

Fall 2012 President's Undergraduate Research Award (PURA)

Mentor School	Student Name	Student Major	Mentor Name	Title of Research Project or Title of Paper/Poster	Funding Type?
College of Architecture					
Building Construction	Shin, SeungHo	Industrial Engineering	Ashuri, Baabak	Modeling Probabilistic Risk Assessment for Volatility of Transportation Construction Material Prices	Salary
College of Computing					
Computer Science	Kim, Sam	Computer Science	Peikert, Chris	Fast Implementations of Cryptographic Schemes based on Lattices	Salary
Computer Science	Ramakrishnan, Ramya	Computer Science	Thomaz, Andrea	Improving Robot Behavior through Both Self and Human Social Learning	Salary
Computer Science	Singh, Ackshaey	Computer Engineering	Navathe, Shamkant	Web Application for Patient Empowerment in the Clinical Trials Selection Process	Salary
College of Engineering					
Aerospace Engineering	Miculescu, David	Aerospace Engineering	Feron, Eric	Peak-Seeking Control Design and Implementation in Propulsion Systems	Salary
Aerospace Engineering	Hotle, Anna	Mechanical Engineering	Lieuwen, Tim	Flame Stabalization in a Lean, Premixed Swirling Combustor	Salary
Aerospace Engineering	Chait, Sean	Aerospace Engineering	German, Brian	Simulation and Optimization of the Detailed Design Process for a Turbofan Aircraft Engine	Salary
Aerospace Engineering	Smith, Travis	Aerospace Engineering	Lieuwen, Tim	Characterization of Flame Response for Different Fuel Mixtures for Gas Turbine Applications	Salary
Aerospace Engineering	Nambiar, Nakul	Aerospace Engineering	SANKAR, LAKSHMI	Advancement of Transition Models for Predicting Accurate Characteristics of Laminar Airfoils	Salary
Aerospace Engineering	Gandhi, Manan	Aerospace Engineering	Scarborough,David	Fundamental Study of the Nonlinear Behavior of Acoustic Impedance	Salary
Aerospace Engineering	Gao, Ruhou	Aerospace Engineering	Seitzman, Jerry	Jet Mixing Flowfield Visualization for Low Emission Combustors	Salary
Aerospace Engineering	Schulte, Emily	Aerospace Engineering	Smith, Marilyn	The Role of Hybrid RANS/LES Turbulence Modeling for Airfoils Undergoing Dynamic Aeroelastic Motion	Salary
Aerospace Engineering	Richardson, Chris	Aerospace Engineering	Tsiotras, Panagiotis	Experimental Platform for Testing Orbital Rendezvous and Docking Software	Salary
Aerospace Engineering	Dale, Ethan	Aerospace Engineering	Walker, Mitchell	Comparing the performance of plasma impedance probes and Langmuir probes for RF plasma diagnostics	Salary
Biomedical Engineering	Hadadi, Agreen	Biology	Boyan, Barbara	Presence of Vascular Endothelial Growth Factor and Estrogen Receptor Alpha 36 and Relation to Clinicopathological Variables in Breast, Laryngeal, and Thyroid Cancer	Salary
Biomedical Engineering	Murphy, Patricia	Biology	Karumbaiah, Lohitash	Evaluation of the Role of Chondroitin Sulfate Proteoglycans in Neurodegeneration	Salary
Biomedical Engineering	Whitton, Alaina	Biology	Olivares-Navarrete, Rene	Examining the role of bone morphogenetic proteins in a 36 patient study of craniosynostosis	Salary
Biomedical Engineering	Goh, Unbyeol	Biomedical Engineering	Babensee, Julia	Development and Characterization of Agarose Cryogel Scaffold for EG7-OVA Cells	Salary
Biomedical Engineering	Bose, Soham	Biomedical Engineering	Barabino, Gilda	Reinforced Modular Alginate Hydrogels for Osteochondral Tissue Engineering	Salary
Biomedical Engineering	Kaushik, Ankit	Biomedical Engineering	Barabino, Gilda	Microfluidic Platform for Investigating the Effect of Oxygen Tension on Tissue Engineered Articular Cartilage	Salary
Biomedical Engineering	Matthews, Claire	Biomedical Engineering	Barabino, Gilda	Investigation of Osteonecrosis in Sickle Cell Disease	Salary
Biomedical Engineering	Watkins, Elyse	Biomedical Engineering	Barker, Thomas	Investigating the Effect of Thy-1 on Neurite Extension in Dorsal Root Ganglion Neurons	Salary
