NJIT
New Jersey Institute of Technology

2022 UNDERGRADUATE SUMMER RESEARCH AND INNOVATION SYMPOSIUM

JULY 27-28, 2022

PROGRAM

A Sustainable Future

2022 Undergraduate Summer Research and Innovation Symposium

July 27-28, 2022
Campus Center, Ballroom A & B

Welcome!

The 2022 NJIT Undergraduate Summer Research and Innovation Symposium will be held on July 27-28, 2022, featuring a distinguished keynote talk from Pallavi Madakasira, Vice President, Phase Change Solutions, followed by research presentations from undergraduate students who worked during the summer with various URI programs. More than 119 undergraduate students will present their summer research work at the symposium. Best innovation projects will be awarded *Dr. James Stevenson Innovation Award*: first, second and third prizes of $1,000, $750 and $500, respectively.

Programs included:
URI Provost Summer Research Fellowships
McNair Achievement Program
Honors College Summer Scholar Program
NSF REU and iCorps NJIT Site Programs
Other Grant Funded Projects
Other UG Student Summer Researchers

Agenda

Wednesday, July 27, 2022 Ballroom A & B Student Campus Center

9:00 AM - 9:05 AM	Welcome Remarks: Atam Dhawan, Interim Provost, NJIT Teik Lim, President, NJIT
9.05 AM – 9.25 AM	Distinguished Keynote Talk Ideation, Innovation, and Entrepreneurship Pallavi Madakasira, Vice President, Phase Change Solutions
9:30 AM - 11:00 AM	Student Presentations Session 1: Bioscience and Bioengineering
11:00 AM - 11:15 AM	Break
11:15 AM - 12:45 PM	Student Presentations Session 2: Bioscience and Bioengineering

2022 Undergraduate Summer Research and Innovation Symposium

Agenda (Continued)

12:45 PM - 1:30 PM	Lunch and Networking
1:30 PM - 3:00 PM	Student Presentations Session 3: Environment and Sustainability
3:00 PM - 3:30 PM	Break
3:30 PM - 5:00 PM	Student Presentations Session 4: Remote Students (All Research Areas)

Thursday, July 28, 2022 Ballroom A & B Student Campus Center

9:00 AM - 10:30 AM	Student Presentations Session 5: Material Science and Engineering
10:30 AM - 10:45 AM	Break
10:45 AM - 12:15 PM	Student Presentations Session 6: Data Science and Management; Robotics and Machine Intelligence
12:15 PM - 1:00 PM	Lunch and Networking
1:00 PM - 2:30 PM	Awards Ceremony

Distinguished Keynote Speaker:

Pallavi Madakasira is Vice President at the Phase Change Solutions a smart and sustainable materials company with a mission to reduce carbon footprint. Previously, Pallavi served as the Managing Director, Clean Energy at the New Jersey Economic Development Authority (NJEDA). In her role she helped shape and lead the EDA's efforts to ensure the State's long-term competitiveness in the Clean Energy sector. Pallavi was the Head of Strategic Marketing at Solvay where she led the creation of new products and business models centered around sustainability. Prior to Solvay, Pallavi worked with Lux Research advising Fortune 500 companies to help define their strategies in the field of clean energy technologies including solar, wind, and EV transportation. She has also worked with institutional investors in her role as an equity research analyst at Piper Jaffray. Pallavi received her Master's degree in Physics from the University of Texas at Dallas. (https://www.linkedin.com/in/pallavi-madakasira-3418aa/) (https://phasechange.com/)

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URI External Advisor Board Members and Judges:

Brian Kiernan, Angel Investor, Executive VP and Chief Scientist (ret), InterDigital Communications Corp. (https://www.linkedin.com/in/brian-kiernan-a5636b11/)

Govi Rao, Co-Founder, Carbon Group Global (https://carbongroup.global/) (https://www.linkedin.com/in/govirao/)

Manish Patel, CEO, TrickyWater LLC (www.trickywater.com) (https://www.linkedin.com/in/manish-patel-innovate/)

Liz Miller, President, Summit Place Financial Advisors, LLC (https://www.linkedin.com/in/liz-miller-cfa-cfp-5100096/)

Shashi Patel, Manager – Engineering, PSEG (https://www.linkedin.com/in/shashikant-patel-1073161b/)

Alfredo Matos, President and CEO, A Z Matos, LLC (https://www.linkedin.com/in/alfredo-al-matos-bs-msee-mba-47abb627/)

