

THE 33RD SEMI-ANNUAL

**DR.
JANET
LIOU-MARK**

HONORS AND UNDERGRADUATE
RESEARCH SCHOLARS
POSTER PRESENTATION

WEDNESDAY, DECEMBER 2, 2020
VIRTUAL POSTER PRESENTATION
(POSTER JUDGING)

THURSDAY, DECEMBER 3, 2020
VIRTUAL POSTER PRESENTATION
(AWARD CEREMONY)
1PM – 2PM

HONORS IN
A REGULAR COURSE 08

CUNY RESEARCH
SCHOLARS 12

EMERGING SCHOLARS 16

GRANT- FUNDED
PROJECTS 21

INTERDISCIPLINARY
PROJECTS 22

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

Best Poster Awards

Amanda L. Almond

Interim Assistant Director of the Honors
Scholars Program

In Remembrance of Dr. Janet Liou-Mark



I would like to tell you a story. I hope you will indulge me.

Dr. Janet Liou-Mark was the Director of the Honors Scholars Program, my mentor, and friend. I met her in the early 2000s while I was a full-time student in the Computer Systems Technology Department while working full-time at a patent and trademark law firm. My mathematics professor advised me to enroll in the Honors Calculus course. When I found out the course did not fit in my schedule, I was told to see Dr. Liou-Mark because she would help me. Sensing my disappointment, she asked for my help; she wanted to create a City Tech chapter of the National Society of Collegiate Scholars (NSCS), but she needed a student to initiate it.

In the acknowledgement section of my first book, I wrote this about her.

Subsequently, she wrote me a successful recommendation letter for graduate school, a master's of science program at Polytechnic University, which is across the street from City Tech in Downtown Brooklyn, and we kept in touch. When it came time for me to pursue my doctorate, she wrote me another successful recommendation letter. A few months before I graduated, she invited me to talk at a Women in STEM luncheon that she organized at the College. After my talk, Pamela Brown, [then] Dean of the School of Arts and Sciences, encouraged me to apply for a new Technical Writing tenure-track faculty position in the English Department. Janet guided me through the application process too, providing interview tips and speaking highly of me to her colleagues. Coming full circle, in my first semester as a faculty member at this College, she invited me to deliver the keynote address, "On the Need for Interdisciplinary Studies," to the largest group of inductees at the convocation of the City Tech National Society of Collegiate Scholars chapter.

Janet provided me with opportunities outside my department as well as outside City Tech. She recommended me for the Project Kaleidoscope Facilitating Interdisciplinary Learning (FIDL) Initiative that offered constant fully funded travel across the country and participation in FIDL think tanks on interdisciplinary studies.

Whether promoting interdisciplinary studies or writing my first book, I was always inspired and encouraged by her to pursue my big ideas and bring them to fruition. As I think about the big idea for my seventh book, one that may be too ambitious, Janet is not here to cheer me on.

Almost three months ago, I lost my mentor. I know she will be remembered. Not because this student research poster presentation will now bear her name, but because she was an exceptional human being. I will end my story with an anecdote.

One typical evening while having what I called “dunch” (a meal between lunch and dinner), a student stopped by her office for help. She directed the student to see Dr. Earl Hill. I asked her to describe him to me because I had not met him. The first thing she said was “he has a kind face.”

Dr. Janet Liou-Mark will be remembered because she was kind and she was a mentor. I continue to honor her by being kind and being a mentor. I hope you will join me.



Dr. Reneta D. Lansiquot

Director of the Honors Scholars Program
Professor and Founding Program Director,
Bachelor of Science in Professional and Technical Writing
Founding Chair of the Interdisciplinary Committee
New York City College of Technology
The City University of New York

HONORS IN A REGULAR COURSE

What Entrepreneurial Start up Project would you Open in the Current COVID-19 Environment?

Yaneth Arevalo
Prof. John Dello Russo
MKT 2327: Entrepreneurship

The Impact of eDiscovery and Technology in the Practice of Law

Mercedes Aznar
Prof. Marissa Moran
LAW 4704: Legal Technology

Effectiveness of Group Work Practice Skills/ Coursework in Student Internship Rotation-A Quantitative Study

Daphne Bernadotte
Prof. Marshall Charisse
HUS 3504: Group Work Practice

Black Theatre: Looking Back to Moving Forward

Ashley Camacho
Prof. Jeannine Foster-McKelvia
AFR 1321: Black Theater

Could Cognitive Technologies Solve Global Issues

Nakeita Clarke
Prof. Jason Ellis
ENG 2575: Technical Writing

Care and Maintenance of Dental Restorations

Ibeth Erazo
Prof. Anthony Sena
RESD 2313: Removable Partial Dentures II

Steven Holl Research Paper

Michelle Guzman
Prof. Anne Elizabeth Leonhardt
ARCH 2321: History of ARCH: 1900 - Present

An Investigation into the Response of the US and EU5 to the COVID-19 Disease

Omar Hassan
Prof. Mohammed Feknous
MECH 1240: Computer Applications in Mechanical Engineering

Open Educational Resources: What do Students Want?

