



Message from the Dean



We began the Fall 2016 semester by welcoming 773 first-time freshmen and 250 new transfer students to the SDSU College of Engineering! This represents an enrollment growth of 5.8% which brings the number of Engineering students in Fall 2016 to over 4,100. We also welcomed six new outstanding faculty, one of whom will begin his appointment in Fall 2017.

The College achieved a record in research funding in FY 2016, as the total dollar amount of research proposals awarded to Engineering Faculty more than doubled (202%) from FY 15 to FY 16.

The construction on the new Engineering Interdisciplinary Sciences (EIS) Complex is moving quickly and less than a year after groundbreaking on November 6, 2015, we celebrated with a Topping-Off Ceremony on October 27, in which the last beam of the EIS Complex was placed.



The construction of the EIS Complex will be completed next Fall with expected occupancy in early 2018. A live feed of the construction can be viewed at: <http://130.191.35.82/live.htm> and for more information on the EIS Complex, please visit <http://eis.sdsu.edu>.

It's an exciting and busy time at the College and I hope you will take a moment to read and catch up on all of our student, faculty and community program accolades.

Dr. Morteza Monte Mehrabadi
Dean, College of Engineering

Welcome New Faculty



Dr. Baris Aksanli, Assistant Professor of Electrical and Computer Engineering. **Areas of Specialization:** Energy efficient large-scale cyber physical systems, human behavior modeling in the Internet of Things, big data for energy efficient large-scale systems, cost and energy aware automation of residential houses, and house/building/data center and electric grid interaction.



Dr. Joaquin Camacho, Assistant Professor of Mechanical Engineering. **Areas of Specialization:** Combustion and particulate air pollution, nanomaterial synthesis and characterization, renewable energy, carbon materials and chemistry, heterogeneous reacting flow and aerosol dynamics and reacting flow modeling.



Dr. Ping Lu, Professor and Chair of Aerospace Engineering. **Areas of Specialization:** Advanced guidance of aerospace systems, autonomous aerospace trajectory planning by convex optimization, nonlinear control with applications in aerospace systems, and flight mechanics.



Dr. Duy Nguyen, Assistant Professor of Electrical and Computer Engineering. **Areas of Specialization:** Adaptive signal processing techniques for communications, massive MIMO and mmWave communications, full duplex radios, radio frequency energy harvesting, compressed sensing in communications and optimization, game theory, and machine learning in communications.



Dr. Ying-Khai Teh, Assistant Professor of Electrical and Computer Engineering. **Areas of Specialization:** Silicon-based low power CMOS analog and mixed signal integrated circuit design, energy harvesting integration using thermoelectric, piezoelectric and RF for self-powered Internet of Things systems, and game theoretic analysis framework for multi-source power management scheme.



Dr. Matthew Verbyla, Assistant Professor of Civil, Construction, and Environmental Engineering (starting Fall 2017). **Areas of Specialization:** Natural wastewater treatment, water reuse, pathogen fate and transport, and microbial risk assessment.

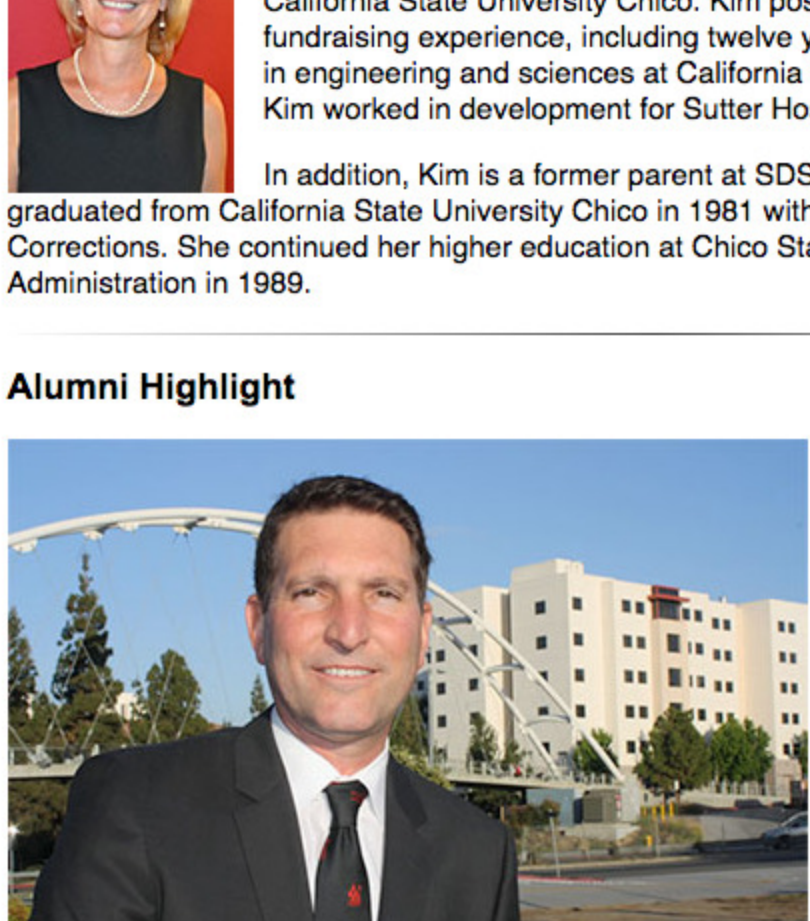
Welcome New Senior Director of Development



