

The

21<sup>st</sup>

Semi-Annual  
Poster Presentation

**HONORS &  
EMERGING SCHOLARS  
POSTER PRESENTATION**

**LEARNING COMMUNITIES  
THEME-BASED PROJECTS  
POSTER PRESENTATION**

Wednesday, December 3, 2014

11:00AM - 4:00PM

Atrium Ground & First Floors

Thursday, December 4, 2014

10:00AM - 3:00PM

Atrium Amphitheater

Awards Ceremony at 12:30PM

# Contents

Honors Courses

6

Honors In A  
Regular Course

8

Research Scholars

14

Emerging Scholars

18

Learning  
Communities

30

Special Projects

32

# Awards Ceremony

**December 4, 2014**  
**Atrium Amphitheater**  
**12:30 PM**

## Greetings

Russell K. Hotzler  
President

Bonne August  
Provost and Vice President for Academic Affairs

Pamela Brown  
Associate Provost

## Honors Scholars Recognition

Janet Liou-Mark  
Director of the Honors Scholars Program

Laura Yuen-Lau  
Coordinator of the Honors Scholars Program

## Research and Emerging Scholars Recognition

Justin Vazquez-Poritz  
Director of Undergraduate Research

## Learning Communities Recognition

Estela Rojas  
Director of Learning Communities

## Best Poster Awards

Reneta D. Lansiquot  
Assistant Director of the Honors Scholars Program



National Society for Collegiate Scholars Induction Ceremony  
October 23, 2014

4

5

# Honors Courses

## **CHEM 1210: General Chemistry II Campus Honors**

Prof. Diana Samaroo

Supported by CUNY Compact Funds

### **The Analysis of Dissolved Oxygen In Order to Conclude the Sustainability of Life in the East River**

Arwa Ahmed, Kevin A. Castillo, Maria Fuzailov,  
Michael Lumentut and Hanan Tariq

**Abstract:** On two separate occasions, water samples from New York's East River were collected. This was done to understand the concept of dissolved oxygen (DO) and its correlation to aquatic life; and how temperature influences the amount of DO in water. It was found that the average dissolved oxygen level from the first water sample collection at 17 degrees Celsius was 7 ppm, corresponding to 73% saturation. The average of dissolved oxygen level from the second water sample collection at 14 degrees Celsius was 10 ppm, corresponding to 97% saturation. For aquatic life to be sustained the dissolved oxygen level should be 5 to 6 ppm; anything lower can will be detrimental to the aquatic life. Based on these results, it can be concluded that the East River has enough oxygen level to sustain aquatic life. In addition to that, it can be concluded that as the temperature increases, the oxygen level decreases.

## **How Does Temperature Affect the Conductivity of Brooklyn's East River Water?**

Victor O. Adedara, Curtis Appiah and Edrouine Gabriel

**Abstract:** Water samples were collected from New York's East River on two separate occasions over a three week span. This was done to measure and compare the differences in conductivity over time. The river samples were compared to both Prospect Park Lake water and distilled water; as a control sample. The conductivity of East River water ranged from 35 to 40 millisiemens, while distilled water was found to be 0 millisiemens and Prospect Park Lake was found to be 0.087 to 0.114 millisiemens. Based on the data collected, the conductivity of the East River was found to be higher compared to the other sources of water.

## **A Comparative Study of pH, Nitrates, Nitrites and Iron Levels of East River and Distilled Water**

Cuong Bach, Tiffini R. Miller, Jesam E. Usani and Zhao Hui Wang

**Abstract:** Water samples were collected from Brooklyn's East River at the same location three weeks apart. These samples were tested to measure the pH, levels of Nitrates, Nitrites and Iron and compared to distilled water as controls. The pH was found to be 8 for the first collection and rose to 9 for the second. The standard pH of water is neutral and the distilled water reflected that with a pH of 7. The Nitrate level was found to decrease from the first sample (6 ppm) to the second collection (5 ppm). The Nitrite level was found to decrease from the first sample (0.4 ppm) to the second collection (0.2 ppm). Distilled water was found not to contain Nitrates or Nitrites. None of the samples tested were found to contain Iron.



