Fall 2011 President's Undergraduate Research Award (PURA)

Award School	Student Name	Student Major	Mentor Name	Paper Title	Funding Type
College of Architecture					
College of Arch Adm & Schools	Burgess, Craig	Civil and Environm	Brilakis,Ioannis	Developing Videogrammetry Technology for 3D Structure Modeling	Salary
College of Arch Adm & Schools	Kamiya, Keitaro	Civil and Environm	Brilakis,Ioannis	Three-Dimensional Construction Site Resources Tracking by Machine Vision	Salary
College of Computing					
Computational Science & Eng	Naraismham, Ashish	Computer Science	Vuduc,Richard Wilson	A Python Library to Simplify Manycore/GPU Programming	Salary
Interactive Computing	Castro Chin, Daniel Alejandro	Computer Science	Essa,Irfan A	Recognizing Gestures and Body Movements for Medical Applications	Salary
Interactive Computing	Dooley, Henry	Computer Science	Essa,Irfan A	Recognizing Gestures and Body Movements for Medical Applications	Salary
Interactive Computing	Mathur, Gaurav	Computer Science	Essa,Irfan A	Recognizing Gestures and Body Movements for Medical Applications	Salary
Interactive Computing	Narayan, Karthik	Computer Science	Riedl,Mark O	Empirical Evaluation of Computational Models in Emotional Coping	Salary
School of Computer Science	Cox, Owen	Computer Science	Ramachandran,Uma kishore	Video Analysis in the Cloud	Salary
School of Computer Science	He, Hongkang	Computer Science	Ramachandran,Uma kishore	SoftFlash: Software Support for Flash Memory	Salary
School of Computer Science	Maya, Zohaib	Computer Science	Ramachandran,Umak	Large Scale Real-time Video Analysis on the Cloud	Salary
College of Engineering					
Aerospace Engineering	Bouldin, Lee	Mechanical	Lieuwen,Tim Charles	Investigation of Instantaneous Flame-Flame Interactions in a Model Gas Turbine Combustor	Salary
Aerospace Engineering	Gao, Ruhou	Aerospace Engineeri	Seitzman,Jerry M	Crossflow Air Injection Study for Low Emission Combustors	Salary
Aerospace Engineering	Hsu, Andrew	Mechanical	Lieuwen,Tim Charles	Characterization of Syngas Fuels by Axial Staging of Transverse Fuel Injection	Salary
Aerospace Engineering	Lu, Charles	Mechanical	Lieuwen,Tim Charles	Investigation of Flow-Flame Interactions through Decomposition of Velocity Fields into Acoustic and Vortical Components	Salary
Aerospace Engineering	Miller, Matthew	Aerospace Engineeri	Clark,Ian G	Development of a Loosely Coupled Fluid-Structure Interaction Analysis Capability	Salary

Fall 2011 President's Undergraduate Research Award (PURA)

Aerospace Engineering	Zender, Fabian	Aerospace Engineeri	Lieuwen,Tim Charles	Turbulent Flame Speeds of Process and Refinery Gas Fuels	Salary
Biomedical Engr, GT/Emory	Anantharaman, Sandhya	Biomedical	Bost,Lewis Franklin	RELIEF OF PARKINSONIAN TREMOR USING THE NEUROSHARK, AN MRI COMPATIBLE ELECTRODE	Salary
Biomedical Engr, GT/Emory	Bari, Bilal	Biomedical	Bost,Lewis Franklin	The NeuroShark: A Device for the Ablation of Functional Brain Tissue for Treatment of Neurological Disorders	Salary
Biomedical Engr, GT/Emory	Burnsed, Olivia	Biomedical	Boyan,Barbara D	Evaluation of human mesenchymal stem cell proliferation and differentiation when cultured on decellularized shark cartilage matrix	Salary
Biomedical Engr, GT/Emory	Butler, Michael	Biomedical	Kemp,Melissa Lambeth	Modeling the Smad Protein Pathway in Lung Carcinoma Cells Undergoing Epithelial-Mesenchymal Transition	Salary
Biomedical Engr, GT/Emory	Chism, Benjamin	Biomedical	Yoganathan,Ajit	The Effect of Various Mitral Annuloplasty Ring Geometries On Mitral Valve Function and Mechanics In An In-Vitro Model	Salary
Biomedical Engr, GT/Emory	Cooper, Alexander	Biomedical	Bost,Lewis Franklin	Magnetically-Assisted Intubation Device	Salary
Biomedical Engr, GT/Emory	Damen, Frederick	Biomedical	Hu,Xiaoping	Mapping Anatomical Connectivity of the Primate Cerebral Cortex using Diffusion MRI	Salary
Biomedical Engr, GT/Emory	Foster, Brent	Biomedical	Yoganathan,Ajit	Grace Valve Project	Salary
Biomedical Engr, GT/Emory	Jordan, Holly	Mechanical	Yoganathan,Ajit	Investigation of Normal Tricuspid Papillary Muscle Motion using Magnetic Resonance Imaging	Salary
Biomedical Engr, GT/Emory	Joseph, Anish	Biomedical	Bellamkonda,Ravi Venkat	Biodegradable Microchannel Scaffolds for Peripheral Nerve Regeneration	Salary
Biomedical Engr, GT/Emory	Madhani, Shalv	Biomedical	Yoganathan,Ajit	Use of Vortex Generators to Reduce Thromboembolic Complications Associated With Mechanical Heart Valves	Salary
Biomedical Engr, GT/Emory	McLean, Elaina	Biomedical	Stanley,Garrett Baker	The Effects of Sensory Adaptation on Discrimination in the Behaving Animal	Salary
Biomedical Engr, GT/Emory	Mitra, Debika	Biomedical	Kemp,Melissa Lambeth	Modeling TNF- α regulation of mTOR via IKK-β dependent/independent pathways	Salary
Biomedical Engr, GT/Emory	Morris, Aaron	Biomedical	Potter,Steven M	Ultrasonic Electroplating with Additives of in vitro Microelectrode Arrays to Reliably Improve Impedance	Salary
Biomedical Engr, GT/Emory	Ni, Willa	Biomedical	Kemp,Melissa Lambeth	Cellular signal remodeling under the application of long term, low levels of reactive oxygen species (ROS) to HeLa cells	Salary
Biomedical Engr, GT/Emory	Nizkorodov, Alexandr	Biomedical	Boyan,Barbara D	Ablation of Vitamin D3 Receptors Modulates Osteogenic Differentiation of Bone Marrow Stromal Cells	Salary
Biomedical Engr, GT/Emory	Pace, Christopher	Biomedical	Stanley, Garrett Baker	Behavioral and Neuronal Effects of Sensory Adaptation in Rodent Vibrissae System	Salary
Biomedical Engr, GT/Emory	Parekh, Amit	Biomedical	Gross,Robert Elkan	Comparing the Stimulation Performance of Microelectrodes to that of Traditional DBS Macroelectrodes	Salary

Fall 2011 President's Undergraduate Research Award (PURA)

Biomedical Engr, GT/Emory	Parham, Melissa	Chemistry and	Bellamkonda,Ravi Venkat	Influencing of Macrophages Functional Phenotype via Agarose 3D Hydrogel	Salary
Biomedical Engr, GT/Emory	Riemenschneider, Kelsie	Biomedical	Boyan,Barbara D	VitaminD3 Signaling in Growth Plate Chondrocytes Under Hypoxia	Salary
Biomedical Engr, GT/Emory	Scott, Benjamin	Biomedical	Bao,Gang	Determining the Accuracy of Molecular Beacons that Detect β-globin Expression in Cells	Salary
Biomedical Engr, GT/Emory	Tan, Christian	Biomedical	Boyan,Barbara D	The effect of BMP-2 and wear particles on the inflammatory response of MG63 cells	Salary
Biomedical Engr, GT/Emory	Thompson, William	Biomedical	Bost,Lewis Franklin	Magnet Assisted Endotracheal Intubation Method and Device	Salary
Biomedical Engr, GT/Emory	Touchton Jr, Steven	Biomedical	Yoganathan, Ajit	Restrictive Mitral Annuloplasty: Friend or Foe?	Salary
Biomedical Engr, GT/Emory	Troxler, Lauren	Biomedical	Yoganathan,Ajit	Right Heart Geometry in Pulmonary Arterial Hypertension Evaluated Using 3D Echocardiography	Salary
Biomedical Engr, GT/Emory	Wasilewski, Christine	Biomedical	Boyan,Barbara D	HIF1-α Inhibition in Adipose Stem Cells for Promotion of Chondrogenesis	Salary
Biomedical Engr, GT/Emory	Whitton, Alaina	Biomedical	Olivares-Navarrete,Rene'	Phenotypic Fingerprint in Non-syndromic Craniosynostosis	Salary
Biomedical Engr, GT/Emory	Williams, Chad	Biomedical	Zarnitsyna,Veronika I	Agonist peptide inhibition by antagonist peptide during T cell activation: global or local effect on T cell	Salary
Biomedical Engr, GT/Emory	Swanson, Carson	Biomedical	Yoganathan,Ajit	Assessment of Surgical Planning Accuracy: Comparing Virtual Models to Post-Operative Anatomies	Travel
Biomedical Engr, GT/Emory	Bracaglia, Laura	Biomedical	Yoganathan,Ajit	Fluid Mechanical Analysis of Surgically Recontructed Aortas	Travel
Chemical and Biomolecular Engr	Agrawal, Mitesh	Biomedical	Styczynski,Mark Philip-Walter	Elimination of Antibiotic Resistance Genes Using Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) Systems	Salary
Chemical and Biomolecular Engr	Barre, Madison	Chemical and	Nair,Sankar	Metal-Organic Framework (MOF) Materials for Membrane Separations	Salary
Chemical and Biomolecular Engr	Burge, Charles	Chemical and	Eckert,Charles A	Prebiotic Routes to Polymer Formation	Salary
Chemical and Biomolecular Engr	DeWitt, Megan	Chemical and	Walton,Krista S	Synthesis and Gas Adsorption Properties of MOF Materials for CO2 Capture Applications	Salary
Chemical and Biomolecular Engr	Dose, Michelle	Chemical and	Koros,William J	Ethanol and Water Vapor Separation via tailored hydrophobic molecular sieves embedded in ethanol-selective polymeric membranes	Salary
Chemical and Biomolecular Engr	Ferguson, Kyle	Chemistry and	Bommarius,Andreas S	INCREASING THE YIELD OF AMINOAROMATICS THROUGH THE NITROREDUCTASE PROCESS	Salary
Chemical and Biomolecular Engr	Kent, Ian	Chemical and	Kohl,Paul A	Characterization of Anion-Exchange Membranes for Use in Direct Alcohol Fuel Cells	Salary

Fall 2011 President's Undergraduate Research Award (PURA)

Chemical and Biomolecular Engr	Lin, Virginia	Biomedical	Dawson,Michelle R	Species Differences in Mesenchymal Stem Cell Adhesion Molecule Expression and Cell Adhesivity	Salary
Chemical and Biomolecular Engr	QUACH, NHAT	Chemistry and	Dawson,Michelle R	Understanding the Role of Soluble Growth Factors and Substrate Rigidity on Human Mesenchymal Stem Cell's Osteogenesis	Salary
Chemical and Biomolecular Engr	Thomas, Anna	Chemical and	Styczynski,Mark Philip-Walter	Protein-Metabolite Binding in Saccharomyces cerevisiae	Salary
Civil & Environmental Engr	Costin, Aaron	Civil and Environm	Teizer,Jochen	Integrating RFID Tracking Technology and Building Information Models	Salary
Civil & Environmental Engr	Nguyen, Thanh	Civil and Environm	Webster,Donald R	Design and Construction of Krillbot: A Device that Mimics Krill-Generated Flow Fields	Salary
Civil & Environmental Engr	Tzegaegbe, Jacob	Civil and Environm	Meyer,Michael D	Analysis of Bus Rapid Transit in Major Cities of Developing Nations	Salary
Civil & Environmental Engr	Wall, Amanda	Civil and Environm	Garrow,Laurie Anne	Emissions Impacts of New School Bus Route Designs in Cobb County	Salary
Civil and Environmental Engineering	Callura, Jonathan	Civil and Environm	Ching-Hua Huang	Environmental Fate and Transport of Veterinary Antibiotics	Salary
Electrical & Computer Engr	Kitain, Adam	Electrical and	Butera,Robert J	The Effect of High-Frequency Stimulation on the Blocking of Action Potential Propagation in the Sciatic Nerve of Rats	Salary
Materials Science & Engr	Choi, Taedo	Biomedical	Jang,Seung Soon	Investigation of Properties of Magnetic Nanoparticles through Lipid Bilayers	Salary
Materials Science & Engr	Iocozzia, James	Materials Science	Bucknall,David G	An Investigation of methods for ordering endohedral fullerenes to use as building blocks for quantum computing	Salary
Materials Science & Engr	Kim, Tae Wan	Biomedical	Jang,Seung Soon	Computational Study of The Smart Drug Delivery System: Thermal Sensitive Lipid Bilayer System	Salary
Mechanical Engineering	Deeb, Elisabeth	Mechanical	Bassiri-Gharb,Nazanin	Piezoelectric Active-line-pumping System for Microfluidic Lab-On -Chip (LOC) Applications	Salary
Mechanical Engineering	Glisson, John	Mechanical	Zamir,Evan A	Small Mechanical Actuator Designed With Applications to Biomechanics and Medical Physics Research	Salary
Mechanical Engineering	Moon, Jaeyun	Mechanical	Harris,Tequila A. L.	Optimum Manufacturing Condition for PEMFC (Polymer Electrolyte Membrane Fuel Cell) Membrane	Salary
Mechanical Engineering	Moran, Shamus	Biomedical	Guldberg,Robert E	Quantitative Detection of Microstructural Changes in Rat Osteoarthritis Models	Salary
Mechanical Engineering	Weaver, Keith	Mechanical	Feng,Bo	Boiling on a Highly Smooth Sub-Micro Wire and Silicon Nanowires Arrays	Salary
Mechanical Engineering	Bingham, Benjamin	Mechanical	Alexeev,Alexander	Designing Microscale Self-Propelling Swimmers	Travel
Mechanical Engineering	Min, Byung	Mechanical	Paredis,Christiaan Jos	Process Integration and Design Optimization for Model-Based Systems Engineering with SysML	Travel

Fall 2011 President's Undergraduate Research Award (PURA)

College of Science					
Biology	Deng, David	Biomedical	Chernoff,Yury O	Maintenance of initial amyloid structure patterns after in vitro seeding and transfection in yeast cells	Salary
Biology	Jain, Kanav	Biomedical	Wartell,Roger M	Thermodynamic characterization to predict the effects of base pair changes on Hfq-facilitated sRNA-mRNA duplex formation	Salary
Biology	Price, Courtney	Biology	Storici,Francesca	Mechanisms of RNA-Driven DNA Modifications	Salary
Chemistry & Biochemistry	Chi, Pamela	Applied Physiolog	Lieberman,Raquel L	Application of SYPRO® Orange, a Fluorescent Hydrophobic Dye, for a High-Throughput Ligand Binding Assay for Proteins of Unknown	Salary
Chemistry & Biochemistry	Falcone, Caitlin	Chemistry and	Fernandez,Facundo M	Increasing Ion Transmission For Capillary Inlet Mass Spectrometers With Resistive Glass Multiple Hole Capillary Inlet Tubes	Salary
Chemistry & Biochemistry	Khanam, Jaheda	Biomedical	Hud,Nicholas V	Identification of large heterocyclic compounds generated in plausible prebiotic reactions and examination of their interactions with nucleic	Salary
Chemistry & Biochemistry	Ruemmele, Michael	Chemistry and	Hud,Nicholas V	Investigation into Prebiotic Synthesis of Nucleobases from Urea and Formamide	Salary
Chemistry & Biochemistry	Sarwar, Mysha	Chemistry and	Fahrni,Christoph J.	High-contrast metal-responsive fluorescent probes based on synergistic electronic and conformational switching	Salary
Chemistry & Biochemistry	Seifried, Brian	Chemical and	Marder,Seth	Reducing Ambient Charge Trapping of N-Channel Organic Field Effect Transistors	Salary
Chemistry & Biochemistry	Sureka, Hursh	Chemical and	Payne,Christine K	Reduction of membrane potential in BSC-1 cells and its effect on the binding of nanoparticles	Salary
Chemistry & Biochemistry	Terzieva, Guergana	Biomedical	Russell,Cianan B	Are workshop tips effective in improving teaching techniques?	Salary
Physics	Douthit, James	Physics	Fernandez De Las Nieves,Alberto	Toroidal Droplets made with Nematic Liquid Crystal	Salary
Physics	Kasam, Alisha	Mechanical	Gole,James L	Sensor and Microreactor Design on Porous Semiconductor Surfaces	Salary
Physics	Mohan, Kevin	Nuclear and	Fernandez De Las Nieves,Alberto	The Pendant Drop Method for Measuring Interfacial Tension	Salary
Ivan Allen College					
History, Technology & Society	Lim, Yin Kuin	Mechanical	Pearson Jr,Willie	Testing of High School Math and Science in the United States	Salary
International Affairs	Choi, Jehoon	International Affairs	Brian Woodall	Government-Directed Economic Transformation: South Korea’s Green Growth Strategy	Salary
International Affairs	Flannery, Daniel	Computer Science	Best,Michael L	Electrical Power Mapping Across Nigeria	Salary

Fall 2011 President's Undergraduate Research Award (PURA)

International Affairs	Murphy, Patricia	Biology	Kosal,Margaret E	Emerging Biotechnology and Biosecurity Policy: Development of Threat Framework for Scientific Analysis of Potential Biological Weapons	Salary
Modern Languages	Bennett, Benjamin	Modern Languages	Cottille-Foley,Nora C	French-African Identity in the Works of Marie NDiaye	Salary
Public Policy	O'Brien, John	Public Policy	Matisoff,Daniel Charles	Carbon Emissions Transparency and Firm Behavior as a Response to the Carbon Disclosure Project	Salary
Public Policy	Yamamoto, Ian	Public Policy	Noonan,Douglas Simpson	The Advancement of Economic Freedom via Promotion of Open Source Software	Salary
GTRI					
GTRI Electro-Optical Sys Labs	Dai, Wei	Materials Science	Kang,Zhitao	Transparent Glass Matrix Nanocomposite Scintillators for Neutron Detection	Salary
GTRI Electro-Optical Sys Labs	Hembree, Joseph	Materials Science	Stollberg,David Walter	Nanogenerator Enhancement from Gallium Nitride Coated Carbon Nanotubes	Salary
GTRI Electro-Optical Sys Labs	Reit, Radu	Biomedical	Ready,William Judson	CNT Deposition onto metal foils for use as a supercapacitor electrode	Salary