

Mohamed Miraoui (*Biophysics*)⁽²⁾
Research: *Understanding Microtubules Dynamic Instability*

Atreya Misra (*Electrical Engineering - University of Texas, Austin*)⁽¹⁾
Research: *Towards a Standard Open Source Simulator for Visible Light Communication*

Mehnaz Moon (*Chemical Engineering*)⁽²⁾
Research: *Impact of Polymar Loading and Particle Size of Amorphous Solid Dispersions on the Dissolution Behavior of Griseofulvin*

Lukas Noll (*Information Systems*)⁽¹⁾
Research: *Informing Users about Opportunities for Valuable Encounters*

Hathija Noor (*Chemical Engineering*)⁽²⁾
Research: *Micro-Total Analytical Neurological System (μ TRANS)*

Sohui Park (*Chemical Engineering*)⁽¹⁾
Research: *Effects of Dry Coating with Nanoparticles on Drug Release Rate from Tablets with BCS II Drugs*

Parth Patel (*Computer Science*)⁽²⁾
Research: *EmWords*

Hardik Patel (*Chemical Engineering*)⁽¹⁾
Research: *Investigating the Influence of the Dry Coating Process on the Drug Dissolution Rate*

Justin Pinca (*Chemical Engineering*)⁽²⁾
Research: *Propoenal (Acrolein) Oxidation Reaction Kinetics and Thermochemistry for the Intermediate Radicals*

Ashley Ramjattan (*Biochemistry*)⁽¹⁾
Research: *Interruption of Bioenergetics Communication in Neuroimmune Cells*

Alison Schroeder (*Biomedical Engineering*)⁽²⁾
Research: *Development of a Compact Model to Predict Cardiac Sarcomere Force Production*

David Sheynkman (*Electrical Engineering*)⁽²⁾
Research: *Economically Viable Electroencephalographic Robotic Arm (EVERA)*

Omar Singer (*Biophysics*)⁽²⁾
Research: *Understanding Microtubules Dynamic Instability*

Nathaniel Soto (*Digital Design*)⁽¹⁾
Research: *Impact of Multiple Sense Stimulus in Goal Oriented VR Simulations*

Indiana Suriel (*Chemical Engineering*)⁽²⁾
Research: *Improved Dissolution Performance of Drug Nanocomposites with Various Dispersants*

Michael Tadros (*History*)⁽¹⁾
Research: *Understanding Differences in Reporting on Major World Events; A Comparison between The Washington Post and Twitter*

Marcus Taylor (*Chemical Engineering*)⁽²⁾
Research: *A Super-Resolution Robotic Microscope for Single Cell Analysis*

Key: (1) denotes Session 1 presenter (2) denotes Session 2 presenter

Francis Uzzolina (*Electrical Engineering*)⁽²⁾
Research: *Economically Viable Electroencephalographic Robotic Arm (EVERA)*

Jay Vekaria (*Chemical Engineering*)⁽²⁾
Research: *Understanding the Roles of Various Dispersants on the Physical Stability of Drug Nanosuspensions*

PSEG FELLOW

Calvin Allemand (*Computer Science*)⁽¹⁾
Research: *Managing Critical Source Areas for Enhancing Ecosystem Services in Landscapes*

Brian Capozzola (*Biomedical Engineering*)⁽²⁾
Research: *Glucose-Based Fuel Cells Can Test Glucose Concentration and Optimize Cell Energy Output*

Gregory Hoffer (*Chemistry*)⁽¹⁾
Research: *Multi Cell Micro Fabrication Packages Will Optimize Energy Output of Biofuel Cells*

Marah Magpile (*Civil Engineering*)⁽²⁾
Research: *Algal Harvesting and Destabilization by Titania Reactive Electrochemical Membrane*

Kabir Mitra (*Chemical Engineering*)⁽¹⁾
Research: *Carbon Nanotube Enhanced Membrane Distillation for Generating Pure Water from Waste Heat in Power Plants*

Farah Mushtaq (*Biomedical Engineering*)⁽²⁾
Research: *Decellularizing 3D Engineered Tissues that Can Serve As Natural Extracellular Matrix Environment for Cell*

Andrew Pennock (*Mechanical Engineering*)⁽¹⁾
Research: *Managing Critical Source Areas for Enhancing Ecosystem Services in Landscapes*

Diego Rios (*Physics*)⁽²⁾
Research: *Micro Fuel Cell for Eye Pressure Regulator*

Noor Shahin (*Biomedical Engineering*)⁽¹⁾
Research: *Enhanced Nanotube Contacts Enhance Power Density of Energy Cells*