Brooklyn Botanic Garden  
September 23, 2014



The Black Male Initiative – Peer-Led Team Learning Workshop  
October 16, 2014

6

7

# Honors In A Regular Course

## Problem Solving Using Mesh Analysis in Circuits

Abrar Abdurrob  
Prof. Ohbong Kwon

**EMT 1150:** Electrical Circuits

## Implementing Software as a Service (SaaS) Solution Using MS Azure

Shamsan Ahmed  
Prof. Badreddine Oudjehane

**CST 4707:** The LAN-Internet Connection

## Integral Mauy Thai Roundhouse Kick

Ismail Akram  
Prof. Kate Poirier

**MAT 1575:** Calculus II

## Structural Analysis of Heavy Timber Frame Buildings

Mohsin Alam  
Prof. Barbara Mishara

**ARCH 2480:** Principles of Stability in Structures

## Is the Prognosis Good for Adults Who Have Surgical Repair of the Atrial Septal Defect?

Patricia Branch  
Prof. Olufemi Sodeinde

**BIO 2312:** Human Anatomy and Physiology II

## Bioinformatics as a Tool in the Analysis of Cytokines Expressed in a Maternal Immune Activation Model of Schizophrenia

James-David Brown  
Prof. Armando Solis

**BIO 3350:** Bioinformatics

## Wrestling with English: Dominican Experiences in New York City

Noel Melendez  
Prof. Laura Hapke

**ENG 1121:** English Composition II

## A Multi Sensor Device for Mobile Urban Sensing

German Calle  
Prof. Benito Mendoza

**CET 4711:** Computer Controlled System Design I

## Bose-Einstein Condensation and Superfluidity in Nanoscale Systems and Carbon Nanostructures

Md Adnanul Chowdhury  
Prof. Oleg Berman and Ilya Grigorenko

**PHYS 1442:** General Physics II: Calculus Based

## Gutenberg Impacts Education

Ivan Cortes  
Prof. Maureen Neuringer

**ARTH 3311:** The History of Graphic Design

## Diabetes Management: Utilization of Social Learning Theory

Marc Devereaux  
Prof. Kevin McGirr

**NUR 4110:** Client Care: Urban Issues

## Applications to Markov Chains

Shannon Evans  
Prof. Samar Elhitti

**MAT 2580:** Introduction to Linear Algebra

## Finding Minimum Distances Using Mathematical Modeling

Lisa Ferreira  
Prof. Johann Thiel

**MAT 1475:** Calculus I



National Science Foundation  
Research Experiences for Undergraduates 2014

8

9

## Catalogue

Louisa Garcia  
Prof. Douglas Davis  
**ADV 4801:** Portfolio

## Biodiversity in Prospect Park

Natassa Gavalas  
Prof. Liana Tsenova  
**BIO 3302L:** Microbiology Lab

## SQL Injection – An Analysis on Database Design and Security Elements

Annique Henriques  
Prof. Elizabeth Milonas  
**CST 3604:** Design of Distributed Databases

## SQL Injection

Nolan Hu  
Prof. Fangyang Shen  
**CST 2405:** System Administration (Windows)

## Concrete Workability

Ebou Joof  
Prof. Hamidreza Norouzi  
**CMCE 2306:** Materials Testing Laboratory

## Healthy Dining Options for the Average College Student:

### Why it is important?

Kelly Laurent  
Prof. Susan Lifrieri-Lowry  
**HMG 2304:** Baking and Pastry Arts II

## Contribution of mDial and mDiaRAGE Interactions to Axonal Transport Impairment and Neuronal Dysfunction in the Pathogenesis of Diabetic Neuropathy

Alejandra Lezama  
Prof. Judyta Juranek  
**BIO 2312:** Human Anatomy and Physiology II

## Machine Form Future's Building Designs

Abdelsalam Mali  
Prof. Loukia Tsa Foulia  
**ARCH 1230:** Building Technology II

## How to Cut a Ham Sandwich

Andrew Maloney  
Prof. Kate Poirier  
**MAT 1575:** Calculus II

## Aging and the Venous System or Wise Old Veins

Andrew Maloney  
Prof. Niloufar Haque  
**BIO 2312:** Human Anatomy and Physiology II