2022 Undergraduate Summer Research and Innovation Symposium

Presentation Schedule At-A-Glance - July 27, 2022

First Name	Last Name	Major	Title of Project	Presentation Session	Presentation Time
Kojo	Acquaisie	Computer Engineering	Predicting Fibrillation of Amyloid-like Peptides Using MD Simulation	Bioscience and Bioengineering	9:30 AM
Halexandra	Alvarenga	Chemical Engineering	Point-Of-Care Clinical Device to Screen Microcystin-LR, Anatoxin-a, and Cylindrospermopsin Found in Freshwater	Bioscience and Bioengineering	9:33 AM
Nneka	Arinzeh	Molecular and Cellular Biology	Toxicity of Phthalate Mixture in Mouse Ovaries	Bioscience and Bioengineering	9:36 AM
Jinhyeok	Bae	Mechanical Engineering	Investigation of Capillary Blood Flow Dynamics in PMMA and PDMS Microchannel	Bioscience and Bioengineering	9:39 AM
Zhaoshu	Cao	CS+Math Double Major	Apply Physics Informed Neural Networks on Building a Superparamagnetic Nanoparticle Motion Model in Blood Vessels	Bioscience and Bioengineering	9:42 AM
Theresa	Carlos	Biomedical Engineering	Exploring the Impact of Traumatic Brain Injury on Functional Brain Connectivity Using fMRI Data	Bioscience and Bioengineering	9:45 AM
Cynthia	Centeno	Biology	Visual Colorimetric Detection of COVID-19 in Artificial Saliva Using Polydiacetylene Based Paper Biosensor	Bioscience and Bioengineering	9:48 AM
Darshan	Danak	Biology	Directed Enzyme Evolution and Plastics	Bioscience and Bioengineering	10:01 AM
Samy	Dob	Biology	Determining the Role of Cb-SNc Projections in Conveying Movement Vigor	Bioscience and Bioengineering	10:04 AM
Olivia	Dyke	Biomedical Engineering	Wearable Piezoelectric Cancer Detection Device Using Electrospun Nanofibers	Bioscience and Bioengineering	10:07 AM
Jonah	Eng	Computer Science	Inferring the Properties of Neuronal Synaptic Connectivity: A Combined Dynamic Modeling and Machine Learning Approach	Bioscience and Bioengineering	10:10 AM
Brandon	Fiallos	Biochemistry	Using Slime Mold to Detect Harmful Chemicals in the Environment	Bioscience and Bioengineering	10:13 AM
Corinne	Frockowiak	Electrical Engineering	Quantitative Study of Cell Detachment Using Optically Computed Phase Microscopy (OCPM)	Bioscience and Bioengineering	10:16 AM
Luster	Harris	Chemistry	A Modeling Framework for Simulating Skin Decontamination of Chemical Warfare Agents	Bioscience and Bioengineering	10:19 AM
Shaikh	Hassan	BME	Investigating the Impact of Extracellular Matrix Proteins on Spinal Cord Injury and Repair	Bioscience and Bioengineering	10:22 AM
Christopher	Henni	Biomedical Engineering	Developing Baseline Levels of Pain Biomarkers in Healthy Volunteers *(Note 2)*	Bioscience and Bioengineering	10:25 AM
Emad	Sawaged	Biomedical Engineering	Developing Baseline levels of Pain Biomarkers in Healthy Volunteers *(Note 2)*	Bioscience and Bioengineering	10:25 PM
Gulmina	Imran	Biomedical Engineering	Nano-Silicate Reinforcement of Gelatin Methacrylate for Bone Regeneration	Bioscience and Bioengineering	10:28 AM
Michelle	Jojy	Biology BS	Effects of Di-2-ethylhexyl Terephthalate on Ovarian Function in Adult Mice	Bioscience and Bioengineering	10:31 AM
Mrunmayi	Joshi	Biology	Neuronal Loss and Microglial Activation after Blast Injury	Bioscience and Bioengineering	10:34 AM
Archisha	Kanchan	Biomedical engineering	Effects of Botulinum Neurotoxin Injections on Gait in Children with Cerebral Palsy	Bioscience and Bioengineering	10:37 AM
Max	Karp	Biomedical Engineering	The Study of PTSD in Rats Through Blast TBI	Bioscience and Bioengineering	10:40 AM
Daniel	Kidon	Biomedical Engineering	Effect of Injury and Cytokine Addition on Live Astrocyte Cultures	Bioscience and Bioengineering	10:43 AM
Ashwin	Kurian	BME	Identifying the Heterogeneity of Brain Structures of Autism Spectrum Disorder	Bioscience and Bioengineering	10:46 AM
Peter	Kutuzov	Biochemistry	Effect of ECM Coating and Neurotrophic Factors on Nerve Regeneration in Collagen Gel 3D-Model	Bioscience and Bioengineering	11:15 AM
Sanya	Majmudar	Biomedical Engineering	The Effects of Breathing Techniques on Blood Oxygenation Levels: An fNIRS Study	Bioscience and Bioengineering	11:18 AM
Stella	Makuza	Biology Pre-Med	Detection of PFOA Through the ESSENCE Microfluidics Platform Using Impedance	Bioscience and Bioengineering	11:21 AM
Priya	Marella	Biology	Role of TGFβ in Hair Follicle Regeneration	Bioscience and Bioengineering	11:24 AM
Ayman	Mohammad	Biology	Secreted Semaphorin Response to Neuronal Injury	Bioscience and Bioengineering	11:27 AM
Anne	Nong	Chemical Engineering	Preliminary Assessment of Apoptotic Self-Assembling Peptide Hydrogels for Drug Delivery	Bioscience and Bioengineering	11:30 AM
Varun	Pai	Biology	The Role of the Hog1 Pathway in Candida auris Drug Resistance and Cell Wall Architecture	Bioscience and Bioengineering	11:33 AM
Tasnima	Rahman	Mechanical Engineering	Predicting New Peptides That Self-Assemble into Amyloid-Like Fibrils	Bioscience and Bioengineering	11:36 AM
Isha	Rai	Biomedical Engineering	Repeated Low Level Blast Injury Induced Neural Loss	Bioscience and Bioengineering	11:39 AM
Prithvi	Rajbabu	Biology	Investigating the Role of a Genetically-Conserved Spinal Neuronal Class, Dmrt3, In the Control of Locomotion and Fin Movement in Zebrafish	Bioscience and Bioengineering	11:42 AM
Hari	Ramesh	Chemistry	Theory-Guided Control of Dye-Host Systems: Aggregation and Photophysical Properties	Bioscience and Bioengineering	11:45 AM
Dinitha	Samaranayake	Biomedical Engineering	Computational Exploration of the Gewald Reaction	Bioscience and Bioengineering	11:48 AM
Danna Valentina	Sanchez Hernandez	Biomedical Engineering	Optimization of Cell-Mediated Gelma Hydrogel for High-Efficiency Cell Migration	Bioscience and Bioengineering	11:51 AM
Aditi	Sathe	Biocomputational Engineering	Electrochemical Impedance Based Biosensor to Detect Biomolecules	Bioscience and Bioengineering	11:54 AM
Esha	Shah	Biology BA	Monoaminergic Neuromodulation of Internal State	Bioscience and Bioengineering	11:57 AM
Naomi	Shah	Biology	Which Neurons Express the Membrane-Bound SMP-1 in the C. Elegans Ventral Nerve Cord?	Bioscience and Bioengineering	12:00 PM
Pushti	Shah	Biology	Assessing Subject Motion in Task-based and Resting-state fMRI Scans	Bioscience and Bioengineering	12:03 PM
Sophia	Starzynski	Biomedical Engineering	Development of a Portable and Inexpensive Research Grade Force Plate Apparatus Utilizing a Nintendo Wii Balance Board	Bioscience and Bioengineering	12:06 PM