Bijin Vadasserril (*Biomedical Engineering*)⁽²⁾
Research: *Incorporation of Zinc Oxide into Polymer Scaffolds to Aid in Differentiation of Stem Cells*

TECHQUEST INNOVATION

Sahitya Allam (*Biomedical Engineering*)⁽¹⁾
Research: *Creation of a Novel Biomimetic Scaffold for Enhanced Neural Regeneration*

Einreb Funda (*Computer Engineering*)⁽²⁾
Research: *Multiple Authentication Enclosure For Security*

Maryam Haque (*Biomedical Engineering*)⁽¹⁾
Research: *Portable UV Light Sterilization Equipment (PULSE) for Stethoscopes*

Umar Rao (*Computer Engineering*)⁽²⁾
Research: *Multiple Authentication Enclosure For Security*

NSF UNDERGRADUATE NANOTECHNOLOGY SUMMER RESEARCH PROGRAM

Abdus Ali (*Biomedical Engineering*)⁽¹⁾
Research: *Fabrication and Characterization of High-Power Flexible Electrodes*

Joshua Bader (*Chemical Engineering*)⁽²⁾
Research: *Sensitize drug-resistant bacteria to antibiotics using polymeric nanoparticles*

Connor King (*Biomedical Engineering*)⁽¹⁾
Research: *Applications of tape-based microfluidics to nanotechnology*

Blanca Kline (*Interamerican University in Puerto Rico*)⁽¹⁾
Research: *Fabrication of self-standing metallic microstructures*

Christine Kurian (*Biomedical Engineering*)⁽¹⁾
Research: *Fabricating and Evaluating Bionanocomposites as Suitable Cartilage Mimics*

Vladimir Martinez (*Applied Physics*)⁽²⁾
Research: *Optical characterization of multiferroic materials for nanodevice applications*

Quang Nguyen (*Chemical Engineering*)⁽¹⁾
Research: *Gas-generating boron-magnesium hydride nanocomposite materials*

Leonardo Montes Sanchez (*Interamerican University in Puerto Rico*)⁽¹⁾
Research: *Electrochemical Impedance Spectroscopy*

Ansel Ueshiro (*Biomedical Engineering*)⁽²⁾
Research: *Membrane Free Biofuel Cell Using a Glucose Gel Electrolyte and Gold Plated Bioelectrodes*

RESEARCH ADVISORS

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Dr. Theresa Hunt	Dr. Xiao Yang Xu
Dr. William Hunter	Dr. Wen Zhang



NJIT Eighth International Undergraduate Summer Research Symposium

Thursday, July 30, 2015

Agenda

Poster Session 1 – 9:15 - 10:15 a.m.
Welcome Remarks – 10:15 - 10:45 a.m.
Poster Session 2 – 10:45 - 11:45 a.m.
Closing Remarks – 11:45 - 12:00 p.m.

Symposium Coordinator: Ms. Angela Retino
 McNair Program Coordinator: Ms. Zara Williams

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BRAZIL SCIENTIFIC MOBILITY PROGRAM

Cassia Calaço ⁽¹⁾

Research: *Light Emitting Devices*

Paula Camila Dias Portes (*Industrial Engineering*) ⁽¹⁾

Research: *Descriptive Modeling of Channel Switch Overs in a Fast Fashion Supply Chain*

Leonardo Silva (*Industrial Engineering*) ⁽²⁾

Research: *Simulation Analysis of Chaotic Storage Policies in Amazon Class Fulfillment Centers*

CIVIL ENGINEERING SUMMER RESEARCH PROGRAM

Nelson Augustine, Bruno Bezerra De Souza, Bárbara Sanches Aguiar, Samuel Hussin Couto ⁽¹⁾

Research: *Community based Pollution Prevention in Construction Industry*

Anthony Bassett, Lucas Nunes, Andre Flizicoski, Rodrigo Moura, Iury Gonzaga, Andrew Santos da Camar ⁽²⁾

Research: *Community based Pollution Prevention in Auto Repair*

Patrick DeLong, Bruno Bezerra, Janitha Hawa Betagoda ⁽¹⁾

Research: *A Low Cost Family Water Filter for Developing Countries*

Darian Capellan, Patricia Alves, Macgayver Marques, Laise Gobira, João Pucette, Luiz Vieira ⁽¹⁾

Research: *Community based Pollution Prevention in Auto Body*

Ellis Hadyn, Jessica Barcelos ⁽²⁾

Research: *Condition Assessment of Concrete using Ultrasound*

Camila Loeffler Carapajo ⁽¹⁾

Research: *Enhancing Electroosmotic Consolidation of Soils*

Afzal Sayeed, Camila Gabriela Florencio De Sousa, Marina De Castro Rodrigues, Bruna de Queiroz Bezerra Freire ⁽²⁾