## Difference in Resistance from Temperature Coefficient

Eric Moran  
Prof. Larry Flicker  
**EMT 1150:** Electrical Circuit

## Biodiversity in Prospect Park

Natalie Nelson  
Prof. Liana Tsenova  
**BIO 3302:** Microbiology

## Bose-Einstein Condensation and Superfluidity in Nanoscale Systems

Kevin Ng  
Prof. Oleg Berman and Ilya Grigorenko  
**PHYS 1442:** General Physics II: Calculus Based

## Ecot Cleaning Services Website

Alexander Onate  
Prof. Xiaoquan Charles Li  
**CST 2309:** Web Programming I



New York Aquarium  
October 17, 2014

**Molecular Characterization of Diadumene Lineata (Cnidaria: Anthozoa: Hexacorallia: Actiniaria) from the East River in New York City**

Lysna Paul  
Prof. Mercer Brugler  
**BIO 1201:** Biology II

**A Multi Sensor Device for Mobile Urban Sensing**

Gin Pena  
Prof. Benito Mendoza  
**CET 471I:** Computer Controlled Systems Design I

**A First Look at Quantum Mechanics**

Sam Qabbani  
Prof. Ari Maller  
**PHYS 144I:** General Physics I: Calculus Based

**Crime Victims and Socio-Emotional Problems**

Daniel Saint-Hilaire  
Prof. Suman Ganguli  
**MAT 1372:** Probability and Statistics

**Has Society Values Depreciated?**

Khiran Samsundar  
Prof. Charles Halpern  
**MKT 1100:** Essentials of Marketing

**Finding Minimum Distances Using Mathematical Modeling**

Lissette Santana  
Prof. Johann Thiel  
**MAT 1475:** Calculus I

**Lindenmayer System Based Scaffold Design**

Alex Sette  
Prof. Ozlem Yasar  
**MECH 2322:** Materials Science

**The Financial Measurement of a Growing Business**

Katrina Sherald  
Prof. Carol Brathwaite  
**MKT 1255:** Merchandise Planning and Control

**Application of the Fourier Transform for Spectral Analysis in Telecommunications Engineering Technology**

Ina Tsikhanava  
Prof. Asm Delowar Hossain  
**TCET 3102:** Analog and Digital Communications I

**Consumer Behavior in the Australia's Market**

Hsiao Zhao  
Prof. John Dixon  
**MKT 1212:** Consumer Behavior

**Bose-Einstein Condensation and Superfluidity in Nanoscale Systems in the Presence of External Fields**

Mohammad Zilon  
Prof. Oleg Berman and Ilya Grigorenko  
**PHYS 1442:** General Physics II: Calculus Based



The Mathematical Association of America: NJ and NY Joint Meeting  
Saint Peter's University  
November 1, 2014



The Mathematical Association of America NREUP 2014  
J. Ramirez, J. Langman, Thierno Adouma Diallo (City Tech)  
A. Arrendondo (Rutgers University)  
Directors: Drs. Eugene Fiorini and Urmi Ghosh-Dastidar

# Research Scholars

## **Design Analysis of Solid Waste Mixing in a Combustion Chamber**

Christopher Amoroso  
Prof. Masato R. Nakamura

## **Energy Use vs. Indoor Air Quality in High-Performance and Sustainable Buildings**

Joseph Cotter  
Prof. Lukasz Sztaberek

## **Mobile Diagnostic Expert System**

Mamun Hasan  
Prof. Marcos S. Pinto

## **Computational Design of Nano Devices for Optical and Quantum Computing**

Andy J. He  
Prof. German Kolmakov



Advancing Library Research Techniques  
Prof. Anne Leonard  
October 16, 2014



Developing and Delivering Effective  
Research Poster Presentations  
Prof. Jody Rosen  
October 30, 2014

## **Positive Reframing and Vagal Tone: A Variation on the Expressive Writing Paradigm**

Keishawna Jones  
Prof. Jean Kubeck Hillstrom

## **Development of a Portable Low Cost Chemical/Dust Detection Unit**

Sharon Jones  
Prof. Angran Xiao and Andy S. Zhang

## **Stochastic Simulation of a Combustion Chamber in a Waste-to-Energy (WTE) Power Plant**

Ye Htet Lynn  
Prof. Masato R. Nakamura

14

15

**Using Infograms for  
Online Educational Videos**

Andrew Maloney  
Prof. Vasily Kolchenko

**Perfecting High/Low Redshift Galaxy  
Separation Using Machine Learning**

Mario R. Martin  
Prof. Viviana Acquaviva

**Stress Analysis for Stability of Structures  
Subjected to Human Loading**

Rachid Moumni  
Prof. Gaffar Gailani

**The Role of Metal Ions in  
 $A\beta_{1-40}$  Aggregation and  
Reactive Oxygen Species Formation in the  
Course of Alzheimer's Disease**