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First Name	Last Name	Major	Title of Project	Presentation Session	Presentation Time
Shareef	Syed	Biology	The Effect of Sound on Dendritic Morphology at Developmental and Evolutionary Timescales	Bioscience and Bioengineering	12:09 PM
Raylynn	Thompson	Biology and Biochemistry	3D Bioprinting of Soft Tissue Sarcoma Spheroids-Laden GelMA for Tumor Modeling	Bioscience and Bioengineering	12:12 PM
Alexander	Turek	Applied Physics	Phonon Propagation in Enzymes	Bioscience and Bioengineering	12:15 PM
Chinonye	Uzowuru	Computer Science	Using Deep Hybrid Modeling to Identify Biophysical Mechanisms Underlying Circadian Rhythms in Cardiac Arrhythmias (Note 1)	Bioscience and Bioengineering	12:18 PM
Sarah	Abdul	Biology	Curing Madness: Ottoman Psychiatric Treatments in the 19th Century	Environment and Sustainability	1:30 PM
Egor	Demidov	Chemical Engineering	Predicting Vapor Supersaturation in a Laminar Flow for Atmospheric Aerosol Processing	Environment and Sustainability	1:33 PM
Anupa	Desai	Applied Mathematics	Electron Heating at the Earth's Bow Shock	Environment and Sustainability	1:36 PM
Steven	Douglass	Chemistry	Electrochemical Stability of Ruthenium Polypyridyl Phosphonic Acid Complexes	Environment and Sustainability	1:39 PM
Joy	Duan	Immunology	Microplastics as Hubs Enriching Antibiotic-Resistant Bacteria and Pathogens in Anaerobic Sludge	Environment and Sustainability	1:42 PM
Jorge	Duarte	Civil Engineering	Water Quality of Branch Brook Lake and Weequahic Lake	Environment and Sustainability	1:45 PM
Elizabeth	Finnegan	Data Science Statistics Option and History	Controlling Madness: Constructing Space and Time for Toptaşı Asylum's Staff	Environment and Sustainability	1:48 PM
Elizabeth	Kowalchuk	B. Architecture	Reflections on Rocks - Conceptualizing the James Rose Center Digital Archive	Environment and Sustainability	1:51 PM
Charan	Masimukku	Data Science	The Secularization of Italy and Prevalence of Vernacular Devotion	Environment and Sustainability	1:54 PM
Renallan	Neckles	Environmental Engineering	1,4 -Dioxane Degrading Propanotrophs Capable of Degrading Cooccurring Inhibitory Chlorinated Solvents	Environment and Sustainability	1:57 PM
Huu Minh Triet	Nguyen	Dual Applied Physics and Mathematical Science	Magnetohydrodynamic Simulation on Solar Magnetic Field Eruptions Driven by Small Emerging Flux	Environment and Sustainability	2:00 PM
Dhruvi	Prajapati	Biochemistry	The Use of NMR to Quantify the Degradation Efficiency of PFAS Using High Frequency Ultrasound	Environment and Sustainability	2:03 PM
Vishva	Rana	Mechanical Engineering	Air Quality Monitoring System in the Ironbound	Environment and Sustainability	2:06 PM
Isaiah	Rejouis	Biology	Investigating Ecosystem Response to Drought	Environment and Sustainability	2:09 PM
Ashley Kate	Suthammanont	Biochemistry	High-Efficient Inactivation of Airborne Viruses Using A Microwave Catalytic Air Filtration System	Environment and Sustainability	2:12 PM
Taylor	Van Grouw	Mechanical Engineering	From Conserved to Forgotten: An Analysis of the Pequannock Watershed	Environment and Sustainability	2:15 PM
Justin	Vasquez	Data Science	The Effects of Climate Change on Public Health	Environment and Sustainability	2:18 PM
Nikola	Klimczak	Business in Finance	Compounding Impacts of Climate Change and Ambient Temperatures on Mortality	Environment and Sustainability	2:21 PM
Jordan	Cioni	Mechanical Engineering, Physics, Math	Magnetohydrodynamic Simulation of Coronal Magnetic Field Evolution and Eruption	Environment and Sustainability	3:30 PM
Brandon	Coutinho	Mathematical Sciences (Applied Mathematics) and Applied Physics	Analysis of a Solar Flare in a Magnetically-Quiet Active Region	Environment and Sustainability	3:33 PM
Sophia	D'Anna	Applied Physics	Statistical Study of Solar Jets in Chromosphere, Transition Region, and Corona	Environment and Sustainability	3:36 PM
Patricia	Dzwill	Computer Science and Applied Physics	Wind Observations Using Fabry-Perot Doppler Image Data	Data Science and Management	3:39 PM
Tyler	Ford		Probing Energy Release in Solar Flares Using Radio and EUV Observation	Environment and Sustainability	3:42 PM
Michael	Gjini	Astrophysics	Small Scale Solar Activity in Quiet Sun	Environment and Sustainability	3:45 PM
Erika	Hurst	Computer Engineering	Avatar Creation in Education and the Metaverse: Synthesizing Virtual Education Initiatives and Future Social Connections	Robotics and Machine Intelligence	3:48 PM
Karolina	Kowal	Computer Science	An Analysis of the Geolocation Algorithms Used by Ionospheric Radars	Environment and Sustainability	3:51 PM
Ryoma	Matsuura	Physics and Astronomy	Solar Flare Prediction Using Machine Learning	Environment and Sustainability	3:54 PM
Diego	Sanchez	Data Science	Observations of Geomagnetic Environments Using Magnetometer Data	Environment and Sustainability	3:57 PM
Anneliese	Schmidt	Applied Physics	Photospheric Dynamics and Coronal Heating	Environment and Sustainability	4:00 PM
Austin	Smith	Physics and Mathematics	Development of a Thermal Controller System for a GST Next Generation Instrument - VIS-II	Environment and Sustainability	4:03 PM

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First Name	Last Name	Major	Title of Project	Presentation Session	Presentation Time
Maryam	Ashraf	Mechanical Engineering	Mechanism Animation and the Creation of Innovative Mechanisms	Material Science and Engineering	9:00 AM
Rohan	Awasthi	Computer Science	A Multiscale Physiologically-Based Pharmacokinetic Model to Simulate Dermal Exposure to Chemical Warfare Agents	Material Science and Engineering	9:03 AM
Adrian	Cespedes	Mechanical Engineering	Molecular Dynamics Study of Different Mechanical Properties of Materials	Material Science and Engineering	9:06 AM
Richard	Daly	Mechanical Engineering	Permanent Magnet Integrated Shock Absorber and Electric Generator	Material Science and Engineering	9:09 AM
Rock	Huebner	Mechanical Engineering	PbSe Mid-Infrared Colloidal Nanocrystalline Photodetector	Material Science and Engineering	9:12 AM
Danyal	Kamal	Physics	Vertical Chemical Vapor Transport for Quantum Materials	Material Science and Engineering	9:15 AM
Julia	Kuzan	Chemical Engineering	Fabrication of Reduced Graphene Oxide Quantum Dots	Material Science and Engineering	9:18 AM
Hugh	Mai	Chemical Engineering	Experimental Investigation of Flow Within Dissolution Vessels using PIV	Material Science and Engineering	9:21 AM
Yorquiria	Maldonado Mejia	Chemical Engineering	Effect of Molecular Weight on The Curing of PEGDA Hydrogels	Material Science and Engineering	9:24 AM
Roberto	Martinez	Chemical Engineering	The Effect of Surfactant on the Glass Transition Temperature of PLGA Nanoparticles	Material Science and Engineering	9:27 AM
Brianna	Morillo	Electrical Engineering	Enhancing Efficiency of AlGaN UV LEDs by Optimizing Electron Blocking Layer Structure	Material Science and Engineering	9:30 AM
Jason	Ogbebor	Chemical Engineering	Effect of Water Vapor Adsorption on Wave Propagation in Nanoporous Media	Material Science and Engineering	9:33 AM
Justin	Pace	Chemical Engineering	Experimental Determination of Hydrodynamics Within Dissolution Minivessels Using Particle Image Velocimetry (PIV)	Material Science and Engineering	9:36 AM
Alexandros	Paliouras	Electrical Engineering	Removal of Impurities from Nitrogen-Doped Graphene (N-G) Electrocatalyst for Electrochemical Energy Conversion and Storage Systems	Material Science and Engineering	9:39 AM
Maryom	Rahman	Chemical Engineering	Perfluorooctanoic acid (PFOA) Detection Using Electrochemical Impedance Spectroscopy (EIS) and Metal-Organic Framework Enhanced Microelectrodes	Material Science and Engineering	9:42 AM
Ojasvita	Reddy	Biomedical Engineering	BODIPY-Based Photobase Generator for Visible-Light-Initiated Thiol-Michael Addition Polymerization	Material Science and Engineering	9:45 AM
Asmitha	Sathya	Biomedical Engineering	Nanoparticle Tracking Analysis of Polystyrene Particles in Blood Plasma	Material Science and Engineering	9:48 AM
Noshin	Siddiq	Chemical and Biomolecular Engineering	Investigating Platinum Nanoparticles for Cancer Treatment	Material Science and Engineering	9:51 AM
Matthew	Stickles	Chemical Engineering	Measuring Surface Tension in Silico by the Droplet Weight Method	Material Science and Engineering	9:54 AM
Eisha	Syeda	Industrial Engineering	Literature Review and Data Analysis for Effective Vaccine Distribution	Material Science and Engineering	9:57 AM
Shridutt	Vishnubhatla	Civil Engineering	Study of High-Performance Fiber-Reinforced Cementitious Composites	Material Science and Engineering	10:00 AM
Cameron	von Tulganburg	Mechanical Engineering	Magnetically Augmented Variable Electronic Transmission	Material Science and Engineering	10:03 AM
Siddhant	Jadhav	Material Science and Engineering	Determination of the Threshold of Residue Hematocrit in Separated Blood Plasma Using Capacitance Measurements with Interdigitated Electrodes for Robust Biomarker Detection	Material Science and Engineering	10:06 AM
Melvin	Academia	Computer Science	Integration of AI Assistance toward Improving Human Performance in High-Frequency Decision Making	Robotics and Machine Intelligence	10:30 AM
Jacob	Almanza	Electrical and Computer Engineering	Machine Learning Analysis of Turbidity Data from AguaClara Treatment Plants in Honduras and Nicaragua	Robotics and Machine Intelligence	10:33 AM
Oscar	Mahecha Benitez	Electrical and Computer Engineering	Real Time VLC: Indoor Angular and Euclidean Coordinate Localization Using Machine Learning	Robotics and Machine Intelligence	10:36 AM
Stuti	Mohan	Biomedical Engineering	Designing a Predictive Model for Concussion Recovery	Robotics and Machine Intelligence	10:39 AM
Roberto	Saenz	Mechanical Engineering	Data Management for Physical Machine Intelligence	Robotics and Machine Intelligence	10:42 AM
Anbar	Saleem	Computer Science	Interactive Annotated 360 Environments for Educational Use	Robotics and Machine Intelligence	10:45 AM
Kamil	Arif	Data Science - Computing Option	ForensicXR	Data Science and Management	10:48 AM
David	Garcia	Information Technology	Mapping and Understanding Animal Patterns through Simulated Environments	Data Science and Management	10:51 AM
Emily	Lattanzio	Computer Engineering	Toward a Behavioral-Level End-to-End Framework for Silicon Photonic Neuromorphic Computing	Data Science and Management	10:54 AM