Kim DuFour joined the College of Engineering in September 2016 as the Senior Director of Development. Kim has worked in higher education for over 30 years with her last position serving as the Director of Academic Advising at California State University Chico. Kim possesses seventeen years of fundraising experience, including twelve years in higher education, prior to that, Kim worked in development for Sutter Hospitals in Sacramento.

In addition, Kim is a former parent at SDSU and University of Oregon. Kim graduated from California State University Chico in 1981 with a BA in Social Work and Corrections. She continued her higher education at Chico State and earned a Master of Public Administration in 1989.

Alumni Highlight



Alan Dulgeroff ('92, Electrical Engineering) is a busy man, especially with regard to his involvement at San Diego State University. He is a member of the University's Career Services Advisory Board, sits on the Electrical and Computer Engineering Curriculum Advisory Board, and for the next year will serve as president of SDSU Alumni. In a June 15 ceremony at the SDSU Alumni Advisory Board meeting, Dulgeroff was symbolically handed the

President's gavel by Perette Godwin ('96), the Board's immediate past President. He will officially assume his new position July 1, 2016. "I want to emphasize that I really appreciate the opportunity," Dulgeroff said. "I feel privileged to serve."

Dulgeroff is a lifetime member of the SDSU Alumni Association. He has served on its Board in the past four years. One of Dulgeroff's passions is the Aztec Mentor Program (AMP). He has helped forge a link between AMP and SDG&E. He also helps his company recruit on campus. Dulgeroff estimates approximately 10 percent of SDG&E's 4,000 or so employees are Aztec alumni.



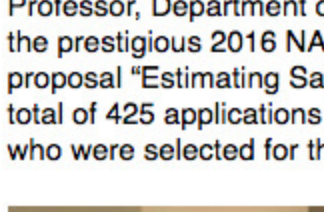
Joe Kiani ('85, '87, Electrical Engineering) was featured both in the SDSU 360 Magazine and SDSU Newscenter as one of four "Portraits of Courage," a series featuring courageous Aztecs who fight to make the world a better place for themselves, their families and their communities. To read the full article, [visit this link](#).

Student Accolades



Fei Lu and Hua Zhang, Electrical and Computer Engineering doctoral students, who work with Dr. Chris Mi, Professor and Chair, Department of Electrical and Computer Engineering, have received the Prize Letter Award for 2015 in the IEEE Transactions on Power Electronics for their paper: "A Double-sided LCLC-Compensated Capacitive Power Transfer System for Electric Vehicle Charging." The selection of this paper by IEEE is a high honor and tribute to the fine research quality, presentation, and potential impact that the research has to the field.

Patrick Poon, Civil Engineering Master's student, advised by Dr. Alicia Kinoshita, Assistant Professor, Department of Civil, Construction and Environmental Engineering, was a recipient of the prestigious 2016 NASA Earth and Space Science Fellowship (NESSF) for his research proposal "Estimating Satellite-Based Evapotranspiration After Wildfire." The NESSF received a total of 425 applications in Earth Science Research with Mr. Poon being one of only 73 students who were selected for the award.



Michelle Powelson and Jose Calderon, Civil, Construction, and Environmental Engineering students, represented their ENV 363 class taught by Dr. Natalie Mladenov, Assistant Professor, Department of Civil, Construction, and Environmental Engineering, and presented a summary of their storm water quality project to the entire council of the City of Santee as a part of SDSU's Sage Project.