Magdalena Podgorny  
Prof. Alberto Martinez



Honors Scholars Program Orientation  
September 11, 2014



Center for Secure and Resilient Maritime Commerce  
Summer Research Institute at Stevens Institute of Technology  
Joe Nathan Abellard (City Tech)

**Crash-Free Spherical Aerial Vehicle**

Tenzing Rabgyal  
Prof. Xiaohai Li

**Development of an  
Interactive Candy Crane Toy**

Deborah Sitton  
Profs. Angran Xiao and Andy S. Zhang

**Development of a  
Portable Low Cost  
Chemical/Dust Detection Unit**

Semone Thomas  
Profs. Angran Xiao and Andy S. Zhang

**Heliospheric Neutral Current Sheet Sector  
Structure Border Crossing by the  
Earth and the Seismicity of the Earth**

George Vanishvili  
Prof. Masato R. Nakamura



# Emerging Scholars

## **Responsive Web Design and its Applications**

Hibba Abbas  
Prof. Marcos Pinto

## **Scaffold Design and Fabrication for Tissue Engineering**

Shalman Ahmed  
Prof. Ozlem Yasar

## **Implementing Software as a Service (SaaS) Solution Using MS Azure**

Shamsan Ahmed  
Prof. Badreddine Oudjehane

## **Mosquitos & Materials: Building Construction in Developing Regions**

Tasnuva Ahmed  
Prof. Sanjive Vaidya

## **Waste-to-Energy Technology**

Curtis Appiah  
Prof. Masato R. Nakamura

## **Turbulence and Energy Transport in Quantum Fluids**

Md Arefin  
Prof. German Kolmakov

## **Using Cyper PLTL Workshops in Dental Hygiene**

Artemis Artoun  
Prof. Maria-Elena Bilello

## **XML and JSON Data Transfer in Android Application**

Khachatur Arutyunyan  
Prof. Marcos Pinto

## **Graph Theory and Brain Connectivity**

Alexander Berger  
Prof. Urmi Ghosh-Dastidar

## **Video Surveillance Hospitality Industry**

Jovany Bravo  
Prof. Patrick O'Halloran

## **Roebling and the D & H Canal**

Catherine Brito  
Prof. Paul King

## **Molecular Characterization of Diadumene Lineata (Cnidaria: Anthozoa: Hexacorallia: Actiniaria) from the East River in New York City**

Freddy Castro  
Prof. Mercer R. Brugler

## **Team and Community Outreach [DURA Solar Decathlon 2015]**

Mujun Chen  
Prof. Alexander Aptekar

## **Bose-Einstein Condensation and Superfluidity in Nanoscale Systems**

MD Adnanul Chowdhury  
Prof. Oleg Berman and Ilya Grigorenko

## **CAD/CAM Integration in the Design of Injection Mold**

Ricardo Clarke  
Prof. Angran Xiao

## **Prospect Park Biodiversity Project**

Andrew Cook  
Prof. Liana Tsenova

## **Cyber Security**

Blanca Cortes  
Prof. Patrick O'Halloran

## **Roebling and the D & H Canal**

Zahava Cortez  
Prof. Douglas Davis and Paul King

## **Chronicling the Achievements and Activities of Honors Scholars at City Tech**

Zianne Cuff  
Prof. Reneta D. Lansiquot

## **Positive Reframing and Vagal Tone: A Variation on the Expressive Writing**

Cherishe Cumma  
Prof. Pa Her and Jean Kubeck Hillstrom

## **Struggle and Security in Early American Literature**

Sorzahno De Souza  
Prof. Caroline Hellman

### **Graph Theory and Brain Connectivity**

Thierno Diallo  
Prof. Urmi Ghosh-Dastidar

### **Team and Community Outreach [DURA Solar Decathlon 2015]**

Hadiza Djibring  
Prof. Alexander Aptekar

### **Site Analysis**

Gareth Enahoro  
Profs. Jill Bouratoglou and Lia Dikigoropoulou

### **Roebing and the D & H Canal**

David Encarnacion  
Profs. Douglas Davis and Paul King

### **Prospect Park Biodiversity Project**

Farjana Ferdousy  
Profs. Urmi Ghosh-Dastidar, Sandie Han,  
Diana Samaroo and Liana Tsenova