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First Name	Last Name	Major	Title of Project	Presentation Session	Presentation Time
Vishwam	Shukla	Electrical Engineering	Optimization to Reduce Power in HfO2 RRAM Devices for Memory	Data Science and Management	10:57 AM
Benjamin	Shuster	Biomedical Engineering	Using a Webcam for Stroke Rehabilitation VR Games	Data Science and Management	11:00 AM
Beryl	Sin	Computer Engineering	Deep Learning Based Image Compression	Data Science and Management	11:03 AM
Natalia	Smith	Computer Science	Machine Learning to Detect Fake News	Data Science and Management	11:06 AM
Debbie-Ann	Spence	Biology	Using Convolutional Neural Networks to Classify and Predict Pneumonia in Pediatric Chest X-Ray Images	Data Science and Management	11:09 AM
Marcus	Washington	Information Security and Administration	Security Evaluation of IoT Associated Medical Applications	Data Science and Management	11:12 AM

Schedule of Presentations

Research Presentation Area

Bioscience and Bioengineering

Name: Kojo Nkosi-Brew Acquaisie **Department:** Computer Engineering **Project Title:** Predicting Fibrillation of Amyloid-like Peptides using MD Simulation **Faculty Advisor:** Cristiano L. Dias **URI Program**: McNair Scholar Program	**Name:** Halexandra Alvarenga **Department:** chemical engineering **Project Title:** Point-Of-Care Clinical Device To Screen Microcystin-LR, Anatoxin-a, and Cylindrospermopsin Found In Freshwater **Faculty Advisor:** Sagnik Basuray **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Undergraduate Research and Innovation Experience in Cancer Diagnosis and Therapeutic Intervention
Name: Nneka Christina Arinzeh **Department:** Molecular and Cellular Biology **Project Title:** Toxicity of Phthalate Mixture in Mouse Ovaries **Faculty Advisor:** Dr. Genoa Warner **URI Program**: NSF Research Experience of Undergraduate (REU) Program for BioSensor Materials for Advanced Research and Technology (BIOSMART) at the Environment/Biotechnology Nexus	**Name:** Jinhyeok Bae **Department:** Mechanical Engineering **Project Title:** Investigation of Capillary Blood Flow Dynamics in PMMA and PDMS Microchannel **Faculty Advisor:** Dr. Eon Soo Lee **URI Program**: URI Provost Summer Research Fellowship Program

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Name: Zhaoshu Cao **Department:** cs+math double major **Project Title:** Apply Physics Informed Neural Networks on Building a Superparamagnetic Nanoparticle Motion Model in Blood Vessels **Faculty Advisor:** Shahriar Afkhami **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Theresa Carlos **Department:** Biomedical engineering **Project Title:** Exploring the Impact of Traumatic Brain Injury on Functional Brain Connectivity using fMRI Data **Faculty Advisor:** Dr. Bharat Biswal **URI Program**: Honors College Summer Research Program
Name: Cynthia Centeno **Department:** Biology **Project Title:** Visual Colorimetric Detection of COVID-19 in Artificial Saliva using Polydiacetylene Based Paper Biosensor **Faculty Advisor:** Dr. Omowunmi Sadik **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Darshan Danak **Department:** Biology **Project Title:** Directed Enzyme Evolution and Plastics **Faculty Advisor:** Edgardo Farinas **URI Program**: NSF Research Experience of Undergraduate (REU) Program for BioSensor Materials for Advanced Research and Technology (BIOSMART) at the Environment/Biotechnology Nexus
Name: Samy Dob **Department:** Biology **Project Title:** Determining The Role of Cb-SNc Projections in Conveying Movement Vigor **Faculty Advisor:** Dr. Farzan Nadim **URI Program**: McNair Scholar Program	**Name:** Olivia Joy Dyke **Department:** Biomedical Engineering **Project Title:** Wearable Piezoelectric Cancer Detection Device using Electrospun Nanofibers **Faculty Advisor:** Dr. Lin Dong **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Undergraduate Research and Innovation Experience in Cancer Diagnosis and Therapeutic Intervention
Name: Jonah Eng **Department:** Computer Science **Project Title:** Inferring the Properties of Neuronal Synaptic Connectivity: A Combined Dynamic Modeling and Machine Learning Approach **Faculty Advisor:** Horacio G. Rotstein **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Brandon Fiallos **Department:** Biochemistry **Project Title:** Using Slime Mold to Detect Harmful Chemicals in the Environment **Faculty Advisor:** Sadik, Omowunmi **URI Program**: NSF Research Experience of Undergraduate (REU) Program for BioSensor Materials for Advanced Research and Technology (BIOSMART) at the Environment/Biotechnology Nexus
Name: Corinne Frockowiak **Department:** Electrical Engineering **Project Title:** Quantitative Study of Cell Detachment using Optically Computed Phase Microscopy (OCPM) **Faculty Advisor:** Dr Xuan Liu **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Optics and Photonics: Technologies, Systems, and Devices	**Name:** Luster Harris **Department:** Chemistry **Project Title:** A modeling framework for simulating skin decontamination of chemical warfare agents **Faculty Advisor:** Laurent Simon **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Undergraduate Research and Innovation Experience in Cancer Diagnosis and Therapeutic Intervention
Name: Shaikh Hassan **Department:** BME **Project Title:** Investigating the Impact of Extracellular Matrix Proteins on Spinal Cord Injury and Repair **Faculty Advisor:** Dr. Jonathan Grasman **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Christopher M. Henni **Department:** Biomedical Engineering **Project Title:** Developing Baseline levels of Pain Biomarkers in Healthy Volunteers **Faculty Advisor:** Omowunmi Sadik **URI Program**: NSF Research Experience of Undergraduate (REU) Program for BioSensor Materials for Advanced Research and Technology (BIOSMART) at the Environment/Biotechnology Nexus

