

Award type	Project Title	First Name	Last Name	Major	Mentor First Name	Mentor Last Name	Mentor Department/School
Student Salary	ROBUST HEART RATE MEASUREMENT IN VARYING ENVIRONMENTS	Varol	Aydemir	Electrical and Computer Engineering (ECE)	Ghassan	ALRegib	Electrical and Computer Engineering
Student Salary	Cryopreservation Methods for Marine Algae Species	Olivia	Bailey	Earth and Atmospheric Sciences (EAS)	Yuanzhi	Tang	Earth and Atmospheric Sciences
Student Salary	Developing Techniques for Space Object Characterization in Space Situational Awareness Applications	Julian	Brew	Aerospace Engineering (AE)	Mark	Holzinger	Aerospace Engineering
Student Salary	Efficacy Comparison of Acetic Acid and d-Limonene Combinations for Control of <i>Amaranthus spinosus</i> and <i>Amaranthus albus</i>	Grace	Brososky	Environmental Engineering (ENVE)	Marc	Stiegliz	Civil and Environmental Engineering
Student Salary	Leader Emergence and Communication Patterns of Narcissists	Kelsey	Cannon	Psychology (PSY)	Leslie	DeChurch	Psychology
Student Salary	Layered soft biological tissue models with collagen fibril	Miles	Chan	Mechanical Engineering (ME)	Raghuram	Pucha	Mechanical Engineering
Student Salary	Synthesis and Topical Drug Delivery of Ionic Liquids: Terbinafine and other Antifungal Drugs	Andy	Chen	Chemical and Biomolecular Engineering (CHBE)	Mark	Prausnitz	Chemical and Biomolecular Engineering
Student Salary	Kinetics and Rate Order of Copper(I)-catalyzed Azide-Alkyne Cycloaddition Reactions between Cholesterol Derivatives in Membrane	Haley	Chenot	Chemical and Biomolecular Engineering (CHBE)	M.G.	Finn	Chemistry and Biochemistry
Student Salary	Enhancement of Bluff Body Unsteady Aerodynamic-Dynamic Interaction	James	Clinton	Aerospace Engineering (AE)	Marilyn	Smith	Aerospace Engineering
Student Salary	A real-time system to detect humming note for mobile application	Enmao	Diao	Electrical Engineering (EE)	Elliot	Moore	Electrical and Computer Engineering
Student Salary	Tuning physico-chemical properties of particles to affect phagocytosis by macrophages	Matthew	Everett	Chemical and Biomolecular Engineering (CHBE)	Julie	Champion	Chemical and Biomolecular Engineering
Student Salary	High Fidelity Models of Deployable Tensegrity Structures for Mars Lander Applications	Christine	Gebara	Aerospace Engineering (AE)	Julian	Rimoli	Aerospace Engineering
Student Salary	FAA Forced Ignition Testing	Edwin	Goh	Aerospace Engineering (AE)	Jerry	Seitzman	Aerospace Engineering
Student Salary	Optimizing in vitro behavior of heparin and polycaprolactone BMP-2 drug delivery system	Nikhil	Gupte	Biomedical Engineering (BMED)	Robert	Guldberg	Mechanical Engineering
Student Salary	Analyzing differences in structural gene expression between differentiated and undifferentiated human embryonic stem cells sorted by a microfluidic separation device	Jeremy	Gura	Biomedical Engineering (BMED)	Todd	Sulchek	Mechanical Engineering
Student Salary	Analyzing and Defending Against Malicious Browser Extensions Using Information Flow Analysis	Steven	Han	Computer Science (CS)	Wenke	Lee	Computer Science
Student Salary	Enhancing Design Education through Machine Learning	Samuel	Harvey	Industrial Design (ID)	Matthew	Swarts	Industrial Design
Student Salary	Structural and Mechanistic Exploration of the Novel Enzyme 5-nitroanthranilic acid Deaminase	David	Heaner	Chemistry (CHEM)	Raquel	Lieberman	Chemistry and Biochemistry
Student Salary	Incidental Task Set Memory	Scarlett	Horner	Psychology (PSY)	Eric	Schumacher	Psychology
Student Salary	Generating Superhydrophobic Titanium Surfaces through Sulfuric Acid Etching	Andrew	Huynh	Chemical and Biomolecular Engineering (CHBE)	Dennis	Hess	Chemical and Biomolecular Engineering
Student Salary	Fluid Mechanics of Taste	Jessica	Imgrund	Mechanical Engineering (ME)	David	Hu	Mechanical Engineering