### **Consequences of High Fat Diet in Male Mice**

Nahum Figueroa  
Prof. Sanjoy Chakraborty

### **Microbiology of the Built Environment**

Fabiola Fontaine  
Prof. Davida Smyth

### **Chronicling the Achievements and Activities of Honors Scholars at City Tech**

Florencia Garcia  
Prof. Reneta D. Lansiquot

### **Prospect Park Biodiversity Project**

Natassa Gavalas  
Prof. Liana Tsenova

### **Tin Man**

Steve Gazca  
Prof. Zoya Vinokur

### **Mentoring Among Registered Nurses: A Literature Review**

Anyelina Genao  
Profs. Aida Egues and Elaine Leinung

### **Design Development and Materials [DURA Solar Decathlon 2015]**

Dominique Graci  
Prof. Alexander Aptekar

### **Tin Man**

Maria Athina Guido  
Prof. Zoya Vinokur

### **Establishing a Computer Network Laboratory**

Dhiraj Gupta  
Prof. Benito Mendoza

### **Consequences of High Fat Diet in Male Mice**

Devya Gurung  
Prof. Sanjoy Chakraborty

### **Implementation of Web Hosting on Virtual Machine and Introduction to Tomcat and Glassfish Application Server and their Comparison**

Preeti Gurung  
Prof. Chein Chang (Peter) Li

### **Analyzing the Presence of Cardiovascular Disparities Among African Americans and Potential Nursing Implications**

Abdul Haq  
Prof. Aida Egues

### **Using Cyper PLTL Workshops in Dental Hygiene**

Liliya Hareluk  
Prof. Maria-Elena Bilello

### **House Controls Augmented Reality [DURA Solar Decathlon 2015]**

Kemoy Henry  
Prof. Alexander Aptekar

### **Writing Case Studies for Problem Solving with Computer Programming**

Solanly F. Hernandez  
Profs. Candido Cabo and Reneta D. Lansiquot

### **The Publishing and Commercial History of Peck Slip**

Aaron Hollander  
Prof. Mark Noonan

### **Closed Linear Economies**

MD Afzal Hossain  
Prof. Satyanand Singh

### **Establishing a Computer Network Laboratory**

Anzamal Hyder  
Prof. Benito Mendoza

20

21

**What Misconceptions Do Students Have in Solving Problems in Fundamentals of Mathematics (MAT1175)?**

Rezwon Islam  
Prof. A.E. Dreyfuss

**Quantitative PCR Analysis of Expression Changes in Differentiating PC12 Cells**

Daenna Joseph  
Prof. Jeremy Seto

**Compiling a Spectral Library of Fluids towards the Identification of Additives and Forgeries**

Deannie Joseph  
Prof. Jeremy Seto

**Team and Community Outreach [DURA Solar Decathlon 2015]**

Alisa Kalegina  
Prof. Alexander Aptekar

**Open Source Cyber Physical Systems**

Farhin Kapadia  
Prof. Farrukh Zia

**Mentoring Among Registered Nurses: A Literature Review**

Emily Kheluram  
Profs. Aida Egues and Elaine Leinung

**Gene Expression Networks in Schizophrenia**

Elizabeth Kolmus  
Prof. Jeremy Seto

**Microbiology of the Built Environment**

Manhin Lam  
Prof. Davida Smyth

**Emerging Scholars Program**

Winnie Leefung  
Prof. Reneta D. Lansiquot

**Open Source Cyber Physical Systems**

Ashley Lino-Frazier  
Prof. Farrukh Zia

**Consequences of High Fat Diet in Male Mice**

Nicole Leigh Madrazo  
Prof. Sanjoy Chakraborty

**The Role of DNA Methylation on Patients with Lupus**

Faizan Malik  
Prof. Evgenia Giannopoulou

**Team and Community Outreach [DURA Solar Decathlon 2015]**

Chantal Manning  
Prof. Alexander Aptekar

**Molecular Characterization of Diadumene Lineata (Cnidaria: Anthozoa: Hexacorallia: Actiniaria)**

**from the East River in New York City**  
Robert Marino  
Prof. Mercer R. Brugler

**Structural Modules Transport and Connections [DURA Solar Decathlon 2015]**

Roger Brian Mason  
Prof. Alexander Aptekar

**Global Climate Change in Developing Cities: Adaptations of the Built Environment**

Ana Matthews  