Biomedical Engineering	Jiang, Sheng	Biomedical Engineering	Butera, Robert	The Role of Network Topology on Sustained Neural Activity	Salary
Biomedical Engineering	Chambers, Benton	Biomedical Engineering	Kemp, Melissa	Quantifying Mitochondrial Relocation and ROS Concentration Levels during Immune Synapse Formation	Salary

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Biomedical Engineering	Potnis, Anish	Biomedical Engineering	Kemp, Melissa	Dynamics of SHP-2 Oxidation in Primary CD8+ T Cell Activation	Salary
Biomedical Engineering	Marchand, Katherine	Biomedical Engineering	Olivares-Navarrete, Rene	Effect of PET-derived compounds on phenotype of breast cancer cells	Salary
Biomedical Engineering	Stockslager, Max	Biomedical Engineering	Olivares-Navarrete, Rene	Effects of polytetrafluoroethylene and titanium surface modifications on cell attachment and viability	Salary
Biomedical Engineering	Law, Rachel	Biomedical Engineering	Potter, Steve	The Ratio of Excitatory and Inhibitory Neurons in Plated Rat Cortical Cultures	Salary
Biomedical Engineering	Vaca, Silvia	Biomedical Engineering	Potter, Steve	Investigating the predictive properties of axonal excitability dynamics of living neurons using Voltage Sensitive Dyes	Salary
Biomedical Engineering	Pace, Christopher	Biomedical Engineering	Stanley, Garrett	Psychophysics of Cortical Electrical Stimulation in the Rodent Barrel System	Salary
Biomedical Engineering	Gollin, Hannah	Biomedical Engineering	Yoganathan, Ajit	Development and Characterization of an Annuloplasty Ring Force Transducer	Salary
Biomedical Engineering	Milligan, Nicole	Biomedical Engineering	Yoganathan, Ajit	Effect of Aortic Compliance on Aortic Flow Patterns – an in vitro Study	Salary
Biomedical Engineering	Padmanabhan, Sindhuja	Biomedical Engineering	Yoganathan, Ajit	Role of systemic hypertension in functioning of the aortic valve	Salary
Biomedical Engineering	Touchton Jr, Steven	Biomedical Engineering	Yoganathan, Ajit	Optimizing Mitral Valve Repairs from the Subvalvular Level	Salary
Biomedical Engineering	Parham, Mahtab	Management	Bellamkonda, Ravi	Development of a Tissue-Reactive Hydrogel to Prevent Tumor Migration	Salary
Biomedical Engineering	Croft, Emily	Biomedical Engineering	Cassie Mitchell	A Quantitative Assessment of Pathophysiological Axonal Motor-Cargo Traffic	Travel
Biomedical Engineering	Tran, Jonathan	Biomedical Engineering	Todd Stokes	Feasibility of Multiplex Quantum Dot Stain Using Primary Antibodies from Four Distinct Host Animals	Travel
Biomedical Engineering	Figanbaum, Jered	Biomedical Engineering	Cassie Mitchell	A Quantitative Assessment of Pathophysiological Axonal Motor-Cargo Traffic	Travel
Biomedical Engineering	Tilva, Keval	Biomedical Engineering	Cassie Mitchell	Dynamic meta-analysis of the G93A SOD1 mouse model predicts the pathology, progression, and treatment responses of ALS	Travel
Biomedical Engineering	Herrmann, Tarrah	Biomedical Engineering	Ajit Yoganathan	Patient Specific Modeling of Mitral Stenosis: Isolated effect of restricted leaflet opening on transvalvular pressure gradient	Travel
Biomedical Engineering	Touchton, Jr, Steven	Biomedical Engineering	Ajit Yoganathan	In Vivo Validation of an In Vitro Model of Ischemic Mitral Regurgitation	Travel
Chemical and Biomolecular Engineering	Trang, Vinh	Biochemistry	Dawson, Michelle	Investigation of the Role of SDF-1-CXCR4 Axis on the Mobility of Metastatic Breast Cancer Cells	Salary
Chemical and Biomolecular Engineering	Vasquez Porto-Viso, Jose	Biomedical Engineering	Sambanis, Athanassios	Characterization of Genetically Modified Enteroendocrine Cells to Secrete Insulin for the Treatment of Diabetes	Salary
Chemical and Biomolecular Engineering	Agrawal, Mitesh	Biomedical Engineering	Styczynski, Mark	Modeling of a Novel Synthetic Biology Sensing and Communication System in Bacteria	Salary