Aneeza Hussain
Prof. Tatiana Voza
BIO 1201ID: Biology II

Implementation of Pseudo-Random Number Generator Using LFSR

Fahmeda Khanom and Touheda Khanom
Prof. Yu Wang
EMT 1250: Fundamental of Digital Systems

High Performing House Research

Karen Lucero Arita
Prof. Alexander Aptekar
ARCH 2331: Building Technology II

Measuring Influence on Twitter

Daniela Martinez
Prof. Stathis Verras
MAT 1372: Statistics with Probability

Burnout in Hospitality Worker; Stress, Lifestyle and Health

Mishka Morris
Prof. Evelyn Kolidas
PSY 1101: Introduction to Psychology

Magnus Vertical Axis (Magnus VAWT) “Typhoon-Proof” Wind Turbine Innovation for Japan’s Electricity Power Generation

Sherene Moore
Prof. Lukasz Sztaberek
ENVC 2420: Principles of HVAC Controls

Instructional Design for Virtual Training Presentations

Michael Meyer
Prof. Julian Costa
COM 1330: Public Speaking

The Legal Challenges and Solutions of Adolescents with ADHD

Susannah Oliveira
Prof. Pamela Scheininger
LAW 4900: Senior Legal Seminar

Adobe RoboHelp User Guide for Importing Data in Matlab

Olga Privman
Prof. Paula Korhonen
CST 3559: Technical Documentation

Recent Advances in the Foundations of Quantum Mechanics

Olga Privman
Prof. Boris Gelman
PHYS 2607: Introduction to Quantum Mechanics

Signal and Noise Comparison between Ultra-Low Electromagnetic Digital Energy Response as in MRI and High Energy Electromagnetic Beams as in Mammography

Luz Solano
Prof. Subhendra Sarkar
RAD 4829: Advanced MR Theory and Applications

Impacts of Responsive Web Design

Ashley Varon
Prof. David Karlins
COMD 2451: Web Design I

CUNY RESEARCH SCHOLARS

Creating an Augmented Reality (AR) Web Application

Syed Ahmed
Prof. Marcos Pinto

Radiographic Mapping of Nanoparticle Transport in Animal Tissues: Ionic Exchange and Restricted Diffusion Models

Carlos Aguayza
Prof. Boris Gelman

Understanding of Aerosol Transmission of COVID-19 in Indoor Environment

Adama Barro and Jacob Lopez
Prof. Daeho Kang

COVID-19 Impact on Radiology Students' Distance Learning

Jason Chan, Cherylann Jackson-Holmes
Mary Lee and 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

PEDGA Degradation Rate Studies

Marvin Espinoza
Prof. Ozlem Yasar

Two and Three-Dimensional Radiographic Imaging of Contrast Agents in Heterogeneous Live Cell Media to Understand Contrast-induced Toxicity

Aldona Gjoni and Fahameda Hassan
Prof. Subhendra Sarkar

Deep Lens Based American Sign Language Translation

Jakob Horowitz
Prof. Xiaohai Li

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 and Touheda Khanom
Prof. Xiaohai Li

Machine Learning and Physical Computing

Joan Beatrice Ladaban
Prof. Farrukh Zia

Developing Ionic Nanomaterials for Biomedical Applications: Surface Chemistry and Morphologic Imaging

Lin Mousa and Hayley Sanchez
Profs. Subhendra Sarkar and 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 S Rahman

Low-Cost 3D Printed Rapid Deployment Arm (RDA)

Erik Peregrina
Prof. Andy Zhang

Forecasting Football (Soccer) Games Results Using Deep Learning

Hugos Rivas
Prof. Marcos Pinto

Recovered Energy Solutions for Controlled Environment Agriculture (CEA)

Itay Rubin
Prof. Masato Nakamura

Imaging Nanomaterials During Active Biochemical Transport in Model Plants and Chicken Eggs: Diffusion and Near Infra-Red Measurements

Amina Shahbaz and Tetiana Soloviova
Profs. Subhendra Sarkar and Chen Xu

Metric Dimension and Strong Metric Dimension of Graphs

Luc Telemaque
Prof. Nadia Benakli

EMERGING SCHOLARS

Parametric Art

Daanial Ahmad and Shaun Pollard
Prof. Satyanand Singh

The Energy Challenge: Moving from Fossil Fuels to Bio-fuels, Hydrogen and Green Energy Sources

Abrar Alhashidi and Russybel Richiez
Prof. Ivana Jovanovic

A STEM-COMD Interdisciplinary Approach to Illustrating STEM Manuscript

Edward Alston
Prof. Sara Woolley

What Entrepreneurial Start up Project Would You Open in the Current COVID-19 Environment?