Student Salary	Analyzing Exercises to Determine Robust and Repeatable Joint Sound Signatures	Hyeon Ki	Jeong	Electrical and Computer Engineering (ECE)	Omer	Inan	Electrical and Computer Engineering
Student Salary	Performance Enhancement of Machine Learning Algorithms with Programmable Accelerators	Joon Kyung	Kim	Computer Science (CS)	Hadi	Esmailzadeh	Computer Science
Student Salary	Reallocating Patrol Zones Based on Previous Crime Pattern	Kyung	Kim	Industrial Engineering (IE)	David	Goldberg	Industrial and Systems Engineering
Student Salary	Enhancing Charge Mobility of Semi-Conducting Polymers Through the Manipulation of Branches Side Chains	Harrison	Kreafle	Chemical and Biomolecular Engineering (CHBE)	Elsa	Reichmanis	Chemical and Biomolecular Engineering
Student Salary	Molecular Dynamic simulation of Functionalized and Virgin Carbon Nanotubes	Vikram	Krishnaswamy	Mechanical Engineering (ME)	Raghuram	Pucha	Mechanical Engineering
Student Salary	A Layered Approach to Binary Translation for RISC-Like Instruction Set Architectures	Michael	Kuchnik	Computer Engineering (CMPE)	Linda	Wills	Electrical and Computer Engineering
Student Salary	Active Control of Liner Impedance via Variation of Perforate Orifice Geometry	Vaibhav	KUMAR	Aerospace Engineering (AE)	Krish	Ahuja	Aerospace Engineering
Student Salary	The Hydrodynamics of Defecation	Morgan	LaMarca	Biology (BIO)	David	Hu	Biomedical Engineering
Student Salary	Chaotic Dynamics of a Candle Oscillator	Mary Elizabeth	Lee	Physics (PHYS)	Flavio	Fenton	Physics
Student Salary	The Effects of Gender and Confidence in Spatial Cognition	Natalie	Lembeck	Psychology (PSY)	Christopher	Hertzog	Psychology
Student Salary	Capillary Deformations Due to Dynamic Boundary Conditions	Brent	Limyansky	Physics (PHYS)	Peter	Yunker	Physics
Student Salary	Ordering of Nanoparticles on Wavy Substrate	Camila	Luppi Sato	Mechanical Engineering (ME)	Alexander	Alexeev	Mechanical Engineering
Student Salary	MSC Expansion & Chondrogenic Differentiation on Human Amniotic Membrane Microcarriers	Elizabeth	Marr	Biomedical Engineering (BMED)	Robert	Guldberg	Mechanical Engineering
Student Salary	Effects of Diamine-based Molecular Spacers on the Capacitance of Graphene	Luke	Maurer	Materials Science and Engineering (MSE)	CP	Wong	Materials Science and Engineering
Student Salary	Extracting Static Pressure from Velocimetry in Vortical Flows	Jackson	Merkl	Aerospace Engineering (AE)	Narayanan	Komerath	Aerospace Engineering
Student Salary	Function generator for optimizing electrostatic migration of brain cancer cells	Amrutha	Mylarapu	Biomedical Engineering (BMED)	Ravi	Bellamkonda	Biomedical Engineering
Student Salary	Aversive Chemoreception in Predatory Fish	Maeve	Nagle	Chemistry (CHEM)	Julia	Kubanek	Biology
Student Salary	Peroxisomal and Vesicular Localization Induced by E. Coli Uptake	Tatiana	Netterfield	Biomedical Engineering (BMED)	Melissa	Kemp	Biomedical Engineering
Student Salary	Type VI Secretion System in <i>Vibrio cholerae</i>	Siu Lung	Ng	Biology (BIO)	Brian	Hammer	Biology
Student Salary	Energy-Efficient Analog Cellular Neural Networks with Convergence Checking	Huijie	Pan	Electrical and Computer Engineering (ECE)	Saibal	Mukhopadhyay	Electrical and Computer Engineering
Student Salary	Radioresistance of Hypoxic Chinese Hamster Ovarian Cells	Mary	Peters	Nuclear and Radiological Engineering (NRE)	C.-X. Chris	Wang	Mechanical Engineering
Student Salary	ADSORPTION AND DIFFUSION OF KRYPTON AND XENON IN POROUS ZEOLITES	Vivek	Pisharodi	Chemical and Biomolecular Engineering (CHBE)	Sankar	Nair	Chemical and Biomolecular Engineering
Student Salary	Study of amorphous materials for CO2 adsorption	Jed	Pruett	Chemical Engineering (CHE)	Christopher	Jones	Chemical and Biomolecular Engineering