Chemical and Biomolecular Engineering	Boothby, Jennifer	Biomedical Engineering	Styczynski, Mark	Faster Signaling Through Quorum Sensing in A. tumefaciens	Salary
Chemical and Biomolecular Engineering	Chu, Stanley	Chemical and Biomolecular Eng	Champion, Julie	A Bacterial Acetyltransferase as a Modulator of Cell Signaling Pathways for Breast Cancer Therapy	Salary
Chemical and Biomolecular Engineering	Susina, Carey	Chemical and Biomolecular Eng	Champion, Julie	Increasing Internalization of Therapeutic Protein Nanoparticles for IBD	Salary
Chemical and Biomolecular Engineering	Mysona, Joshua	Chemical and Biomolecular Eng	Jones, Christopher	Investigation of Oxygen Mass Transfer Limitations in Heterogeneous Oxidative Heck Reactions	Salary
Chemical and Biomolecular Engineering	Mukund, Abishek	Chemical and Biomolecular Eng	Reichmanis, Elsa	Synthesis and Characterization of Organic Semiconductors	Salary
Chemical and Biomolecular Engineering	Thomas, Anna	Chemical and Biomolecular Eng	Styczynski, Mark	Nutrient Deficiency Bio-Indicator	Salary
Chemical and Biomolecular Engineering	DuVall, Ryan	Chemical Engineering	Lu, Hang	Developing Microfluidic Technologies for High-Throughput Studies of Cell Adhesion	Salary

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Civil & Environmental Engineering	Ackermann, Caleb	Biochemistry	Konstantinidis, Kostas	Experimental Evolution Study to Quantify Gene Transfer and Adaptation in Bacteria	Salary
Civil & Environmental Engineering	Krishnan, Rajkumar	Environmental Engineering	Konstantinidis, Konstantinos	Isolation and Genomic Characterization of Bacteria from Lake Lanier Biodegrade Important Environmental Contaminants	Salary
Civil & Environmental Engineering	VanTassel, Jamie	Environmental Engineering	Yiacoumi, Sotira	Neutron Imaging of Ion Transport	Salary
Chemistry & Biochemistry	Henrich, Ian	Biochemistry	Azizi, Bahareh	Using Arylmethyleneimidazolidinones (AMIs) and Their Derivatives to Activate Nuclear Hormone Receptors	Salary
Electrical & Computer Engineering	Block, Jessica	Electrical & Computer Engr	Ghovanloo, Maysam	Designing Passive RFID Tags for Wireless Emergency and Adherence Monitoring Systems (WEAMS)	Salary
Electrical & Computer Engineering	Muhi, Mohammad	Electrical Engineering	Adibi, Ali	Multiplexed gas sensors based on integrated photonic resonators for volatile organic compounds (VOCs)	Salary
Electrical & Computer Engineering	Burnham, Daniel	Electrical Engineering	Ghovanloo, Maysam	Environmental Control for the Tongue Drive System	Salary
Industrial & Systems Engineering	Frazelle, Andrew	Industrial Engineering	Kleywegt, Anton	Analysis and Control of Large Scale Service Systems	Salary
Materials Science & Engineering	Whittingslow, Daniel	Biomedical Engineering	Gall, Kenneth	A Study on the Development and Characterization of Porous PEEK for Improved Osseointegration	Salary
Materials Science & Engineering	Ku, Deborah	Biomedical Engineering	Jang, Seung Soon	Computation study of enzyme kinetics of Erythrosine B on A β fibril aggregates	Salary
Materials Science & Engineering	Bogaert, Kevin	Materials Science & Engr	Alamgir, Faisal	Development of Solid-State Electrolytes for the Fundamental Studies of Li Batteries	Salary
Materials Science & Engineering	Parker, Seth	Materials Science & Engr	Dwivedi, Sunil	Computational Generation of Particulate Composites with Heterogeneities	Salary
Materials Science & Engineering	Hussain, Mohammad	Materials Science & Engr	Jang, Seung	Molecular Dynamics Simulation of Mixed Lipid Bilayer System Consisting of Phospholipids and Lysolipid for Enhancement of Drug Delivery	Salary
Materials Science & Engineering	Han, Kyung Won	Mechanical Engineering	Jang, Seung	Polysulfone-Based Alkaline Electrolyte Membrane Fuel Cell: Relationship between Nanophase-separated Structure and Transport Properties	Travel
