

COLLEGE OF ENGINEERING
Dr. Morteza M. Mehrabadi, Dean

Office of the Dean

Dr. Morteza M. Mehrabadi

Total: \$392,500

University of California Office of the President: "2016-2017 MESA Engineering Program (MEP)," \$10,000; "Math, Engineering, Science Achievement (MESA) MESA School Program (MSP) - Imperial Valley," \$180,000; "Math, Engineering, Science Achievement (MESA) MESA Schools Program (MSP)," \$195,000; "Oracle Summer Program - Java Academy," \$7,500

Aerospace Engineering

Dr. Gustaaf Jacobs

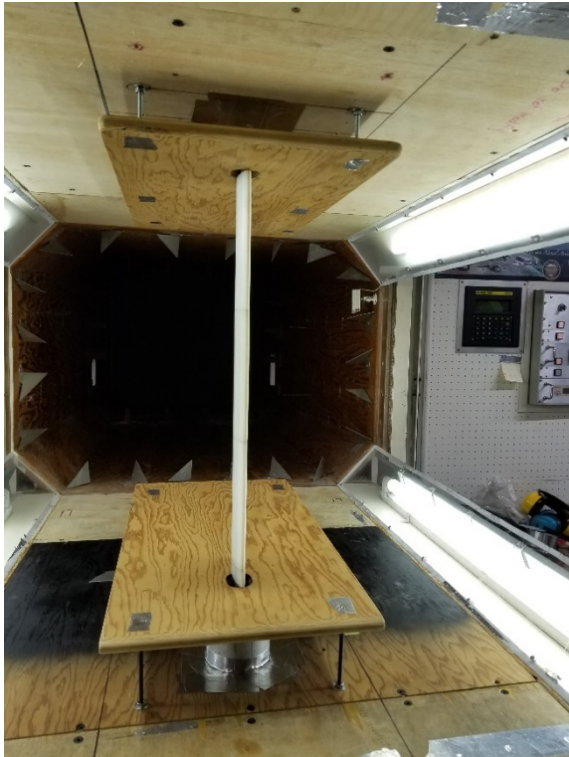
Total: \$658,635

California Space Grant Consortium: "STEM Research Academy and Outreach," \$24,000

National Science Foundation: "Collaborative Research: Shock Interaction with a Complex Hydrodynamic Medium," \$207,637

U.S. Department of Defense Air Force Office of Scientific Research: "Simulation of Particle-Laden Blast Waves with Inter-Scale Coupling and Uncertainty Quantification," \$312,225

University of Southern California: "Control of Lagrangian Coherent Structures at Stagnation and Separation Location on Airfoils," \$114,773



Complete airfoil setup in the SDSU subsonic windunnel. This setup is used to measure aerodynamic loads, such as lift and drag.
Photo: Jacobs Lab
PI: Dr. Gustaaf Jacobs

Dr. Ping Lu

Total: \$102,641

National Aeronautics and Space Administration: "Integrated Entry and Powered Descent Guidance for a Human Mars Mission," \$80,000; "Training Course in Advanced Aerospace Guidance," \$22,641

Dr. Satchi Venkataraman

Total: \$212,207

N&R Engineering: *"Uncertainty Quantification of Test Derived Model Parameters for Life Prediction of Composite Bolted Joints in an ICME Framework,"* \$199,800

University of California at San Diego: *"Baseline and Residual Strength Characterization of Composite Laminates Under Bearing and Bypass Loading,"* \$12,407

Civil, Construction & Environmental Engineering

Dr. Sahar Ghanipoor-Machiani

Total: \$233,751

Virginia Polytechnic Institute and State University: *"National Safety University Transportation Center,"* \$233,751



STAR Lab & Safe-D Center Team
PI: Dr. Sahar Ghanipoor-Machiani

Dr. Alicia M. Kinoshita

Total: \$75,000

National Aeronautics and Space Administration: *"Developing a Satellite-based Post-fire Evapotranspiration Model,"* \$75,000; *"Developing a Satellite-based Post-fire Evapotranspiration Model - P. Poon,"* \$45,000

Dr. Alicia M. Kinoshita and Mr. Thomas A. Zink

Total: \$74,637

U.S. Department of Defense Army Corps of Engineers: *"Evaluating Potential Environmental Impacts from Channel Morphology and Habitat Changes to the Santa Ana River Downstream,"* \$74,637

Mr. Thomas A. Zink

Total: \$1,358,940

ACS Habitat Management: *"San Clemente Island P-704F Project Restoration,"* \$65,735

