

The background of the entire poster is a photograph of a city street, likely in Brooklyn, featuring a mix of modern and older buildings. A semi-transparent blue filter is applied over the image. A white border frames the entire content.

3rd ANNUAL **CELEBRATING** **RESEARCH EXCELLENCE** **SYMPOSIUM** **- At City Tech -**

AGENDA

Thursday, July 24, 2025

9:00 A.M. - 1:30 P.M.

285 Jay Street, Brooklyn, NY

CELEBRATING RESEARCH EXCELLENCE **AGENDA**

8:00 – 9:00 A.M.	REGISTRATION CHECK-IN AND COFFEE
9:00 – 9:10 A.M.	OPENING REMARKS Dr. Reginald Blake, Dr. Hamid Norouzi, Prof. Susan Davide, City Tech Emcee: Mary Zaradich – Program Manager, Undergraduate Research, City Tech
9:10 – 9:15 A.M.	GREETINGS FROM THE PRESIDENT Dr. Milton Santiago – City Tech
9:15 – 9:35 A.M.	KEYNOTE ADDRESS Dr. Vicki Ferrini – Senior Research Scientist, Lamont- Doherty Earth Observatory, Columbia Climate School
9:40 – 10:00 A.M.	STUDENT RESEARCHERS Natalya Tomskikh (LSAMP), Samiya Shamsur (CRSP), IUSE DEP Interns
10:00 – 10:15 A.M.	STUDENT RESEARCHERS Elizabeth Brandwein (CIRE), Adrian Castillo (CCRI)
10:15 – 10:40 A.M.	STUDENT RESEARCHERS Anton Nikitin (RISE), Hailah Nagi (IUSE), RENEW/SESAPARD Group
10:40 – 11:00 A.M.	RECOGNITION OF STUDENT RESEARCHERS
11:00 – 1:00 P.M.	POSTER PRESENTATIONS
12:00 – 1:00 P.M.	LUNCH AND NETWORKING
1:00 – 1:30 P.M.	RAFFLE PRIZES AND CLOSING REMARKS

PROGRAMS

- CUNY High School Initiative in Remote Sensing of the Earth Systems Engineering and Sciences (HIRES)
- CUNY Research Scholars Program (CRSP) and National Science Foundation (NSF) Louis Stokes Alliance for Minority Participation (LSAMP)
- CUNY Immersive Research Experience (CIRE)
- Dr. Janet Liou-Mark Retain by Informing, Supporting and Engaging (RISE)
- NASA Climate Change Research Initiative (CCRI)
- Implementing Novel Solutions for Promoting Cultural Change in Geoscience Research and Education (INSPIRE)
- NSF Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM)
- NSF Improving Undergraduate STEM Education (IUSE) Pathways into the Earth, Ocean, Polar and Atmospheric & Geospace Sciences (GEOPaths)
- NYS Collegiate Science and Technology Entry Program (CSTEP)
- NYS Education Department (NYSED) Science and Technology Entry Program (STEP)
- DOE Department of Energy RENEW Science and Engineering Student Apprenticeship Program in Accelerator Research & Development (SESAPARD)

RESEARCH TITLE & AUTHOR(S)

CUNY Immersive Research Experience (CIRE)

Water Quality Status and Trends in Jamaica Bay, Elizabeth Brandwein,
Brett Branco

Do Idiosyncratic Volatilities Follow a Random Walk?, Zihan Cao, Ossama Elhadary

Advanced Assistive Technology Facilitates Hands-on Service Learning,
Suchi Chowdhury, Farrukh Zia

Exploring Student Attitudes Towards AI and Their Willingness to Use It in Mathematics Learning, Rachel Dawidowicz, Nadia Kennedy

Structure of Water and Hydrogen Bonding by X-ray and MRI, Ali Al-Gemsh,
Jasper Cheung, Daler Djuraev, Xionghui Wu, Subhendra Sarkar

A Hunting Cabin: The Question of Regenerative Architecture Retrofit, Kevin Hernandez,
Kenneth Conzelmann

Predicting IVF Success Using Machine Learning, Joel Mejia, Marcos Pinto

Enhancing High School Computational Thinking Through Unplugged and Plugged Activities Using Manipulatives, Yadira Vazquez, Nadia Kennedy, Ariane Masuda

CUNY Research Scholars Program (CRSP)

Deep Comparison Study of Zscaler and CrowdStrike, Carl-Handy Abraham,
India Barker, Ossama Elhadary

Understanding the Impact of Climate Change on Building Energy Consumption,
Rashiek Barber, Abdellah Gessra, Takoda Nestor, Christopher Sanchez, Daeho Kang

Intersections of Livability and Sustainability in New York City: A Case Study in Noise,
Arianna DiLillo, Anne Leonhardt

Quantum Music Generation Methodology, Elizabeth Frias, Oleg Berman, David Smith

Transforming Computer Technology into Green Technology, Ruth Orlanne Gaboton,
Farrukh Zia

Does Graphic Design Help with Overall Communication?, Ze Huang, Michael Lester,
Maureen Neuringer

Enhancing Middle School Computational Thinking Through Mathematical Manipulatives: Exploring Digital and Non-Digital Tools Aligned with K-12 Standards,
Alyssa Johnson, Ariane Masuda

Validity of the Idiosyncratic Volatility Puzzle, Hasib Mahmood, Ossama Elhadary

RESEARCH TITLE & AUTHOR(S)

Study of Idiosyncratic Volatility, Manahill Arshad, Ossama Elhadary

Study and Analysis of the Design of a Robot Manipulator, Kimberly McLaurin, Farrukh Zia

Assessing Urban Ozone Dynamics During Pandemic Disruption and Post-Recovery Using Differential Absorption LiDAR, Julissa Mendez, Viviana Vladutescu

Understanding Changes in the Structure of Water and Hydrogen Bonding in Alkali Halide Solutions and in Trauma-Induced Biological Tissues by X-ray and MRI, Achlyn Genao, Vanessa Robinson, Taro Suzuki, Natalia Tomskikh, Subhendra Sarkar

Illuminating the Connection Between Galaxy Morphology and Evolution with the Legacy Survey of Space and Time, Samiya Shamsur, Charlotte Olsen

Foveal Fixations Predict Five Factor Personality Characteristics, Tamara Tugulashvili, Daniel Capruso, Howard Sisco

3D-Printed Assistive Devices for Disabilities: Enhancing Independence with Affordable, Customizable Solutions, Jasmine Tran, Farrukh Zia

NSF Louis Stokes Alliance for Minority Participation (LSAMP)

NASA Design and Analysis of PEGDA Hydrogels for Microgreen Cultivation in Space, Artur Abramyan, Gabriel Antigua, Kelly Wu, Ozlem Yasar

Classroom Scheduling with Graph Theory and Graph Coloring, Mariame Aghailas, Kayla Davies

The Role of Folic Acid in Preventing Congenital Anomalies: A Comparison Between Mothers in the Past and Present, Saba Alkobadi, Jhon Lonie

Monitoring Heat in New York City Subway Systems, Damilola Babs-Ogundeji, Malique Paul, Abdou Bah

Full-Stack Web Applications: Infrastructure, Development Pipelines & DevSecOps, Yassine Chahid, Patrick Slattery

Data Science Approach for Forecasting U.S. Inflation Rates, Kazi Islam, Patrick Slattery

Assessing Urban Ozone Dynamics During Pandemic Disruption and Post-Recovery Using Differential Absorption LiDAR, Julissa Mendez, Viviana Vladutescu

Fixtures for Automated Light Bulb Testing Using a Robot Arm, Anthony Lai, Simon Lin, Angran Xiao

Dental Care Disparities Among Veterans: Examining Insurance and Service Limitations, Stefanie Rivera, Susan Davide

RESEARCH TITLE & AUTHOR(S)

How Encryption Protects Your Daily Life, Daniel Wang, Patrick Slattery

Offsetting Greenhouse Gas Emissions: Trends in Adoption, Retirement, and Cancellation Rates in the Voluntary Carbon Market, Darien Mendez, Heather Glickman-Eliezer

Smart Cities, Safe Rides: Building Trust in Autonomous Vehicles, Sumiya Jahan, Anne Chen

*** Dr. Janet Liou-Mark Retain by Informing, Supporting and Engaging (RISE)**

Optimization of Geopolymer-Based Composites for CO₂ Adsorption, Gabriela Bernales*, Mahir Mahdi, Angelo Demetroulakos, Ilya Lebedev*, Akm S. Rahman*, M. Moniruzzamann

FDM 3D Printer Modification Process for Geopolymer Materials Application, Angelo Demetroulakos, Mahir Mahdi, Gabriela Bernales*, Ilya Lebedev*, Akm S. Rahman*, M. Moniruzzaman

Employer Perceptions and Adoption of Policies Related to Diverse Gender Identities in the Fashion Workforce, Najae Ricketts, Alyssa Adomaitis

NSF Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM)

Redesigning the Light Testing Center of the Robotic System, Mohamed Ka, Muhammad Ummy

Steam Turbine Redesign for Enhanced Efficiency in Coal and Waste-to-Energy Plants, Luis Luna, Masato Nakamura

NSF Implementing Novel Solutions for Promoting Cultural Change in Geoscience Research and Education (INSPIRE Post-Bachelor) Columbia University

Palynological History of Perch Lake in the Western Catskill Mountains, Andes, New York, Amy Maria Menegay, Dorothy Peteet, William D'Andrea

Modeling Philippine Tropical Cyclone Wind Hazard in Present and Future Climates, Aidan P. Ocampo, Suzana J. Camargo, Adam H. Sobel

CyanoHABs in an Arctic Estuary: Investigating the Effects of Environmental Changes on Cyanobacteria in Kotzebue, Alaska, Denia Lopez, Andrew Juhl

RESEARCH TITLE & AUTHOR(S)

NSF Implementing Novel Solutions for Promoting Cultural Change in Geoscience Research and Education (INSPIRE High School) City Tech

Investigating Heat Index by Observing and Recording Temperature and Humidity in New York City's Subway Stations, Ahona Shashee, Brenden Moy, Davon Chen, Oliver Steyn-Reimer, Roberto Zheng Yu, Shelby Chen, Abdou Bah, Mary Zaradich

Trapped Heat, Trapped Riders: Upgrade Brooklyn's Subway Stations, Medha Das, Vivian Yu, Jaden Wu, Mohamed Traore, Joshua Munoz, Amani Hall, Abdou Bah, Mary Zaradich

The Bronx Fights the Heat in Subway Stations, Adisa Sokoli, Edison Remache, Aida Seck, Delaylaa Polanco, Angel Arredondo, Ryan Guan, Genesis Guzman, Abou Bah, Mary Zaradich

NASA, Climate Change Research Initiative (CCRI)

Hydrological Processes: Unveiling Climate Change Patterns, Nicholas Pinder, Ryan Miller, Alicia Joseph

Generation and Analysis of Extratropical Cyclone Synthetic Data, Sonia Crompt, Kellie O'Grady, Grace Kisslinger, Allegra Legrande

Using Remote Sensing and Machine Learning Data to Identify Decadal Spatiotemporal Trends of Algal Blooms in New York Inland Lakes, Jillian Greene, Lenny Metlitsky, Hamidreza Norouzi, Reginald Blake

Characterizing the Urban Land Surface Temperature via an Innovative, Multi-Platformed Suite of Satellite and Ground-Based Remote Sensing Technologies, Yoana Vargas Magana, Celina Wong, Lina Gomez, Hamidreza Norouzi, Reginald Blake, P.I. Matthew Pearce

Heavy Metal Uptake of Saltmarsh Trochammina Foraminifera on the South Shore of Long Island, Adrian Castillo, Caroline Cassese, Dorothy Peteet

Historical Patterns of Land Use Change on Long Island Saltmarshes, Adrian Castillo, Caroline Cassese, Marisol Ramirez-Buckles, Caroline Beisher, Lucy Onderdonk, Dorothy Peteet

Uncertainties and Applications of the Soil Moisture Active Passive Satellite (SMAP), Alex Crookshanks, Rachel Stagner, Alicia Joseph

Cloud-active Aerosol Concentrations Over Southern Ocean Sites, Sena Knopf, Ann Fridlind

RESEARCH TITLE & AUTHOR(S)

Machine-learning Approach to Oil Spill Detection for the NASA PACE Spaceborne Mission, Federico Stanzani, Matteo Ottaviani

Using Machine-learning to Forecast and Model Extreme Heat Within the New York City Subway System, Maimuna Muntaha, Lenny Metlitsky, Abdou Rachid Bah, Hamidreza Norouzi, Reginald Blake

NYS Collegiate Science & Technology Entry Program (CSTEP) and NYS Education Department (NYSED) Science and Technology Entry Program (STEP)

The Hunting Cabin: A Search for Regenerative Architecture, Adama Bah, Girabell Bergollo, Willeiris Guzman, Noelia Lazo, Kenneth Conzelmann

Applying Machine Learning to Predict the Outcome of IVF Procedures, Kazi Tasin, Haleemat Shoda, Marcos Pinto

Mechanical Design Optimization Using ANSYS Workbench, Emmanuel Visoso-Morales, Kristian Rice, Tonatiuh Fitzgerald, Johana Sibiri, Alexis Vidals Gonzalez

The Challenges of Mental Health Among NYC Specialized High School Students: An Exploratory Study, Vincent Yuan, Oarisa Uddin, Ashley Rivera-Alvarez

Computer Aided Design of 3D Printed Assistive Technology Device, Majida Naz, Kevin Balbuena Montes, Aisha Ayub, Ugochukwu Emenawu, Farrukh Zia

Performance Analysis of Generative AI in Software Vulnerability Detection, Kazi Islam, Noor Raj, Sara Moshtaharizohrenama

Vulnerability Assessment in Cybersecurity: A Comparative Study of OpenVAS, Nessus, and Nmap, Manahill Arshad, Yinson Tso, Melina Cabrera Baez, Darling Cespedes, Ossama Elhadary

Using Game-Based Learning to Teach Game Design: A Pilot Study, Joseph Irabor, Parker Scott-Kim, Amani McKenzie, Chris Carter

The Effectiveness of Split-Brain Theory on Epileptic Patients, Ameerat Jooda, Chelsea Justin, Vincent Yuan, Maxx Nunez, Brandon Garcia, Justin Harnandan, Megan Gomez

How Vaping Affects the Mental and Physical Health of Teens, Emely Ortiz, Jihan Valentina Moreno, Kaitlyn, Justin Harnandan, Megan Gomez

RESEARCH TITLE & AUTHOR(S)

NSF Improving Undergraduate STEM Education (IUSE) Pathways into the Earth, Ocean, Polar and Atmospheric & Geospace Sciences (GEOPATHS)

Monitoring Heat in the Bronx Subway System, Abdoul M Nana, Cesar Pascal Vasquez, Isaac Morel, Abdou Bah, Reginald Blake, Hamidreza Norouzi

Monitoring Heat in Brooklyn Subway System, Rean Shahidullah, Addree Barua, Malique Paul, Damilola Babs Ogundeji, Shaquan Larose, Babacar Sarr, Anton Nikitin, Abdou Bah, Reginald Blake, Hamidreza Norouzi

Monitoring Heat in Manhattan Subway System, Kingston Ditsch, Kevin Balbuena Montes, Tyler Ayala, Brigitte Alejandro, Abdou Bah, Reginald Blake, Hamidreza Norouzi

Monitoring Heat in Queens Subway System, Tololupe Olayemi, Kiran Maharjan, Abdou Bah, Reginald Blake, Hamidreza Norouzi

Dirty Air, Daily Commute: The Price of Riding NYC Subway, Hailah Nagi, Abdou Bah, Reginald Blake, Hamidreza Norouzi

DOE RENEW Science and Engineering Student Apprenticeship Program in Accelerator Research & Development (SESAPARD)

Electron Beam: GPT Emittance Simulations, Jorge Chavez, Viviana Vladutescu, Mikhail Polyanskiy, Vikas Teotia, William Li, Marcus Babzien, Dismas Choge

OPERA Simulations for Superconducting Magnets, Mithila Islam, Viviana Vladutescu, Mikhail Polyanskiy, Vikas Teotia, William Li, Marcus Babzien, Dismas Choge

Electron Beam: Emittance Measurements, Brandon Palencia, Viviana Vladutescu, Mikhail Polyanskiy, Vikas Teotia, William Li, Marcus Babzien, Dismas Choge

Laser Induced Damage Threshold Parameters & Preliminary Results, Tahsinur Rahman, Viviana Vladutescu, Mikhail Polyanskiy, Vikas Teotia, William Li, Marcus Babzien, Dismas Choge

BNL's Direct Winding System, Joseph Rukaj, Viviana Vladutescu, Mikhail Polyanskiy, Vikas Teotia, William Li, Marcus Babzien, Dismas Choge

Rat-GUI Simulations/Modeling for Superconducting Magnets, Oscar Situ, Viviana Vladutescu, Mikhail Polyanskiy, Vikas Teotia, William Li, Marcus Babzien, Dismas Choge

Optical Setup for the Laser Induced Damage Threshold (LIDT) Tests, Tianyi Zhao, Viviana Vladutescu, Mikhail Polyanskiy, Vikas Teotia, William Li, Marcus Babzien, Dismas Choge

3rd Annual CREST Symposium Organizing Committee:
Reginald Blake, Hamid Norouzi, Susan Davide,
Mary Zaradich, Abdou Bah.

**We acknowledge the assistance of Julia Rivera,
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**New York City College of Technology (City Tech), CUNY
Academic Complex (Theater, A105 and Lobby)**



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