2018 Summer Research Symposium

Friday, August 3

Charles B. Wang Center
Schedule

Poster Session: 9:00 - 10:30 AM

Closing Ceremony: 10:45 - 11:30 AM
BioPREP: Biology Partnership in Research and Education Program

Kelly Joya Correal
Sebastian Villacres
*Suffolk County Community College & Stony Brook University*
Limitations of *Uca Pugilator*
Dr. Jeffrey Levinton
*Ecology & Evolution*

Allisyn Lopez
*Queensborough Community College*
Using Microbiometer® to Detect the Short- and Long-term Effects of Roundup Ready To Use III® on Soil Microbes and Fungus
Dr. Sharon Pochron
*School of Marine & Atmospheric Sciences*

C-STEP: Collegiate Science & Technology Entry Program

Brandon Banarsi
Malcolm Carter
Lawrence Gaines
Fabrizio Quintanilla
*Stony Brook University*
External Algae Air Conditioner: Reducing Thermal Energy Through CO₂ Absorption
Francesca Polo (instructor); Vaughn Greene, Paul Jorge, Nylette Lopez (TAs); C-STEP

Arlene Alvarez
Ifeoluwa Rasaki
Kevin McMahon
*Stony Brook University*
PET Plastic Degradation Using a Multi-Layer *Ideonella sakaiensis* Approach
Francesca Polo (instructor); Vaughn Greene, Paul Jorge, Nylette Lopez (TAs); C-STEP

Brandon Bello
Carlos Carranza
Samantha Sanchez
Veronica Uhuegbue
*Stony Brook University*
Real-Time Diagnostic Infant Monitoring Apparatus
Francesca Polo (instructor); Vaughn Greene, Paul Jorge, Nylette Lopez (TAs); C-STEP

Tiffany Anchundia
Richard Brea
Onyinye Njoku
Nathanael Payen
*Stony Brook University*
Multimodal Cholesterol Mitigation via Nanorobotics
Francesca Polo (instructor); Vaughn Greene, Paul Jorge, Nylette Lopez (TAs); C-STEP

Samuel A. Escobar
Melissa R. King
Jason Lopez
Jessica M. Morales
*Stony Brook University*
Maintaining Calcium Homeostasis via Real Time Monitoring
Francesca Polo (instructor); Vaughn Greene, Paul Jorge, Nylette Lopez (TAs); C-STEP
<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
<th>Topic</th>
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<tr>
<td>Daniel Aldarondo†</td>
<td>Stony Brook University</td>
<td>Enzymology of the Adiponectin Receptors: Therapeutic Targets for Diabetes</td>
<td>Dr. Michael Airola</td>
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<td>Biochemistry &amp; Cell Biology</td>
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<td>Amelia Camino*</td>
<td>Stony Brook University</td>
<td>IceCube Artificial Light Source (Flasher) Data Reconstruction</td>
<td>Dr. Joanna Kiryluk</td>
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<td>Gongwei (David) Chen*</td>
<td>Stony Brook University</td>
<td>A Unique Phone App for Reducing Obesity and Beyond</td>
<td>Dr. Mei Lin Chan</td>
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<td>Biomedical Engineering</td>
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<td>Emily Costa*</td>
<td>Stony Brook University</td>
<td>Catalytic Production of Renewable Transportation Fuels</td>
<td>Dr. Devinder Mahajan</td>
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<td>Jackelyne Garcia Cruz†</td>
<td>Stony Brook University</td>
<td>Using CRISPR/Cas9 for Genetic Analysis of cdh6 Regulation in Neuro-Mesodermal Progenitor (NMP) Differentiation in Zebrafish Development</td>
<td>Dr. Benjamin Martin</td>
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<td>Karthik Ledalla*</td>
<td>Stony Brook University</td>
<td>Genetic Sugar Factories: Engineering Cyanobacteria to Secrete Sucrose</td>
<td>Dr. J. Peter Gergen</td>
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<td>Lukas Velikov*</td>
<td>Stony Brook University</td>
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<td>Ivan Lin*</td>
<td>Stony Brook University</td>
<td>Generative Adversarial Networks in Semi-Supervised Machine Learning</td>
<td>Dr. Martin Radfar</td>
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<td>Avery Mack*</td>
<td>Stony Brook University</td>
<td>Optimization of Electric Vehicle Charging Stations: Facility Locations and Scheduling</td>
<td>Dr. Leila Hajibabai-Dizaji</td>
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<td>Mario Mendoza*</td>
<td>Stony Brook University</td>
<td>Utilizing Android Smartwatch as a Controller Featuring Super Mario Bros.</td>
<td>Dr. Aruna Balasubramanian</td>
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<td>Erika Nemeth†</td>
<td>Stony Brook University</td>
<td>Mesenchymal Stem Cell-Based Delivery of Gene-Silencing Products</td>
<td>Dr. Peter Brink</td>
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<td>Jared Ocasio*</td>
<td>Stony Brook University</td>
<td>Augmented Reality Video Games for Making Upper Limb Stroke Rehabilitation Engaging</td>
<td>Dr. Mei Lin Chan</td>
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<td>Marisa Petrusky*</td>
<td>Stony Brook University</td>
<td>Aligning GEM Detectors: A Journey Through Euclidean Space</td>
<td>Dr. Abhay Deshpande</td>
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<td>Dr. Nils Feege</td>
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<td>Mariya Zelinska*</td>
<td>Stony Brook University</td>
<td>Engineering Advanced Textile Materials with Selective Wetting Dynamics</td>
<td>Dr. Carlos Colosqui</td>
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IMSD-MERGE: Initiative for Maximizing Student Development:
Maximizing Excellence in Research for Graduate Education

