

Summer 2012 President's Undergraduate Research Award (PURA)

Award School	Student Name	Student Major	Mentor Name	Paper Title	Funding Type
College of Architecture					
Architecture	Lenke, Emily	Architecture	Economou, Athanassios	Formal Grammar of Ancient Greek Temples	Salary
College of Computing					
Computer Science	Kim, Jinhyun	Computer Science	amachandran, Umakisho	Transient Social Networks	Salary
College of Engineering					
Aerospace Engineering	Bittner, Molly	Aerospace Engineering	Smith, Marilyn	The Role of Hybrid RANS/LES Turbulence Modeling for Airfoils Undergoing Dynamic Aeroelastic Motion	Salary
Aerospace Engineering	Murphy, Kelvin	Mechanical Engineering	Lieuwen, Tim	Flame Imaging and Emission of High-Pressure Low Swirl Burner	Salary
Aerospace Engineering	Romero, Ramon	Chemical Engineering	Lieuwen, Tim	Using CHEMKIN to Model Characteristics of Highly Stretched Premixed Syngas Flames	Salary
Aerospace Engineering	Salgueiro, Cristian	Aerospace Engineering	Walker, Mitchell	High Energy Density UAV Power System	Salary
Biomedical Engineering	Clough, Daniel	Biomedical Engineering	Platt, Manu	K562 Cellular Model of Sickle Trait with siRNA Treatment	Salary
Biomedical Engineering	Coco, Elizabeth	Chemical and Biomolecular Eng	Yoganathan, Ajit	Analysis of MRI data of bicuspid aortic valve flow and morphology	Salary
Biomedical Engineering	Lynch, Hilary	Biomedical Engineering	McDevitt, Todd	Effects in Stem Cell Development Resulting from Differences in Types of Microparticles Incorporated	Salary
Biomedical Engineering	Mirza, Shahmeer	Chemical and Biomolecular Eng	Bellamkonda, Ravi	An mRNA Allergy Vaccine: Studies of mRNA vs. DNA in Inducing a TH-1 Biased Immune Response (A Case for the Other Nucleic Acid) An mRNA Allergy	Salary
Biomedical Engineering	Neely, Spencer	Physics	Stanley, Garrett	The Effects of Sensory Adaptation on Discrimination in the Behaving Animal	Salary
Biomedical Engineering	Perry, Clayton	Biomedical Engineering	Yoganathan, Ajit	Validation of Heart Muscle Control System: In Vitro vs. In Vivo	Salary
Biomedical Engineering	Tilva, Keval	Biomedical Engineering	Mitchell, Cassie	Dynamic Meta-Analysis of Amyotrophic Lateral Sclerosis (ALS)	Salary
Chemical and Biomolecular Engineering	Hess, Annie	Chemical and Biomolecular Eng	Champion, Julie	Testing Cell Membrane-mimicking Coatings for Drug Delivery Particles	Salary
Chemical and Biomolecular Engineering	McGrail, Daniel	Chemical and Biomolecular Eng	Dawson, Michelle	Mechanical Changes of Long-Term Cultured Mesenchymal Stem Cells	Salary
Chemical and Biomolecular Engineering	Diallo, Fatoumata	Chemical Engineering	Sievers, Carsten	Investigations of sulfur-resistant bimetallic catalysts for reforming of biomass gasification products prepared by electroless deposition	Salary
Chemical and Biomolecular Engineering	Wilbanks, Clayton	Chemical and Biomolecular Eng	Lu, Hang	Screening for Genes Responsible for Lipid Storage in C. elegans Using High-throughput Imaging with Microfluidics	Salary
Electrical & Computer Engineering	Bazie, Valerie	Electrical Engineering - REP	Zhang, Fumin	Sensors Influenced Gradient Descent Navigation Algorithm on Autonomous Surface Vehicle	Salary
Electrical & Computer Engineering	Cheng, Phillip	Electrical Engineering	Zhang, Fumin	A Smarter Black Box: Improving the reliability of student vehicles in field research with fail-safe fallback modes and remote telemetry	Salary

