### Awards Received July 1, 2019 - June 30, 2020

**COLLEGE OF ENGINEERING**

*Dr. Eugene Olevsky, Dean*

#### Office of the Dean

<table>
<thead>
<tr>
<th>Name</th>
<th>Total</th>
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<tbody>
<tr>
<td>Ms. Theresa Garcia</td>
<td>$256,472</td>
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<tr>
<td>U.S. Department of Defense Office of Naval Research: “Advancing Navy STEM Workforce through Education and Research (ANSWER),”</td>
<td>$256,472</td>
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<tr>
<td>Dr. Eugene Olevsky</td>
<td>$190,000</td>
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<tr>
<td>University of California Office of the President: “2019-2020 MESA Engineering Program (MEP),”</td>
<td>$10,000</td>
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<tr>
<td>University of California Office of the President: “MESA Oracle Summer Program,”</td>
<td>$180,000</td>
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#### Aerospace Engineering

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Dr. Ahmad Bani Younes</td>
<td>$10,884</td>
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<tr>
<td>Khalifa University: “Trajectory Design and Optimization for Space Applications,”</td>
<td>$10,884</td>
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<tr>
<td>Dr. Jun Chen</td>
<td>$95,000</td>
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<tr>
<td>Massachusetts Institute of Technology: “Dynamic Aircraft Hazard Area Generation for Space Operations,”</td>
<td>$45,000</td>
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<tr>
<td>TuSimple LLC: “Dispatch and Scheduling System for Autonomous Truck Fleet Management,”</td>
<td>$50,000</td>
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<tr>
<td>Dr. Gustaaf Jacobs</td>
<td>$214,655</td>
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<tr>
<td>Dr. Xiaofeng Liu</td>
<td>$83,126</td>
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Tomographic-PIV experimental setup at SDSU.
PI: Xiaofeng Liu
Photo: Jose Roberto Moreto

National Aeronautics and Space Administration: “Prandtl-D Aerodynamic Load and Induced Thrust Validation using Time-Resolved Stereoscopic PIV Wind Tunnel Measurements (Fellow - Brad Zalenko),” $58,000
Awards Received July 1, 2019 - June 30, 2020

**Civil & Environmental Engineering**

**Dr. Ping Lu**
Total: $141,500

**Mr. Thomas Abram**
Total: $1,500

**Dr. Robert Dowell**
General Dynamics NASSCO: “Wood Block Testing for Ship Launch,” $6,192  
Total: $6,192

**Dr. Robert Dowell and Dr. Julio Valdes**
General Dynamics NASSCO: “Fatigue Testing of Full-Scale Swage Panels for Ships,” $181,344  
Total: $473,745

**Dr. Temesgen Garoma**
Metropolitan Water District of Southern California: “Solar Thermal Energy Concentrated with Fresnel Lens for Seawater Desalination,” $10,000  
Total: $10,000

**Dr. Sahar Ghanipoor-Machiani**
Scripps Health: “Evaluation of Driving Ability After Mild Traumatic Brain Injury,” $12,500  
Total: $12,500

**Dr. Sahar Ghanipoor-Machiani and Dr. Arash Jahangiri**
Virginia Polytechnic Institute and State University: “Safety through Disruption (Safe-D) University Transportation Center (UTC),” $473,745  
Total: $473,745

**Dr. Alicia Kinoshita**
U.S. Department of Interior Bureau of Land Management: “Improving Post-wildfire Peak Streamflow Predictions for Small Watersheds and Communities,” $24,958  
Total: $24,958

Erosion in Horsethief Creek after a storm following the 2018 Holy Fire in California.  
PI: Alicia Kinoshita  
Photo: Brian Swanson, Department of Conservation – California Geological Survey.

**Dr. Natalie Mladenov**
National Science Foundation: “INTERN: Modeling the Fate of Chemicals of Emerging Concern in Aerobic and Anaerobic Membrane Bioreactor Systems,” $54,993; “REU: Quantifying Chemical Loadings from Sludge Generated by MBR and AnMBR Treatment Systems for Water Reuse,” $7,000  
Total: $61,993

**Dr. Natalie Mladenov and Dr. Matthew Verbyla**
San Diego River Conservancy: “Persistence of SARS Coronavirus-2 in Natural Waters,” $11,700  
Total: $11,700

**Dr. Hassan Tavakol-Davani**
IEA Research and Education Foundation: “Statistical Analysis on Oil and Grease Monitoring Data to Evaluate the Effectiveness of Intermediate Devices,” $5,063  
Total: $5,063
Awards Received July 1, 2019 - June 30, 2020

**Mr. Thomas Zink**

U.S. Department of Defense Army Corps of Engineers: “San Clemente Island Botany Program Implementation,” $506,841


**Electrical & Computer Engineering**

**Dr. Baris Aksanli**


National Science Foundation: “Collaborative Research: MLWiNS: Hyperdimensional Computing for Scalable IoT Intelligence Beyond the Edge,” $60,000

The mathematical properties of high-dimensional spaces can explain the key aspects of human memory, perception, and cognition, which is the basis of Hyper-dimensional computing.