Student Salary	Characterizing synaptic domains in <i>C. elegans</i> with high volume datasets obtained through computer vision and machine learning	Daniel	Puleri	Chemical and Biomolecular Engineering (CHBE)	Hang	Lu	Chemical and Biomolecular Engineering
Student Salary	A novel imaging technique capable of tracking multiple fluorescent dye signals with high frame rate and exposure time	Ramprasath	Rajagopal	Physics (PHYS)	Flavio	Fenton	Physics
Student Salary	Determining the genetic basis of apoptosis in polygenic multicellular snowflake yeast	Jennifer	Ratray	Biology (BIO)	Will	Ratcliff	Biology
Student Salary	Characterization of Nanoscale Inorganic-Polymer Hybrid Thin Films	Claire	Rohrer	Materials Science and Engineering (MSE)	Gleb	Yushin	Materials Science and Engineering
Student Salary	Engineering a Chondrogenic Microenvironment to Promote MSC Chondrogenesis	Apoorv	Saraogee	Chemical and Biomolecular Engineering (CHBE)	Robert	Guldberg	Mechanical Engineering
Student Salary	Development of an Integer Programming Formulation for the Class Scheduling Problem in the Industrial and Systems Engineering Department	Alexandria	Schmid	Industrial Engineering (IE)	Dima	Nazzal	Industrial and Systems Engineering
Student Salary	Validation, refinement, and application of model of air-coupled transducer to allow for absolute nonlinear ultrasonic measurements	Nicholas	Selby	Mechanical Engineering (ME)	Laurence	Jacobs	Mechanical Engineering

Student Salary	Modeling Wave Propagation in Elastic Solids Using a Cellular Automata Approach with Non-Conforming Meshes	Jeremy	Simpson	Mechanical Engineering (ME)	Michael	Leamy	Mechanical Engineering
Student Salary	Phototactic Guidance and Pattern Formation of Brine Shrimp	Krishma	Singal	Physics (PHYS)	Flavio	Fenton	Physics
Student Salary	Highly Specific and Sensitive Detection of Ebola Virus from Body Fluids	Daisy	Smith	Biomedical Engineering (BMED)	Philip	Santangelo	Biomedical Engineering
Student Salary	The Effect of Microbreaks on Fatigue and Work Performance	Claire	Smith	Psychology (PSY)	Howard	Weiss	Psychology
Student Salary	A Panel Analysis of the American Recovery and Reinvestment Act (2009)	Shivang	Sullere	Economics (ECON)	Willie	Belton	Economics
Student Salary	GDH to ADH: Complete Redesign of Glucose Dehydrogenase to Alcohol Dehydrogenase	Lambros	Tassoulas	Biochemistry (BCHM)	Bettina	Bommarius	Chemical and Biomolecular Engineering
Student Salary	Finding food in an aquatic desert: How cruising copepods detect their next phytoplankton meal	Jazmyne	Taylor	Biology (BIO)	Jeannette	Yen	Biology
Student Salary	The Pytopatcher: a Python-based software platform for automated patch-clamping of cells in living brain tissue	Leonard	Tsai	Computer Engineering (CMPE)	Craig	Forest	Biomedical Engineering
Student Salary	Designing an In-Home Scalable Robot Arm for Hand Rehabilitation Therapy	Jonathan	Tuck	Electrical and Computer Engineering (ECE)	Ayanna	Howard	Electrical and Computer Engineering
Student Salary	Co-Culture Differentiation of Human Adipose-Derived Mesenchymal Stem Cells into Trabecular Meshwork Cells for the Treatment of Glaucoma	Richard	Vannatta	Biomedical Engineering (BMED)	Christopher	Ethier	Biomedical Engineering
Student Salary	Adhesion Based Separation of Cancer Cell Populations	Austin	Veith	Mechanical Engineering (ME)	Andres	Garcia	Mechanical Engineering
Student Salary	Genomic Characterization of In Vitro Blood Brain Barrier Models	Cole	Weiler	Mechanical Engineering (ME)	YongTae	Kim	Mechanical Engineering
Student Salary	Delayed Treatment of Critically-sized Bone Defects in a Rat Model of Chronic Non-union	Boao	Xia	Mechanical Engineering (ME)	Robert	Guldberg	Mechanical Engineering
Student Salary	Vasculature Analysis following Blood-Brain Barrier Modulation around Intracortical Electrodes	Varun	Yarabara	Biomedical Engineering (BMED)	Ravi	Bellamkonda	Biomedical Engineering
