

AWARD TOTAL: \$12,230,740



Dr. Eugene Olevsky, Dean

Office of the Dean



Dr. Eugene Olevsky
Total: \$365,907

Burnham Institute for Medical Research: “Stem Cells & Science, Technology, Engineering, and Math (STEM) Education - A Summer Internship Program for California High School Students,” **\$907**

The San Diego Foundation: “Project SOAR - Science, Technology, Engineering, and Math (STEM) Opportunities in Applied Research,” **\$70,000**

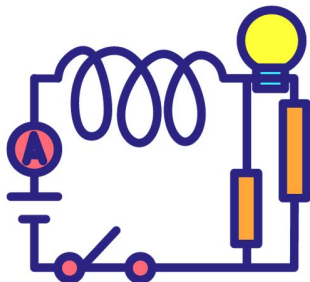
University of California Office of the President: “2021-2022 MESA Engineering Program (MEP) - Natasha Celise,” **\$70,000**; “Math, Engineering, Science Achievement (MESA) MESA Schools Program (MSP) - Jeanette Espino,” **\$115,000**; “Math, Engineering, Science Achievement (MESA) MESA Schools Program (MSP) - Luis Topete,” **\$110,000**

Aerospace Engineering



Dr. Ahmad Bani Younes
Total: \$48,000

U.S. Department of Energy Idaho National Laboratory: “Route Operable Unmanned Navigation of Drones,” **\$48,000**



Dr. Gustaaf Jacobs
Total: \$511,454

U.S. Department of Defense Air Force Office of Scientific Research: “Birth and Control of Three-dimensional Lagrangian Separation: Optimal Control,” **\$375,454**; and “Learning in Multi-Scale Models with Stochastic Source Coupling,” **\$120,000**

U.S. Department of Energy: “Development of Design Practices for Additively Manufactured Micro-Mix Hydrogen Fuelled Turbine Combustors with High-Fidelity Simulation Analysis, Reduced Models and Testing,” **\$16,000**



Dr. Xiaofeng Liu
Total: \$65,055

U.S. Department of Defense Office of Naval Research: “Conference: A Proposal Requesting Office of Naval Research (ONR) Support for the 15th International Symposium on Particle Image Velocimetry (ISPIV 2023), San Diego, CA, June 19-21, 2023,” **\$15,060**

National Science Foundation: “Conference: A Proposal Requesting National Science Foundation (NSF) Support for the 15th International Symposium on Particle Image Velocimetry (ISPIV 2023), San Diego, CA, June 19-21, 2023,” **\$49,995**



Dr. Ping Lu
Total: \$955,186

National Aeronautics and Space Administration: “Flight Testing of Advanced Powered Descent Guidance Algorithms,” **\$705,186**; and “Propellant-Optimal Integrated Entry and Powered Descent Guidance for Human-Scale Mars Mission/NNH21ZHA001NRA-MSTAR,” **\$250,000**



Dr. Satchi Venkataraman
Total: \$200,000

Materials Sciences Corporation: “Analysis Tool to Predict the Behavior of Bolted Composite/Metallic Joints with Many Fasteners,” **\$200,000**

Civil, Construction, and Environmental Engineering



Dr. Reza Akhavian
Total: \$99,622

National Science Foundation: “CLB Supplement CAREER: Co-Adaptation and Trust in Worker-Robot Interactions: Scalable Adoption of Collaborative Robots in Construction,” **\$45,141**; and “INTERN Supplement CAREER: Co-Adaptation and Trust in Worker-Robot Interaction toward Scalable Adoption of Collaborative Robots inConstruction,” **\$54,481**



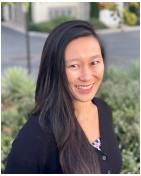
UAS-induced driver distraction experiments using a driving simulator and eye-tracker by Dr. Reza Akhavian and graduate student Newsha Emaminejad.

Photo credit: Melinda Sevilla.



Dr. Reza Akhavian and Dr. Sahar Ghanipoor-Machiani
Total: \$150,000

California Department of Transportation: “Caltrans Unmanned Aerial System (UAS)-Related Driver Distraction Research,” **\$150,000**



Dr. Alicia Kinoshita
Total: \$116,861

National Science Foundation: “CAREER: Coupling Post-fire Vegetation and Volumetric Sediment Regimes in Urban Mediterranean Systems,” **\$116,861**



Dr. Hanyang Li
Total: \$91,096

California Air Resources Board: “Toxic-metal Aerosol Real-time Analyzer (TARTA) Improvements for Communities,” **\$68,131**

California State University Sacramento: “Sacramento Environmental Justice Community Air Monitoring Project,” **\$9,010**

University of California at Davis: “Toxic-metal Aerosol Real-time Analyzer (TARTA)-XACT Comparison,” **\$13,955**



Dr. Marta Miletic, Dr. Margherita Capriotti, Dr. Elisa Torresani, and Dr. Julio Valdes
Total: \$82,000

