project in Kuwait. His management skills allowed his team to bring a new open water offshore Angola discovery on-line in less than 18 months. In addition to his continual leadership of new Huntington Beach projects for California Resources, Robert now teaches classes in energy upstream operations. He brings his enthusiasm for engineering, technology and the energy industry to the students. He is one of the few petroleum engineers who have experience and contribution in both subsurface and facilities portion of the oil field.
Outstanding Engineering Merit Award

Byron Tobey
Civil Engineering
Harris & Associates

Mr. Byron Tobey has over 30 years’ experience on design, program, and construction management projects in all areas of public and private infrastructure. Byron is recognized as a leader because of his ethical actions and demonstrated leadership qualities. One area of strength for Byron is his ability to set goals and provide direction for achieving these goals. Byron serves as a mentor and coach to numerous employees as well as a trainer at Harris’s Leadership Academy. Byron received his Bachelors Degree in Civil Engineering from UC Berkeley in 1977 and became a licensed Civil Engineer in California also in 1977. He holds a professional engineering license in five other states as well as Qualified SWPPP Developer and is a LEED Accredited Professional.

Some of the projects Mr. Tobey has had the pleasure of working on throughout his career include those for clients, such as, CA High Speed Rail Authority, City of Los Angeles, County of San Diego, San Diego Association of Governments, County of San Bernardino, City of Pico Rivera, OCTA, Caltrans, City of Newport Beach, and City of Lawndale.
Outstanding Engineering Merit Award

Scott Walker
Engineering Advisor Senior Production Ops
California Resources Corporation

Mr. Scott Walker has contributed significantly to the success of the energy industry in Southern California. He has over 30 years of oilfield experience in different parts of USA, and also in China and Russia. He was the Chief Production Engineer for Occidental Petroleum Company (LA Basin) and also Tideland Oil Company, where he supervised teams to increase oil production in oilfields, and at the same time, minimized cost and environmental impact.

He is instrumental in raising hundreds of thousands of dollars to give scholarship to engineering students, and to the local Leukemia and Lymphoma Society.
Distinguished Engineering Merit Award

Yazdan Emrani
Senior Vice President / Principal
Hall & Foreman, a division of David Evans and Associates, Inc.

Yazdan is responsible for expanding the firm’s public works, GIS, and infrastructure management services. Mr. Emrani’s 27-year engineering career includes planning, design, and construction management of infrastructure improvements around the country.

As 2013-2014 President for the ASCE Los Angeles Section, he led the leadership team as they developed and implemented programs and services that benefit the professional development of the members. At ASCE Orange County Branch, he helped launch the first ever comprehensive infrastructure report card in 2002 and served as its Chair. He was the Co-Chair of the 2005 update of the Orange County Infrastructure Report Card. In 2006-2007, he was elected ASCE Orange County Branch President. During that time, he received APWA Southern California Chapter’s President’s Award, Outstanding Section/Branch Officer Award. In 2011, he resumed his duties as Co-Chair to lead the 2016 CAIRC update. He is leading the 2016 effort for updating of the Orange County Infrastructure Report Card.

He mentors the next generation of civil engineers as a member of UCI's Civil and Environmental Engineering Affiliates, has taught a senior level class for civil engineering students at UCI and has been an adjunct professor at UC Irvine Extension.

Mr. Emrani holds a Bachelor of Science degree in Civil Engineering from Syracuse University and a Master of Science degree in Civil Engineering from University of Maryland at College Park. He is a registered Professional Engineer in five states.

Mr. Emrani is involved in his local community, as PTA volunteer and AYSO soccer referee. He enjoys spending time with his family as well as biking, and playing tennis.
Distinguished Engineering Merit Award

Behrokh Khoshnevis
Professor
University of Southern California

Dr. Behrokh Khoshnevis is a professor of Industrial & Systems Engineering, Aerospace & Mechanical Engineering, Astronautics Engineering, Biomedical Engineering and Civil & Environmental Engineering and is the Director of the Center for Rapid Automated Fabrication Technologies (CRAFT) and Director of Manufacturing Engineering Graduate Program at USC. He is active in robotics, and mechatronics related research and development projects that include the development of three novel Additive Manufacturing (3D Printing) processes called Contour Crafting, and SIS family of 3D Printing technologies as well as development of mechatronics systems for biomedical applications (e.g., digital restorative dentistry and orthodontics, rehabilitation engineering, and tactile sensing devices), autonomous mobile and modular robots for fabrication and assembly applications on earth, in space and on other planets, planetary construction of human outposts, and energy systems including wind energy and energy storage technologies and automated production equipment for oil (petroleum) and gas industries.

He was inducted into the U S National Academy of Inventors this year. He is a Fellow member of the Society for Computer Simulation and a Fellow member of the Institute of Industrial Engineering. He is a senior member of the Society of Manufacturing Engineers. He is a NASA Innovative Advanced Concepts (NIAC) Fellow—as well as Fellow member of the Society for Computer Simulation, and a Fellow member of the Institute of Industrial Engineers. In 2014, he received the Grand Prize of the Creating the Future Design Contest. The program was organized by NASA Tech Briefs Media Group and sponsored by major industries. Contour Crafting was selected as one of the top 25 out of more than 4000 candidate inventions by the History Channel Modern Marvels program and the National Inventor’s Hall of Fame; and has been identified as one of the major disruptive technologies of our time.

Dr. Khoshnevis received his B.S. degree in Industrial Engineering from Sharif University of Technology in 1974. He received his M.S in 1975 and his Ph.D. in Industrial Engineering and Management from Oklahoma State University in 1979.
Distinguished Engineering Merit Award

Ellis Meng
Professor
University of Southern California

Dr. Ellis Meng’s work in micro- and nano-technologies is making game-changing advancements in the acceleration and translation of novel medical treatments. Her major contribution is in the development of drug infusion systems for chronic drug administration (including wireless infusion technologies, drug delivery actuators, flow control valves, and metering sensors) that deliver medication safely and effectively and allows the full potential of drugs to be realized. These pumps personalize medicine by using modern wireless electronics to automate timely drug release to hard-to-reach diseased tissues such that medical intervention is available at any time and place, eliminating long hospital stays, frequent surgeries, and suboptimal conventional drug administration. Her work has tremendous implications for new treatments of difficult medical conditions (ocular disease, central nervous system injuries, epilepsy, cancer, and other diseases) and for developing better drugs. These pumps can be used for laboratory research, preclinical research, and clinical use. There are two start-up companies based on technology she developed that are tackling all of these applications. She also contributed to the neural prostheses (both retinal and cortical) and biomedical microsensor (including force, contact, pressure, flow, temperature, level, composition, and electrochemical) fields.

She received her MS and Doctor of Philosophy, Electrical Engineering, from California Institute of Technology, Pasadena, CA. Prior to obtaining the Ph.D. she graduated with a Bachelor of Science with Honors, in Engineering and Applied Science from California Institute of Technology.
Dr. Donald Paul, a Ph.D. graduate of MIT, is the Executive Director of USC Energy Institute, where he also holds the William M. Keck Chair in Energy Resources. The Energy Institute is a university-based framework to support and expand opportunities in energy-related research, education, and public policy development. Major programs include university leadership of the DOE Regional Smart Grid Demonstration with the LA’s Department of Water and Power, support for the Center for Smart Oil Field Technologies, and the Center for Energy Infomatics.

Dr. Paul retired from Chevron as the Vice President and Chief Technology Officer. During his tenure at Chevron, he held a variety of positions in R&D technology, exploration and production operations, and executive management, including service as president of Chevron Canadian. As Chevron’s chief technology officer, he was responsible for Energy Technology, Information Technology, and Technology Ventures. He was also the global compliance officer for information protection, security, and data privacy.

He has invested significant time and effort after his retirement and has contributed his resourcefulness to on the US national studies related to energy issues, interaction with academic communities and mentoring engineering students. Under his leadership, Chevron established a globally unique program of investing in the US and International schools engineering programs and significantly contributing to the education of hundreds of PhD graduates. Dr. Paul was part of the 1997 Presidential Panel on Federal Energy Research and Development, the National Research Council, the Freedom Car and Fuel Board, and the 2007 landmark study by the National Petroleum Council for the Secretary of Energy. He continues to serve on many university, public, and private sector advisory boards and committees and is a Senior Advisor for the Center for Strategic and International Studies in Washington, D.C.