Student Salary	Investigating the possibility of transforming a conventional inkjet printer into a 3D printer for low-cost fabrication of functional assemblies with conductive and shape memory features	Dong Yeon	Yoo	Mechanical Engineering (ME)	H. Jerry	Qi	Mechanical Engineering
Student Salary	Influence of Surface Energy on the In-Plane and Thru-Plane Percolation Thresholds for Carbon Nanotube Thin Films	Yumeng	Zhang	Materials Science and Engineering (MSE)	Rosario	Gerhardt	Materials Science and Engineering
Student Salary	Improving Genetic Algorithm for Automatic PHP Penetration Testing	Zixiang	Zhu	Computer Science (CS)	Alessandro	Orso	Computer Science
Student Salary	A Novel Paramagnetic Bead-based Chromatography Platform with Microfluidic Channel and Compact Giga-Hz Magnetic Polarization Field Generation	Chengjie	Zhu	Electrical Engineering (EE)	Hua	Wang	Electrical and Computer Engineering
Student Salary	Command and Data Handling Development for a CubeSat	Lubna	Zubair	Aerospace Engineering (AE)	Marcus	Holzinger	Aerospace Engineering
Travel	Design and Optimization of a Disaggregated Constellation for Space Situational Awareness	Luke	Alexander	Aerospace Engineering (AE)	Marcus	Holzinger	Aerospace Engineering
Travel	Strokes in sickle cell transgenic mice can be reduced with inhibition of JNK mediated proteolytic fragmentation of elastic lamin	Suhaas	Anbazhakan	Biomedical Engineering (BMED)	Manu	Platt	Biomedical Engineering
Travel	Residence Time Distribution Analysis of Size-Dependent Molecular Transport Using Microfluidics for the Optimization of Sentin...	Ananyaveena	Anilkumar	Biomedical Engineering (BMED)	Susan	Thomas	Mechanical Engineering
Travel	Efficiency of the CRISPR/Cas9 system in performing site-specific knockout	Samridhi	Banskota	Chemical and Biomolecular Engineering (CHBE)	Gregory	Gibson	Biology
Travel	The role of action context on the neural substrates underlying gesture recognition	Sumia	Basunia	Biology (BIO)	Lewis	Wheaton	Applied Physiology
Travel	Computational Analysis of Clipping Mitral Valve Leaflets with Increasing Papillary Muscle Displacement	Sheridan	Carroll	Biomedical Engineering (BMED)	Ajit	Yoganathan	Biomedical Engineering
Travel	Functionalized Electrospun Membrane for Spatial Control of Bone Regeneration	Catherine	Chou	Biomedical Engineering (BMED)	Robert	Guldberg	Mechanical Engineering
Travel	Biomechanical Characterizations of Leukemia and Healthy White Blood Cells to Develop a New Diagnostic Technique	Katherine	Crawford	Biomedical Engineering (BMED)	Todd	Sulchek	Mechanical Engineering
Travel	Development of a Biocompatible, Peptide-Based CuAAC Catalyst	Lindsay	Dahora	Biochemistry (BCHM)	M.G.	Finn	Chemistry and Biochemistry
Travel	Identifying Uncertainties in Diesel Spray Rate-of-Momentum Transients under Elevated Back Pressure	John	Falcone	Mechanical Engineering (ME)	Caroline	Genzale	Mechanical Engineering
Travel	Using Cardiac Progenitor Cell Derived Exosomes to Improve Cardiac Function Post-Myocardial Infarction	Alex	George	Biochemistry (BCHM)	Michael	Davis	Biomedical Engineering
Travel	The Effect of Halogenation of Erythrosine B on Amyloid-Beta 40 Oligomer Aggregation and Neurotoxicity in Alzheimer's Disease	Hanbyeol	Jin	Chemical and Biomolecular Engineering (CHBE)	Seung Soon	Jang	Materials Science and Engineering
Travel	Leveraging informatics to assess the SOD1 G93A amyotrophic lateral sclerosis mouse model	Renaid	Kim	Biomedical Engineering (BMED)	Cassie	Mitchell	Biomedical Engineering
Travel	Molecular Dynamics Simulation of Lipid Bilayer Consisting of DPPC and Mppc: Effect of Configuration	Young Kyoung	Kim	Biomedical Engineering (BMED)	Seung Soon	Jang	Materials Science and Engineering
Travel	The Effect of Halogenation of Erythrosine B on Amyloid-Beta 40 Oligomer Aggregation and Neurotoxicity in Alzheimer's Disease Usi	Joy	Kim	Biomedical Engineering (BMED)	Seung Soon	Jang	Materials Science and Engineering