New Mexico State University: “MUREP Advancing Regolith-related Technologies and Education (MARTE),” **\$82,000**



Dr. Natalie Mladenov
Total: \$83,702

California State University Office of the Chancellor: “Degradation and Fragmentation of Marine Debris in Urban Coastal Watersheds,” **\$24,967**

National Science Foundation: “WERF: Enhanced Evaluation of the Removal of Contaminants of Emerging Concern in Decentralized Water Reuse Systems by Non-targeted Analysis,” **\$31,135**; and “Investigating Antibiotics Removal from Wet Onsite Sanitation Systems Using Bench-scale Anaerobic Digesters (Fellowship - Astete-Vasquez),” **\$27,600**



Dr. Hassan Tavakol-Davani
Total: \$571,567

National Science Foundation: “CAREER: Environmental Sustainability of Combined Sewer Systems in Underserved Coastal Communities,” **\$457,099**; and “Supplemental Funding for Research Collaboration in Europe for National Science Foundation (NSF) Award #2113987,” **\$9,030**

University of Southern California: “Enhancing the Resilience of Underserved Coastal Communities Against Compound Flooding,” **\$76,785**; and “Sea Grant Traineeship,” **\$28,653**



Dr. Davani advises undergraduate students in the department of Civil, Construction, and Environmental Engineering towards their Independent Study units focused on Sea Level Rise impacts on civil infrastructure.
Photo credit: Melinda Sevilla



Dr. Matthew Verbyla
Total: \$15,126

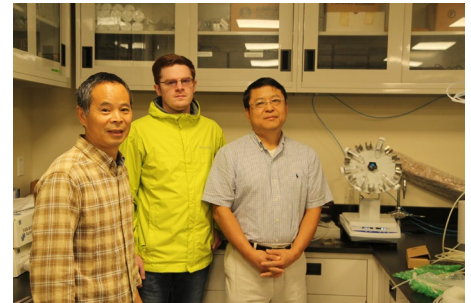
California State Water Resources Control Board: “Alternative Indicators of Human Fecal Contamination,” **\$15,126**



Dr. Dongye Zhao
Total: \$464,416

Auburn University: “A ‘Trap-and-zap’ Technology for Cost-effective Removal and Destruction of Aqueous-phase Per-and Polyfluoroalkyl Substances at Department of Defense (DoD) Sites,” **\$151,820**

National Science Foundation: “Collaborative Research: ERASE-PFAS: A ‘Concentrate-and-Destroy’ Technology for Treating Per and Polyfluoroalkyl Substances Using a New Class of Adsorptive Photocatalysts,” **\$312,596**



Dr. Dongye Zhao, professor and chair of CCEE (right), and team (Research Technician Dr. Youxian Wu and Ph.D. student Nelson Leary) are developing new photocatalysts and technologies for treating PFAS in water.
Photo credit: Melinda Sevilla.



Mr. Thomas Zink
Total: \$204,577

U.S. Department of Defense U.S. Navy: “Botany Management Program at Naval Auxiliary Landing Field San Clemente Island, California,” **\$204,577**

Electrical and Computer Engineering



Dr. Baris Aksanli
Total: \$17,607

Arizona State University: “SDSU Participation in Arizona State University (ASU) Center for Accelerating Operational Efficiency Hackathon Competition,” **\$17,607**



Dr. Sunil Kumar
Total: \$100,000

U.S. Department of Defense Air Force Research Laboratory: "Mobility-Adaptive Cross-Layer Protocols for Airborne Networks with Single/Multi-Beam Directional Antennas," **\$100,000**



Dr. Saeed Manshadi
Total: \$240,000

National Science Foundation: "ERI: Resilient Operational Planning of Electricity Grid Under the Risk of Wildfire," **\$200,000**

Southern California Gas Company: "Farm Electrification: A Roadmap to Remove Carbon Footprint from Agriculture Sector," **\$40,000**



Advanced sensors are utilized to coordinate renewable generation with smart farming irrigation.
Photo courtesy of Saeed Manshadi.



Dr. Chunting Mi
Total: \$1,099,927

Solid Energies, Inc.: "High Safety, Wide-operation-temperature, Low Cost All Solid-state Li-ion Battery (ASSLiB) and ASSLiB Based Energy Storage Systems," **\$959,932**



Post-doctoral fellows, Drs. Wei Gao (left), Naser (middle), Vosoughi, and Zhi Cao, are working in Chris Mi's lab.

Photo credit: Ms. Yuhong Fu.

Dr. Chunting Mi cont.