PI: Baris Aksanli

Photo Credit: Pixaby

**Dr. Amirhossein Alimohammad**

National Science Foundation: “SHF: SMALL: Reconfigurable and Programmable Processors for Brain-Computer Interfacing,” $320,000

**Dr. Sunil Kumar**


Intelligent Automation Inc.: “RETAIN: Resilient and Self-Healing Protocol Stack for Directional Tactical Mesh Networks,” $17,000

**Dr. Saeed Manshadi**

Awards Received July 1, 2019 - June 30, 2020

Dr. Chunting Mi
Ford Motor Company: “Data Piece Based Parameter Identification and Prognostics of Lithium-ion Batteries,” $100,000

Dr. Wei Gao, postdoctoral researcher working on the battery project to enhance the safety and reliability of electric vehicles.
PI and photo: Chunting Mi

Dr. Huu Nguyen
LinQuest Corporation: “Measurement and Analysis of SATCOM Operational Resiliency,” $25,000

Dr. Christopher Paolini

Dr. Reza Sabzehgar
TransPower: “Control and Optimization of an Inverter Utilized in Electric Heavy-Duty Vehicle for Fast Transmission Shifting,” $105,000

Control board and transmission system for TransPower project.
PI: Reza Sabzehgar
Photo: Kash Olia, TransPower

Dr. Satish Sharma
Fuse Integration: “Resilient Directional Mesh Enhanced Tactical Airborne Networks,” $200,000

National Aeronautics and Space Administration: “Applicability of Hybrid-Beamforming based Massive MIMO Antenna Arrays Concepts for 5G Millimeter Wave Applications to SmallSats Platforms,” $150,000

U.S. Department of Defense Naval Information Warfare Center (NIWC): “Design and Test Support for Microwave Wide Circular Polarized Phased Array,” $30,000
Dr. Hakan Toreyin
National Science Foundation: “Leveraging Stochastic Resonance for High Spatial-Resolution Extracellular Monitoring.” $299,331

MS student Kyle Gherardi designing a software that mimics a neural recording environment that can generate synthetic neural recordings.
PI and photo: Hakan Toreyin

Dr. Junfei Xie

Dr. Junfei Xie is coordinating the UAV flight tests
PI and photo: Junfei Xie
Awards Received July 1, 2019 - June 30, 2020

Mechanical Engineering

Dr. Asfaw Beyene  

Dr. Amneet Pal Bhalla  
National Science Foundation: “Collaborative Research: Frameworks: Multiphase Fluid-Structure Interaction Software Infrastructure to Enable Applications in Medicine, Biology, and Engineering,” $499,682

A team from San Diego State University and Northwestern University used the Comet and Bridges supercomputers to simulate inertial sea wave energy converter devices in collaboration with Polytechnic University of Turin.  
PI: Amneet Pal Bhalla  
Photo: Mattiazzo Group, Politecnico di Turin.

Dr. Subrata Bhattacharjee  
National Aeronautics and Space Administration: “Residence Time Driven Flame Spread Over Solid Fuels,” $150,000

Dr. Randall German  
National Aeronautics and Space Administration: “Multi-Scale Modeling and Experimentation on Liquid Phase Sintering in Gravity and Microgravity Environments,” $75,000

Dr. Randall German and Dr. Eugene Olevsky  
National Aeronautics and Space Administration: “Multi-Scale Modeling and Experimentation on Liquid Phase Sintering in Gravity and Microgravity Environments,” $150,000

Dr. Samuel Kassegne  
University of Washington: “National Science Foundation Engineering Research Center for Neurotechnology (CNT),” $297,679

Dr. Parag Katira  
Department of Defense U.S. Army: “Biomathematics: Predicting Tissue Dynamics based on Stochastic Variations in Cell Stiffness and Spatial Clustering within the Tissue Environment,” $93,034

Dr. Karen May-Newman  
Abbott Vascular: “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,” $40,000

Becton Dickinson and Company: “Design Project of Roller Clamps for Intravenous Administration Sets,” $9,600

Dr. Fletcher Miller  
National Aeronautics and Space Administration: “Developing the Narrow Channel Apparatus as a NASA Standard Material Flammability Test – Flight Experiment,” $90,000

Dr. Kee Moon  
Sejong University South Korea: “Winter Program at SDSU,” $63,000
Awards Received July 1, 2019 - June 30, 2020

**Dr. Eugene Olevsky**

- General Electric: “Sintering of 3D-Printed Complex Shape Porous Components,” $130,000

Total: $422,119

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**Dr. Kevin Wood**

- Belenos Clean Power Holding Ltd: “Fundamental Understanding of Li Metal Anodes for Improved Device Performance,” $231,137

Total: $231,137

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**Dr. George Youssef**

- National Science Foundation: “In-situ Multimode Ultrahigh Strain Rate Loading and Characterization,” $369,593

Total: $369,593