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Name: Emad Sawaged **Department:** Biomedical Engineering **Project Title:** Developing Baseline levels of Pain Biomarkers in Healthy Volunteers **Faculty Advisor:** Dr.Sadik **URI Program**: NSF Research Experience of Undergraduate (REU) Program for BioSensor Materials for Advanced Research and Technology (BIOSMART) at the Environment/Biotechnology Nexus	**Name:** Gulmina Imran **Department:** Biomedical Engineering **Project Title:** Nano-Silicate Reinforcement of Gelatin Methacrylate for Bone Regeneration **Faculty Advisor:** Dr. Amir K. Miri **URI Program**: URI Provost Summer Research Fellowship Program
Name: Michelle Jojy **Department:** Biology BS **Project Title:** Effects of Di-2-ethylhexyl Terephthalate on Ovarian Function in Adult Mice **Faculty Advisor:** Dr. Genoa Warner **URI Program**: Undergraduate Summer Research	**Name:** Mrunmayi Joshi **Department:** Biology **Project Title:** Neuronal Loss and Microglial Activation after Blast Injury **Faculty Advisor:** Dr. Ying Li **URI Program**: URI Provost Summer Research Fellowship Program
Name: Archisha Kanchan **Department:** Biomedical engineering **Project Title:** Effects of Botulinum Neurotoxin Injections on Gait in Children with Cerebral Palsy **Faculty Advisor:** Dr. Saikat Pal **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Max Karp **Department:** Biomedical Engineering **Project Title:** The Study of PTSD in Rats through Blast TBI **Faculty Advisor:** Bryan J. Pfister **URI Program**: URI Provost Summer Research Fellowship Program
Name: Daniel Kidon **Department:** Biomedical Engineering **Project Title:** Effect of injury and cytokine addition on live astrocyte cultures **Faculty Advisor:** Dr. Bryan Pfister **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Ashwin Kurian **Department:** BME **Project Title:** Identifying the Heterogeneity of Brain Structures of Autism Spectrum Disorder **Faculty Advisor:** Xin Di **URI Program**: URI Provost Summer Research Fellowship Program
Name: Peter Paul Kutuzov **Department:** Biochemistry **Project Title:** Effect of ECM Coating and Neurotrophic Factors on Nerve Regeneration in Collagen Gel 3D-Model **Faculty Advisor:** Jonathan Grasman **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Sanya Majmudar **Department:** Biomedical Engineering **Project Title:** The Effects of Breathing Techniques on Blood Oxygenation Levels: an fNIRS Study **Faculty Advisor:** Dr. Bharat Biswal **URI Program**: URI Provost Summer Research Fellowship Program
Name: Stella Makuza **Department:** Biology Pre-Med **Project Title:** Detection of PFOA Through the ESSENCE Microfluidics Platform Using Impedance **Faculty Advisor:** Dr. Nellone Reid **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Undergraduate Research and Innovation Experience in Cancer Diagnosis and Therapeutic Intervention	**Name:** Priya Marella **Department:** Biology **Project Title:** Role of TGFβ in Hair Follicle Regeneration **Faculty Advisor:** Dr. Mayumi Ito **URI Program**: Honors College Summer Research Program
Name: Ayman Afif Mohammad **Department:** Biology **Project Title:** Secreted Semaphorin Response to Neuronal Injury **Faculty Advisor:** Gal Haspel **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Anne Nong **Department:** Chemical Engineering **Project Title:** Preliminary Assessment of Apoptotic Self-Assembling Peptide Hydrogels for Drug Delivery **Faculty Advisor:** Vivek Kumar **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Undergraduate Research and Innovation Experience in Cancer Diagnosis and Therapeutic Intervention

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Name: Varun Rajesh Pai **Department:** Biology **Project Title:** The Role of the Hog1 Pathway in Candida auris Drug Resistance and Cell Wall Architecture **Faculty Advisor:** Dr. Neeraj Chauhan **URI Program**: Honors College Summer Research Program	**Name:** Tasnima Rahman **Department:** Mechanical Engineering **Project Title:** Predicting new peptides that self-assemble into amyloid-like fibrils **Faculty Advisor:** Cristiano Dias **URI Program**: URI Provost Summer Research Fellowship Program
Name: Isha Rai **Department:** Biomedical Engineering **Project Title:** Repeated Low Level Blast Injury Induced Neural Loss **Faculty Advisor:** Dr. Bryan Pfister **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Prithvi Rajbabu **Department:** Biology **Project Title:** Investigating the Role of a Genetically-Conserved Spinal Neuronal Class, Dmrt3, in the Control of Locomotion and Fin Movement in Zebrafish **Faculty Advisor:** Dr. Kristen Severi **URI Program**: URI Provost Summer Research Fellowship Program
Name: Hari Ramesh **Department:** Chemistry **Project Title:** Theory-guided control of dye-host systems: aggregation and photophysical properties **Faculty Advisor:** Dr. Farnaz Shakib **URI Program**: NSF Research Experience of Undergraduate (REU) Program for BioSensor Materials for Advanced Research and Technology (BIOSMART) at the Environment/Biotechnology Nexus	**Name:** Dinitha Senodith Samaranayake **Department:** Biomedical Engineering **Project Title:** Computational Exploration of the Gewald Reaction **Faculty Advisor:** Dr. Pier A. Champagne **URI Program**: URI Provost Summer Research Fellowship Program
Name: Danna Valentina Sanchez Hernandez **Department:** Biomedical Engineering **Project Title:** Optimization of Cell-mediated GelMA hydrogel for high-efficiency cell migration **Faculty Advisor:** Dr. Amir K. Miri **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Aditi Sathe **Department:** Biocomputational Engineering **Project Title:** Electrochemical Impedance Based Biosensor to detect biomolecules **Faculty Advisor:** Dr. Sagnik Basuray **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Optics and Photonics: Technologies, Systems, and Devices
Name: Esha Shah **Department:** Biology BA **Project Title:** Monoaminergic Neuromodulation of Internal State **Faculty Advisor:** Gal Haspel **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Pushti Shah **Department:** Biology **Project Title:** Assessing Subject Motion in Task-based and Resting-state fMRI Scans. **Faculty Advisor:** Dr. Bharat Biswal **URI Program**: URI Provost Summer Research Fellowship Program
Name: Naomi Shah **Department:** Biology **Project Title:** Which neurons express the membrane-bound SMP-1 in the C. elegans ventral nerve cord? **Faculty Advisor:** Dr. Gal Haspel **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Sophia Starzynski **Department:** Biomedical Engineering **Project Title:** Development of a Portable and Inexpensive Research Grade Force Plate Apparatus Utilizing a Nintendo Wii Balance Board **Faculty Advisor:** Dr. Chang Yaramothu **URI Program**: URI Provost Summer Research Fellowship Program
Name: Shareef Faraz Syed **Department:** Biology **Project Title:** The Effect of Sound on Dendritic Morphology at Developmental and Evolutionary Timescales **Faculty Advisor:** Daphne Soares **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Raylynn Symone Thompson **Department:** Biology and Biochemistry **Project Title:** 3D Bioprinting of Soft Tissue Sarcoma Spheroids-Laden GelMA for Tumor Modeling **Faculty Advisor:** Dr. Amir K. Miri **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Undergraduate Research and Innovation Experience in Cancer Diagnosis and Therapeutic Intervention