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Electrical & Computer Engineering	Kim, Evelyn	Mechanical Engineering	Zhang, Fumin	Omnidirectional Propulsion for an Underwater System	Salary
Electrical & Computer Engineering	Redden, Brian	Mechanical Engineering	Zhang, Fumin	Vision Based Control Algorithm for Underwater Manipulators	Salary
Materials Science & Engineering	Chong, Joo Yun	Chemical and Biomolecular Eng	Kang, Zhitao	Development of Quantum Dot Sensitized Gratzel Solar Cell	Salary
Materials Science & Engineering	Gartner, Benjamin	Materials Science & Engr	Yushin, Gleb	Study on the use of magnesium as a high capacity electrode material for use in Li-ion batteries	Salary
Materials Science & Engineering	Lin, Huan-Ting	Materials Science & Engr	Yushin, Gleb	Nanomaterial Synthesis on electrodes in supercapacitors	Salary
Materials Science & Engineering	Pyo, Euisun	Biochemistry	Jang, Seung Soon	Drug Development for Alzheimer's Disease: Molecular Dynamic Simulations of Amyloid β Fibril Structure interacting with a Novel Alzheimer's Disease	Salary
Materials Science & Engineering	Savage, Nicholas	Materials Science & Engr	Kang, Zhitao	Development of Nanocomposite Scintillator for X-ray Imaging	Salary
Mechanical Engineering	Diaz Ortiz, Maria	Biomedical Engineering	Garcia, Andres	Assessment of Bacteriophage Efficacy against CAUTI-Associated Bacteria	Salary
Mechanical Engineering	Meltzer, Rachel	Chemical and Biomolecular Eng	Nerem, Robert	Will Shear Pre-Conditioning Affect the Role of MSCs as Pericytes?	Salary
Mechanical Engineering	Patel, Aashish	Biomedical Engineering	Sulchek, Todd	Thermal Drift Minimization in Atomic Force Microscopy	Salary
College of Science					
Chemistry & Biochemistry	Addison, John	Physics	Brown, Kenneth	Reducing Time Cost in Compensation Sequences for Quantum Computation	Salary
Chemistry & Biochemistry	Rives, James	Biochemistry	Lieberman, Raquel	Crystal Structure of 5-Nitroanthranilic Acid Deaminase Determination	Salary
Applied Physiology	Mallow, Gar (Mike)	Biology	Burkholder, Thomas	Mechanical Stretch induced PLA2 Upregulation	Salary
Biology	Chung, Joan	Biology	Snell, Terry	In vivo Tracking and Comparison of Protein Synthesis in Different Life Stages of <i>Brachionus manjavacas</i> (Rotifera)	Salary
Biology	Gombolay, Alli	Biology	Storici, Francesca	Two Mechanisms to Remove Paired and Mispaiored Ribonucleotides from DNA: RNase H type2 and RAD14	Salary
Biology	McMillan, Elizabeth	Biology	Kubaneck, Julia	Examining Allelopathic Competition of a Red Tide Alga Within Two Different Marine Communities	Salary
Biology	Marks, Kala	Biology	Kostka, Joel	Biodegradation of crude oil by hydrocarbon-degrading bacteria isolated from beach sands impacted by the Deepwater Horizon spill	Salary
Earth & Atmospheric Sciences	Middlemas, Eleanor	Applied Mathematics	Cobb, Kim	Quantifying the Effects of Lower Sea Level on Tropical Pacific Climate During the Last Glacial Maximum	Salary
Earth & Atmospheric Sciences	Ralston, Stephanie	Earth & Atmospheric Sciences	Wray, James	Concentrations of Hydrated Sulfates in Equatorial Martian Sediments	Salary
Earth & Atmospheric Sciences	Wiggins, Elizabeth	Earth & Atmospheric Sciences	Cobb, Kim	The Effects of Sub-aerial Dissolution on Coral Skeletal Morphology and Geochemistry	Salary
Physics	Garrido, Rita	Physics	Shoemaker, Deirdre	Isolating Non-linear Signatures of Two Colliding Black Holes	Salary
Physics	Kuckuk, Robyn	Biomedical Engineering	Goldman, Daniel	A Method for Preparation of Homogenous Wet Granular Media	Salary

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Ivan Allen College					
Literature, Communication, & Culture	Livingston, Elise	Computational Media	Magerko, Brian	EarSketch	Salary
Public Policy	Clayton, Paige	Public Policy	Breznitz, Shiri	One city, three universities, multiple models of technology commercialization	Salary