U.S. Department of Defense Army Corps of Engineers: *"Dune Enhancement to Support the California Least Tern and Western Snowy Plover at the Silver Strand Training Complex, Naval Base Coronado, California,"* \$75,658; *"Proposed Research for Natural Resources Monitoring Navy Region Southwest,"* \$160,925; *"Reagentless Environmental Water Hazard Sensor Research,"* \$50,032; *"San Clemente Island Botanical Program Implementation, NALF San Clemente Island, Naval Base Coronado, California.,"* \$399,493; *"Vegetation Mapping at NALF San Clemente Island, Naval Base Coronado, California,"* \$336,568

U.S. Department of Defense U.S. Navy: *"Naval Base Coronado Dune Restoration and Sensitive Plant Species Surveys,"* \$55,691; *"San Clemente Botany Management Naval Auxiliary Landing Field San Clemente Island,"* \$214,838



Cleaning invasive ice plant from a coastal dune restoration site
Photo and PI: Mr. Thomas A. Zink

Electrical & Computer Engineering

Dr. Baris Aksanli **Total: \$10,000**
CSU Fullerton Auxiliary Services Corporation: "*GE Digital CSU Innovation Design Challenge*," \$10,000

Dr. Arif E. Engin **Total: \$25,000**
Sumitomo Corporation: "*Stepped-Impedance Common-Mode Filter in Differential Lines*," \$25,000

Dr. fredric harris **Total: \$61,108**
Astrapi Corporation: "*Spiral Polynomial Division Multiplexing (SPDM)*," \$14,063

Atmospheric and Space Technology Research Associates ASTRA: "*Programmable Multi-Frequency Transmitter*," \$35,000

U.S. Department of Defense Space and Naval Warfare Systems Command: "*Tactical Secure Voice SDR Support (FY16)*," \$12,045

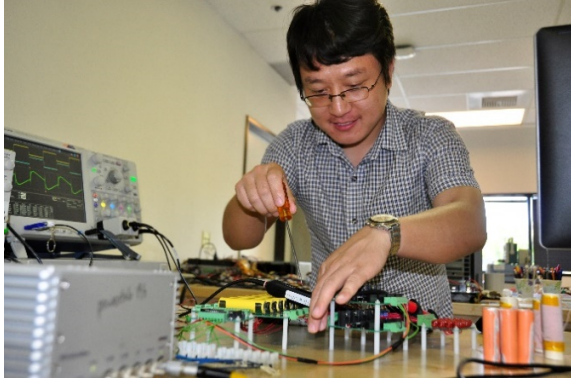
Dr. Sunil Kumar **Total: \$157,000**
U.S. Department of Defense Air Force Research Laboratory: "*Prioritized, QoS-aware Information Transmission Over Congested/Contested Wireless Mesh*," \$157,000

Dr. Sunil Kumar and Dr. Huu N. Nguyen **Total: \$31,702**
U.S. Department of Defense Air Force Research Laboratory: "*Design of Novel, Cross-Layer Neighbor Discovery Schemes for Directional Mesh Networks*," \$31,702

Dr. Chunting C. Mi **Total: \$361,846**
Argonne National Laboratory: "*High Power Wireless Charging System*," \$70,000

Nanjing Golden Dragon Bus Manufacturing Company Ltd: "*Joint Laboratory Development and Training*," \$200,000

University of Tennessee: "*Uncertainty Management and Proactive Maintenance for Lithium-ion Batteries in Electrified Vehicles*," \$91,846

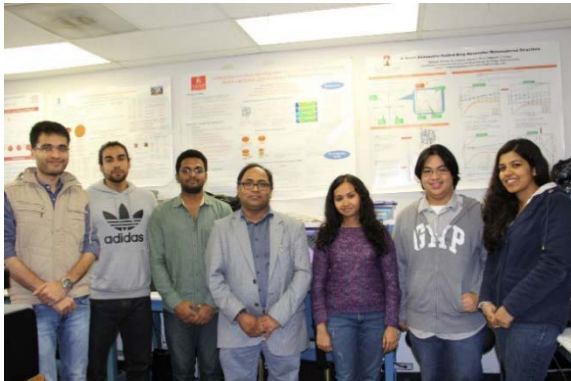


Mr. Yunlong Shang, exchange doctoral student from Shandong University, sets up an experiment to conduct research in battery prognostics.
Photo: Mi Lab
PI: Dr. Chunting C. Mi

Dr. Mahasweta Sarkar **Total: \$60,000**
ViaSat Inc.: *"Investigation Into a High Quality Customer Experience on a WiFi Network on a Commercial Airliner via ViaSat's Ka-band High Throughput,"* \$60,000

Dr. Satish Sharma **Total: \$220,000**
Space Micro, Inc.: *"Compact, Broadband, Efficient and High Power Transmit Antenna for Airborne Electronic Attack Platform,"* \$60,000

U.S. Department of Defense Office of Naval Research: *"Development of W-Band Millimeter-Wave Links for Nanosat Applications,"* \$160,000

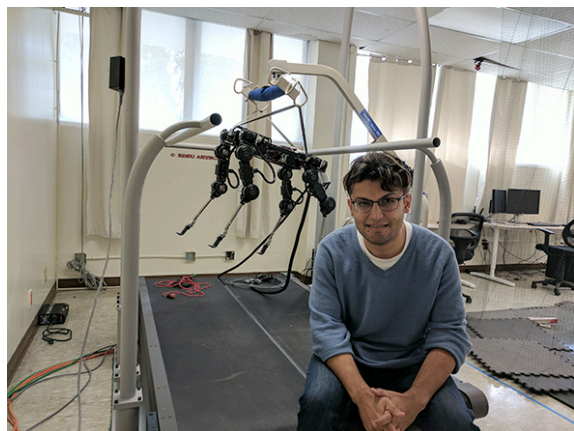


Dr. Satish Sharma (center) and the Antenna and Microwave Lab team
Photo: Debbie Brighton
PI: Dr. Satish Sharma

Dr. Lal Tummala **Total: \$248,930**
Department of California Highway Patrol: *"Testing Services for Police Traffic Radar and Laser Speed Measuring Devices,"* \$248,930

Mechanical Engineering

Dr. Kaveh Akbari Hamed **Total: \$612,213**
National Science Foundation: *"NRI: Decentralized Feedback Control Design for Cooperative Robotic Walking with Application to Powered Prosthetic Legs,"* \$612,213



Dr. Kaveh Akbari Hamed and the quadruped robot SQ1 in his research laboratory at SDSU
Photo: Michael Price
PI: Dr. Kaveh Akbari Hamed

Dr. Ilenia Battiato **Total: \$325,132**
U.S. Department of Engineering Office of Science: "*A Vegetative Facies-Based Multiscale Approach to Modeling Nutrient Transport in the Columbia River Basin,*" \$150,000; "*Multiscale Dynamics of Reactive Fronts in the Subsurface,*" \$175,132

Dr. Asfaw Beyene **Total: \$308,498**
U.S. Department of Energy: "*Industrial Assessment Centers, SDSU,*" \$308,498

Dr. Subrata Bhattacharjee **Total: \$60,000**
National Aeronautics and Space Administration: "*Residence Time Driven Flame Spread Over Solid Fuels,*" \$60,000

Dr. Joaquin Camacho **Total: \$10,000**
National Science Foundation: "*International Travel Support for Chemistry and Diagnostics for Clean Combustion International Bunsen Discussion Meeting,*" \$10,000

Dr. Randall German and Dr. Eugene Olevsky **Total: \$175,000**
National Aeronautics and Space Administration: "*Multi-Scale Modeling and Experimentation on Liquid Phase Sintering in Gravity and Microgravity Environments,*" \$175,000

Dr. Parag Katira **Total: \$19,244**
University of California at San Diego: "*Patient Specific Characterization of Cancer Cell Metastatic Potential using In-Vitro and In-Silico Models of Tumor Microenvironments,*" \$19,244

Dr. Karen May-Newman **Total: \$17,000**
St. Jude Medical Business Services, Inc.: "*Effect of a Programmed Pulse on Flow in the Native Cardiovascular System during LVAD Support with the HeartMate III LVAD, Studied in a Mock Circulatory Loop,*" \$17,000

Dr. Fletcher Miller **Total: \$30,697**
San Diego State University: "*ARPA-E Focus Project Post-Doc,*" \$30,697

Dr. Kee Moon **Total: \$167,992**
Amosense Co: "*Development of Sustainable Power Module for Implantable Medical Devices Based on Ultrasonic Wireless Power Transfer,*" \$106,092

Kagoshima University: *"International Academic Cooperation Program,"* \$15,400

Sejong University South Korea: *"Winter Program in SDSU,"* \$46,500

Dr. Khaled Morsi

Total: \$344,517

National Science Foundation: *"Pressure Unassisted Processing of Fully-Dense Nanocomposites through Novel Nano/Micro-Structural Design,"* \$344,517

Dr. Eugene Olevsky

Total: \$220,000

General Atomics Corporation: *"Investigation of Novel Joining and Sintering Techniques with Regard to Nuclear Core Materials,"* \$50,000; *"Nano-Crystalline Refractory Alloy Development,"* \$45,000

U.S. Department of Energy: *"Fundamentals of Spark-Plasma Sintering: Rapid and Ultra-Rapid Materials Consolidation and Joining,"* \$125,000

Dr. George Youssef

Total: \$76,531

U.S. Department of Defense U.S Navy: *"Rim Driven Thruster for Ship Model Propulsion,"* \$76,531



Summer '17 Research Experience for Undergraduates
Sophia Do and Sophia Stepp discuss u-spheres characterization.
Photo: Ian Johnson
PI: Dr. George Youssef