Mechanical Engineering	Moran, Shamus	Biomedical Engineering	Guldborg, Robert	Quantitative Detection of Microstructural Changes in Articular Cartilage of a Rat Osteoarthritis Model	Salary
Mechanical Engineering	Han, Hyungtak	Biomedical Engineering	Han, Harry	Designing a General Model for Mechanical Separation of Adhesive and Non-Adhesive Cells by PDMS Microfluidic Channel Chips Embedded with Cell Adhesive Molecule	Salary
Mechanical Engineering	Goswami, Shivani	Biology	Hu, David	Minimal Size of Hole Penetration by Mosquitoes	Salary
Mechanical Engineering	Byler, Becky	Biomedical Engineering	Sulchek, Todd	Measuring elasticity of Malaria Infected Red Blood Cells through Atomic Force Microscopy	Salary
Mechanical Engineering	Faruque, Fardin	Mechanical Engineering	Feng, Bo	Development of Advanced Thermal Interface Materials Based on Hybrid Carbon Nanotubes and Carbon Nanoplatelets Fillers	Salary
Mechanical Engineering	Miller, Michael	Mechanical Engineering	Genzale, Caroline	"Imaging primary spray breakup of diesel fuel injections:	Salary
Mechanical Engineering	Morikawa, Ayuko	Nuclear & Radiological Engr	Alexeev, Alexander	Designing Active Microcapsules For Drug Delivery	Salary
Mechanical Engineering	Cook, James	Nuclear & Radiological Engr	Hu, David	Evaluation of Energetic Cost of Locomotion of Snakes on Varying Inclines	Salary
College of Science					
Applied Physiology	Oludare, Simisola	Biomedical Engineering	Hovorka, Christopher	Movement behaviors in response to lower-limb orthotic constraint of dominant lower limb	Salary
Biology	Nelson, David	Biochemistry	Vannberg, Fredrick	PATHOGEN DETECTION USING PROTEOMIC PROFILING OF MAMMALIAN EXOSOMES	Salary
Biology	Aksenov, Leonid	Biology	Fan, Yuhong	Exploration of the Role of H19 in Ovarian Cancer	Salary
Biology	Elsherbini, Joseph	Biology	Hammer, Brian	Engineering and Optimizing a Reporter System for Synthetic Biology Applications	Salary

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Biology	Weber, Sarah	Biology	Montoya, Joseph	Spatial Variation in Nutrients, Pigments, Particles, and Phytoplankton Abundance in the Amazon River Plume	Salary
Biology	Deng, David	Biomedical Engineering	Chernoff, Yury	Effects of sequence divergence and the species barrier on prion transmission in Saccharomyces Yeast	Salary
Chemistry & Biochemistry	Ravleker, Vishwa	Chemistry	Fahrni, Christoph	Synthesis of Triaryl-substituted Pyrazoline Fluorophore	Salary
Physics	Land, Benjamin	Physics	Chapman, Michael	Spinor Studies in a Spin-1 BEC	Salary
Psychology	Lindsey, Dakota	Psychology	Engle, Randall	The Role of Fluid Intelligence and Working Memory in the Immediate Free Recall Task	Salary
Psychology	Marshall, Robyn	Psychology	Engle, Randall	The Relationship Between Organization and Memory and How it Relates to Working Memory Capacity	Salary
Psychology	Turnquist, Eric	Psychology	Rogers, Wendy	The Potential of Robotic Assistance for Professional Caregivers	Salary
Psychology	Fletcher, Hannah	Psychology	Walker, Bruce	Use of Stereo Separation to Represent Several Data Series in Auditory Graphs	Salary
Ivan Allen College					
History, Technology, & Society	Belden, Benjamin	History, Technology, & Society	Macrakis, Kristie	TRICYCLE and the Pearl Harbor Question: Routine Espionage or a Warning Ignored?	Salary
History, Technology, & Society	Howell, Chelsea	History, Technology, & Society	Singh, Jennifer	The Sociology of Diagnosis: Polycystic Ovarian Syndrome (PCOS)	Salary
Literature, Communication, & Culture	Livingston, Elise	Computational Media	Magerko, Brian	EarSketch	Salary
Literature, Communication, & Culture	Snyder, Kelly	Computational Media	Pearce, Celia	Optimizing Project Management of Long Term Projects with Short Term Workers	Salary
Modern Languages	Aultman, Casey	Int'l Affairs & Mod Lang	Montes-Alcala, Cecilia	Spanish and English Language Mixing in Social Media	Salary