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Name: Alexander Joseph Turek **Department:** Applied Physics **Project Title:** Phonon Propagation in Enzymes **Faculty Advisor:** Dr. Camelia Prodan **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Chinonye Stephanie Uzowuru **Department:** Computer Science **Project Title:** Using Deep Hybrid Modeling to Identify Biophysical Mechanisms Underlying Circadian Rhythms in Cardiac Arrhythmias **Faculty Advisor:** Casey Diekman **URI Program**: NSF Community College Biomathematical Research Initiation (C2BRIP) Program

Research Presentation Areas

Environment and Sustainability

Name: Sarah Abdul **Department:** Biology **Project Title:** Curing Madness: Ottoman Psychiatric Treatments in the 19th Century **Faculty Advisor:** Dr. Burcak Ozludil Altin **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Egor Demidov **Department:** Chemical Engineering **Project Title:** Predicting Vapor Supersaturation in a Laminar Flow for Atmospheric Aerosol Processing **Faculty Advisor:** Alexei Khalizov **URI Program**: URI Provost Summer Research Fellowship Program
Name: Anupa Desai **Department:** Applied Mathematics **Project Title:** Electron Heating at the Earth's Bow Shock **Faculty Advisor:** Ilya Kuzichev **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Solar, Terrestrial, and Space Weather Sciences	**Name:** Steven Douglass **Department:** Chemistry **Project Title:** Electrochemical Stability of Ruthenium Polypyridyl Phosphonic Acid Complexes **Faculty Advisor:** Dr. Michael Eberhart **URI Program**: NSF Research Experience of Undergraduate (REU) Program for BioSensor Materials for Advanced Research and Technology (BIOSMART) at the Environment/Biotechnology Nexus

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Name: Joy Duan **Department:** Immunology **Project Title:** Microplastics as Hubs Enriching Antibiotic-Resistant Bacteria and Pathogens in Anaerobic Sludge **Faculty Advisor:** Dr. Mengyan Li **URI Program**: NSF Research Experience of Undergraduate (REU) Program for BioSensor Materials for Advanced Research and Technology (BIOSMART) at the Environment/Biotechnology Nexus	**Name:** Jorge Duarte **Department:** Civil Engineering **Project Title:** Water quality of Branch Brook Lake and Weequahic Lake **Faculty Advisor:** Dr. Michel Boufadel **URI Program**: McNair Scholar Program
Name: Elizabeth Julia Finnegan **Department:** Data Science Statistics Option and History **Project Title:** Controlling Madness: Constructing Space and Time for Toptaşı Asylum's Staff **Faculty Advisor:** Dr. Burcak Ozludil **URI Program**: Honors College Summer Research Program	**Name:** Elizabeth Kowalchuk **Department:** B. Architecture **Project Title:** Reflections on Rocks - Conceptualizing the James Rose Center Digital Archive **Faculty Advisor:** Gabrielle Esperdy **URI Program**: URI Provost Summer Research Fellowship Program
Name: Charan Satyasai Masimukku **Department:** Data Science **Project Title:** The Secularization of Italy and Prevalence of Vernacular Devotion **Faculty Advisor:** Dr. Louis Hamilton **URI Program**: Honors College Summer Research Program	**Name:** Renallan Chirno Neckles **Department:** Environmental Engineering **Project Title:** 1,4 -Dioxane Degrading Propanotrophs Capable of Degrading Cooccurring Inhibitory Chlorinated Solvents **Faculty Advisor:** Dr. Mengyan Li **URI Program**: NSF Research Experience of Undergraduate (REU) Program for BioSensor Materials for Advanced Research and Technology (BIOSMART) at the Environment/Biotechnology Nexus
Name: Huu Minh Triet Nguyen **Department:** Dual Applied Physics and Mathematical Science **Project Title:** Magnetohydrodynamic Simulation on Solar Magnetic Field Eruptions Driven by Small Emerging Flux **Faculty Advisor:** Satoshi Inuoe **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Dhruvi Prajapati **Department:** Biochemistry **Project Title:** The Use of NMR to Quantify the Degradation Efficiency of PFAS Using High Frequency Ultrasound **Faculty Advisor:** Dr. Jay Meegoda **URI Program**: URI Provost Summer Research Fellowship Program
Name: Vishva Rana **Department:** Mechanical Engineering **Project Title:** Air Quality Monitoring System in the Ironbound **Faculty Advisor:** Dr. Vatsal Shah **URI Program**: Honors College Summer Research Program	**Name:** Isaiah Omar Rejouis **Department:** Biology **Project Title:** Investigating Ecosystem Response to Drought **Faculty Advisor:** Xiaonan Tai **URI Program**: McNair Scholar Program
Name: Ashley Kate Suthammanont **Department:** Biochemistry **Project Title:** High-Efficient Inactivation of Airborne Viruses Using A Microwave Catalytic Air Filtration System **Faculty Advisor:** Dr. Wen Zhang **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Taylor Scott Van Grouw **Department:** Mechanical Engineering **Project Title:** From Conserved to Forgotten: An Analysis of The Pequannock Watershed **Faculty Advisor:** Burcak Ozludil **URI Program**: URI Provost Summer Research Fellowship Program
Name: Justin Vasquez **Department:** Data Science **Project Title:** The Effects of Climate Change on Public Health **Faculty Advisor:** Zeyuan Qiu **URI Program**: Honors College Summer Research Program	**Name:** Nikola Patrycja Klimczak **Department:** Business in Finance **Project Title:** Compounding Impacts of Climate Change and Ambient Temperatures on Mortality **Faculty Advisor:** Dr. Zeyuan Qiu **URI Program**: Honors College Summer Research Program

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Research Presentation Area

Remote (All Research Areas)

Name: Jordan Michael Cioni **Department:** Mechanical Engineering, Physics, Math **Project Title:** Magnetohydrodynamic Simulation of Coronal Magnetic Field Evolution and Eruption **Faculty Advisor:** Dr. Satoshi Inoue **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Solar, Terrestrial, and Space Weather Sciences	**Name:** Brandon Connor Coutinho **Department:** Mathematical Sciences (Applied Mathematics) and Applied Physics **Project Title:** Analysis of a Solar Flare in a Magnetically-Quiet Active Region **Faculty Advisor:** Dale Gary **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Solar, Terrestrial, and Space Weather Sciences
Name: Sophia D'Anna **Department:** Applied Physics **Project Title:** Statistical Study of Solar Jets in Chromosphere, Transition Region, and Corona. **Faculty Advisor:** Haimin Wang **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Solar, Terrestrial, and Space Weather Sciences	**Name:** Patricia Jean Dzwill **Department:** Computer Science and Applied Physics **Project Title:** Wind Observations Using Fabry-Perot Doppler Image Data **Faculty Advisor:** Dr. Andrew Gerrard **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Solar, Terrestrial, and Space Weather Sciences
Name: Tyler Ford **Department:** Physics **Project Title:** Probing Energy Release in Solar Flares Using Radio and EUV Observation **Faculty Advisor:** Bin Chen **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Solar, Terrestrial, and Space Weather Sciences	**Name:** Michael Gjini **Department:** Astrophysics **Project Title:** Small Scale Solar Activity in Quiet Sun **Faculty Advisor:** Jeongwoo Lee **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Solar, Terrestrial, and Space Weather Sciences
Name: Erika Hurst **Department:** Computer Engineering **Project Title:** Avatar Creation in Education and the Metaverse: Synthesizing Virtual Education Initiatives and Future Social Connections **Faculty Advisor:** Tao Han **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Karolina Kowal **Department:** Computer Science **Project Title:** An Analysis of the Geolocation Algorithms Used by Ionospheric Radars **Faculty Advisor:** Gareth Perry **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Solar, Terrestrial, and Space Weather Sciences
Name: Ryoma Matsuura **Department:** Physics and Astronomy **Project Title:** Solar Flare Prediction Using Machine Learning **Faculty Advisor:** Jason Wang **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Solar, Terrestrial, and Space Weather Sciences	**Name:** Diego Francisco Sanchez **Department:** Data Science **Project Title:** Observations of Geomagnetic Environments Using Magnetometer Data **Faculty Advisor:** Hyomin Kim **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Solar, Terrestrial, and Space Weather Sciences
Name: Anneliese Louise Schmidt **Department:** Applied Physics **Project Title:** Photospheric Dynamics and Coronal Heating **Faculty Advisor:** Vasyl Yurchyshyn **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Solar, Terrestrial, and Space Weather Sciences	**Name:** Austin Matheus Smith **Department:** Physics and Mathematics **Project Title:** Development of a Thermal Controller System for a GST Next Generation Instrument - VIS-II **Faculty Advisor:** Dr. Wenda Cao **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Solar, Terrestrial, and Space Weather Sciences

