

44TH SEMI-ANNUAL  
DR. JANET LIOU-MARK



## HONORS SCHOLARS & UNDERGRADUATE RESEARCH CONFERENCE

---

**WEDNESDAY, May 13, 2026**

*Poster Presentation (Poster Judging)*

Academic Complex Lobby • 10AM - 4PM

*Honors Scholars Presentation, Day 1*

Academic Complex A-105 • 9:30AM - 2:30PM

**THURSDAY, May 14, 2026**

*Honors Scholars Presentations, Day 2*

*Interdisciplinary Design Game-Based Learning  
Lab Showcase*

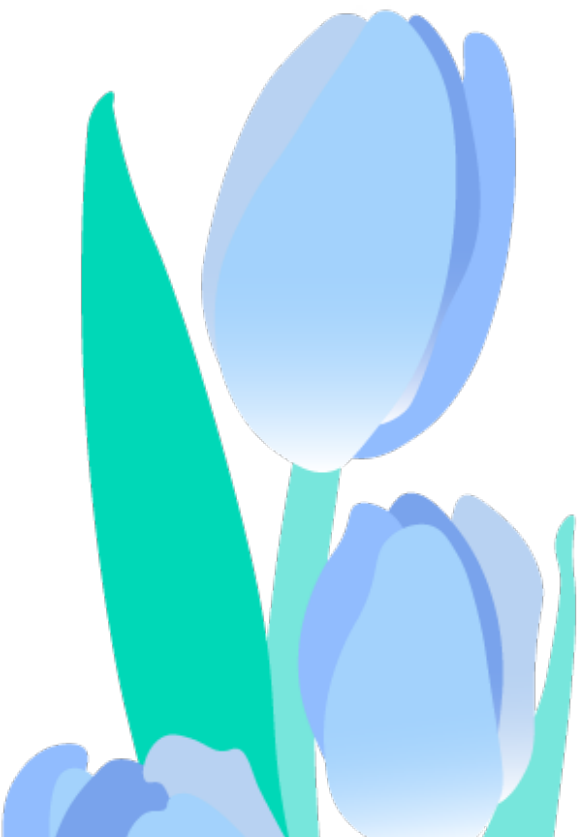
Academic Complex A-105 • 9AM - Noon

*Conference Award Ceremony*

Amphitheater LG-30 • 12:45PM - 2:15PM



In remembrance of  
**PROF. JANET LIOU-MARK**



## HONORS SCHOLARS PROGRAM

06

Honors in a Regular Course

Volunteers

NASA Exoplanet Watch

DNA Barcoding Lab Series  
for Honors Scholars,  
DNA Learning Center

Interdisciplinary Design  
Game-Based Learning Lab

## UNDERGRADUATE RESEARCH PROGRAM

14

CUNY Research  
Scholars Program

Emerging Scholars Program

## GRANT-FUNDED PROJECTS

29

NSF REU Grant  
# 2447604

NSF IUSE Grant  
# 2327431

## Greetings

Milton Santiago  
Interim President

Pamela Brown  
Provost &  
Vice President for Academic Affairs

Reginald A. Blake  
Associate Provost and  
Dean of Curriculum and Research

## Recognition of Conference Participants

### Honors Scholars

Reneta D. Lansiquot-Panagiotakis  
Director of the Honors Scholars Program  
Co-Advisor of the National Society of Collegiate Scholars  
Co-Director of the Interdisciplinary Design  
Game-Based Learning Lab

### Undergraduate Research

Hamidreza Norouzi  
Co-Director of Undergraduate Research

Diana Samaroo  
Co-Director of Undergraduate Research

### Grant-Funded Projects

Juila Rivera

### Conference Awards

Tamrah D. Cunningham  
Assistant Director of the Honors Scholars Program  
Co-Advisor of the National Society of Collegiate Scholars  
Co-Director of the Interdisciplinary Design  
Game-Based Learning Lab

# HONORS SCHOLARS PROGRAM

## HONORS IN A REGULAR COURSE



### 3D Printed Portable Automatic Pill Dispenser Version 2

Amber M. Ocasio  
Prof. Fernando Hernandez Arias  
CET 3525: Electrical Networks

### Anticipatory Structures in Continuous Geometry

Cindi Sosa  
Prof. Khashayar Koly  
ARCH 2381: Structures I

### Building an Interactive Photobooth Experience: A Software System Approach

Mirianna Acevedo  
Prof. Ossama Elhadary  
CST 1215: Operating Systems Fundamentals

### Can Construction Be Sustainable and Profitable in New York City? A Comparative Analysis of LEED-Certified Buildings!

Maja Shaqiri  
Prof. Pilar Ramirez Prensa  
CMCE 2321: Fundamentals of Construction

### Deeper Understanding and Rigorous Proofs of Calculus I Concepts

MD Yeasin Sami  
Prof. Thomas Johnstone  
MAT 1475: Calculus I

## Financial Forecast & Cash Flow Model

Kyler Lindo  
Prof. Mohand Khoukhi  
MECH 4860: Project Management

## Evolution of the Art of Photography

Feriyal Khan  
Prof. Michael McAuliffe  
ARTH 1100: History and Appreciation  
of Photography

## Strategic Marketing Plan for a Hospitality Business

Barbara Suarez  
Prof. Amit Mehrotra  
HMG 2405: Hospitality Marketing

## Structural Analysis of a Parabolic Arch Under Uniformly Distributed Load

Valeria Daffarra  
Prof. Michael Boulis  
CMCE 1115: Statics

## Studying the fate of a NYC discourse community in a gentrifying neighborhood

Feriyal Khan  
Prof. Bradley Fox  
ENG 1121: English Composition II

## Thermal Inequity in Sheepshead Bay

Adam Karasu  
Prof. Anne Leonhardt  
ARCH 2321: History of World Architecture:  
1900 to Present

## Zoning Law Reform & Building Conversions: A Pathway to Housing Affordability

Aaron Muller  
Prof. Jeannette Espinoza  
LAW 1202: Real Estate Law



## The Interdisciplinary Nature of Biotechnology:

An Emerging Career Pathway  
Organized in collaboration with the  
[Interdisciplinary Committee](#)

March 26, 2026



# VOLUNTEERS



## American Red Cross

Artur Abramyan, Amanda Acevedo, Oumaima Aitelghachi, Zahir Chowdhury, Harmony Divine, Joshua Edmond, Victoria Edmond, Marwan Elsayed, Aissata Gbane, Chasity Guerrero, Casandra Hinds, Sirandou Keita-Traore, Diego Lopez Barrientos, Danny Mainato, Casey Mohabir, Dyana Monroy, Sharlene Moses, Candice Neil, Hayli Nieves, Alisha Shahzad, Aryona StCome, Nardia Anglin Taylor, Roberlin Espinal Torres, Jacob Vanegas, WenXiong Zhang

## Best Friends Animal Society

Alimary Mejia, Dayana Navarro

## FABSCRAB

Aziza Aminjonova

## Friendship Circle NYC

Hila Abarzel

## Lighthouse Guild

Nicole Kennedy

## New York Academy of Sciences

Parbatti Boodhoo

# NASA EXOPLANET WATCH

Mohammed Imad, Eric Palacios, Poonam Siwdat, Jacob Vanegas, Ronny Yeap, Rona Zhang

## DNA BARCODING LAB SERIES FOR HONORS SCHOLARS, DNA LEARNING CENTER

Sajid Bhuiyan, Shiou Ching Chen, Danna Chevez, Shahribonu Djabbarova, Kevin Gadsden, Victoria Gedrich, Cindy Lambert, Hadiza Lamin, Erik Lazo, Jolette Licona Martinez, Osvaldo Perez, Amrisha Persaud, Alexandra Pipta, Kacey Roman, Ariana Sampson, Most Sikder, Denis Sokoletskiy, Parviz Subkhankulov, Fatiha Sultana, Lydia Zheng

## INTERDISCIPLINARY DESIGN GAME-BASED LEARNING LAB

Drucillia Ralph, Mariamu Bokum, Simon Lin, Samuel Mensah, Ryan Meykler, Evelyn Pulla, Roberlin Espinal Torres



[Fifth-Grade Students from Brooklyn Landmark Elementary Visit City Tech for Game-Based Learning Experience](#)

March 6, 2026

September 11, 2025

# DNA BARCODING LAB SERIES FOR HONORS SCHOLARS, DNA LEARNING CENTER



DNA Extraction from Plants  
February 19, 2026



Copying the DNA Sequence  
March 19, 2026



Sequence Analysis and Species Identification  
April 16, 2026



Making the Connection: Aligning Purpose, Audience, and Impact in Your Materials, Cornell University  
February 19, 2026



Hands-Only CPR, American Red Cross  
March 12, 2026



Interdisciplinary Mixer, Comfort Tea & Pastries, NSCS Networking  
April 30, 2026



## CUNY RESEARCH SCHOLARS PROGRAM

Using Assistive Technology to Improve Health and Fitness of People with Disabilities

Zelea Hall  
Prof. Farrukh Zia

Fabricating the Future: PEGDA Hydrogels for Smart Drug Delivery in Tissue Engineering

Elva Zhang  
Prof. Ozlem Yasar

Non-invasive characterization of biometal transport in porous carbohydrates after induction of stress

Zeenia Ahmed, Ali Algemsh, Siham Benabou, Feldy Liriano, Hailah Nagi  
Prof. Subhendra Sarkar

Does X-ray scattering always decrease structural details: why the rule does not apply to low-density samples

Al Emran, Joseph Laguerre, Jaskaran Singh, Natalya Tomskikh  
Prof. Subhendra Sarkar

The Potential and Benefits of Turf to Native Rewilding in New York City

Naomi Vasquez  
Prof. Heather Eliezer

Validating an Artificial Intelligence Model for Achalasia Detection in Chest Radiography

Joel Perez, Shauyen Ng-Mei  
Prof. Eric Lobel

## UNDERGRADUATE RESEARCH PROGRAM

## Frameworks for Data Visualization

Kazi Tamim Nomany  
Prof. Patrick Slattery

## Evaluating the Potential Impacts of Quantum Computing

Andy Lopez  
Prof. Patrick Slattery

## Heteromorphic Robot

William Morales  
Prof. Xiaohai Li

## First mammography screening participation and breast cancer incidence and mortality in the subsequent 25 years: population based cohort study

Forruk Ahmed, Anna Aleksyeyeva, Oman Balan,  
Ashley Hassang  
Prof. Zoya Vinokur

## Effect of personality characteristics on gaze patterns for a repulsive stimulus

Jazmine Martin  
Prof. Daniel Capruso

## Controlled Drug Delivery Using PEGDA-Based Hydrogels

Keven Sanchez  
Prof. Ozlem Yasar

## Bio-Aware Blended Spaces: Stage 1 Sprint

Francky Duperval  
Prof. David Smith

## Applications of the Quantum Zeno Effect

Christopher Osorio, Aaron Soriano  
Prof. Seth Cottrell

## Plant Responses to Radiation: The Central Role of Reactive Oxygen Species

Shaibu Alhassan, Andrew Feng, Lianghao Mai  
Prof. Eric Lobel



# EMERGING SCHOLARS PROGRAM

## Chemotherapy Adherence and Side Effect Management

Yewande Adesina  
Prof. Mohammed Islam

## Gingerbread Architecture Reframed: Design for Use and Construction

Anjum Ahmmed, Nick Antoine,  
Jennifer Garcia, Alimary Mejia,  
Brailyn Ventura  
Prof. Alexander Aptekar

## The Economic Impact of Universal Healthcare Policy

Hasib Mahmood  
Prof. Sean MacDonald

## Tactile Learning Through 3D-printed Assistive Technology

Halima Alazeb  
Prof. Farrukh Zia

## The Film Side of Healthcare

Nour Alkhadi  
Prof. George Guida

## X-ray and MRI discrepancies in filler-polymer dynamics of Poly Dimethyl Siloxane (PDMS)

Shaima Alsaidi, Jennifer Bulbuena,  
Daler Djuraev, Mostakim Shahed  
Prof. Subhendra Sarkar

## AI Driven Sustainable Waste Utilization

Kyshia Anderson  
Prof. Alyssa Adomaitis

## ArcScholars

Bryant Ariza, Elijah Walker  
Prof. Naomi Langer-Voss

## The Canal House: A Prototype for Tropical Savanna Climate

Zayed Baig, Alfonzo Grant, Mahir Rafed,  
Joel Rosales Sosa, Rebekah Zayas  
Prof. Kenneth Conzelmann, Patricia Semmler,  
and Chris SW Leung (Professional Advisor)

## Assessment of Lake Water Quality Parameters Using UAV Hyperspectral Imaging

Hasanul Banna  
Prof. Marzi Azarderkash

## Fear and Fascination Continuation

India Barker  
Prof. David Smith

## Social Policies as Public Health Interventions: Reducing Health Inequality through Tax-Funded Programs

Fatima Barnes  
Prof. Sean MacDonald

## From Silos to Data Centers: Research Through Drawing of Industrial Typologies

Erickson Cabrera  
Prof. Dorde Bulajic

### Innovative Gearbox for E-bike

Miguel Veliz Castellan, Ahmad Dawoud,  
Karim Pulatov, Gregory Shatsman  
Prof. Andrea Ferroglia

### Software Integration in Personal Healthcare

Yassine Chahid  
Prof. Patrick Slattery

### AI Power in Fitness

Yuzhen Chen Chan  
Prof. Fang Yang Shen

### Transradial Force Myography Prosthetic Limb

Shiou Ching Chen  
Prof. Farrukh Zia

### Comparative Analysis of CNN, LSTM, and Attention-Based Architectures for Post-Translational Modification Site Prediction

Christopher Chow, Shiu Wong  
Prof. Ahmet Yuksel

### Smart Automatic Toll Gate & Car Parking System Using Arduino & RFID

Suchi Chowdhury, DaaEldin Elabsy  
Prof. Farrukh Zia

### Vibrations and Standing Waves Experiments

Alex Davis  
Prof. Vitaliy Dorogan

### Cryptocurrency Price Prediction using Machine Learning

Amadou Diallo  
Prof. Marcos Pinto

### Conformal Maps and their applications

Sergine Diaw, Marc Verma-Bonany  
Prof. Satyanand Singh

### Students Helping Students: Does It Really Work?

Jacky Dong, Oscar Situ, Henry Ye  
Prof. Li Geng

### Computer Aided Design of 3D Printed Assistive Technology Devices

Ugochukwu Emenawu, Amna Saifi  
Prof. Farrukh Zia

### Breathing and Feeling the Difference: An analysis of Temperature and Air Quality Variations across Two Neighborhoods in NYC

Brisalis Fernandez Cid, Julianna Trujillo  
Prof. Anne Leonhardt

### Analyzing the benefits of of tutoring and Peer Led team learning on academic performance in Statics

Christopher Guerrero, Richmond Smith Birch  
Prof. Melanie Villatoro

### Civic Threshold: Reframing the Interface Between Architecture and Landscape in Public Space

Daniela Guzman  
Prof. Anne Chen

## Home Face Recognition & Remote Control

Safoan Hossain  
Prof. Ahmed Hassebo

## Frameworks of Digital Visualization

Kazi Islam  
Prof. Patrick Slattery

## Implementation of Assistive Technology Based Adaptive Gaming System

Mithila Islam, Mlaikah Noor  
Prof. Farrukh Zia

## DNA Barcoding of Gut Contents

Shayna Jung  
Prof. Jeremy Seto

## Developing an AI-Powered Security Agent for Blockchain Transaction Safety

Derrick Keith Jr.  
Prof. Marcos Pinto

## MediTrack – Medication Scheduling & Tracking Applications

Nadia Khan  
Prof. Farrukh Zia

## AI Cyber Security Skills Gap: Aligning Higher Education Curricula with Workforce & Employer Expectations

Jabber Kibria  
Prof. Patrick Slattery

## Charactirizing Oxidative Stress Genes in T.thermophila

Sydney Kurland  
Prof. Ralph Alcendor

## OpenLab UX/UI Design & Outreach

Samridha Lamicchane, Yeimilee Marcano,  
Isabella Ramos Guimaraes  
Prof. Jenna Spevack, Prof. Jody Rosen,  
Prof. Jonas Reitz

## The Effects of Cerebrovascular Disease...

Casey Mohabir  
Prof. Daniel Capruso

## Determinants of Dental Health Access and Outcomes

Keera Mohammed  
Prof. Diana Samaroo

## Human Ubiquitin

Sarah Munassar  
Prof. Avdar San

## Understanding Neuralink

Adnan Nirob  
Prof. Niloufar Haque

## Cemeteries As Green Infrastructure

Kunchok Norbu  
Prof. Jeffrey Keiter

### The Relationship of Systemic Illness to Severity of Neurological Disease

Cassara Norville  
Prof. Daniel Capruso

### 3D Printed Smart Plant Pot

Amber Ocasio  
Prof. Farrukh Zia

### Investigations Into the Quantum Zeno Effect

Christopher Osorio, Aaron Soriano  
Prof. Seth Cottrell

### The Impact of Information Technology of Accounting

Fehaj Pabal  
Prof. Elizabeth Milonas

### Monitoring Bus Arrivals at Poisson Porce

Evelyn Pulla  
Prof. Xiaohua Wang

### Enculturation Scale Development

Perla Reyes  
Prof. Smita Ekka Dewan

### Secure Federated Learning for Financial Fraud

Adam Rozaqui  
Prof. Marcos Pinto

### MRI and X-Ray to Assess Porous Carbohydrate & Biological Tissue

Mostakim Shahed  
Prof. Subhendra Sarkar

### Fashion Forecaster & Data Science

Cherelle Sheppard  
Prof. Jean Boulet

### Risk-Based Continuous Authentication for Individuals with Cognitive Disabilities Without Smartphones

Kelsang Sherpa  
Prof. Farrukh Zia

### Implementation of Automatic Position ...

Nryan Singh, Jiawei Zhen  
Prof. Farrukh Zia

### Agentic Search as an optimization on S&P500 Stock Price Predictions using RNN and Technical Indicators

Parviz Subkhankulov  
Prof. Caner Koca

### Analysis of Drone Imagery to Extract Information over Water Bodies

Taufiq Tajnin  
Prof. Marzi Azarderkash

### Design & Fabrication of a Scaled Bridge for National Student Bridge Competition

Katerina Uruci  
Prof. Navid Allahverdi

### Livability and Sustainability in NYC

Sonya Weinstock  
Prof. Anne Leonhardt

### Health Equity & Public Health Infrastructure: A State-Level Analysis of Community Health Worker Employment

Ashley William  
Prof. Noemi Rodriguez

### Geopolymer based nanoscale formulations using recyclable materials for CO<sub>2</sub> adsorption Scalable Additive manufacturing for for Lunar construction and Co<sub>2</sub> Adsorption

Gabriela Bernales, Angelo Demetroulako  
Prof. Samsur Rahman

### Technology in Human Trafficking

Kaytleen Phipps  
Prof. Smita Ekka D

### Illuminating the Connection Between Galaxy Morphology and Evolution with the Legacy Survey Of Space and Time

Samiya Shamsur  
Prof. Charlotte Olsen

### Ethics and Non-Rational Data

Angie Navarro  
Prof. Elizabeth Milonas

### “Enculturation” in Social Work Practice: A Scoping Review of Research and Practice Approaches

Perla Reyes  
Prof. Smita Ekka D

### Characterizing Cystathionine Beta-Synthase in *Tetrahymena thermophila*

Darien Mendez  
Prof. Ralph Alcendor

### Frameworks for Data Visualization Methods

Kazi Rahimu Islam, Kazi Tamim Nomany  
Prof. Patrick Slattery

### Mitigation of the Impact of Climate Change in Building Energy Consumption

Takoda Nestor  
Prof. Daeho Kang

### Optical Prediction of Personality Characteristic

Tamara Tugulashvili  
Prof. Daniel Capruso

### Planning a Health Impact Assessment Framework for Major Events in New York City

Fehaj Pabal  
Prof. Samaneh Gholitabar

### Quantum Music Generation Methodology

Elizabeth Frias  
Prof. David Smith

## AI-Driven Sustainable Textile Waste Utilization in New York State: Part 1

Kyshia Anderson  
Prof. Alyssa Adomaitis

## Control of Electro-Mechanical Systems with Assistive Technology Devices

Shiou Ching Chen  
Prof. Farrukh Zia

## Can autoimmune diseases affect the Oral Cavity?

Shahd Abdalla  
Prof. Dora-Ann Oddo

## Control of Electro-Mechanical Systems with Assistive Technology Devices

Shiou Ching Chen  
Prof. Farrukh Zia



# GRANT-FUNDED PROJECTS

## NSF REU GRANT #2447604



Drs. Reginald Blake, Hamidreza Norouzi,  
& Ms. Julia Rivera

## NSF IUSE GRANT #2327431

Drs. Reginald Blake, Hamidreza Norouzi,  
Masato Nakamura, Marzieh Azarderakhsh, &  
Ms. Julia Rivera

### Development and Evaluation of an MPAS-Based Urban Modeling System for the New York City Region

Kristian Rice and Marco Yu  
Prof. Yanna Chen  
NSF IUSE Grant # 2327431

### Evaluating Cloud Radiation - Hydrometeor Species Interaction in WRF: Implications for Lower Troposphere Temperature and Precipitation Type

Kazi Islam  
Prof. Yanna Chen  
NSF IUSE Grant # 2327431

### Monitoring Heat and Air Quality in Brooklyn Subway Stations

Saba Alkobadi, Addree Barua, Harmony  
Divine, Maria Hashmi, Zohaib Khan, and,  
Babacar Sarr  
Profs. Abdou Bah, Hamid Norouzi,  
AP. Reginald Blake  
NSF IUSE Grant # 2327431 &  
NSF REU Grant # 2447604

### Monitoring Heat and Air Quality in Manhattan Subway Stations

Sabina Abduvakhidova, Zeshan Rafiq, and  
Rean Shahidullah  
Profs. Abdou Bah, Hamid Norouzi,  
AP. Reginald Blake  
NSF IUSE Grant # 2327431 &  
NSF REU Grant # 2447604

### When Does the Lake Freeze? Linking Ground-Based Cameras and Satellite Observations of Lake Ice

Emmanuel Forte  
Prof. Marzieh Azarderakhsh  
NSF IUSE Grant # 2327431

### City Tech AI Smart Cities Innovation Challenge 2026

Faculty Organizers: Navid Allahverdi, Benito  
Mendoza-Garcia, Farrukh Zia

### CITYPULSE AI: Smarter Road Repair for New York City

Mohammed Imad, Moroni Luna, Yusuf Smaili,  
Azamat Utkurov, Ronny Yeap  
Faculty Mentor: Benito Mendoza-Garcia

### AI-Powered Inspection Robot for Structural Safety

Student Team: Shiou Ching Chen, Kelsang  
Sherpa, Lesly Guzman, Stephanie Rendon  
Faculty Mentor: Joycephine Li

### AI Flood-Risk Prioritization for Vulnerable NYC Neighborhoods

Student Team: Kazi Rahimu Islam, Kazi Tamim,  
Faculty Mentor: David Smith

44TH SEMI-ANNUAL  
**DR. JANET LIOU-MARK**

**HONORS SCHOLARS &  
UNDERGRADUATE RESEARCH  
CONFERENCE**

To all the dedicated professors for mentoring students. A heartfelt thank you for making this event a successful one

**SPECIAL THANKS TO**

Dr. Kelsie Anson  
Ms. Chioma Okoye  
Dr. Anna Feitzinger  
Ms. Julia Rivera  
Ms. Angelina Santiago  
Ms. Monisha Sooklall  
Mr. Roberlin Espinal Torres

**A SPECIAL THANK YOU TO THE  
DEDICATED CONFERENCE JUDGES:**

Ralph Alcendor  
Lillian Amann  
Marzieh Azarderakhsh  
Monica Berger  
Kishore Challagundla  
Claireisa Clay  
Caroline Darin  
Hyunjoo Do  
Ezra Halleck  
Ahmed Hassebo  
Joelle Jean  
Jeffrey Keiter  
Despina Lalaki  
Kate Lee  
Anne Leonhardt

Michael Loo  
Lili Ma  
Elizabeth Milonas  
Laureen Park  
Jonas Reitz  
Noemi Rodriguez  
Jody Rosen  
Patricia Semmler  
Satyanand Singh  
Jeremy Seto  
Meagan Sylvester  
Robert Walljasper  
Angran Xiao  
Ozlem Yasar

A special recognition and appreciation to  
Wilna Michel for designing this program.

**ORGANIZED BY CITY TECH'S HONORS SCHOLARS  
& UNDERGRADUATE RESEARCH PROGRAMS**