Kevin Catalan
Stony Brook University
Investigating the Mechanism of Enhancer Interference in the Drosophila Embryo
Dr. J. Peter Gergen
Biochemistry & Cell Biology

Acacia Morris
Stony Brook University
A Simple Change in Bacterial Transformation Protocol to Increase Toxic Protein Yield
Dr. Ed Luk
Biochemistry & Cell Biology

Jessica Vilas-Boas
Stony Brook University
Binding Kinetics of Novel Kinase Inhibitors Distinguish Leukemia Drug Behavior
Dr. Markus Seeliger
Pharmacological Sciences

INDUCER: Increasing Diversity in Undergraduate Cancer biology Education and Research

Doreen Dadson
Stony Brook University
The Role of the Protein Scribble in Cell Migration
Dr. Maya Shelley
Neurobiology & Behavior

Emmaly Gutierrez
Stony Brook University
Optimizing Multiplex Fluorescent labeled Antibody Based Detection of Mouse Mammary Tissue for Macrophage Markers
Dr. Patricia Thompson-Carino
Pathology

Maame Gyamfi
Maryam Tayyab
Stony Brook University
The Interplay of Monocytes in the Tumor Microenvironment of Glioblastomas
Dr. Styliani-Anna E. Tsirka
Pharmacological Sciences

Tiana Reyes
Stony Brook University
Implementation of DNA, RNA, and Protein Isolation from Patient Lung Carcinoma Tumors
Dr. Jennie Williams
Family, Population & Preventive Medicine

NEW YORK NASA SPACE GRANT

Christian Cummings
Stony Brook University
Reduced-Order Modeling of Scramjet Engine for Hypersonic Air Vehicles
Dr. Foluso Ladeinde
Mechanical Engineering

Andrea Londono
Stony Brook University
Free-Space Automatic Alignment System for Quantum Communication
Dr. Eden Figueroa
Physics & Astronomy

Jose Menjivar
Stony Brook University
The Effects of Carbon Nanotubes on Carbon Fiber Composites
Dr. Kedar Kirane
Mechanical Engineering

William Wallace
Stony Brook University
Tip-Enhanced Raman Spectroscopy and Applications
Dr. Daniel Knopf
School of Marine & Atmospheric Sciences
| Research Experiences for Undergraduates (REU):
Nanotechnology for Health, Energy & the Environment |
|--------------------------------------------------|
| **Kristal Estrella**  
*Barnard College of Columbia University*  
A Statistical Analysis of NSF Funding on Nanotechnology Grants Through the Experimental Program to Stimulate Competitive Research (EPScoR)  
*Dr. Thomas Woodson*  
*Technology & Society* |
| **Elina Hoffman**  
*Johns Hopkins University*  
An Analysis of the National Science Foundation’s Broader Impacts Criterion: Inclusivity within Nanotechnology Grants  
*Dr. Thomas Woodson*  
*Technology & Society* |
| **Ming Hu**  
*Stony Brook University*  
CoO$_2$/CeO$_2$ Catalysts for Greenhouse Gas Elimination  
*Dr. Tae Jin Kim*  
*Materials Science & Chemical Engineering* |
| **Kevin Kucharczyk**  
*Farmingdale State College*  
Viscoelastic Ink Design for 3D Printing Batteries  
*Dr. Karen Chen-Wiegart*  
*Materials Science & Chemical Engineering* |
| **Karen Li**  
*The City College of New York*  
Fe$_3$O$_4$ Nanoparticles as an Alternative Electrode Material for Lithium-Ion Batteries  
*Dr. Amy Marshilok*  
*Dr. Esther Takeuchi*  
*Dr. Kenneth Takeuchi*  
*MATERIALS SCIENCE & CHEMICAL ENGINEERING, CHEMISTRY* |
| **Chloe Leigh Ong**  
*Adelphi University*  
Endothelial Cell qC1qR Expression Under Shear Stress  
*Dr. Wei Yin*  
*Biomedical Engineering* |
| **Steven Snell**  
*Suffolk County Community College*  
Corrosion and Micro/Nanostructural Properties of 3D Printed Stainless Steel  
*Dr. Gary Halada*  
*Materials Science & Chemical Engineering* |
| **Nicole Trometer**  
*University of Florida*  
Understanding the Mechanisms of Strain Delocalization in Metallic Glass Matrix Composites  
*Dr. Jason Trelewicz*  
*MATERIALS SCIENCE & CHEMICAL ENGINEERING* |

| Research Experiences for Undergraduates (REU):
Scalable Data Analytics for Big Data |
|-----------------------------------|
| **Hannah Yao**  
*Stony Brook University*  
Detecting Suicide Risk Among Opioid Users on Reddit Using Deep Learning  
*Dr. Fusheng Wang*  
*Biomedical Informatics, Computer Science* |
Thank you to our program staff and contributors:

Bio-PREP & INDUCER
Dr. Daniel Moloney
Dr. Jennie Williams
Institute for STEM Education

C-STEP
Edwina Branch-Smith
Dorys Johnson
Francesca Polo
Dr. Christine Veloso

EXPLORATIONS IN STEM
Jonelle Bradshaw de Hernandez
Dr. Monica Bugallo
Lauren Donovan
Yousef El-Laham
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Karen Kernan
Dr. Marianna Savoca
Catherine Scott

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Toni Sperzel

New York NASA Space Grant
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Paul Siegel

REU Nanotechnology
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Stephen McLean
Julianna Pryor
Donna Scala
Toni Sperzel

REU Scalable Data Analytics for Big Data
Dr. Fusheng Wang
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CIE / Center for Inclusive Education

Institute for STEM Education
STONY BROOK UNIVERSITY

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PSEG
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Undergraduate Biology

URECA
Undergraduate Research & Creative Activities

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