Prof. Ting Chin

**Writing Case Studies for Problem Solving with Computer Programming**

Tykila McCray  
Profs. Candido Cabo and Reneta D. Lansiquot

**Chronicling the Achievements and Activities of Honors Scholars at City Tech**

Mandy Mei  
Prof. Reneta D. Lansiquot

**Writing Case Studies for Problem Solving with Computer Programming**

Noel Melendez  
Profs. Candido Cabo and Reneta D. Lansiquot

**Site Analysis**

Guranter Multani  
Profs. Jill Bouratoglou and Lia Dikigoropoulou

**Prospect Park Biodiversity Project**

Natalie Nelson  
Prof. Liana Tsenova

## **Bose-Einstein Condensation and Superfluidity in Nanoscale Systems**

Kevin Ng

Profs. Oleg Berman and Ilya Grigorenko

## **Hospitality Industry Certifications as it Relates to Students and Employment Opportunities**

Alicia Ngai

Prof. Patrick O'Halloran

## **Site Analysis**

Loyra Nunez

Profs. Jill Bouratoglou and Lia Dikigoropoulou

## **Molecular Characterization of Diadumene Lineata (Cnidaria: Anthozoa: Hexacorallia: Actiniaria) from the East River in New York City**

Kabiru Omolaja

Prof. Mercer R. Brugler

## **Radiography Student's Perception of the Use of Technology for Demonstration of Radiographic Positioning of the Shoulder**

Niki Patel

Prof. Jennett M. Ingrassia

## **Writing Case Studies for Problem Solving with Computer Programming**

Andy Persaud

Profs. Candido Cabo and Reneta D. Lansiquot

## **Using Cyper PLTL Workshops in Dental Hygiene**

Angela Poulter

Prof. Maria-Elena Bilello

## **Chronicling the Achievements and Activities of Honors Scholars at City Tech**

Hema Puran

Prof. Reneta D. Lansiquot

## **Consequences of High Fat Diet in Male Mice**

Christine Quashie

Prof. Sanjoy Chakraborty

## **Exterior Development [DURA Solar Decathlon 2015]**

Farhana Rahman

Prof. Alexander Aptekar

## **Computational Design of Nanostructures for Optoelectronics**

Hasanuzzaman Rahman

Prof. German Kolmakov

## **Positive Reframing and Vagal Tone: A Variation on the Expressive Writing**

Shalamar Raimie

Profs. Pa Her and Jean Kubeck Hillstrom

## **Exterior Development [DURA Solar Decathlon 2015]**

Alondra Ramos

Prof. Alexander Aptekar

## **Developing a Work Flow for Ion Torrent Sequencing of Metagenomes**

Ayesha Rasool

Prof. Davida Smyth

## **Design Development and Materials [DURA Solar Decathlon 2015]**

Redon Rexha

Prof. Alexander Aptekar

## **Tin Man**

Mirza Rezwana

Prof. Zoya Vinokur

## **Tin Man**

Aele Rodriguez

Prof. Zoya Vinokur

## **Site Analysis**

Brian Rogers

Profs. Jill Bouratoglou and Lia Dikigoropoulou

## **Structural Modules Transport and Connections [DURA Solar Decathlon 2015]**

Margarita Salas

Prof. Alexander Aptekar

## **Building Web Applications using AJAX**

Elvis Sanchez

Prof. Marcos Pinto

## **New Web Design Techniques: Offline Caching, CSS3 Media Queries**

Juan Santana

Prof. Marcos Pinto

24

25

**Transition to College:  
Why do Incoming Freshmen not Attend a  
Free Summer Bridge Program?**

Ricky Santana  
Prof. A.E. Dreyfuss

**Lindenmayer System Based Scaffold Design**

Alex Sette  
Prof. Ozlem Yasar

**Site Analysis**

Faraz Siddiqui  
Profs. Jill Bouratoglou and Lia Dikigoropoulou

**Study of Bioinformatics Tools for  
the Analysis of DNA Methylation Data**

Dhavin Singh  
Prof. Evgenia Giannopoulou

**Chronicling the Achievements and  
Activities of Honors Scholars at City Tech**

Jodieann Stephenson  
Prof. Reneta D. Lansiquot

**Radiography Student's Perception of  
the Use of Technology for Demonstration of  
Radiographic Positioning of the Shoulder**