Yaneth Arevalo
Prof. John DelloRusso

The Impact of eDiscovery and Technology in the Practice of Law

Mercedes Aznar
Prof. Marissa Moran

3D Bionic Arm

Anny Baez Silfa
Prof. Farrukh Zia

Signal and Noise Comparison between Ultra-low Electromagnetic Digital Energy Response as in MRI and High Energy Electromagnetic Beams as in Mammography

Bleidis Buitrago
Prof. Subhendra Sarkar

Immunotherapy in Cancer Treatment: Synthetic Approaches and Mechanisms of Action

Keyandra Bussey
Profs. Alberto Martinez and Diana Samaroo

Sexual Dimorphism, Obesity, and COVID-19

Travis Caraballo, Bushra Miah
and Yomary Vargas
Prof. Sanjoy Chakraborty

Sustainable Renovation of Historical Buildings

Melita Cekani
Prof. Jihun Kim

Mindcontrol of Mobile Robot

Bingfang Chen
Prof. Farrukh Zia

Using Statistical Analysis to Examine Weather Variability in New York City

Ryan Chen and Yuhang Wang
Prof. Jiehao Huang

Heat Transfer Effects in Animal Tissues by Mammography and Signal and Noise Comparison of Nanoparticle Modified Animal Tissues in MRI

Daniela Costin
Prof. Subhendra Sarkar

Object Recognition and Voice Assistant with Augmented Reality

Juan Estrella
Prof. Aparicio Carranza

**The 1935 Hurricane Houses of Islamorada:
A Case of Successful and Rapidly Deployed
Post-Disaster Housing**

Gloria Garcia and Kendra Gibbs
Prof. Anne Marie Sowder

Markov Chains and the PageRank Algorithm

Mahoutin Godonou
Prof. Nadia Benakli

Blast + Velocity: Animated Web

Shisir Humagain
Prof. Marcos Pinto

**Open Educational Resources:
What do Students Want?**

Aneeza Hussain and Joyette Noel
Prof. Tatiana Voza

**Virtue at the Coffee House: Poetry and Community
in Contemporary America**

Jessyca Jones
Prof. George Guida

**Understanding of Aerosol Transmission of
COVID-19 in Indoor Environment**

Jacob Lopez, Sherene Moore
Cathal O'otoole, Matthew Quinones
and LiaLun Xiao
Prof. Daeho Kang

**Improve the Prototype of Low-cost Near-Infrared
Diffuse Optical Imaging System**

Mohammed Shakil
Prof. Chen Xu

**Principal Component Analysis for Predicting the
party of the Legislators**

Afsana Mimi
Prof. Nan Li

**Benefits of Pre-Construction Analysis: CET Senior
Capstone Expands Understanding of an Urban
Refuge at GallopNYC Sunrise Stables**

Aalaa Mohammed
Prof. Anne Marie Sowder

**Use of sustainable Architecture in Nigeria in
Relation to Electricity, Water, and Pollution**

Ololade Owolabi
Prof. Paul King

**Diffusion Tensor MRI in Late Onset of Alzheimer's
Disease: A Critical Assessment of ADNI Databases**

Jennifer Padilla
Prof. Subhendra Sarkar

**Oral History of Contemporary Immigration to
New York City**

Valeria Recalde
Prof. Peter Catapano

**Human Rights content in Human Services Major-
Measuring existing HUS Student Knowledge and
Interest to Learn about Human Rights**

Kaishawn Scott
Prof. Smita Dewan

**Improve the Prototype of Low-cost Near-Infrared
Diffuse Optical Imaging System**

Mohammed Shakil
Prof. Chen Xu

GRANT-FUNDED PROJECTS

A Year of Encounter: The 1948 Photo Album of African American Soldiers Stationed in Gifu, Japan

