

THE 34TH SEMI-ANNUAL



DR.
**JANET
LIOU-MARK**

HONORS AND UNDERGRADUATE
RESEARCH SCHOLARS
POSTER PRESENTATION

WEDNESDAY, MAY 5, 2021

*VIRTUAL POSTER PRESENTATION
(POSTER JUDGING)*

THURSDAY, MAY 6, 2021

*VIRTUAL POSTER PRESENTATION
(AWARD CEREMONY)*

12:45PM – 2:15PM

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Greetings

Russell K. Hotzler
President

Pamela Brown
Interim Provost and
Vice President for Academic Affairs

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

Recognition of Undergraduate Researchers

Honors Scholars

Reneta D. Lansiquot
Director of the Honors Scholars Program

CUNY Research Scholars

Hamidreza Norouzi
Director of Undergraduate Research

Emerging Scholars

Hamidreza Norouzi

Grant-Funded Projects

Hamidreza Norouzi

Interdisciplinary Projects

Reneta D. Lansiquot
Founding Chair of the Interdisciplinary Committee

Special Projects

Reneta D. Lansiquot

Best Poster Awards

Amanda L. Almond
Assistant Director of the Honors
Scholars Program

HONORS IN A REGULAR COURSE

Building Green Through Material Evaluation & Selection: Case Study in the Bahamas

Ulugbek Abdulkhasanov
Prof. Anne Marie Sowder
CMCE 4800: Senior Capstone Project

Ventilation Changes Coming to Higher Education Buildings as a Response to Pandemic

Barro Adama
Prof. Lukasz Sztaberek
ENVC 2432: Advanced Air Conditioning Systems Design

Ventilation Changes Coming to Higher Education Buildings as a Response to Pandemic

Kwamina Afful
Prof. Lukasz Sztaberek
ENVC 2432: Advanced Air Conditioning Systems Design

Applications of Randomness in Finance

Daanial Ahmad
Prof. Satyanand Singh
MAT 4788: Financial Risk Modeling

Should the Ninth Circuit Court of Appeals be Divided into Several Circuits?

Nasser Amadou
Prof. Kerin Coughlin
LAW 1201: Legal Research

Guilty Until Proven Innocent? Wrongful Convictions of Young Men of Color

Yaire Castillo
Prof. Kerin Coughlin
LAW 1201: Legal Research

Games of Strategy

Keven Cruz
Prof. Ariane Masuda
MAT 2580: Introduction to Linear Algebra

Subcultural Fashion Throughout the 20th Century

Lucas Davies
Prof. Laura Palmer
ARTH 1204: 20th Century Dress & Culture

Incarcerated: My Experience with Family & Prison

Damani Douglas
Prof. Kenneth Pelka
COMD 1340: Photography I

Oral Manifestations of COVID-19

Ibeth Erazo
Prof. Gwen Cohen-Brown
DEN 2400: Principles of Dental Hygiene Care IV

Colchester Ecohouse, Salon Decathlon Design Challenge

Michelle Guzman
Prof. Alexander Aptekar
ARCH 2331: Building Technology II

Chemical Exposure from Manufactured Gas Plants: Demographic & Governmental Research

Aneeza Hussain
Prof. Nora Almeida
LIB 1201: Research & Documentation for the Information Age

Smart IoT Car Seat Alarm System for Preventing Hot Car Death

Fahmeda Khanom
Prof. Xiaohai Li
EMT 2410: C/C++ Programming for Embedded Systems

Smart IoT Car Seat Alarm System for Preventing Hot Car Death

Touheda Khanom
Prof. Xiaohai Li
EMT 2410: C/C++ Programming for Embedded Systems

Public Speaking & How it Impacts People with Anxiety Disorders

Brianna Lewis
Prof. Jason Mazeski
COM 1330: Public Speaking

Understanding Time, Cost, Quality & Risk Trade-Off in Construction Projects Through A Review of Literature

Aalaa Mohammed
Prof. Anne Marie Sowder
CMCE 2321: Construction Management II

Ventilation Changes Coming to Higher Education Buildings as a Response to Pandemic

Sherene Moore
Prof. Lukasz Sztaberek
ENVC 2432: Advanced Air Conditioning Systems Design

Ventilation Changes Coming to Higher Education Buildings as a Response to Pandemic

Cathal O'Toole
Prof. Lukasz Sztaberek
ENVC 2432: Advanced Air Conditioning Systems Design

Exploring the Development of Early Methods in Linear Algebra

Jake Postiglione
Prof. Ariane Masuda
MAT 2580: Introduction to Linear Algebra

The Editorial Process

Olga Privman
Prof. Renata Ferdinand
ENG 2730: Professional Editing & Revising

Using CAD/CAM Design Software to Refine Existing Machine-Part Design to Optimize CNC Manufacturing

Itay Rubin
Prof. Zayed Saleh
MECH 1201: Computer-Aided Manufacturing Systems

181,230 Trees Grow in Brooklyn

Katie Salas
Prof. Holly Carley
MAT 2572: Probability & Mathematical Statistics I

Applications of Randomness in Finance

Jose Sanchez Diaz
Prof. Satyanand Singh
MAT 4788: Financial Risk Modeling

Evaluating Science Gateways for Accessible Design

Ashley Varon
Prof. Noreen Whysel
COMD 3562: UX & UI Design

Foundation Design for 66 Sands Street

Shaylin Venitelli
Prof. Melanie Villatoro
CMCE 4456: Foundation Analysis & Design

Making Connections in the Evolution of Panamanian Architecture

Cheriyah Wilmot
Prof. Elizabeth Parks
ARCH 2412: Architectural Design IV

CUNY RESEARCH SCHOLARS

Radiographic Mapping of Nanoparticle Transport in Plant & Poultry: Ionic Exchange & Restricted Diffusion Models

Little Azeez
Profs. Boris Gelman, Subhendra Sarkar
& Chen Xu

Understanding of Aerosol Transmission of COVID 19 in Indoor Environment- Part 2: Approaches to Mitigation

Adama Barro & Jacob Lopez
Prof. Daeho Kang

Covid-19 Impact on Radiology Students' Distance Learning

Jason Chan, Cherylann Jackson-Holmes,
Mary Lee & Renzo Marmolejo
Prof. Zoya Vinokur

Face Detection with Machine Learning

Kadiatou Diallo
Prof. Marcos Pinto

Mobile Robot Inspector in A Wireless Sensor Network Framework

Kadiatou Diallo
Prof. Marcos Pinto

Mobile Robot Inspector in A Wireless Sensor Network Framework

Leticia Donkor
Prof. Zhou Zhang

PEDGA Degradation Rate Studies

Marvin Espinoza
Prof. Ozlem Yasar

Deep Lens Based American Sign Language Translation

Jakob Horowitz
Prof. Xiaohai Li

Chemical Exposure from Manufactured Gas Plants: Public Health Risks?

Aneeza Hussain
Prof. Nora Almeida

Predicting Covid-19 Virus Spread with the use of Machine Learning

Brian Jerez
Prof. Marcos Pinto

Visual Communication Design for Assistive Technology

Gui Jing Jiang
Prof. Farrukh Zia

Polyethylene Glycol Diacrylate Degradation Rate Studies

Almami Kanazoe
Prof. Ozlem Yasar

A Low-cost SLAM RC Car with RPLIDAR

Najwan Kased
Prof. Zhou Zhang

Smart IoT Car Seat Alarm System for Preventing Hot Car Death

Fahmeda Khanom & Touheda Khanom
Prof. Xiaohai Li

EMERGING SCHOLARS

Machine Learning & Physical Computing

Joan Beatrice Ladaban
Prof. Farrukh Zia

Interfacial Dynamics & Ionic Transport of Radiologic Contrast Media in Carbohydrate Matrix: Utility & Limits of X-Ray Imaging

Lin Mousa & Hayley Sanchez
Profs. Subhendra Sarkar & Zoya Vinokur

Electric Vehicle (EV) Charging Stations Proximity

Abdullah Nabil
Prof. Marcos Pinto

Graphene Coated Laminated Composite for Light Striking Prevention

Aaryan Nair
Prof. Akm Rahman

Low Cost 3D Printed Exploration Robot

Erik Peregrina
Prof. Andy Zhang

Forecasting Football (Soccer) Games Results Using Deep Learning

Hugos Rivas
Prof. Marcos Pinto

Recovered Energy Solutions from Urban Wastewater

Itay Rubin
Prof. Masato Nakamura

Moore Graphs & the Degree-Diameter Problem

Luc Telemaque
Prof. Nadia Benakli

The Role of Calpains in *T. Thermophila*

Kat Abbott, Barakat Adigun, Aabray Alam, Momoko Brantley, Tayna Gebhardt, Olorundamilola Okemeta & Kiara Ramirez
Prof. Ralph Alcendor

Colchester Ecohouse, Salon Decathlon Design Challenge

Ariela Abreu & Vanessa Gallego
Prof. Alexander Aptekar

Stochastic Processes: Random Walk, Brownian Motion & Stock Prices

Daanial Ahmed
Prof. Satyanand Singh

City Tech NYCHA Arch Scholars

Tasfia Amir, Oliver Hadi, Farai Matangira & Josue Perez
Prof. Jason Montgomery

BioOxi Monitoring Device

Anny Baez Silfa
Prof. Farrukh Zia

Smart Grid, Scheduling for the Electric Vehicle & Renewable Energy Resources

Mamadou Balde
Prof. Yu-Wen Chen

WebVR - Experience it on the Cloud

Reshma Begum
Prof. Marcos Pinto

Ionic Exchange & Transmetallation in Carbohydrate Matrix Studied by Mid-Field MRI

Bleidis Buitrago
Prof. Subhendra Sarkar

Mind Controller for Assistive Technology Devices (Hardware Implementation)

BingFang Chen
Prof. Farrukh Zia

Games of Strategy

Keven Cruz
Prof. Ariane Masuda

3D Manufactured Arduino Prosthesis

Julian Dinkins
Prof. Andy Zhang

Internet Search Engine

Allan Emmanuel
Prof. Ariane Masuda

Paint the City

Juan Estrella
Prof. Farrukh Zia

Using Statistical Analysis to Assess PM2.5 Pollution

Baohua Huang
Prof. Nan Li

Disinfection Station for Face Masks (Software Implementation)

Jennifer Islam
Prof. Farrukh Zia

Impact of Sex in Luxury Fashion Advertisements on Brand Attractiveness & Identification

Jessyca Jones
Prof. Alyssa Adomaitis

Body Movement Based Control

Angelika Kocab
Prof. Farrukh Zia

Dynamic Imaging of Synthetic Bio-materials for the Purpose of Tumor Detection

Samantha Lee
Prof. Akm Rahman

The History & Impact of the BQE on the Williamsburg Neighborhood of Brooklyn

Pamela Lopez & Tiffany Zhang
Prof. Michael Duddy

Data-Driven Indoor Localization in the Internet of Things

Shervorn Mathews
Prof. Li Geng

Understanding of Aerosol Transmission of COVID 19 in Indoor Environment - Part 2: Approaches to Mitigation

Sherene Moore, Cathal O'Toole
& Matthew Quinones
Prof. Daeho Kang

Rescue Robot

Fatma Elzahra Naser
Prof. Farrukh Zia

AR- Emergency Virtual Service

Saira Nazar
Prof. Marcos Pinto

A STEM-COMD Interdisciplinary Approach to Illustrating STEM Manuscript

Evelyn Ng, Jasmyn Cooper & Jennie Zhu Pan
Prof. Sara Woolley

High-field MR Imaging of Excess Lanthanide & Iodinated Nanomaterials in Live Tissues: Clearance, Toxicity & Microscopic Interaction in Fruits & Animal Cell Models

Jennifer Padilla
Prof. Subhendra Sarkar

Safety Enabled Waste Handling Device

Maria Pedroza
Farrukh Zia

Computer Graphics

William Pollicino
Prof. Ariane Masuda

Using Interactive Math Applications to Model Concepts in Linear Algebra

Jake Postiglione
Prof. Ariane Masuda

Researching in Recent Trends in Fundamental & Applied Physics & Quantum Computing

Olga Privman
Prof. German Kolmakov

Markov Chains & the PageRank Algorithm

Pratima Roy
Prof. Nadia Benakli

Developing a Computer-Integrated Technology Education Curriculum for Underrepresented Brooklyn Students

Stephen Sabaugh
Prof. Euisuk Sung

Stochastic Processes: Random Walk, Brownian Motion & Stock Prices

Jose Armando Sanchez Diaz
Prof. Satyanand Singh

Disinfection Station for Face Masks (Hardware Implementation)

Lubna Sharmin
Prof. Farrukh Zia

Challenges of Additive Manufacturing in Medical Devices

Alcha Soumailou
Prof. Zhou Zhang

Envisioning a Queens Municipal Center

Albert Vargas
Prof. Michael Duddy

Use of Recycled Whole Textile Fabric for the Shear Strength Enhancement of Soil

Shaylin Venitelli
Prof. Ivan Guzman

Visual Art Through Mathematical Modeling

Xiaona Zhou
Prof. Boyan Kostadinov

GRANT-FUNDED PROJECTS

NATIONAL SCIENCE FOUNDATION (NSF) LOUIS STOKES ALLIANCE FOR MINORITY PARTICIPATION (LSAMP) IN STEM

Design & Prototyping of a Speed Reducer GearBox

Sheikh Ahmar
Prof. Angran Xiao

Defining Practices to Mitigate the Effects of Orbital Debris in Space

Caroline Eco
Prof. Mohammad Razani

Oral Manifestations of Covid-19

Ibeth Erazo
Prof. Gwen Cohen-Brown

Mechanical Characterization of Nano-material Doped Polydimethylsiloxane (PDMS)

Robert Janik
Prof. Ozlem Yasar

Response Abilities: Digital Health Literacy through Words & Images

Judeen Peters
Prof. David Lee

NATIONAL SCIENCE FOUNDATION
IMPROVING UNDERGRADUATE STEM
EDUCATION (IUSE GEO GRANT # 2023174)

Prof. Abdou Bah, Reginald Blake,
Masato Nakamura, Hamidreza Norouzi,
& Ms. Julia Rivera

Studying Global Lakes Surface Temperature Variabilities Using Satellite & IN SITU Observations

Oumou Diallo, Olga Privman & Shaylin Venitelli
Prof. Abdou Bah, Reginald Blake,
& Hamidreza Norouzi

Downscaling Methodology for Satellite Land Surface Temperature Over Urban Environments

Naved Khan & Ruben Vecino
Prof. Abdou Bah, Reginald Blake,
& Hamidreza Norouzi

Green Hybrid Renewable Energy Systems

Sherene Moore, Myatkyaw Thar & Jude Vallon
Prof. Masato Nakamura

NATIONAL SCIENCE FOUNDATION RESEARCH EXPERIENCES FOR UNDERGRADUATES (NSF REU Grant # 1950629)

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

Streamflow Prediction using Deep Learning from the NOAA-CREST Observation Site in Millbrook, New York

Ana Abreu
Prof. Arezoo Bybordi

Ozone (O₃) & Particulate Matter (PM_{2.5}): How Summer Heatwaves Affect Ambient Air Pollution

Babacar Dieng
Prof. Yonghua Wu

Studying Maine Lakes Surface Temperature Variability at the Basin Level-Scale Using Remote Sensing Observations

Christal Jean-Soverall
Prof. Abdou Bah, Reginald Blake,
& Hamidreza Norouzi

INTER-DISCIPLINARY PROJECTS

Connecting Communities, History, & Research: The Urban Heat Island Effect in Bedford Stuyvesant, Brooklyn, New York

Lucy Piacentini
Pofs. Reginald Blake & Hamidreza Norouzi

Data Retrieval & Processing of Active Microwave Sensing

Mamadou Balde
Prof. Zahra Sharinezhadazizi

How do I know if my clothing produced sustainably?

Maria DeLeon
Prof. Valerie Were

The Effects of Late Spring Frost on Forest & Landscape Health of the Black Rock Forest, New York

Oliver Imhans
Prof. Aaron Davitt

Forecast Error Signature Detection

Stance Mason
Prof. Hannah Aizenman

Investigating Water Usage Patterns tied to California State Water Project

Xiaoqing Wu
Prof. Indrani Pal

PHYS1002ID: An Introduction to the Physics of Natural Disasters

Prof. Abdou Bah

Greenhouse Gases Effect on Climate Change

Jaquawn Miller, Redoanul Hoque,
Christian Boateng, Josue Rodriguez
& Yinhe Wang

Environmental Effects of Hurricane Maria

Jiovanna Gordon, Bryan Santiago,
Nashrin Akter, Mary Reyes & Ngima Sherpa

Earthquake Effects on Pacific Regions

Shisir Humagain, Alex Karasavidis,
Kaira Sultan, Faisal Tariq, Maria Vasquez
& Showmik Chowdhury

Flooding Effects on China and Indonesia

Yujie Li, Yuxuan Zhao, Junhao Tan,
Allan Zhu, Denny Caisaguano & Tanvir Hossein

SPECIAL PROJECTS

ARCH 2331: Building Technology II

Prof. Alexander Aptekar

Solar Decathlon Design Challenge

Tasfia Amir, Erickson Díaz, Josephine Elumeze, Farouk Fares, Vanessa Gallego, Michelle Guzman, Eleanor Margolies, Ololade Owolabi, Milena Peralta & Treeyapat Srichan

Project Abstract:

The team has designed a residential building typology that can serve as a prototype for evaluating different building assemblies. The teams project, Colchester Ecohouse, is being designed to meet passive house criteria. It will include active and passive energy strategies to create a low impact building. The project will be designed of two types of assemblies: a straw-bale base and a double stud wood frame upper structure. My focus is on detailing the projects kneewall assemblies and the connections between the types of wall assemblies. We have been using energy and embedded carbon modeling to maximize the effectiveness of our prototype. The modeling has been enabled by software provided by the Department of Energy. There is a possibility that this project will be built and tested.



Honors Scholars Program

STUDENT ACADEMIC CONFERENCE

Join us Virtually in Zoom on Thursday, May 6, 2021

Celebrate accomplishments • Learn how to be active after the pandemic



Keynote Address: "Higher Education and Campus Activism After the Pandemic"
Dr. Angus Johnston, CUNY, Hostos Community College

10:00AM-11:00AM

Panel 1: Learning is a Process: Lessons from Fashion, Editing, and Public Speaking

Moderator: Dr. Amanda L. Almond

8:45AM-9:20AM

This student-led panel will provide audience members with insights about the learning process across several disciplines. The panel will include topics on the technical aspects of editing, integrating history and theory to describe modern dress, and how public speaking impacts students with anxiety disorders. In sum, a closer look at how student's process information from a range of disciplines will be explored.

Student Name: Lucas Davies
Faculty Mentor: Prof. Laura Palmer
Project Title: Subcultural Fashion Throughout the 20th Century
Major: Business and Technology of Fashion
Course: ARTH 1204 20th Century Dress and Culture

Student Name: Brianna Lewis
Faculty Mentor: Prof. Jason Mazeski
Project Title: Public Speaking and How it Impacts those with Anxiety Disorders
Major: Dental Hygiene
Course: COM 1330 Public Speaking

Student Name: Olga Privman
Faculty Mentor: Prof. Renata Ferdinand
Project Title: The Editorial Process
Major: Professional and Technical Writing
Course: ENG 2730 Professional Editing and Revising

Panel 2: Critical Student Perspectives on the United States Legal System

Moderator: Dr. Amanda L. Almond

9:25AM-9:50AM

This student-led panel will provide audience members with insights about various aspects of the United States Legal System. The panel will include topics such as mass incarceration and its impact on Black men and families; wrongful convictions; and the restructuring of federal appeals courts. In sum, a well-rounded look at how student's critique the legal system will be presented.

Student Name: Damani Douglas
Faculty Mentor: Ken Pelka
Project Title: Incarcerated: My Experience with Family and Prison
Major: Communication Design
Course: COMD 1340 Photography

Student Name: Yaire Castillo
Faculty Mentor: Kerin Coughlin
Project Title: Guilty Until Proven Innocent? Wrongful Convictions of Young Men of Color
Major: Legal and Paralegal Studies
Course: LAW 1201 Legal Research

Student Name: Nasser Amadou
Faculty Mentor: Kerin Coughlin
Project Title: Should the Ninth Circuit Court of Appeals be Divided into Several Circuits?
Major: Legal and Paralegal Studies
Course: LAW 1201 Legal Research



34th Semi-Annual Dr. Janet Liou-Mark Honors and Undergraduate Research Scholars Poster Presentation Awards Ceremony

12:45PM-2:15PM

Organized by Dr. Reneta D. Lansiquot, Dr. Amanda L. Almond, and Mr. Christopher Navarrete



WHERE CAN TECHNOLOGY TAKE YOU?



THE 34TH SEMI-ANNUAL

DR. JANET LIOU-MARK
HONORS AND UNDERGRADUATE
RESEARCH SCHOLARS POSTER PRESENTATION

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

SPECIAL THANKS TO

Ms. Iman Abdulfattah
Ms. Lauri Aguirre
Mr. Abdou Bah
Prof. Tamrah D. Cunningham
Mr. Christopher Navarrete
Ms. Laura Yuen-Lau

A SPECIAL THANK YOU TO THE DEDICATED POSTER JUDGES

Ralph Alcendor	Ariane Masuda
Nina Bannett	Elizabeth Milonas
Nadia Benakli	Jason Montgomery
Monica Berger	Marissa J. Moran
Heidi Boisvert	Annie Ngana Mundeke
Karen Bonsignore	Unurjargal Nyambuu
Holly Carley	Asit B. Panja
Yu-Wen Chen	Camille Phaire-Morton
Tamrah D. Cunningham	Marcos S. Pinto
Susan Davide	Nandi Prince
Li Geng	Noemi Rodriguez
Katherine Gregory	Jose Saltos
Ezra Halleck	Diana Samaroo
Audra E. Haynes	Satyanand Singh
Pa Her	Claire Stewart
Joseph Jeyaraj	Denise Sutton
Nanette Johnson	Christopher Swift
Vishwas Joshi	Zoya Vinokur
Ivana Jovanovic	Robert Walljasper
Ellen Kim	Yu Wang
Jinwon Kim	Chani Weinreb
Boyan Kostadinov	Chen Xu
Sean P. MacDonald	Zhou Zhang
Alberto Martinez	Zheng Zhu

A special recognition and appreciation to
Ms. Or Szyflingier for designing the program

Organized by City Tech's Honors Scholars Program