Alicia Symister  
Prof. Jennett M. Ingrassia

**Site Analysis**

Aura Tejada  
Profs. Jill Bouratoglou and Lia Dikigoropoulou

**Data Analysis and Visualization of  
City Tech Student Data**

Steven Tipton  
Prof. Boyan Kostadinov

**The Nature of Internships in the  
Hospitality, Travel, and Tourism Industries**

Suzanne Tran  
Prof. Gerald Van Loon

**Application of Place-Based Research in the  
Solar Decathlon Project**

Dennis Trotter  
Prof. Sean MacDonald

**Microbiology of the Built Environment**

Wing Pan Kenny Tsang  
Prof. Davida Smyth

**Application of the Fourier Transform for  
Spectral Analysis in  
Telecommunications Engineering Technology**

Ina Tsikhanava  
Prof. Djafar K. Mynbaev

**Exterior Development  
[DURA Solar Decathlon 2015]**

Nwaram-Billi H. Ugbode  
Prof. Alexander Aptekar

**Prospect Park Biodiversity Project**

Erica Yeboah  
Profs. Urmi Ghosh-Dastidar, Sandie Han,  
Diana Samaroo and Liana Tsenova

**Prospect Park Biodiversity Project**

Mallessa Yeboah  
Profs. Urmi Ghosh-Dastidar, Sandie Han,  
Diana Samaroo and Liana Tsenova

**2 Bridges Review Internship**

Michael A. Youmans  
Prof. George Guida

**Economical and  
Environmental Benefits of Recycling**

Sidra Zafar  
Prof. Sean MacDonald

**Mathematical Approaches to  
Understanding Parametrics in Architecture**

Yuliya Zavolunova  
Prof. Anne Leonhardt

**Mobile Dictionary**

William Zhong  
Prof. Marcos Pinto

**Global Climate Change in Developing Cities:  
Adaptations of the Built Environment**

Elli Zigenis  
Prof. Ting Chin

**Bose-Einstein Condensation and  
Superfluidity in Nanoscale Systems**

Mohammad Zilon  
Profs. Oleg Berman and Ilya Grigorenko

**Using Infograms for  
Online Educational Videos**

Meredith Zwicke  
Prof. Vasily Kolchenko

# Emerging Scholars

Supported by the Black Male Initiative Program

## **The Linear Algebra Behind Google**

Joe Nathan Abellard  
Prof. Samar ElHitti

### **SENCER**

#### **The Prospect Park**

#### **Biodiversity Project: A Chemistry Perspective**

Victor Aderara  
Prof. Diana Samaroo

#### **Network Analysis of Gene Expression Changes in Maternal Immune Activation Models of Schizophrenia**

James-David Brown  
Prof. Jeremy Seto

#### **Potential of Using Microwave Emission in Global Analysis of Land Cover and Drought State**

Yanna Chen  
Prof. Hamidreza Norouzi

## **Identification of Alternative Transcriptional Start Sites in Maternal Immune Activation**

Brittany Dhital  
Prof. Jeremy Seto

## **Logarithms, Polylogarithms and Multiple Polylogarithms**

Shannon Evans  
Profs. Andrea Ferroglija and Giovanni Ossola

## **Synthesis of a Fully Oxygenated Model of the ABC Ring of the Angucycline Antibiotics**

Matthew Henning  
Prof. Tony E. Nicolas

## **Take a Sip: Anti-Alzheimer's Properties and Other Health Benefits of Coffee and Caffeine**

Rebecca McCurdy  
Prof. Alberto Martinez

## **Comparison of Ground-based Soil Moisture Measurements with Satellite-Bases Product**

Nyan Lynn Oo  
Prof. Hamidreza Norouzi

## **Simulation of Fluid Flow in Injection Molding Process**

David Owoeye  
Prof. Angran Xiao

## **Writing Case Studies for Problem Solving with Computer Programming**

Walter Rada  
Profs. Candido Cabo and Reneta D. Lansiquot



Designing a Research Poster Presentation  
Mr. Marvin Bennett  
November 13, 2014