He interacts with academia, speaks at town halls, and active in professional societies and government agencies. He has recently received the USC’s Distinguished Service Award and an honorary Doctorate of Engineering from the Colorado School of Mines. He was a member of the distinguished Schlumberger Limited Technology Committee, and National Petroleum Council.
Outstanding Engineering Service Award

Abdulmageed (AB) Abdulrahman
Associate Oil and Gas Engineer
California Division of Oil, Gas and Geothermal Resources

AB Abdulrahman is an Oil and Gas Engineer with the California Division of Oil, Gas and Geothermal Resources. In this position he manages the State Well Abandonment program and Idle Well program. AB also is a member of the Division State Wide Investigation team.

He served as a Board Member of the Los Angeles Basin SPE Section (LASPE) and has been the chairperson of the Continue Education Committee for the last four years. He has identified and promoted successful short courses for the Section and generated funds for the scholarship program.

Abdulmageed is currently a member of the City of Anaheim Budget, Investment and Technology Commission appointed by the City of Anaheim and acts as advisory body to the City Council in matters pertaining to short and long range financial planning and funding of City activities, the investment of City funds and the use of information technology.

He is also the president of the Vineyard Walk Homeowners Association. He has been involved in reviewing and approving financial budget of the community and utilizing the resources very wisely and responsibly to meet the community goals.

This Award is to recognize AB for his long-term service to Society of Petroleum Engineering as former Board Member, and his recent strong commitment and hard work to coordinate and offer multiple training opportunities for both local and international engineers. These Short Courses have been very popular.
Outstanding Engineering Service Award

Rafael Contreras
Project Engineer
City of Vernon

As the incoming project manager, Mr. Rafael Contreras was able to successfully apply for fund grant extensions and eventually obtain additional project funding allowing the following project to proceed to final design. Atlantic Blvd. Bridge Widening – The bridge crossing the Los Angeles River will be widened to include the widening of the roadway approach, modifications to the two nearest traffic signals, and upgrades to the adjacent railroad signals for the at-grade crossings north and south of the bridge. The Project's design phase was delayed due to unforeseen design restraints/requirements and jeopardized project funding. For the Citywide Pedestrian Head Replacement Project, Rafael worked on the grant writing team to successfully obtain project funding through the HSIP competitive Call-for-Projects process. Once funds were secured, Rafael developed the PS&E and served as the project/contract manager during the construction. The project replaced existing pedestrian signal heads with new countdown signal heads at 41 signalized street intersections.

For the 26th Street Improvements Project, the first in the City to utilize Cold In-Place rehabilitation and pavement preservation system to recycle existing deteriorated asphalt concrete pavement. The City’s CIP budget was reduced as a result of Mr. Contreras’s efforts. Rafael developed the design plans, contract specifications, and contractor agreement for project. During construction, Rafael provided support for contractor invoices, submittals, RFI replies, and project inspections.
Outstanding Engineering Service Award

Seyed (Amir) Torabzadeh
Transportation Engineer
California Department of Transportation

Seyed Torabzadeh is the Coordinator of the Traffic Accident Surveillance and Analysis System (TASAS) Unit at California Department of Transportation, Los Angeles District Office. He is responsible for the technical and administrative operations of the unit. Syed started his career at Caltrans as a Junior Engineer. He was assigned to the transportation modeling (LARTS) unit in the Division of Transportation Planning. Then he transferred to Operation Division of Operations and was promoted to TASAS Coordinator.

Seyed has numerous awards and Certificates of Appreciation for his contributions to multiple projects, such as: Traffic Investigations Tracking System, Automated Collision Diagram Program, and Disability/Diversity Awareness Program. He also received a Caltrans Employee Merit Award for developing a software that automates queue and demand and capacity analysis on freeway ramps.

Seyed sustained a spinal cord injury in a gymnastic accident at 19 that left him quadriplegic. After extensive therapy and physical training, he manages his life as an electric wheelchair user. He earned an MS in Systems Engineering from USC.

He is a vocal advocate for disability rights and awareness and served as a Student Advisor to Office of Students with Disabilities. His work resulted in the establishment of scholarship programs for students with disabilities. Seyed has been active in the Disability Advisory Committee in Caltrans. He has played an important role in removing physical and attitudinal barriers facing employees with disabilities prior to the passage of Americans with Disabilities Act (ADA) and received a Certificate of Appreciation.

He is a member of Board of Trustee of a cultural and educational foundation in Los Angeles. Recently, he spoke on the radio talk show, “Janet's Planet LA” hosted by Janet Neal, President LA County Commission on Disability.
Outstanding STEM Service Award

Jack Gupton
STEAM Academy Teacher
Walker Junior High School

Jack Gupton is the founding teacher of the Walker Junior High STEAM Academy in La Palma. This innovative program introduces Jr. High students to hands-on, project-based experiences that allow them to develop skills in critical thinking and problem solving, while building real-world, in-demand skills in computer and micro-controller programming (computer science), electronics and robotics (science and electrical engineering), computer aided design and manufacturing (CAD and 3D printing).

His students begin their journey by learning the basics of computer programming through the lens of video game design. Conquering a series of challenges, program participants build the knowledge and skills to build a video game of their own design. Next, students leverage this learning by tackling micro-controller programing and electronics using the Arduino platform to complete a challenging list of experiments that explore the interaction between everyday electronics in our environment and the tiny computers that control them. Finally, the students are given various electronic sensors, motors, servos and other devices and then research their use, figuring out how to wire them and utilize them via programming, and assemble them into a working robot that can self-navigate.

Students bring their ideas to life as competitors in the OC Maker Challenge. Last year, his 7th and 8th grade students collectively won more awards than any other school or institution, beating out local college teams in intelligent prototype design.

He also runs an afterschool Guitar Club where the students learn to build electric guitars from the ground up, completing all the wood work, electronics, and finishing on their instrument. He wants to include girls and minorities into engineering discipline and open their eyes to careers in science and engineering fields.
Outstanding STEM Service Award

Juli Legat
Executive Assistant CiSoft and the USC Energy Institute
University of Southern California

Besides her loaded work responsibilities, since 2008 Juli Legat has coordinated the offering of a very beneficial annual summer camp for selected number of high school juniors. From among 200 applicants annually 20 are selected and Juli manages the curriculum taught by experts from academia and the industry, she handles a field trip and provides the mentorship during the one week stay of these outstanding participants. She puts her heart and soul in this service. Looking at the progress the graduates of this camp have made over the last several years, her mentoring has become the crucial factor ensuring the success of this STEM program.
Outstanding STEM Service Award

Saba Yohannes-Reda  
Director of Outreach and Recruitment  
California State University, Long Beach

Dr. Saba Yohannes-Reda has been the Center Director of the California Mathematics Engineering Science Achievement (MESA) Center for K-12 students at Cal State University, Long Beach for over eleven years, where she has grown the program from a few hundred students to serve over 2000 students in school districts surrounding the campus. Saba has developed one of the best STEM program centers in the country, and she is very proud of the high percentage of her MESA students who graduate on time from high school, are UC eligible, and eventually move on to 4-year universities with math or science-based majors. She works tirelessly to invite working engineers and scientists to be award judges and to give presentations to students and teachers. In various STEM events, she invites young working engineers of local industry to share their engineering experience with her students to inspire them to graduate and go to college. The proof is in her results. Students from her schools have won multiple 1st Place national and California MESA Awards based on science projects they built to compete with other middle or high school MESA students throughout California and the country.

Saba has seen her budget and staffing cut by 50%, and yet has maintained the number of students and quality of her MESA program. She has been resourceful in getting grants from public and private sources and sponsorships from technical companies that desire to increase the numbers of potential engineers and scientists locally.