Research: *Community based Pollution Prevention in Beauty Care*

Laryssa Teixeira Ribeiro, Andre Condessa ⁽²⁾

Research: *Remediation of Passaic River Sediments with Ultrasound*

Noah Thibodeaux ⁽¹⁾

Research: *Stability of Nano Bubbles*

LEAN STARTUP ACCELERATOR PROGRAM

Jose Gonzalez (*Computer Science*) ⁽¹⁾

Research: *AK Scripting*

Maxwell William Miller (*Marketing*) ⁽²⁾

Research: *GreekConnections.com*

Roberto Moller (*Computer Science*) ⁽²⁾

Research: *205ventures.com*

Christian Albert Monal (*Finance*) ⁽¹⁾

Research: *The Point*

Lawrence Njume ⁽²⁾

Research: *Moka*

Key: (1) denotes Session 1 presenter (2) denotes Session 2 presenter

Keyur Jitendra Patel ⁽¹⁾

Research: *DIY Auto Garage*

George Smith (*Business Management*) ⁽²⁾

Research: *With a Cherry on Top*

Terrence Smith (*Business Management*) ⁽¹⁾

Research: *IceBreaker App*

Harekrishna Tripathi (*Finance & Accounting*) ⁽²⁾

Research: *Your Business*

Somali Wright (*Business Management*) ⁽¹⁾

Research: *Pulchritudinous Extensions*

HERITAGE INSTITUTE OF TECHNOLOGY - NJIT SUMMER RESEARCH

Jishnu Ganguly (*Electrical Engineering*) ⁽¹⁾

Research: *Ge-Nanowire Technology*

Rahul Goswami (*Electrical Engineering*) ⁽²⁾

Research: *Underwater Communication*

Akshita Gupta (*Computer Engineering*) ⁽¹⁾

Research: *Towards a Standard Open Source Simulator for Visible Light Communication*