University of California at San Diego: "Rapid Development of Urban Air Mobility Vehicle Concepts through Full-configuration Multidisciplinary Design, Analysis, and Optimization," **\$139,995**



Dr. Huu Nguyen
Total: \$1,399,737

U.S. Department of Defense U.S. Army: "Enabling High-Mobility Unmanned Aerial Vehicles (UAV) Communications with Adaptive Signal Processing," **\$599,800**

National Science Foundation: "Collaborative Research: NSF-AoF: CIF: AF: Small: Energy-Efficient THz Communications Across Massive Dimensions," **\$299,937**; and "CAREER: Development of Learning Algorithms for Nonlinear Massive Multiple Input Multiple Output (MIMO) Systems," **\$500,000**



Dr. Yusuf Ozturk
Total: \$872,052

GlaxoSmithKline: "Using Natural Language Processing (NLP) and Neural Networks to Autonomously Identify Severe Asthma and Determine Study Eligibility in a Large Healthcare System," **\$872,052**



Dr. Christopher Paolini
Total: \$69,288

Plume Design Inc.: "Plume Inc. Fall Detection Sensor Data Capture, Annotation, Analysis, and Reporting," **\$69,288**



Dr. Mahasweta Sarkar
Total: \$171,288

Auburn University: "The Alliance of Persons with Disabilities and Intersectionality for Inclusion, Networking, and Transition Opportunities in STEM (TAPDINTO-STEM)," **\$171,288**

Dr. Mahasweta Sarkar cont.



Mentored local high school students in STEM.
Photo courtesy of Mahasweta Sarkar.



Dr. Satish Sharma
Total: \$84,555

Altius Space Machines: "Sidelobe Interlink with ModPak for Bi-directional I/O Telecommunications," **\$84,555**



Dr. Junfei Xie
Total: \$440,031

National Science Foundation: "CAREER: Towards Networked Airborne Computing in Uncertain Airspace: A Control and Networking Facilitated Distributed Computing Framework," **\$109,213**; "Enhanced Open Networked Airborne Computing Platform," **\$314,818**; "REU Supplement - Towards Networked Airborne Computing in Uncertain Airspace: A Control and Networking Facilitated Distributed Computing Framework," **\$16,000**



Junfei Xie building a drone for her research project at the SMILE lab.
Photo courtesy of Junfei Xie.



Mechanical Engineering



Dr. John Abraham
Total: \$1,000

Secor Strategies: “National Aeronautics and Space Administration (NASA) Lunabotics Competition Award,” **\$1,000**



Dr. Asfaw Beyene and Dr. Joaquin Camacho
Total: \$355,781

Battelle Pacific Northwest Laboratories: “IAC Resilience Planning Tool,” **\$5,000**

U.S. Department of Energy Office of Energy Efficiency and Renewable Energy: “Industrial Assessment Centers, SDSU,” **\$350,781**



Dr. Amneet Pal Bhalla
Total: \$418,871

National Science Foundation: “CAREER: Consistent Continuum Formulation and Robust Numerical Modeling of Non-isothermal Phase Changing Multiphase Flows,” **\$418,871**



Dr. Subrata Bhattacharjee and Dr. Fletcher Miller
Total: \$155,632

National Aeronautics and Space Administration: “Residence Time Driven Flame Spread: The Final Phase,” **\$155,632**



Dr. Bhattacharjee visiting the NASA Glenn Research Center to inspect the replica of the Combustion Integrated Rack (now in the International Space Station) where his experiment RTDFS will be conducted in March 2024.

Photo credit: Fran Keller, Dr. Bhattacharjee's wife.



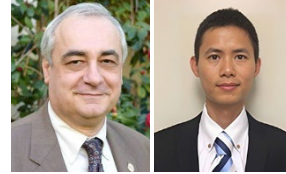
Dr. Randall German and Dr. Eugene Olevsky
Total: \$112,500

National Aeronautics and Space Administration: “Multi-Scale Modeling and Experimentation on Liquid Phase Sintering in Gravity and Microgravity Environments – Extension,” **\$112,500**



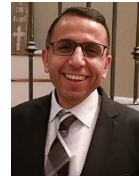
Dr. Zahra Nili Ahmadabadi
Total: \$125,000

U.S. Department of Defense Air Force Research Laboratory: “An Acoustic Modeling System for Physics-guided Machine Learning: Enabling Acoustic Detection and Tracking of Targets in Adversarial Environments,” **\$125,000**



Dr. Eugene Olevsky and Dr. Wenwu Xu
Total: \$340,197

U.S. Department of Energy Office of Science: “Multi-Scale Modeling of Electro-Nano-Pulse Processing,” **\$140,197**; and “Tailoring Grain-boundaries by Electro-Nano-Pulsing (ENP),” **\$200,000**



Dr. George Youssef
Total: \$2,117,113

U.S. Department of Defense Office of Naval Research: “Versatile Nanoscale Advanced Materials Characterization,” **\$627,493**

U.S. Department of Defense U.S. Army: “New Frontiers in Additive Manufacturing of Fiber Reinforced Composite,” **\$599,999**; and “Nondestructive Evaluation of 3D Printed Composites using Terahertz Waves,” **\$797,956**

U.S. Department of Defense U.S. Navy: “Nondestructive Evaluation of Additively Manufactured Polymers and Composites,” **\$81,665**

Stryker: “Biomechanical Investigations of Tibial Fractures,” **\$10,000**