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Research Presentation Area

Material Science and Engineering

Name: Maryam Ashraf **Department:** Mechanical Engineering **Project Title:** Mechanism Animation and the Creation of Innovative Mechanisms **Faculty Advisor:** Balraj Mani **URI Program**: McNair Scholar Program	**Name:** Rohan Awasthi **Department:** Computer Science **Project Title:** A Multiscale Physiologically-Based Pharmacokinetic Model to Simulate Dermal Exposure to Chemical Warfare Agents **Faculty Advisor:** Dr. Laurent Simon **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Optics and Photonics: Technologies, Systems, and Devices
Name: Adrian Gerardo Cespedes **Department:** Mechanical Engineering **Project Title:** Molecular Dynamics Study of Different Mechanical Properties of Materials **Faculty Advisor:** Dr. Dibakar Datta **URI Program**: McNair Scholar Program	**Name:** Richard Joseph Daly **Department:** Mechanical Engineering **Project Title:** Permanent Magnet Integrated Shock Absorber and Electric Generator **Faculty Advisor:** Dr. Ravindra **URI Program**: URI Provost Summer Research Fellowship Program
Name: Rock Huebner **Department:** Mechanical Engineering **Project Title:** PbSe Mid-Infrared Colloidal Nanocrystalline Photodetector **Faculty Advisor:** Dr. Dong-Kyun Ko **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Danyal Kamal **Department:** Physics **Project Title:** Vertical Chemical Vapor Transport for Quantum Materials **Faculty Advisor:** Dr, Junjie Yang **URI Program**: URI Provost Summer Research Fellowship Program
Name: Julia Morgan Kuzan **Department:** Chemical Engineering **Project Title:** Fabrication of Reduced Graphene Oxide Quantum Dots **Faculty Advisor:** Somenath Mitra **URI Program**: NSF Research Experience of Undergraduate (REU) Program for BioSensor Materials for Advanced Research and Technology (BIOSMART) at the Environment/Biotechnology Nexus	**Name:** Hugh Mai **Department:** Chemical Engineering **Project Title:** Experimental Investigation of Flow Within Dissolution Vessels using PIV **Faculty Advisor:** Piero Armenante **URI Program**: McNair Scholar Program
Name: Yorquiria Evanny Maldonado Mejia **Department:** Chemical Engineering **Project Title:** Effect of molecular weight on the curing of PEGDA hydrogels **Faculty Advisor:** Dr. Amir Miri **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Undergraduate Research and Innovation Experience in Cancer Diagnosis and Therapeutic Intervention	**Name:** Roberto R. Martinez **Department:** Chemical Engineering **Project Title:** The Effect of Surfactant on the Glass Transition Temperature of PLGA Nanoparticles **Faculty Advisor:** Dr. Mcennis **URI Program**: URI Provost Summer Research Fellowship Program
Name: Brianna Morillo **Department:** Electrical engineering **Project Title:** Enhancing Efficiency of AlGaN UV LEDs by Optimizing Electron Blocking Layer Structure **Faculty Advisor:** Dr. Hieu Nguyen **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Optics and Photonics: Technologies, Systems, and Devices	**Name:** Jason Ogbebor **Department:** Chemical Engineering **Project Title:** Effect of Water Vapor Adsorption on Wave Propagation in Nanoporous Media **Faculty Advisor:** Gennady Gor **URI Program**: URI Provost Summer Research Fellowship Program

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Name: Justin S. Pace **Department:** Chemical Engineering **Project Title:** Experimental Determination of Hydrodynamics Within Dissolution Minivessels Using Particle Image Velocimetry (PIV) **Faculty Advisor:** Piero Armenante **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Alexandros Paliouras **Department:** Electrical Engineering **Project Title:** Removal of Impurities from Nitrogen-Doped Graphene (N-G) Electrocatalyst for Electrochemical Energy Conversion and Storage Systems **Faculty Advisor:** Dr. Eon Soo Lee **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Optics and Photonics: Technologies, Systems, and Devices
Name: Maryom Rahman **Department:** Chemical Engineering **Project Title:** Perfluorooctanoic acid (PFOA) Detection Using Electrochemical Impedance Spectroscopy (EIS) and Metal-Organic Framework Enhanced Microelectrodes **Faculty Advisor:** Dr. Sagnik Basuray **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Ojasvita Reddy **Department:** Biomedical Engineering **Project Title:** BODIPY-Based Photobase Generator for Visible-Light-Initiated Thiol-Michael Addition Polymerization **Faculty Advisor:** Dr. Yuanwei Zhang **URI Program**: NSF Research Experience of Undergraduate (REU) Program for BioSensor Materials for Advanced Research and Technology (BIOSMART) at the Environment/Biotechnology Nexus
Name: Asmitha Reddy Sathya **Department:** Biomedical Engineering **Project Title:** Nanoparticle Tracking Analysis of Polystyrene Particles in Blood Plasma **Faculty Advisor:** Kathleen McEnnis **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Optics and Photonics: Technologies, Systems, and Devices	**Name:** Noshin Siddiq **Department:** Chemical and Biomolecular Engineering **Project Title:** Investigating platinum nanoparticles for cancer treatment **Faculty Advisor:** Dr. Kathleen McEnnis **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Undergraduate Research and Innovation Experience in Cancer Diagnosis and Therapeutic Intervention
Name: Matthew James Stickles **Department:** Chemical Engineering **Project Title:** Measuring Surface Tension in Silico by the Droplet Weight Method **Faculty Advisor:** Dr. Gennady Gor **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Eisha Syeda **Department:** Industrial Engineering **Project Title:** Literature Review and Data Analysis for Effective Vaccine Distribution **Faculty Advisor:** Dr. Esra Buyuktahtakin Toy **URI Program**: McNair Scholar Program
Name: Shridutt Shashank Vishnubhatla **Department:** Civil Engineering **Project Title:** Study of High-Performance Fiber-Reinforced Cementitious Composites **Faculty Advisor:** Dr, Matthew Bandelt **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Cameron Chase von Tulganburg **Department:** Mechanical Engineering **Project Title:** Magnetically Augmented Variable Electronic Transmission **Faculty Advisor:** Nuggehalli Ravindra **URI Program**: URI Provost Summer Research Fellowship Program
Name: Siddhant Jadhav **Department:** Material Science and Engineering **Project Title:** Determination of the Threshold of Residue Hematocrit in Separated Blood Plasma Using Capacitance Measurements With Interdigitated Electrodes for Robust Biomarker Detection **Faculty Advisor:** Dr. Eon Soo Lee **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Optics and Photonics: Technologies, Systems, and Devices	