Travel	Leveraging informatics to assess the SOD1 G93A amyotrophic lateral sclerosis mouse model	Joseph	Knipe	Industrial Engineering (IE)	Cassie	Mitchell	Biomedical Engineering
Travel	CONTROL OF CENTRIFUGAL INSTABILITY IN VORTEX SURFACE INTERACTION	Vaibhav	Kumar	Aerospace Engineering (AE)	NARAYANAN	KOMERATH	Aerospace Engineering
Travel	Effect of Incorporation of Lysolipid on the Stability of Dipalmitoylphosphatidylcholine Bilayer Membrane: Molecular Dynamics Simulation Approach	Keewon	Lee	Biomedical Engineering (BMED)	Seung Soon	Jang	Materials Science and Engineering
Travel	Modeling wrinkled-assisted assembly of ordered nanoparticles and nanorods on a wavy substrate	Camila	Luppi Sato	Mechanical Engineering (ME)	Alexander	Alexeev	Mechanical Engineering
Travel	High-Throughput Testing of Stress Corrosion Cracking Susceptibility in 7050 Aluminum Alloys	Marika	Manuud	Materials Science and Engineering (MSE)	Richard	Neu	Mechanical Engineering
Travel	Expansion of Chondrogenic Cells on Decellularized Extracellular Matrix Derived Microcarriers	Elizabeth	Marr	Biomedical Engineering (BMED)	Robert	Guldberg	Mechanical Engineering
Travel	Self-Organizing Structure Formation in High Density Neuronal Human iPSC Cultures	William	McAllister	Biomedical Engineering (BMED)	Todd	McDevitt	Biomedical Engineering
Travel	Using Artificial Neural Networks to Predict Processing-Microstructure Relationships in 7xxx-series Aluminum	Hayden	McLeod	Materials Science and Engineering (MSE)	Richard	Neu	Mechanical Engineering
Travel	Favia Corals: a New Paleoclimate Archive	Shellby	Miller	Earth and Atmospheric Sciences (EAS)	Kim	Cobb	Earth and Atmospheric Sciences
Travel	High-Density Lithium Ion Energy Storage Utilizing the Surface Redox Reactions in Folded Graphene Films	Jong Hoo	Park	Mechanical Engineering (ME)	Seung Soon	Jang	Materials Science and Engineering

Travel	Incorporation of Poly(ethylene-glycol) Based Microparticles with Tunable Size and Degradation into Chondrocytic Cell Aggregates	Brandon	Philbrick	Biomedical Engineering (BMED)	Johnna	Temenoff	Biomedical Engineering
Travel	Optimization And Characterization Of IRPEG For Use In NIR Imaging Of The Lymphatic System	Mindy	Ross	Biochemistry (BCHM)	Brandon	Dixon	Mechanical Engineering
Travel	Carbon nanotubes-mediated reduction of hematite by <i>Shewanella oneidensis</i> MR-1	Kanaha	Shoji	Environmental Engineering (ENVE)	Yuanzhi	Tang	Earth and Atmospheric Sciences
Travel	Toward a new spacecraft optimal design lifetime? Impact of cost of durability and reduced launch cost.	Kailah	Snelgrove	Aerospace Engineering (AE)	Joseph	Saleh	Aerospace Engineering
Travel	Clot Contraction-Mediated Erythrocyte Packing is Significantly Altered in Sickle Cell Disease	Hunter	Strauss	Biomedical Engineering (BMED)	Wilbur	Lam	Biomedical Engineering
Travel	On foreclosure rates and the house price index: A cross-sectional analysis	Shivang	Sullere	Economics (ECON)	Shatakshree	Dhongde	Economics
Travel	Biomechanical characterizations of leukemia and healthy white blood cells to develop a new diagnostic technique:	Cory	Turbyfield	Biomedical Engineering (BMED)	Todd	Sulchek	Mechanical Engineering
Travel	Designing for a Rural Online Learning Community	Aditya	Vishwanath	Computer Science (CS)	Neha	Kumar	Interactive Computing
Travel	Modulation Of The Canonical Wnt Pathway Affects The Morphology Of hiPSC 3D Aggregates	Nicole	Votaw	Biomedical Engineering (BMED)	Melissa	Kemp	Biomedical Engineering
Travel	Probing the Efficacy of Transwells and Spheroids as In Vitro Models of the Blood Brain Barrier	Cole	Weiler	Mechanical Engineering (ME)	YongTae	Kim	Mechanical Engineering
Travel	MuSync: A Smart Glove That Balance Personal Safety and Music Control in Urban Environment	Xueting	Zhang	Industrial Design (ID)	James	Hallam	Industrial Design