Amitangshu Mukherjee (*Computer Engineering*) ⁽²⁾

Research: *Robotics*

Sanjana Pareek (*Electrical Engineering*) ⁽¹⁾

Research: *Reliability of Lithium-ion Battery*

Sambarta Ray (*Electrical Engineering*) ⁽¹⁾

Research: *Neural Architecture*

Indrasis Roy (*Electrical Engineering*) ⁽²⁾

Research: *5G Technologies*

Saunak Saha (*Computer Engineering*) ⁽¹⁾

Research: *Robotics*

Aditya Sanyal (*Electrical Engineering*) ⁽²⁾

Research: *Li-Fi Technology*

Rudrarup Sengupta (*Electrical Engineering*) ⁽¹⁾

Research: *Ge-High-K gate Stacks for CMOS Technology*

Prashant Vurikiti (*Electrical Engineering*) ⁽²⁾

Research: *Ge-High-K gate Stacks for CMOS Technology*

RONALD E. MCNAIR ACHIEVEMENT PROGRAM

Ariel Aranda (*Civil Engineering*) ⁽²⁾

Research: *Soil Testing Methods*

Walter Cevallos (*Civil Engineering*) ⁽¹⁾

Research: *Rapid Rehabilitation of Concrete Structures*

Deliris Diaz (*Applied Physics*) ⁽²⁾

Research: *Analyzing Flexural Rigidity of Microtubutes*

Miguel Garcia (*Mechanical Engineering*) ⁽¹⁾

Research: *Mechanisms in Creo*

Pamela Herrera (*Biomedical Engineering*) ⁽²⁾

Research: *Dental Bone Regeneration*

Matthew Lopez (*Computer Engineering*) ⁽¹⁾

Research: *Parkinson's Movement Monitor*

Jacqueline Moreno (*Chemical Engineering*) ⁽²⁾

Research: *Nano-particles on Films*

Carlos Morillo (*Biology*) ⁽¹⁾

Research: *Restaurant-friendly Food Composter*

Olivia Saez (*Chemical Engineering*) ⁽²⁾

Research: *Designing Microfluidics in Thrombus Formation*

Shahan Uzzaman (*Electrical Engineering*) ⁽¹⁾

Research: *Microgrids Distribution Networks*

Leila Wooten (*Math – Bloomfield College*) ⁽¹⁾

Research: *Dynamical System Analysis of a One-dimensional Walking Droplet Model*

NJ SPACE GRANT CONSORTIUM SUMMER RESEARCH

Christopher Bolton (*Engineering Physics - Ramapo College*) ⁽²⁾

Research: *Optimizing geometries of terahertz metamaterial filters*

Lindsey Gray (*Engineering Physics - Ramapo College*) ⁽¹⁾

Research: *Glucose detector*

Nicole Callen (*Engineering Physics - Ramapo College*) ⁽²⁾

Research: *The Role of Urea in the Kinetics of Fibril Formation*

NSF UNDERGRADUATE RESEARCH PROGRAM - EXTREEMS-QED

Andres Alban (*Physics/Math*) ⁽¹⁾

Research: *Efficient Simulation Methods for Estimating Risk*

Joseph Ballardo (*Math*) ⁽¹⁾

Research: *Data-driven Biophysical Modeling of Neuronal Dynamics*

Hardik Darji (*Mechanical Engineering/Math*) ⁽¹⁾

Research: *Efficient Simulation Methods for Estimating Risk of Nuclear Power Plants*

Rebecca Deek (*Biology*) ⁽²⁾

Research: *Modeling Circadian Clock*

Jonathan Dougherty (*Electrical Engineering/Math*) ⁽¹⁾

Research: *Data-driven Biophysical Modeling of Neuronal Dynamics*

Nilanjan Haldar (*Biology*) ⁽¹⁾

Research: *Data-driven Biophysical Modeling of Neuronal Dynamics*

Atsuki Imamura (*Computer Science/Math*) ⁽¹⁾

Research: *Efficient Simulation Methods for Estimating Risk of Nuclear Power Plants*

Josef Mohrenweiser (*Math*) ⁽²⁾

Research: *Building Better Factor Models for Mathematical Finance*

Michael Rivera (*Math*) ⁽²⁾

Research: *Building Better Factor Models for Mathematical Finance*

William Ruys (*Math*) ⁽²⁾

Research: *Building Better Factor Models for Mathematical Finance*

Angelo Taranto (*Physics/Math*) ⁽¹⁾

Research: *Geometric Group Theory*

PROVOST UNDERGRADUATE SUMMER RESEARCH

Ryan Ackerman (*Computer Science*) ⁽¹⁾

Research: *Towards a Standard Open Source Simulator for Visible Light Communication*

Jimmie Adriazola (*Math*) ⁽²⁾

Research: *Domain Decomposition Methods Using Integral Equations*

Andres Alban (*Physics/Math*) ⁽¹⁾

Research: *Efficient Simulation Methods for Estimating Risk of Nuclear Power Plants*

James Basuino (*Computer Engineering*) ⁽¹⁾

Research: *Towards a Standard Open Source Simulator for Visible Light Communication*

Walter Berreta (*Computer Engineering*) ⁽¹⁾

Research: *Towards a Standard Open Source Simulator for Visible Light Communication*

Alex Bradbury-Wallad (*Digital Design*) ⁽²⁾

Research: *Cavefish Morphological Evolution*

Kolawole Campbell (*Electrical Engineering*) ⁽²⁾

Research: *A Super-Resolution Robotic Microscope for Single Cell Analysis*

John Vito d'Antonio-Bertagnolli (*Biomedical Engineering*) ⁽¹⁾

Research: *Head Mounted Vision Therapy Device for Traumatic Brain Injury Patients with Convergence Insufficiency*

Ashley Fitzsimmons (*Biomedical Engineering*) ⁽²⁾

Research: *Modeling Subconcussive and Cumulative Subconcussive Insults Using a Lateral Fluid Percussion Injury Device*

Robert Gioia (*Information Technology*) ⁽¹⁾

Research: *Software Platform for Virtual Reality Game for Vision Therapy for Children with Traumatic Brain Injury*

Nandini Mariam Isaac (*Biochemistry*) ⁽¹⁾

Research: *Meth-Induced Cerebral Hemorrhage Causes Expedite Aging*

Ashish John (*Electrical Engineering*) ⁽²⁾

Research: *Molecular Beam Epitaxial Growth of High Quality III-Nitride Nanowires for Phosphor-Free Solid-State Lighting Applications*

Brandon Jones (*Applied Physics*) ⁽²⁾

Research: *A Super-Resolution Robotic Microscope for Single Cell Analysis*

Ian Jordan (*Electrical Engineering*) ⁽²⁾

Research: *Dynamics of Logical Circuits*

Afrida Kabir (*Chemical Engineering*) ⁽¹⁾

Research: *Controlled Drug Release from Multilayers Film for Ibuprofen Delivery*

Monica Khattak (*Biology*) ⁽²⁾

Research: *Understanding Neuronal Activity in the Brains of Weakly Electric Fish*

Angelica Llerena (*Computer Science*) ⁽¹⁾

Research: *Solving Bottlenecks in Educational Workflow Software*