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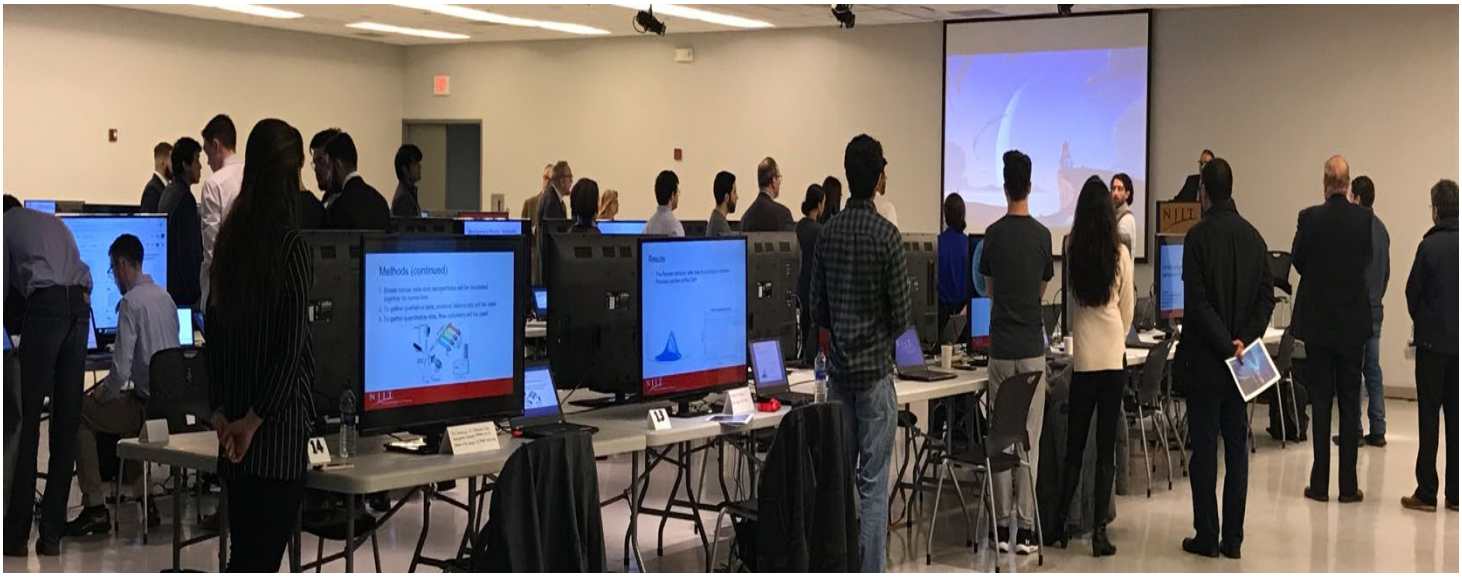

Research Presentation Area

Robotics and Machine Intelligence

Name: Melvin Duyo Academia **Department:** Computer Science **Project Title:** Integration of AI Assistance toward Improving Human Performance in High-frequency Decision Making **Faculty Advisor:** Hua Wei **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Jacob Almanza **Department:** Electrical and Computer Engineering **Project Title:** Machine Learning Analysis of Turbidity Data from AguaClara Treatment Plants in Honduras and Nicaragua **Faculty Advisor:** Dr. William Pennock **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Optics and Photonics: Technologies, Systems, and Devices
Name: Oscar David Mahecha Benitez **Department:** Electrical and Computer Engineering **Project Title:** Real Time VLC: Indoor Angular and Euclidean Coordinate Localization using Machine Learning **Faculty Advisor:** Nazzal, Mahmoud Khaled Ahmed **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Optics and Photonics: Technologies, Systems, and Devices	**Name:** Stuti Mohan **Department:** Biomedical Engineering **Project Title:** Designing a Predictive Model for Concussion Recovery **Faculty Advisor:** Dr. Chang Yaramothu **URI Program**: URI Provost Summer Research Fellowship Program
Name: Roberto Mario Saenz **Department:** Mechanical Engineering **Project Title:** Data Management for Physical Machine Intelligence **Faculty Advisor:** Dr. Cong Wang **URI Program**: McNair Scholar Program	**Name:** Anbar Ali Saleem **Department:** Computer Science **Project Title:** Interactive Annotated 360 Environments for Educational Use **Faculty Advisor:** Dr. Margarita Vinnikov **URI Program**: URI Provost Summer Research Fellowship Program

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Research Presentation Area

Data Science and Management

Name: Kamil Muhammad Arif **Department:** Data Science - Computing Option **Project Title:** ForensicXR **Faculty Advisor:** Margarita Vinnikov **URI Program**: Honors College Summer Research Program	**Name:** David Matthew Garcia **Department:** Information Technology **Project Title:** Mapping and Understanding Animal Patterns through Simulated Environments **Faculty Advisor:** Margarita Vinnikov **URI Program**: URI Provost Summer Research Fellowship Program
Name: Emily Elizabeth Lattanzio **Department:** Computer Engineering **Project Title:** Toward a Behavioral-Level End-to-End Framework for Silicon Photonic Neuromorphic Computing **Faculty Advisor:** Dr. Shaahin Angizi **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Optics and Photonics: Technologies, Systems, and Devices	**Name:** Vishwam Shukla **Department:** Electrical Engineering **Project Title:** Optimization to Reduce Power in HfO2 RRAM devices for Memory **Faculty Advisor:** Durgamadhab Misra **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Optics and Photonics: Technologies, Systems, and Devices
Name: Benjamin Zev Shuster **Department:** Biomedical Engineering **Project Title:** Using a Webcam for Stroke Rehabilitation VR Games **Faculty Advisor:** Dr Adamovich **URI Program**: URI Provost Summer Research Fellowship Program	**Name:** Beryl Sin **Department:** Computer Engineering **Project Title:** Deep Learning Based Image Compression **Faculty Advisor:** Dr. Qing Gary Liu **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Optics and Photonics: Technologies, Systems, and Devices
Name: Natalia Renee Smith **Department:** Computer Science **Project Title:** Machine Learning to Detect Fake News **Faculty Advisor:** Dr. James Geller **URI Program**: McNair Scholar Program	**Name:** Debbie-Ann Nicole Spence **Department:** Biology **Project Title:** Using Convolutional Neural Networks to Classify and Predict Pneumonia in Pediatric Chest X-Ray Images **Faculty Advisor:** Dr. Joshua Young **URI Program**: NSF Research Experience of Undergraduate (REU) Program for Undergraduate Research and Innovation Experience in Cancer Diagnosis and Therapeutic Intervention
Name: Marcus Noah Washington **Department:** Information Security and Administration **Project Title:** Security Evaluation of IoT associated Medical Applications **Faculty Advisor:** Dr. Shantanu Sharma **URI Program**: McNair Scholar Program