The **Baja SAE Team** competed in the May 2016 Baja Competition, in Gorman, CA. The SDSU Baja team placed 2nd in the Acceleration Event. This was the first time that SDSU placed top 3 in any event at the Baja SAE Competitions.



On October 22, 2016, the SDSU Aztec Racing and Aztec Electric Racing teams participated in the Southern California Society of Automotive Engineers (SAE) mini-preliminary design review (PDR) at CSU Northridge. The event provided industry feedback to all Southern California SAE teams on their initial designs.



Nine SDSU Engineering students from Aztec Racing, Aztec Electric Racing and Aztec Baja, attended the BMW Group Centennial celebration "The Next 100 Years" at the Barker Hanger of Santa Monica Airport, on October 16, 2016. The BMW Group hosted future transportation leaders for a special program that included a networking reception viewing of multi-media displays, and an exclusive preview of the four BMW Group's vision vehicles for the mobility of tomorrow.

Faculty Accolades

Dr. Kaveh Akbari Hamed, Assistant Professor of Mechanical Engineering, received \$612,213 from NSF Directorate for Engineering for NRI: Decentralized Feedback Control Design for Cooperative Robotic Walking with Application to Powered Prosthetic Legs.

Dr. Robert Dowell, Associate Professor of Civil, Construction and Environmental Engineering, received \$147,495, from General Dynamics NASSCO, for Full-Scale SWAGE Panel Structural Testing and Finite Element Modeling.

Drs. Sahar Ghaniipoor Machiani and Xianfeng Yang, Assistant Professors of Civil, Construction and Environmental Engineering, along with Drs. Atsushi Nara and Ming-Hisang Tsou, Department of Geography, received \$449,202 from NSF Directorate for Engineering Integrated Stage-Based Evacuation with Social Perception Analysis and Dynamic Population Estimation.

Dr. Gustaaf Jacobs, Professor of Aerospace Engineering, received \$207,637, from NSF Directorate for Engineering Collaborative Research: Shock Interaction with a Complex Hydrodynamic Medium; \$315,992 for the first year of a three-year award from the Air Force Office of Scientific Research for Simulation of Particle-Laden Blast Waves with Inter-Scale Coupling and Uncertainty Quantification; and \$24,000, from California Space Grant Consortium, STEM Research Academy and Outreach.

Dr. Samuel Kassegne, Professor of Mechanical Engineering, received \$501,914, from University of Washington, for Engineering Research Center for Sensorimotor Control Engineering.

Drs. Alicia Kinoshita, Natalie Mladenov and Tom Zink, Civil, Construction and Environmental Engineering Faculty, received \$543,500 from San Diego River Conservancy for Restoration of Alvarado Creek Upper Reach 1.

Dr. Ping Lu, Professor and Chair of Aerospace Engineering, was on the team that was given the Innovation Group Achievement Award by the Director of NASA Johnson Space Center in September 2016, "for exceptional work in pioneering the development of a fully numerical predictor-corrector entry guidance algorithm for the atmospheric entry of space vehicles."

Drs. Karen May-Newman and George Youssef, Mechanical Engineering Faculty, received \$75,000 from The San Diego Foundation for Bioengineering: a pathway to interdisciplinary STEM at SDSU.

Dr. Chris Mi, Professor and Chair of Electrical & Computer Engineering, received \$200,000 from Nanjing Golden Dragon Bus Manufacturing Company Ltd, for Joint Laboratory Development and Training; and \$444,325 from the University of Michigan, GATE Center for Electric Drive Transportation.

Dr. Fletcher Miller, Professor of Mechanical Engineering, received \$383,947, from University of San Diego for Hybrid Solar Converter with Integrated Thermal Storage.

Dr. Khaled Morsi, Professor of Mechanical Engineering, received \$344,517, from NSF Directorate for Engineering, for Pressure "Unassisted" Processing of Fully-Dense Nanocomposites through Novel Nano-Structural Design.

Dr. Eugene Olevsky, Professor of Mechanical Engineering, received \$337,824 from Matsys, Inc. for Modeling and Simulation for Manufacturing Powder Metallurgy Structural Components.

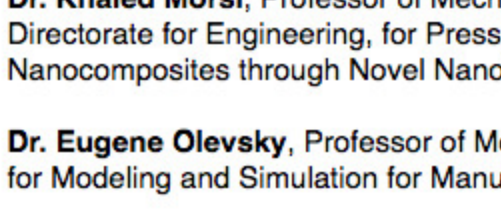
Dr. Victor Miguel Ponce, Professor of Civil, Construction and Environmental, received the SDSU Alumni Recognition Award for Outstanding Faculty Contribution to the University for 2016-17.