Saba has been recognized by CSULB for her talents and was recently promoted to Director of Outreach and Recruitment for the School of Engineering, in addition to her MESA Center Director position.
Outstanding Engineering Educator Award

Anthony E. Farmand
Instructor
Westwood College

Anthony E. Farmand, PE is Registered Professional Civil Engineer in California and all 50 States, and has 18+ years of experience in the fields of Civil Engineering, Program & Project Management, Land Development, Design & Construction. He received his Bachelor of Science degree in Civil Engineering from California State University, Fresno in 1996 with an emphasis in Water Resources and his Master of Business Administration (MBA) from National University with an emphasis in Management & Leadership in 2005 and his Masters of Science in Environmental Engineering from California State University, Fullerton (Expected May 2015)

Mr. Farmand has been teaching the Water Resources section of the Civil PE Examination for over the past 15+ years. His students have highly complimented his contemporary teaching.
Outstanding Engineering Educator Award

Judith L. Forbes
President
Jandr Associates

Dr. Judie Forbes holds a BA, Physics with co-majors in Mechanical Engineering, Math and English Literature, an MS, Engineering Physics, from CSU Fullerton; an MBA from USC, and a Ph.D. in Executive Management from the Drucker Center at Claremont Graduate University.

She has served as VPAA North Central University, COO for MicroSeptic, Inc. Director of Engineering for Thomas Lighting, European PM for TRW Transportation Electronics; and has held various responsible aerospace positions. Judie was President of both the OC chapter of AIAA and the LA section of SWE, and is an IAE Fellow.

The topics of her many publications include transportation electronics and safety, missile guidance and navigation, atmospheric radioactivity, failure of metallic orthopedic implants, solar energy systems, engineering skills assessments, strategic planning, knowledge workers, systems management, business ethics, graduate education, and international business.

Currently she teaches online for University of Maryland, Capella University, Regis University, and Walden University. She also serves as dissertation chair for many doctoral students. Her online students are mid-career professionals around the world and aboard ship. They may be U.S. citizens or foreign ones, military or civilian, but all are scholar-practitioners, seeking to apply the concepts of technical management to their own situations, organizations, and careers.

Judie is a veteran (USN), a private pilot and aircraft owner.
Outstanding Engineering Educator Award

Behnam Jafarpour
Associate Professor
University of Southern California

The research performed by Professor Jafarpour and his team is cutting edge and timely in the age of increased cost and difficulty in exploration and production of hydrocarbons. Their research could provide a substantial and innovative contribution to the subsurface description and dynamic reservoir model updating.

Since 2009 Professor Jafarpour and his group have developed a novel approach for accurately and efficiently characterizing the subsurface formations with a technique originated from signal processing. From the concept conceiving, to proof of the approach, and to field applications, Professor Jafarpour has published over 10 papers on the subject. The approach is shown to be innovative that represents a paradigm shift in reservoir parameterization and reduced-order description that can significantly improve traditional approaches to subsurface description and dynamic reservoir model updating. It provides an effective means to incorporate prior geologic information and the associated uncertainty during dynamic model updating. Many of his publications are highly regarded by his peers and well cited.

He received a Ph.D., in Civil and Environmental Engineering, MIT, S.M. in Electrical Engineering and Computer Science, MIT, M.Sc. in Civil and Environmental Engineering, University of Delaware and a B.Sc. in Civil Engineering, University of Tehran. He is a recipient of many awards and recognitions including the best Reviewer Award, Mathematical Geosciences Journal, Distinguished Achievement Award, SPE Western North America Region, SPE Junior Faculty Research Initiation Award, W.F. & Marilyn Albers Family Faculty Fellow, Texas A&M University, Outstanding Environmental Engineering Graduate Student, Univ. of Delaware, and George Laird Fellowship.
Outstanding Engineering Educator Award

Wenlong Jin
Associate Professor
University of California, Irvine

Since joining UCI in 2008, Dr. Wenlong Jin continued to compile an outstanding record of achievements in research, teaching, and professional services. He is a leader in cutting-edge, multidisciplinary research in Transportation Systems Engineering and has succeeded in attracting research funds. Dr. Jin excels in both teaching and research. In the teaching side, he developed a lecturing method based on advanced computer and communication technologies. He has advised many students for their independent and thesis research. He taught three review classes for the E.I.T. exam. In the research side, he conducts fundamental and systematic methods in modeling, analyzing, and controlling different transportation systems. He invented a new mathematical framework by applying the junction flux functions to analyze traffic patterns. He also developed novel macroscopic, kinematic wave theories of lane-changing traffic flow. Different from traditional microscopic or hybrid lane-changing models, these models are more analytically tractable and computationally efficient. He and his research team members have won one National Science Foundation award, seven University Transportation Centers proposals, and four Multi-campus Research Programs and Initiatives (MRPI) proposals. Prof. Jin is a CEE Undergraduate Affairs committee member, and served on the CEE Affiliate Emeriti Scholarship committee. He is on the Transportation Systems Engineering Graduate Student Recruitment Committee. He has published 36 peer-reviewed journal papers and 37 conference proceedings papers. He is also the co-developer of three Software and smartphone apps including (i) Android and server apps for algorithmic green driving, (ii) Android app for logging second-by-second GPS data, and (iii) Android and server apps for bike-to-car communication.
Outstanding Engineering Educator Award

Chung-Chieh Jay Kuo
Dean’s Professor in Electrical Engineering
University of Southern California

Professor Kuo is a devoted research pioneer and educator in image/video and multimedia signal processing. He has made lasting technical contributions to these fields over the last 25 years, with enduring impact on academic research and industry practice. His outstanding record in education builds on these accomplishments:

Jay guided 125 students to their Ph.D. degrees and supervised 23 post-doctoral students. He ranks as the top advisor in the number of completed PhD advisees in the Mathematics Genealogy Project. His PhD students received distinguished awards.

Jay is a dedicated teacher – his course on “Introduction to Digital Image Processing” is among the most popular EE graduate courses, with more than 100 students enrolled in it each and every year. Jay emphasizes hands-on experience that integrates mathematical theory, computational algorithms, and real world applications. He receives excellent course evaluation and feedback comments.

Jay has mentored many junior faculties, including Antonio Ortega, Shrikanth Narayanan, and Krishna Nayak. All have become international leaders in their respective fields. For these outstanding achievements, Jay received the USC Mellon Mentoring Award for excellence in “Faculty Mentoring Faculty” in 2006.
Outstanding Engineering Educator Award

J. Michael McCarthy
Professor, Director of the UCI Performance Engineering Program
University of California, Irvine

Professor J. Michael McCarthy works in collaboration with Vital Link of OC to support the design and execution of team engineering projects in Orange County colleges and high schools. He has served as the Editor-in-Chief of the ASME Journal of Mechanical Design (2002-2007) and is the founding Editor-in-Chief of the ASME Journal of Mechanisms and Robotics (2007-present).

His research team is responsible for the *Sphinx*, *Synthetica* and *MecGen* software packages, which extend computer-aided design to spherical and spatial linkage systems and integrate this process with geometric modeling, which can be seen at his web-site [http://mechanicaldesign101.com](http://mechanicaldesign101.com)

Over the past 10 years at UCI he has focused on developing engineering leadership through student design and execution of major engineering projects. He has introduced project engineering courses for graduate students, seniors and for freshmen at UCI and provided course materials for racecar engineering courses in local high schools, including a Summer Program for Racecar Engineering.

His student racecar engineering teams have built 12 racecars driven by gasoline, CNG and electric drive systems. Beginning in 2010, he has organized the UCI Energy Invitational, which is a time trial for energy efficient racecars. In 2013, he organized the California Challenge energy time trial as part of the 2013 Solar Decathlon on behalf of the U. S. Department of Energy, which involved 20 race teams from across the country. The 2014 Energy Invitational included vehicles designed and built by 16 high school race teams, as well as collegiate race teams and inventors.

In 2009 he received the *ASME Machine Design Award*; in 2011 the *ASME Mechanisms and Robotics Award* for his research contributions; and in 2013 he received the *Robert E. Abbott Lifetime Service Award* from the Design Engineering Division of ASME International.
Outstanding Engineering Educator Award

Nina Robson
Assistant Professor of Mechanical Engineering
California State University, Fullerton

Since joining California State University at Fullerton, Dr. Robson has demonstrated a strong dedication and commitment to engineering education and played a crucial role in quality teaching of a large spectrum of courses. Her creativity has inspired an array of sophisticated design projects with emphasis on assistive technology as well as in teaching innovatively undergraduate and graduate courses in the design area. Dr. Robson has successfully pursued multiple research activities involving both undergraduates as well as graduates. She has published and presented a large number of peer reviewed papers, some jointly authored by her and her students. Dr. Robson is a recipient of many research funding awards.
Outstanding Engineering Educator Award

Eric Shen
Director of Transportation Planning; Port of Long Beach; Lecturer in Civil Engineering and in Urban Planning; USC

Eric Shen is a consummate professional and teacher who make an enormous investment in student success as a part-time university faculty member at the USC. The Director of Transportation Planning at the Port of Long Beach teaches graduate courses in transportation engineering and transportation planning in the USC Viterbi School of Engineering and the Price School of Public Policy. By combining hands-on experience, teaching and mentoring, Eric consistently inspires his students to explore new professional and scholarly opportunities and contribute to the transportation profession.

Eric brings technology into the classroom. He takes students to mission-critical regional transportation operations centers. He has invited many transportation agency senior executives to his Traffic Engineering & Control class, including the Director of Caltrans, the police commander of the Pasadena Police Traffic Division, and the inventor of an advanced traffic routing system. He appreciates the vision and dedication of transportation engineering professionals and is passionate about making our environment better for future generations.

Eric is superb at integrating students into professional experiences. He guided the establishment of the USC Institute of Transportation Engineers Student Chapter and continues to serve as the chapter advisor. He guides student to expand ITE membership by facilitating field trips and arranging for industry experts to serve as guest speakers. He helps the Southern California Chapter of ITE organize the annual ITE Traffic Bowl competition. He is active in the California Transportation Foundation’s Annual Education Symposium, serving as a mentor to undergraduates in transportation engineering and planning from across California. The CTF recently recognized Eric by electing him to its Board of Directors.
Outstanding Engineering Educator Award

Brinda Subramaniam
Physics Instructor
Cypress College

Dr. Brinda (as her students call her) exemplifies Cypress College’s core values of Excellence, Integrity, Collegiality, and Inclusiveness. Although her background and degree are in Physics, she saw a need to help improve the training that we provide for our Engineering students, as we have no full-time instructors in this area. She assumed the role of de facto Engineering Coordinator by teaching the Introduction to Engineering class and helping to ensure that we were able to hire quality adjunct instructors in Engineering Graphics and Statics. She also helps maintain the curriculum for Engineering and Computer Science Classes.

It is unusual for an instructor in an area as challenging as Physics to be popular with her students, but Brinda does so by demonstrating to them that she cares about their educational and career goals. She challenges them when they are underperforming. More than one time she has told the student “You can do better,” but then, she gives them the tools and the support they need to improve. In many instances these students return to the college to tell her, “You were right. Thanks.”

Brinda also serves as advisor to the Engineering and Physics Club (EPC). In this role she helps students by expecting them to do the work to make the club run. Her motto for the club is: “You. Do it.” meaning that if they have an idea or an activity that they want to pursue, they will need to take responsibility carrying it out. She helps the club organize an Annual Dodge Ball competition, an activity that has become a campus tradition. Under her leadership, the EPC has been one of the best run student clubs, meeting deadlines and receiving club of the year honors. Brinda treats students as individuals and as adults; allowing them to make mistakes and helping to recover from them. She helps them mature and grow into their career pathways.
Dr. Kawai Tam is an outstanding engineering educator whose work has been recognized by her receipt of the Bourns College of Engineering Outstanding Lecturer Award at the University of California, Riverside (UCR) and the Western Municipal Water District’s Water Educator of the Year Award. In addition to her outstanding teaching abilities, she provides exceptional opportunities for students to develop their engineering skills from design concept to prototype manufacture. Since 2005, she has volunteered countless number of hours in mentoring undergraduate students in environmental and sustainability design competitions including the Environmental Protection Agency, People, Prosperity and Planet (EPA P3) contest, the International WERC Design Contest, the Southern California World Water Forum College Grant competition, and numerous other contests. Her mentoring of over 165 students to date has brought recognition to UCR and her students with an astounding number of 37 awards and grants exceeding $310,000 since 2005.

Dr. Tam provides guidance, encouragement and training to her students to enable them to realize their potential. Examples of projects in which she has facilitated from concept to prototype include (i) the design of an inexpensive muffler replacement for gas-powered lawnmowers and generators that reduces both emissions and sound; (ii) a smog-reducing coating for roof tiles; (iii) an integrated appliance system using solar energy that allows clothes drying, space heating and humidification needs; (iv) a reusable storm drain filtration system with oil saturation indicator, and many other innovative projects. In addition, Dr. Tam is also the faculty advisor for the Engineers Without Borders (EWB) UCR student chapter and has worked with students to develop simple and sustainable technology applicable for developing countries. She is extraordinary in her dedication in preparing the next generation of engineers to make a positive impact in the world.
Outstanding Engineering Educator Award

Parviz Yavari
Professor, Mechanical and Aerospace Engineering
California State University Long Beach

Dr. Yavari received his B.S. degree in Mechanical Engineering from Shiraz University, M.S. and Ph.D. degrees in Materials Science from the USC. He continued his Post-Doctoral research studies there. He has published over 25 papers in refereed journals, presented technical papers in over 70 conferences, and published over 150 technical reports. He holds two patents on process modeling/manufacturing processes.

Dr. Yavari has received many awards, including the Northrop Grumman Excellence in Teaching and Scholarship Award, Most Inspirational Faculty by CSULB Alumni, Overall Outstanding Faculty Member of the College of Engineering, Outstanding Manufacturing Engineering Technology and Outstanding Quality Engineering Technology Faculty Member. He received the 2007 American Society of Nondestructive Testing Faculty Award and 2008 College of Engineering Recognition Award. He has been the undergraduate advisor and coordinator of the Manufacturing Technology Program.

Dr. Yavari developed over ten new courses in Materials manufacturing and Quality Control. He acquired funding and established three state of the art laboratories for Manufacturing Process, Non Destructive Testing and Fluid Power. He has been advisor for senior design projects. His students competed in national events such as WSTEC Manufacturing Challenge. His students won the second place in 2000 and 2007 and third place in 2005 and 2006. Dr. Yavari is the student advisor for Society of Manufacturing Engineering (SME), a member of International Society of Materials (ASM), and a member of Society of Non Destructive Testing (NDI).

Dr. Yavari is a Technical Fellow of Northrop Grumman. He implemented over 50 innovative technologies for commercial and military programs and managed over $10 M in research contract.
Outstanding Student Project Award

CSULB Baja SAE Student Project
California State University, Long Beach

For the past 20 years, the members of the Society of Automotive Engineers’ student chapter at CSULB have designed, manufactured, tested a Baja SAE car and competed nationally and internationally with about 100 universities. The objective is to provide opportunity to bring theories learned in classrooms into practice and gain firsthand experience which will provide skills that will be used in their future. The goal of CSULB SAE is to emulate a real-world engineering firm by giving students the opportunity to participate in the SAE International Collegiate Design Series Competitions.

The Baja SAE challenges engineering students to design and build an off-road vehicle that will survive the severe punishment of rough terrain. Similar to Formula, Baja must present in similar static events while at competition. However, the dynamic events consist of an acceleration event, a hill climb, rock crawl, and endurance event. Unlike Formula that can select their engine, Baja vehicles are constrained to a 10HP Briggs and Stratton engine which create a more challenging engineering design scenario.

Last year, the CSULB students competed successfully in the Baja SAE International Competition in Peoria, Illinois in June 2014. Currently, the team is preparing for the coming competition to be held in Portland, Oregon in May 2015.
The **CSULB Formula SAE** team has competed regularly for the last 20 years. The competition has been a challenging opportunity for students to conceive, design, fabricate, and compete against universities from around the world with a formula-style race vehicle. The vehicle has been judged by officials in a series of static and dynamic events. The static events include a technical inspection, cost presentation, marketing presentation, and engineering design presentation. The dynamic events consist of an acceleration test, skid pad test to measure the vehicle’s maximum lateral grip, an autocross event to test the vehicle’s maneuverability, and an endurance event to test the vehicle’s durability and fuel efficiency. The Formula vehicle is built based on a series of rules whose purpose is to promote clever problem solving while working as a team in a professional engineering environment.

The Formula SAE competitions have provided CSULB students with the opportunity to go beyond textbook theory by designing, building, and testing a race vehicle and not only exercise their engineering knowledge, but also develop skills in communication, marketing, and team collaboration. Some of the results of this project for students include: hands on experience, project management, team work experience with students of different majors, enhanced Industry-Student-Faculty interactions, and have resulted in early job offers before graduation as well as in high paid jobs.

CSULB Formula team competed successfully last year in Brooklyn, MI in May 2014. The team is currently working on preparing the car for the coming competition in Lincoln, Nebraska in June 2015.
Outstanding Student Project Award

CSULB Experimental Sounding Rocket Association (ESRA)
California State University, Long Beach

ESRA is a Utah based nonprofit organization dedicated to advancing the education of aerospace engineering students and sponsors the Intercollegiate Rocket Engineering Competition (IREC) every June in Green River, UT. The emphasis is on “student design and construction of as many parts of a rocket as possible”. There are two categories in the competition: Basic and Advanced. The Basic Category is to launch and successfully recover a rocket with a minimum 10-lb payload and reach a height of 10,000 feet above ground level (AGL). The Advanced Category is to launch and successfully recover a rocket with a minimum 10-lb payload and reach a height of 25,000ft AGL.

The CSULB ESRA team has competed in the IREC since 2009. (a) In 2009, CSULBs first ESRA team placed first in the Basic category, (b) In 2010, CSULB was awarded the Technical Excellence Award in the Basic Category, (c) In 2012, CSULBs ESRA team decided to compete in the Advanced Category for the first time, (d) At the June 2014 competition, CSULB was the only team in the Advanced Category to reach the 25,000ft AGL goal, (e) In 2015, CSULB will be competing in both Advanced and Basic Category. The team will be constructing the first hybrid done by CSULB students.

In the last couple of years the use of Sounding Rockets has become the most active segment in NASA’s launching schedule. The CSULB ESRA is planning to be part of this activity and will join NASA and other universities in developing new and efficient technologies in the Sounding Rocket field.

Research activities at CSULB ESRA are focused in the following key areas: aerospace structures, composites, aerodynamics, propulsion, avionics, and data acquisition. This past fall the team started on preparation for the 25,000ft Apogee Rocket for the summer 2015 competition. Currently, the team is in the process of developing a hybrid propulsion system and building a fuselage with more advanced composite material and testing of various parts for both rockets in preparation for participation in the 10th IREC Competition in Green River, Utah, in June 2015.
Outstanding Student Project Award

UCI DBF (Design/Build/Fly) Team
UC Irvine

The purpose of the UCI DBF (Design/Build/Fly) Program is to demonstrate capabilities in Aerospace engineering. DBF is an annual AIAA competition open to university students around the world.

AIAA Honorary Fellow Bob Liebeck from Boeing is a Faculty Advisor to the project, and UC Irvine Student Lawrence Ng is the Student Lead person.

All UCI DBF members are Student AIAA Members. The superb performance of this UCI team has resulted in UCI DBF International Competition -- First Place in 2013 and Second Place in 2014.
Outstanding STEM Program Award

Body Engineering Los Angeles (BE-LA) GK-12 Program
University of Southern California

Body Engineering Los Angeles (BE-LA) GK-12 is a program at USC that aims to involve and prepare USC’s PhD students to become STEM leaders of tomorrow through a fellowship that incorporates extensive training while advancing the education efforts relating to science, technology, engineering and math (STEM) education in the K-12 classroom. The program addresses skills in teaching, leadership, teamwork and collaboration by placing each fellow in a teaching residency as an “Engineer in Residence” for one academic year.

The program's research theme is body engineering, and emphasizes the concept that the human body is a machine that can be studied, experimented upon, analyzed, and augmented. This theme provides an attractive and engaging vehicle for introducing STEM concepts and university research to the K-12 classroom and leverages the overall strength of the Viterbi School of Engineering (a top-10 engineering graduate school), several university research initiatives at the interface between engineering and biology, physiology, and health, and a very large group of committed faculty. Research topics that have been translated to the classroom include: speech articulation, neuromuscular control, biomechanics, nutrition and metabolism, cochlear implantation, human-machine interaction, biomimetic systems, and polymer-based neural probes.
Outstanding STEM Program Award

Inscover

Inscover™ is an unincorporated non-profit organization developed by high school students who are passionate about technology. At Inscover™, we believe in building a better future. The future may not be predictable, but it has to be tackled anyway and progress has to be made. At Inscover™, the efforts are to inspire kids. We develop our own devices and applications revolving around the idea of improving life. Alec Fong & Zubin Ghafari are Founder of the organization.

Inscover™ also takes our aptitude in technologies to the underprivileged and teaches them the basics of programming and robotics for free. We teach other free STEM courses as well such as astronomy and sports statistics to invigorate the academic skills in all. Inscover™ is inspiring kids to pursue a future in science, engineering, and math by allowing them to grasp hard concepts through programming and other hands on courses. The kids are able to learn in real time in the physical world rather than learning about hypothetical word problems in a math book..
Outstanding STEM Program Award

K-12 STEM Outreach: Speaker’s Bureau
Society of Women Engineers - OC

Speaker’s Bureau has been a signature program for SWE-OC for at least 6 years. It is a K-12 STEM Outreach program that serves a medium to promote engineering careers to students from an early age all the way to high school.

SWE Orange County Section has successfully reached over 300 students in our FY15 year, continuing the success from the previous year in which we reached about 600 students county-wide.

SWE OC has also extended this program onto community colleges by visiting career exploration courses and showcasing the engineering careers. In the past, SWE OC has visited Fullerton College and Santa Ana College to showcase engineering as a rich and challenging future career for college bound students.
Outstanding STEM Program Award

Experience for Teachers (RET) Programs
University of Southern California

Housed within the USC Viterbi School of Engineering, the Research Experience for Teachers (RET) program is part of the Viterbi School of Engineering’s Viterbi Adopt-a-School, Adopt-a-Teacher program (VAST), a School-wide initiative within USC Viterbi linked engineering faculty collaborate to K-12 schools, students and teachers. The RET program is a comprehensive teacher professional development program in which middle and high school teachers participate in an intensive summer research experience in Viterbi engineering labs, build K-12 curricula based on the laboratory research experiences they have in the labs and align those lesson plans with the new Common Core and Next Generation Science Standards, then support one another as they implement the new curricula in their classrooms. The program has the combined intent of bringing contemporary, innovative engineering research to middle and high school students (in other words bring labs to class) and improving student achievement through scientific inquiry. Initiated in 2010 and supported through two cycles of National Science Foundation grants, the first three years centered on the theme of Societally Relevant Engineering Technologies (SRET); between 2014 - 2017, the theme is Advanced Content in Computational Engineering and Science Standards for Teachers (ACCESS 4Teachers), supporting research in fields as diverse as cyber security, chemical engineering (cell membranes), environmental engineering (smart buildings), biomechanical engineering (brain shunts), physics, and much more.

The RET program’s outcome goals are: (1) To increase teachers’ content knowledge in science, technology, engineering and mathematics (STEM) through exposure and real life experience conducting innovative research in engineering laboratories. (2) To increase teachers’ instructional practice focused on STEM student achievement and science literacy through collaborative lesson study and targeted professional development. (3) To increase middle and high school students’ science achievement and science literacy. (4) To increase middle and high school students’ motivation, engagement, and interest in STEM college majors and eventual careers, through exposure to innovative, societally relevant engineering experimentation in their classrooms.
Engineering Project Achievement Award

Balboa Boulevard. Beautification
City of Newport Beach

Balboa Boulevard is a two-mile stretch of roadway, focused on an aggressive landscape planting scheme that would transform the aesthetically challenged street into a beautiful and pedestrian-friendly promenade. Three million dollars of street redesign, median installations and red curb area tree planting pop-outs were all built with a minimum of traffic flow disruption. The utilities and water efficient irrigation infrastructure relied on horizontal drilling under the many driveways and alley ways along the street. The results of this engineering feat are stocked with water-friendly-landscaping. An outstanding beautiful green street has replaced a worn asphalt thoroughfare.
Engineering Project Achievement Award

Bristol Widening Phase II
City of Santa Ana Public Works Agency

The Bristol Street Widening project goal is to benefit all modes of transportation including pedestrians, bicyclists, transit vehicles, motorists and emergency vehicles. In effect, all modes of transportation will benefit by the addition of a travel lane with bus pull-outs, a class II bike lane, 10’ wide sidewalk and 15’ wide parkway in each direction, the installation of ADA wheelchair ramps, and ADA pedestrian push buttons. The project includes a creative low impact development solution by incorporating a vegetated bio-swale in parkways. The bio-swale will disconnect impervious areas, filter storm drain run-off, and contain flows from moderate rain storms. Additionally, the bio-swale will bring a native and organic pre-development landscape theme to a fully built-out transportation corridor.
Engineering Project Achievement Award

Burris Pump Station Project, Phase 1
Orange County Water District

This is phase one of a two-phase project to construct the Burris Pump Station, located in the Burris Basin at the southern end of the Orange County Water District (OCWD) Off-River System along the Santa Ana River. OCWD diverts Santa Ana River into the Burris Basin and uses the Pump Station to move 400 Acre Feet (AF) per day of water to the Santiago Basins for recharge into Orange County’s groundwater aquifer. The existing Station is antiquated. Due to the drought in California, it is very important to keep this station functional as long as possible. OCWD also has the responsibility to maintain the beneficial uses that Burris Basin provides to the many aquatic species and seabirds that use the basin for habitat and nesting.

In order to accomplish this, OCWD divided the project into two phases. Phase 1 construction includes building an earthen coffer dam around the site of the new pump station. This work was performed after the nesting season ended, during the dry season when the water level could be lowered for construction. Creating a coffer dam while the existing Pump Station remained functional was not easy. The coffer dam was constructed using 130,000 cy of soil extracted from the basin and created a work area that is 2.7 acres in size and 40 feet below the basin’s high water elevation.

The new pump station is a large structure with an overall height of 100 feet and a wet well will be 70 feet in diameter.
Engineering Project Achievement Award

Corona Del Mar Water Transmission Main
City of Newport Beach

This project constructed over a mile of 30-inch diameter cement and mortar lined steel pipe through the heart of Newport Beach. Mainline trenching along MacArthur Boulevard and East Coast Highway created logistical challenges to maintain traffic flow to businesses, schools, regional commuter and adjacent neighborhoods. Extensive traffic control measures included coordinating intermittent night work, brief roadway closures, and detours to minimize disruptions.

The Newport Beach City’s Master Plan identified the need for a new water transmission main line from Big Canyon Reservoir to the western side of Corona del Mar. The project provided more than 8,400 linear feet of a new transmission line. This new pipeline provides a secondary redundant mainline, which will be a critical facility if a failure of the existing transmission system occurs. The City’s 2001 preliminary design alignment analysis report recommend this 30-inch pipeline using the street rights-of-way of Pacific View Drive, San Miguel Drive and MacArthur Boulevard. The City also determined a similar 24–inch transmission main on Carnation Avenue would increase the reliability of the water system and improve fire flow pressure. In addition, the City relocated its Metropolitan Water District (MWD) turnout regulator structure from East Coast Highway to Dahlia Avenue out of the highway rights-of-way.
Engineering Project Achievement Award

Eastbluff Drive–Ford Road Bike Lane Improvement Project
City of Newport Beach

Continuing the City goal of encouraging safe and responsible cycling, the Eastbluff Drive–Ford Road Bike Lane Improvement Project closed a critical gap to the City’s bicycle network, connecting Corona del Mar High School and the Eastbluff Community facility without adversely impacting other roadway uses. This challenging project install on-street bike lanes along Eastbluff Road corridor from Mar Vista Drive to MacArthur Boulevard. To facilitate the need extra width, the project included a combination of physical widening on Eastbluff Drive and reduction of shoulder lane widths on Ford Road.

With the school year fast approaching, City staff partnered with the Contractor (GMC Engineering Inc.) to complete the project prior to the first day of school. To accomplish this, the contractor began working one day after the contract was awarded (August 13, 2014). The project was complete within an astonishing 13 working days allowing for the facility to open to the Public on August 29, three days before the first bell of the school.

Throughout the project, the City worked closely with the community stakeholders, including the adjacent schools, church and the seven home owners associations to ensure an open flow of communication this helped to calm concerns of the project’s location within a constrained area and potential to significantly impact the community during the first week s of school.

This project created a continuous and comfortable riding experience for all cyclists, without adversely impacting other roadway users. This project team’s ability to complete the project and openly communicate with the public has fostered an improved community perception of public works projects.
Emergency Roof Stabilization, Tustin Hangar 1
Michael Baker International

While every project is unique, it is not every day one gets an opportunity to work on the world’s largest wood structure. The Kellogg, Brown, and Root, Services (KBR) and the Jacobs Engineering (a Michael Baker International) Joint-Venture joined forces to support Naval Facilities Engineering Command, Southwest’s (NAV.FAC SW) need to stabilize the 1000 foot long, 300 foot wide, and 180 foot high WW-II blimp hangar.

In October of 2013, the north end of the topmost roof section partially collapsed creating a 50 foot by 70 foot hole in the roof. Because the remaining structure was deemed unsafe for entry, the team needed a stabilizing solution built entirely from the outside. Additionally NAV/FAC desired to enter the facility as soon as possible. The design solution would require using readily available materials and construction techniques with minimal on-site labor.

The KBB/Jacobs-Baker team held a brain-storming session. They designed an innovative stabilization system utilizing steel cables that anchored to the four northern-most trusses and that were vertically supported by 190-ft tall modular steel towers placed on each side of the hangar. Four steel cables on each side of the hangar acted as guy wires, connecting to and supporting the top of each steel tower to resist horizontal movement. At the base, the steel tower was supported by a concrete raft foundation with the guy wires connected to helical piers installed in the soil. The system allowed all construction activities to occur from the exterior of the building.

KBR worked closely with Mr. Crane, a crane and rigging company, to choreograph the stabilization while suspended from a 300 foot tall crane. Each step was meticulously monitored using the latest automated surveying techniques for building safety and personal safety. Ultimately the project was completed with zero safety violations and outstanding construction quality.
Engineering Project Achievement Award

Irvine Regional Park Maintenance Building Replace Project
RFB Consulting, a Michael Baker International Company

For more than 80 years, the 475-acre Irvine Regional Park has been maintained by a large crew of Orange County employees and volunteers working from an outmoded collection of dilapidated buildings, storage facilities and offices. Design for the new Irvine Regional Park Maintenance Building Replacement Project began in 2008 and include the demolition of five existing building and construction of three buildings. The site improvement included new electrical service, fire service and bio-treating/infiltration trench WQMP. RBF consulting, a Michael Baker International Company was contracted as the Construction Management firm for the Design-Bid-Build project.

As the first LEED Certified building, this facility represents the future of construction with the Orange County Parks system. The CM Team’s commitment to sustainability standards was demonstrated by working closely with the Design Team and Contractor’s LEED GA to incorporate construction materials, methods, and practices to deliver a LEED Certified project, exceeding expectation and delivering a Certified LEED Silver Project.
Engineering Project Achievement Award

Lake Forest Sports Park
City of Lake Forest, Public Works

The Lake Forest Sports Park is Orange County’s premier passive and active sporting facility providing top-of-the-line athletic amenities in an environment that is enjoyed by all facets of the community. It is the product of many community workshops resulting in a facility uniquely designed to meet the needs of the community and the various user groups. The athletic amenities include a five-field baseball complex, two soccer/lacrosse arenas synthetic turf, and 8 acres of natural turf for multiple uses. The 25,000 sq ft recreational building houses a two full-court basketball/volleyball gymnasium and two wings of classrooms, lounge areas and activities rooms. Two clubhouses contain restrooms and concession stands.

The architectural design of the buildings responds to the needs and reflects the heritage of the community. The former Glass Creek site has been designed into a sports park by preserving all natural systems that previously occupied the site before the park’s development with bio-retention basins and grassy vegetated swales meandering through the sports fields and parking lot.

This project incorporates sustainable design elements such as recycled water in the restrooms, drought tolerant and native plane material species, and selected turf grasses requiring reduced water needs.

The pedestrian experience is enhanced with a meandering dry rock creek bed, prairie-style walkway lighting, a romantic overlook stage of Saddleback Mountain and Saddleback Church, flag-stone and brass inlays integrated into the concrete walkways, and replicas of wild animals throughout the site.
Engineering Project Achievement Award

Newport Force Main Project
Orange County Sanitation District

This Project is a full rehabilitation project and utilizes many trenchless rehabilitation methods available today of approximately 5 miles of pressure large diameter dual sanitary sewer system along Pacific Coast Highway in Newport Beach, CA. The project will continue to protect the public health and the environment by providing effective wastewater collection. The pipelines are within the busy Highway’s rights-of-way, and immediately adjacent to the Newport Harbor and Newport Back Bay waters. The consequences of failure along this systems resulting in spills would be potentially catastrophic from the economic, environmental and community impact standpoints.

This project involves innovative technical, non-technical and business case evaluation techniques. The project will require significant construction activities associated with multiple trenchless rehabilitation methods, including CIPP rehabilitation and micro-tunneling for replacement of pipe in difficult-to-access locations, in addition to open cut method replacement. These methods were used to reduce the disruption to business, traffic and the entire community.
Park Place is a world class mixed-use campus in Irvine, California, consists of 100 acres of prime real estate near I-405 Freeway. The focus of this project was to establish Park Place as a unique live-work opportunity by adding neighborhood retail, restaurants, a market, a health-club, residential towers, and apartment homes to the existing office campus.

A principal challenge of the site was the existing Concourse building that lay in between two main offices. It created a barrier through the site that made navigation a challenge and took up valuable space. This is a fully integrated LPA project that incorporates Architectural and Engineering all in-house. The design team, used a lightweight geo-synthetic fill, engineered a ramping system to bring vehicular and pedestrian traffic onto the roof of the existing Concourse to create an arrival / drop-off and visitor parking. This new rooftop Plaza Deck connects the adjacent offices, increases vehicular connectivity around the site, and creates a much needed sense of arrival.

The scope of the project also included a new entry court and multi-use lawn for 333 Tower, an enhanced front entry and arrival court for the Atrium building, comprehensive signage and way-finding, stronger vehicular and pedestrian circulation throughout, and water-wise planting. Nearly 129,000 sf of turf was replaced with drought tolerant planting and will reduce water needs by an estimated 4.3 million gallons each year.
Engineering Project Achievement Award

Sand Canyon Avenue Grade Separation
RBF Consulting, a Michael Baker International Company

Sand Canyon Avenue is a major east/west arterial highway link for the City of Irvine. This undercrossing project intersects the LOSSAN rail corridor between Interstate 5 and Oak Canyon/Laguna Canyon Avenue. This project lowers Sand Canyon Avenue under the railroad and widens the roadway from four lanes to six lanes. It will relieve traffic delays and accommodate future traffic demands.

The difficulty in the design of this grade separation was the complexity of the stage construction. The traveling distance along Sand Canyon Avenue between the LOSSAN Rail Corridor and the I-5 Freeway is approximately 60 feet. The Burt Road intersections are only 300 feet. Sand Canyon Avenue roadway would be lowered at its maximum depth of approximately 20 feet below the at-grade condition. As a requirement by the City, access had to be maintained at all times to the Old Town Business district at Burt Road. To accomplish this feat, a multi-stage construction approach was developed combining dual shoo-fly construction, temporary shoring, detour access routes, and two phase week-end closures to facilitate rail mainline connection. Temporary water and oil line facilities were constructed to mitigate construction of the rail shoo-fly system, and utility relocation corridors were developed to facilitate utilities construction in advance of the grade separation work.
Engineering Project Achievement Award

Santa Ana River Interceptor (SARI Line) Relocation Project
Orange County Flood Control District (OCFCD)

The $50 million SARI Line Project relocated four miles of existing sanitary sewer out of the Santa Ana River floodplain in the City of Yorba Linda between Weir Canyon Road and the Orange/Riverside county boundary. Constructed in two phases (SARI Mainline and Yorba Linda Spur), over 20,600 feet of new 54-in diameter gravity sewer with a capacity of 43 million gallons per day was installed. Approximately 4,700 ft was installed by a 77-in to 101.5-in diameter microtunneling machine in five segments, including two inverted siphon crossings and two curved drives, one of which is the longest compound curved, or “S” shaped, microtunnel in North America. Other work included installation of sewer and casing behind an existing tieback wall; construction of an odor control facility and a state of the art metering station; a bikeway detour; and a 5,000-foot major sewer lateral (also known as Yorba Linda Spur) that collects effluent from the City of Yorba Linda.
The City of Newport Beach recently designed and installed specialized trash skimmers to remove large amounts of floating trash and debris in Newport Bay. Skimming systems are strategically placed at six different collection points within Newport Harbor. The skimmer is designed around the principal of water displacement. It collects floating trash, add oxygen to water and also remove oil sheen from the water surface. Previously the city had a small boat and send out a staff member to clean up floating debris. After the installation of the skimmers, all the staff member has to do is to empty the skimmer. In 2014, 15,000 gallons of debris was removed from Newport Harbor.

The skimmer was designed by Mr. Louis Pasoz, an Orange County resident, long-time surfer and water quality advocate.

The City of Newport Beach is committed to improving and helping to keep Newport Harbor as one of the cleanest in the country. Additionally, the City has partnered with the Orange County Transportation Authority (OCTA) to provide funding for this unique project.
Engineering Project Achievement Award

SR 57 Improvements
OCTA, Caltrans, HRD, RBF, Athalye Consulting Engineering Services

The $151 million SR-57 Improvement Project added a northbound lane along eight miles of the Freeway in Orange County between Katella Avenue in Anaheim and Lambert Road in Brea. Improvements to this stretch included the addition of one general-purpose lane along with merging lanes, standardization of existing width and shoulder, and reconfiguration of ramps and off-ramps. An aggressive schedule was necessary to meet funding requirements and complete the project on time and within budget.

The project was delivered in three segments: Segment 1 (Katella to Lincoln); Segment 2 (Orangethorpe to Yorba Linda) and Segment 3 (Yorba Linda to Lambert). It required diverse engineering teams to successfully complete the project. Below are several examples:

Orange County Transportation Authority (OCTA) cooperated with Caltrans district 12 to add a northbound lane along the eight-mile section of the Freeway. OCTA is involved in all three segments. Athalye Consulting Engineering Services is one of the team members.

HRD assisted in completing the news lanes in Segment 3, which include bridge work, pile foundation construction, substructure construction, sound walls, retaining walls, mechanically stabilized earth (MSE) walls and tieback retaining walls.

RBF Consulting, a Michael Baker International Company, delivered Segment 2 and provide Plans, Specifications, and Estimate (PS&E) for 2.5 miles of roadway, structure, traffic, drainage design and the relocation of a Caltrans fiber optic communication trunk line and intelligent transportation system (ITS) components.
Engineering Project Achievement Award

Sunset Ridge Park
City of Newport Beach

This project involves construction of a new 13.7 acre park at the northwest corner of West Coast Highway and Superior Avenue in the city of Newport Beach. Proposed active recreation amenities include one youth baseball field, two youth soccer fields, a children playground area, and a picnic area with restrooms. Sunset Ridge Park also includes passive recreation amenities, such as a memorial butterfly garden, a shaded overlook area with views of Pacific Ocean, and meandering pedestrian walkways.

Throughout the park, with the exception of the turf playing fields and paved areas, the park is landscaped with primarily California Native plants of the Coastal Sage Scrub vegetation community.
The West County Connectors Project is a joint partnership between OCTA and Caltrans linking high occupancy vehicle (HOV)/carpool lanes on the I-405 freeway with those on the SR-22 freeway and I-605 freeway creating a seamless carpool connection amongst the 3 freeways. OCTA led the design phase and Caltrans led the construction phase of the 6-mile project, traversing the cities of Garden Grove, Westminster, Seal Beach, Los Alamitos, Long Beach and the community of Rossmoor. The project is split into two Segments – East and West.

Other highlights: Acquisition of approx. 4 acres from the Seal Beach Naval Station; relocation of gas, electrical, communications and 3rd party drainage utilities; construction of approx. 8,000 linear feet of sound walls, between 14 and 16 ft. in height; widened Seal Beach Blvd. bridge from 4 to 7 lanes (3 SB and 4 NB); realignment of on/off ramps; freeway lanes, shoulders and medians were reconstructed to meet current Caltrans design standards, and; continuous access on NB and SB carpool lanes on the I-405 between the SR-22 and I-605.

Critical to delivery of the project was the requirement that no freeway lanes be closed during daytime hours, except on the NB I-405/WB SR-22 connector while the bridge of that connector was replaced.
Professor Milind Tambe’s game-theoretic approach combined with novel computational algorithms provides “intelligent” randomization of security forces actions significantly increasing adversary cost and uncertainty while providing robust deterrence. Adopted for actual use by the US Coast Guard, the LAX Police, the Los Angeles Sheriff’s Office, the Federal Air Marshals Service, and the Transportation Security Administration, this algorithmic approach has dramatically enhanced the effectiveness of security operations. This project has received many awards including the Homeland Security Award.

A recent example is the GT-Metro: Game Theoretic Scheduling of Metro Security Patrols. Effectively patrolling public transit systems is a problem common to many cities, and constitutes a key challenge for security agencies. CREATE’s game theory-based GT-Metro system focused on scheduling Los Angeles Sheriff’s Department patrols across the Los Angeles Metro rapid transit system. This system is among the busiest, carrying 300,000 riders each day, and composed of rail lines and bus lines distributed across the Southland with both underground and surface tracks, and presents prime terrorism targets and also provides opportunities for crime. Tambe’s group conducted research and piloted a system for applying game theory in producing intelligently randomized patrol schedules to effectively deter and prevent fare evaders, criminal acts and terrorist attacks. The GT-Metro system consists of server-based software for generating randomized schedules, and a handheld mobile app for officers to use in carrying out their patrol routes. The results of these experiments demonstrated very high effectiveness for the use of game theory as an automated tool to effectively randomize the allocation of security resources for patrolling a transit system. They participated in a TSA full-scale exercise consisting of 14 teams of officers patrolling 10 stations whereby the game-theoretic schedules was compared against human-generated schedules. Results showed GT-Metro approach was more effective.
Engineering Project of the Year Award

Anaheim Regional Transportation Intermodal Center (ARTIC)
City of Anaheim, Diaz Yourman & Associates

This is a premier regional transportation facility offering a unique variety of transit, dining, retail and entertainment options in one convenient location. ARTIC is an iconic hub that brings together the services of OCTA, Metrolink, Amtrak, Anaheim Resort Transportation shuttles, taxis, bikes, tour and charter buses and other transportation providers. The public-private project had a combined budget of $199 million.

Referred to as “the most complicated steel structure ever attempted”, ARTIC is the first LEED Platinum Certified transit station in the world. The 67,000 square foot hub, managed and leased by Lincoln Property Company, benefits residents, local business, commuter, and visitors. It is also ‘Buy America Compliant’, meaning the building material is proudly manufactured in the United States of America.

The City of Anaheim used Ventura Consultant’s From Good to World Class ® approach to be effective in improving overall project quality, project safety, relationships and job satisfaction, resolution of issues and prevention of delays, and adherence to project schedule and budget. The typical change-order percentage of such a complicated structure could easily be 15 to 20%. This ‘From to World Class®’ partnership was credited for keeping the change-order percentage at an all-time low of 5 to 8%.

Diaz Yourman & Associates (DYA) was the lead geotechnical consultant and also provided limited construction services. The Main Terminal Building area was underlain by 5 to 25 feet of undocumented fill because of filling of a 1965’s quarry. It is also located within a liquefaction zone. DYA proposed deep dynamic compaction (DDC) ground improvement. This DDC option initially met skepticism, and a test run was completed to convince the stakeholders. This option saved $1 million over the other ones thus saving much needed public funds.
James E. Ballinger Engineer of the Year Award

Matt G. Ulukaya
Vice President Orange Operations Manager
AECOM Transportation

Matt Ulukaya has made exceptional contributions to the engineering profession throughout his career. He has helped deliver more than 40 projects, including major capital improvements at LAX, San Diego, Sacramento, Oakland, Santa Maria, San Bernardino, and Long Beach International Airports and at the Ports of Los Angeles, Long Beach, and Oakland. His prolific work also includes highway, civil infrastructure and water resources projects. Matt’s leadership and initiative have been central to the success of some of the most significant infrastructure projects in Southern California’s recent history.

Throughout his career Matt has supported the engineering, science and learning communities, lending his expertise to efforts such as the Orange County Discovery Science Center and the Pythagoras Project, a California Mathematics and Science Partnership. Matt has served as OCEC’s President, Executive Director, and Corporate Sponsor and as an Advisory Board Member. Through this and other professional associations and through his mentoring of young engineers, Matt has helped to build the next generation of engineering and project management professionals in Orange County.

“Mr. Ulukaya not only is an outstanding professional engineer and administrator, but also has a keen interest in promoting the Engineering Profession in Orange County mirroring the OCEC Mission Statement as exemplified by his constant support of OCEC activities. While James Ballinger was alive, Matt was working with him side by side as OCEC Executive Director. Therefore, I believe Matt deserves the OCEC Ballinger Award”. 
OCEC President’s Award

Francisco J Valero-Cuevas
Professor Biomedical Engineering, Professor Biokinesiology and Physical Therapy, Professor of Computer Science, Professor of Aerospace and Mechanical Engineering
University of Southern California

Dr. Valero-Cuevas’s research focuses on the fundamental mechanisms of the interaction between the brain and the body that enables versatile function in organisms and the application of this knowledge for robotics and clinical rehabilitation. Combining the seemingly disparate fields of Neuroscience, Computation and Modeling, Biomechanics, Brain Imaging, Manipulation, Robotics & Clinical Research, he has provided an innovative approach for understanding the neuro-mechanical basis for versatile physical function. His recent work spans topics from theoretical considerations of the control of tendon-driven system, to the development of clinical devices and therapies to evaluate and restore finger and leg dexterity, to immersive environments for rehabilitation. His work has led to a greater understanding of the properties of tendon-driven systems in nature and the robotic features that define the control tasks the brain (or controller) needs to confront and solve. His research has opened clinical avenues for the quantification and rehabilitation of dexterous manipulation and locomotor function, while also suggesting novel approaches to the design and control of versatile robots.

His activities also focus on the development of students with an emphasis on increasing opportunities for underrepresented students in engineering. He is a mentor to many students and worked to improve minority recruitment. For this work, he was recognized with a USC Mellon Award for Undergraduate Mentoring, and was named a Sloan Faculty by the Sloan Foundation. He has been Co-PI to promote diversity in STEM fields. He has served on the T32 TREET NIH Training Grant Minority Recruitment Advisory Board. He has also served as a member of Women in Science and Engineering (WISE) to increase the representation and success of women in science and engineering at USC to increase the representation and success of women in science and engineering at USC.
2009-20015 Corporate Sponsors

AECOM
AESCO
Boeing Company
BRUTOCO
California Resources Corporation
CALTROP
CWE
FUSCOE
HAI (Hushmand Associates Inc)
IDS Group
Improved Petroleum Recovery Consulting (IPRC)
Payam Khashaee
Peter Kurzhals
McCarthy Design Associates
Cynthia Mescher
Port of Long Beach
Tetra Tech
RMC
Mohammad Sadiq
SEMA
TMC
University of California – Irvine
University of Southern California
AEE, AIEE, ASCE, ASHA, CSPE
EWB, IEEE, SAC, SAE, SHPE
SPE, SWE

Educational Institutions

California State University, Fullerton
California State University Long Beach
FSEA (Discovery Science Center)
Fullerton College
MESA
University of California, Irvine
Westwood College

Professional Societies

AEE     AFE     AIAA    ALCHE    AIIE    ANS
ASCE    ASGE    ASHRAE  ASM      ASME    ASQC
CEAC    CELSOC  CSI     CSPE    IAE     IEEE
IESNA   ITE     MAES    NACE    OCCNC   OCTEC
PMI     SAE     SAME    SAMPE   SAVE    SEAOSC
SFPE    SWE     SPE     SRE

Orange County Engineering Council
Thanks to our sponsors!

A Special Thank you!

The OCEC Committee would like to extend a special thank you to all of our sponsors!

Platinum Sponsor: $2,000
University of Southern California

Gold Sponsor: $1,000
AECOM
CWE
Port of Long Beach

Silver Sponsor: $500
Conference Direct

Bronze Sponsor: $200
California Resources Corporation
Orange County Engineering Council

Congratulates the 2015 OCEC Awardees
CWE congratulates the 2015 awardees!