Manhoor Sheikh
Prof. Emilie Boone

Worm Reduction Gearbox

Alcha Soumailou
Prof. Zhou Zhang

Customized Global Tip Calculator

Tatyana Taylor
Prof. Marcos Pinto

AngularJS: Top Client-Side Javascript Framework for Web Pages

Andray Whyte
Prof. Marcos Pinto

Brain Glioblastoma Morphologic Features in MRI: Predictive Models for Spread

Ruth Zero and XiangFu Zhang
Prof. Subhendra Sarkar

Data Analysis and Visualizations of Drosophila Behavioral Phases

Xiaona Zhou
Prof. Boyan Kostadinov

A STEM-COMD Interdisciplinary Approach to Illustrating STEM Manuscript

Jennie ZhuPan
Prof. Sara Gomez Wooley

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

Design and 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

Care and Maintenance of Dental Restorations

Ibeth Erazo
Prof. Anthony Sena

Mechanical Characterization of Nano-material Doped Polydimethylsiloxane (PDMS)

Robert Janik
Prof. Ozlem Yasar

Response Abilities: Digital Health Literacy through Words and Images

Judeen Peters
Prof. David Lee

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

Profs. Abdou Bah, Reginald Blake,
Hamid Norouzi, Janet Liou-Mark,
and Ms. Julia Rivera

Streamflow Prediction using Deep Learning Models

Ana Abreu
Prof. Arezoo Bybordi

INTER-DISCIPLINARY PROJECTS

Ozone (O₃) And Particulate Matter (PM2.5): Summer Heat and High Pollution Within the NY Metro Region

Babacar Dieng
Prof. Yonghua Wu

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

Caroline Eco, Oliver Imhans
Profs. Aaron Davitt and Andrew B. Reinmann

Analysis of Surface Temperature Trends of Global Lakes Using Satellite Remote Sensing Observations

Christal Jean-Soverall,
Profs. Abdou Bah, Reginald Blake
and Hamid Norouzi

Estimating Hourly Brightness Temperature Data Using SSMIS and GMI Sensors

Mamadou Balde
Prof. Zahra Sharinezhadazizi

Microfibers: From the store to the shore

Maria DeLeon
Prof. Valerie Were

Detecting Forecast Error Signatures

Stance Mason
Prof. Hannah Aizenman

Investigating Water Usage Patterns Tied to California State Water Project

MXiaoqing Wu
Prof. Indrani Pal

PHYS1002ID: An Introduction to the Physics of Natural Disasters

Prof. Abdou Bah

Earthquake Evacuation Plan for NYC Public Schools

Sherene Moore, Jude R Valon,
Ruben D Vecino Gazabon, Jing Wang,
Myat K. Thar, Olawale S Ayeni

Hurricane: Nature's Circle Pit

Ely J. Gonzalez, Kevin Vinces, Brian D Maison,
Faiza Naz, Melissa Agosto, Oumou Diallo

United States Contribution to the Mitigation of Global Warming

Raihan Hossain, Arelis Gutierrez,
Fabio Gonzalez Colacicco, Jiaxiang Chen,
Ronald Ezekiel Felipe, MD Shahid Himel,
Mahim Pritom, Estephany Tapia

New York City's Preparations for Major Flooding

Naved Khan, Ashley Mateo, Eliza Mullins,
Albin Mulic, Mohammed Sharif, Siobhan Smith

BIO 1201ID: Biology II

Prof. Tatiana Voza

Open Educational Resources: What do Students Want?

Aneeza Hussain and Joyette Noel

NOTES

NOTES

Honors Scholars Program

GRADUATE SCHOOL FAIR



Join us virtually in Second Life and Zoom

Over 100 programs will be represented!

Second Life Session
December 3, 2020, 9:30AM-2PM



Zoom Info Session
December 3, 2020, 4-5PM

Organized by Dr. Reneta D. Lansiquot, Mr. Christopher A. Navarrete, and Prof. Tamrah D. Cunningham.



WHERE CAN TECHNOLOGY TAKE YOU?



THE 33RD 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

Navid Allahverdi

Nadia Benakli

Monica Berger

Josh Borja

Stephanie Boyle

Susan Brandt

Gwen Cohen Brown

Yu-Wen Chen

Tamrah D. Cunningham

Susan Davide

Aida Egues

Ossama Elhadary

Li Geng

Katherine Gregory

Joseph Jeyaraj

Nanette Johnson

Ivana Jovanovic

Laina Karthikeyan

Ellen Kim

Jinwon Kim

Boyan Kostadinov

Nan Li

Sean MacDonald

Alberto Martinez

Ariane Masuda

Elizabeth Milonas

Marissa J. Moran

Camille Phaire-Morton

Marcos S. Pinto

Myldred Prévil

Nandi Prince

Noemi Rodriguez

Satyanand Singh

Denise Sutton

Christopher Swift

Chen Xu

Zoya Vinokur

Robert Walljasper

Mai Zahran

Zhou Zhang

Zheng Zhu

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

Organized by City Tech's Honors Scholars Program