# Learning Communities

## Theme Based Projects

### Story-Telling in Action-Adventure and Role-Playing Games

#### Bloodlust

Kevin Guan, Tristen Drouillard, Hakeem Huggins, Chevon Kelly, and Marvin Laboriel

#### Magia

Liliana Di Giuseppe (Lily), Qian Yun Chen (Vicky), Justin Choi, Gabriel Taveras, and Kimberly Truong

#### Ominous

Paul Holder, Samuel Holder, Mingcheng Lin (Johnshon), Matt Sandoval, and Louis Tejada

#### Rebirth

Stevens Joseph, Jesse Angel, Randy Apanah, Kuljit Singh, and Randy Ramsaywack

#### Third Eye

Seline Perez, Shahareen Khanom, Ahamed Rizvi, and Ricky Martinez

**Profs. Candido Cabo, Reneta D. Lansiquot and Ashwin Satyanarayana**

**ENG 1101:** English Composition I

**CST 1100:** Introduction to Computer Systems

**CST 1101:** Problem-Solving with Computer Programming

### Off the Page: Discovering Math in Everyday Life

Alexander Alday, Crystal Binda, Larissa Deguerre, Dimitri Duverger, Michael Edwards, Adaoma Ejimbe, Frank Frias, Olivia Gutierrez, Matthew Hirsch, Rashad Isaacs, Breon Levons, Vincent Meli, Justin Neuman, Ivan Parraga, Eric Paucar, Deuris Pena, Pumadat Ramkhelawan

Ravi Rampatsingh, Reginald Rosario, and Jarvis Simms

**Profs. Suzanne Miller and Lin Zhou**

**ENG 1101:** English Composition I

**MAT 1175:** Fundamentals of Mathematics

### Eat Your Words!

#### Just Eat It: City Tech's Healthy Student Initiative

Jimmy Aguiza, Winson Chan, Jovannie A. Charles, Randy Checo, Saleste N. Figueroa, Jeffrey Franco, Jermel H. Ince, Alexander Johnson, Nathan Julian, Hallie Lederer, Hector Ledesma, Hoi Ching Tiffany Lo, Careem A. Mcleod, Tiana M. Mcrae, Roberto B. Perez, Paul Richards, Gabriel R. Solano, and Octavius D. Tanner

**Profs. Rebecca Devers and M. Genevieve Hitchings**

**ENG 1101:** English Composition I

**ADV 1162:** Raster and Vector

### The Composition of Happiness & Well-Being

Arlene Adams, Katiria Altruz, Tanaye Amis, Natasha Armas, Mirna Ayala, Dominique Brunson, Lilibeth Castillo, Anna Coulibaly, Damon Drumgold, Carina Flores, Ivyz Fuentes, Jacob Garcia, Luz Garcia, Meena Goberdhan, Jack Hon, Greys Martinez, Kelsey Melendez, Indira Raimundi, Jocelyn Romero, Dulce Tepi, Gabriela Velasquez, Tinika Welsh

**Profs. Jill Belli and Justine Pawlukewicz**

**HUS 1101:** Introduction to Human Services

**ENG 1101:** English Composition I

### "An Exploration of Effective Mathematics Pedagogy"

Sanaya Brown, Sing Fong Chiu, Saloua Daouki, Allestair Elliston, Victor Lee, Fathima Mohamed Rafeek, Leonardo Perez, Rafael Regalado, Julia Rivera, Joseph Ruiz, Sonya Sultana, Irania Vazquez, and Benjamin Zeng

**Profs. Andrew Douglas and Estela Rojas**

**MEDU 2010:** Technology in Mathematics Education

**MEDU 3011:** Methods of Teaching Middle School Mathematics

### Ways of Seeing:

#### Adventures with Image and Text

Natali Agudelo, Nizar Alvarez, Kevin Ayala, Garfield Crumbie, Tevin Dacosta, