

Announcement of Undergraduate Research and Innovation Student Seed Grant Winners

We are pleased to announce the recipients of Undergraduate Research and Innovation Student Phase-1 and Phase-2 Grants. Eight URI Phase 2 Student Seed Grants have been awarded for Spring 2016!

A total of 34 URI Student Seed Grants have been awarded in the academic year 2015/2016 ranging from \$500 to \$3,000 per project. These 34 projects involve 55 undergraduate students advised by 32 faculty from different departments at NJIT.

The Undergraduate Research and Innovation (URI) program has evolved as an integral and important part of the undergraduate academic experience at NJIT. The URI website <http://centers.njit.edu/uri/> summarizes undergraduate research and innovation opportunities and provides information about resources and competitions.

Students submitted their written proposals which were reviewed by the executive committee of the URI External Advisory Board (EAB). After scoring the written proposals, selected proposals were presented to EAB members at the URI Workshops. With the recommendations from the EAB, based on the combined scores of written proposals and oral presentations, Phase-1 and Phase-2 Student Seed Grants are awarded to the following undergraduate research and innovation projects.

Congratulations to all winners!

Spring 2016 URI Phase-2 Student Seed Grant Winners

Andrea Cano (CE); Maira Valencia (Biochemistry); Mehnaz Moon (ChemE)
Project: Portable and Scalable Microbial Fuel Cells-powered Lighting Systems
Faculty Advisor: Dr. Wen Zhang (CEE)

Gao, William (BME), Glasgow, Beverly (CE)
Project: Bioremediation of 1,4-Dioxane with Propane-Oxidizing Bacteria
Faculty Advisor: Dr. Mengyan Li (CES)

Robert Gioia (IT) – Winner of the Best Proposal/Presentation Award!
Project: Proposal To Develop Novel Video Game For Oculus Rift Platform To Therapy Children with Traumatic Brain Injury and Vision Disorders
Faculty Advisor: Dr. Tara Alvarez (BME)

Richard Johnson (ME)
Project: Design of a Testing Methodology to Measure the Polymer/Ceramic Interface in an Organic Bath
Faculty Advisor: Dr. Siva Nadimpalli (ME)

Ian Jordan (EE)

Project: Chaotic Circuits and a Method for Semi-Chaotic Encryption

Faculty Advisor: Dr. Denis Blackmore (Math)

John Palmieri (BME)

Project: Phonon Spectrum Models of Microtubules

Faculty Advisor: Dr. Camelia Prodan (Physics)

Omar Qari (Biology)

Project: Neural System and Connectivity of Midwater Amphipod Phronima

Faculty Advisor: Dr. Daphne Soares (Biological Sciences)

Kristin Scotti (ChE)

Project: Engineering Ligand Targeted Polymer Nanoparticles for Drug Delivery Across the Blood Brain Barrier

Faculty Advisor: Dr. Xiaoyang Xu (CBPE)

Spring 2016 URI Phase-1 Student Seed Grant Winners

Mirana Alam (CE), David Etler (CE)

Project: Optical coherence tomography fingerprint sensor

Faculty Advisor: Xuan Liu (ECE)

Arisha Javed (CE)

Project: Microwave-assisted Antifouling Membrane Filtration Technology

Faculty Advisor: Wen Zhang (CEE)

Jun (Jeremiah) Liu (IE)

Project: Video-based Real-time Traffic Congestion Detection Using Google's Open Source Machine Learning Platform TensorFlow™

Faculty Advisor: Joyoung Lee (CEE)

Elijah Shifnadel (BME), Parth Patel (BME), Hrushikesh Patel, Amin Golany-Sadig

Project: IntegraMediC

Faculty Advisor: Alev Erdi (BME)

Fall 2015 URI Phase-1 Student Seed Grant Winners

Mohammed Elassa (BME), William Lau (BME), Matthew Maisonet (BME), Jigar Shah (BME)

Project: GenoS: Mechanical Tongue Stimulation Device

Faculty Advisor: Mesut Sahin, Department of Biomedical Engineering

Zohour Hassan (BME), Raeesa Soomar (BME), Richard Vincent (BME), and Christine Kurian (BME)

Project: Carribo: Automated CPR Machine

Faculty Advisor: William Hunter, Department of Biomedical Engineering

Nooruddin Hashmi (BME), Jose Rodriguez (BME), Bijin Vadasserril (BME) and Noor Shahin (BME)

Project: Hematocrit Reader

Faculty Advisor: Max Roman, Department of Biomedical Engineering

Victor Aladele (EE)

Project: Tabla MIDI Controller

Faculty Advisor: Durga Misra, Department of Electrical and Computer Engineering

Andrea Cano (CE), Maira Valencia (BioChem), Mehnaz Moon (CE)

Project: Microbial fuel cells-powered lighting systems for mobile toilets

Faculty Advisor: Wen Zhang, Department of Civil and Environmental Engineering

Libertad Harris (Arch)

Project: Energy Production in Micro-Algae Enabled Architectural Facades

Faculty Advisor: Martina Decker, School of Architecture

Heidi Hussa (Arch)

Project: Spatial Soundscaping: Reverberation as a Wanted Noise

Faculty Advisor: Daniel Kopec, School of Architecture

Assma Itani (Biology), Anmol Mittal (Biology), Hardik Darji (ME & Applied Math)

Project: Role in locomotion of specific inhibitory motoneurons in *C. elegans* examined via microfluidics, tracking, and optogenetics

Faculty Advisor: Gal Haspel, Department of Biological Sciences

Stefani Kocevaska (ChE)

Project: Destruction of Freons in Non-Thermal Plasma

Faculty Advisor: Lev Krasnoperov, Department of Chemistry and Environmental Science

Carlos Morillo (Biology)

Project: Compact Food Composter

Faculty Advisor: Jay Meegoda, Department of Civil and Environmental Engineering

Omar Qari (Biology)

Project: Neural System and Connectivity of Midwater Amphipod *Phronima*

Faculty Advisor: Daphne Soares, Department of Biological Sciences

Tarj Shah (EE), David Chege (EE), and Erole Alexandre (EE)

Project: Magnetic Sensing of Physiological Parameters (MEG) for Drowsy Driver Detection System

Faculty Advisor: Ed Niver, Department of Electrical and Computer Engineering

Michael Tadros (LTC)

Project: Exploratory investigation on possible explanations leading to the lack of voting participation amidst an age specific group; the demographic of 18 to 24 year olds.

Faculty Advisor: Elizabeth Petrick, Department of History

Monica Torralba (ChE)

Project: μ FILMS – Micro Total-Analytical System for studying Polymeric Film-Based Drug Delivery System

Faculty Advisor: Sagnik Basuray, Department of Chemical, Biological and Pharmaceutical Engineering

Ali Yuksel (EE)

Project: Thermal Decomposition of H₂O Through Focused Solar Energy

Faculty Advisor: Marek Sosnowski, Department of Electrical and Computer Engineering

Jose Rodriguez (BME)

Project: PET to MRI Pathway

Faculty Advisor: Bharat Biswal, Department of Biomedical Engineering

Fall 2015 URI Phase-2 Student Seed Grant Winners

Sahitya Allam (BME)

Project: Fabrication of a Conducting Scaffold for Peripheral Nerve Regeneration

Faculty Advisors: Bryan Pfister, Michael Jaffe, Department of Biomedical Engineering

Mawuli Allorbi (EE)

Project: Interfacing Fast Energy Delivery and Green Energy Sources with Slow Charging Energy Storage

Faculty Advisors: Roberto Rojas-Cessa, Haim Grebel, Department of Electrical and Computer Engineering

Marah Angelica Magpile (CE)

Project: Development of Multifunctional Reactive Electrochemical Membranes for Biomass Recovery with Fouling Reduction, Water Reuse, and Cell Pretreatment Waste Heat in Power Plants

Faculty Advisor: Wen Zhang, Department of Civil and Environmental Engineering

Kabir Mitra (ChE)

Project: Carbon Nanotube Enhanced Membrane Distillation for Generating Pure Water from Waste Heat in Power Plants

Faculty Advisor: Somenath Mitra, Department of Chemistry and Environmental Science

Hathija Noor (ChE), Nida Riaz (ChE), Victoria Harbour (ChE)

Project: Micro Total Analytical Neurological System (μ TRANS): A Dynamic Approach to Studying the Blood Brain Barrier

Faculty Advisor: Sagnik Basuray, Department of Chemical, Biological and Pharmaceutical Engineering

Chrsytoff Camacho (ME)

Project: Aerial Reforestation Capsule

Faculty Advisor: Nancy Jackson, Department of Chemistry and Environmental Science