Dr. Mahasweta Sarkar, Associate Professor of Electrical & Computer Engineering, received \$60,000, from ViaStat Inc. for Investigation into a High Quality Customer Experience on a WiFi Network on a Commercial Airliner via ViaStat's Ka-band High Throughput.

Dr. Satish Sharma, Professor of Electrical & Computer Engineering, received \$469,555, from DOD Office of Naval Research for Quasi- Far-Field System Upgrade for Millimeter Wave (mmw) Frequency Expansion; and \$30,000 from Broadcom Corporation for Multi-Band GNSS Antenna Research Proposal.

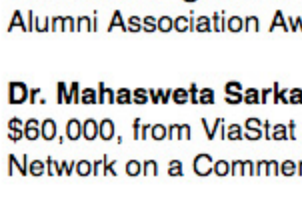
Dr. Satchi Venkataraman, Professor of Aerospace Engineering, received \$199,800 from the N&R Engineering Uncertainty Quantification of Test Derived Model Parameters for Life Prediction of Composite Bolted Joints in an ICME Framework; and \$68,681, from University of California at San Diego for Baseline and Residual Strength Characterization of Composite Laminates Under Bearing and Bypass Loading.

Community & Outreach



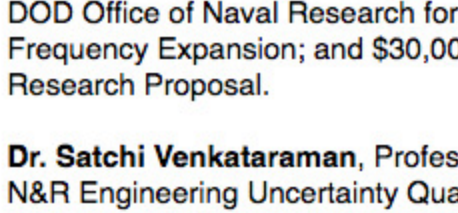
Project Lead the Way (PTLW) California and the Society of Women Engineers (SWE) SDSU Student Chapter hosted 66 high school girls from 16 local high schools and their parents to an afternoon focused on Women in STEM, on Saturday, October 8, 2016. The event kicked off with an all-female Q&A panel followed by students participating in 5 rotations of hands-on activities hosted by The Physics Girl and 3 SDSU student organizations - SWE SDSU, SDSU's Chemists Without Border, and SDSU's Aztec Electric

Racing. Parents attended several workshops to learn more about Project Lead the Way courses and resources. The day wrapped up with awards and raffle prizes for the students.



A select group of San Diego State University students proved they have what it takes to be leaders in STEM careers during a special invitation-only conference. **The 13th Annual Mathematics, Engineering, Science Achievement (MESA) Student Leadership Conference**, themed "The New Face of STEM," was held October 14-15, 2016 at the Santa Clara Marriott. Students engaged in a number of creative activities designed to sharpen their professional skills. They competed in an elevator pitch challenge styled after the hit show "The Voice." Audience members voted by live polling during this PG&E hosted competition.

SoCalGas led a team-building Lego Challenge. And a networking social event included improv games geared toward enhancing social and emotional skills. Students also participated in mock interviews, connected with industry representatives, listened to guest speakers and attended workshops. This focus on so-called "soft skills" is a key to shaping well-rounded STEM professionals.



The Women's Transportation Seminar (WTS) Student Chapter at SDSU, was featured in the online SDSU Daily Aztec on October 5, 2016. WTS, founded in November 2014, by Professor Nensi Lakrori, Civil, Construction and Environmental Engineering Department, focuses on the advancement of women in the transportation industry. The goal of the chapter is to bridge the gap between academia and working professionals and provide a support system of mentors, advisors, and industry leaders to college students

and recent graduates. As the fourth official WTS Student Chapter, and the first one in California, the Chapter has the goal of establishing a college based student community focusing on advancing women in transportation through professional workshops, networking, and community service.

Giving to the College of Engineering

Recognizing the importance of interdisciplinary research to advances in engineering, San Diego State University (SDSU) is currently constructing a new 85,000 square foot facility, the Engineering and Interdisciplinary Sciences (EIS) Complex, a key initiative in the university's drive to become a top-50 public research university. Not only will it enhance the university's current teaching and research capacities, the EIS Complex will also boost San Diego State University's ability to attract the best and brightest researchers and graduate students.

To learn more about giving to the College of Engineering, in particular, about the naming opportunities available in the new Engineering and Interdisciplinary Sciences (EIS) Complex, please contact: Kim DuFour, Senior Director of Development, College of Engineering, kdufour@sdsu.edu or 619-594-6416.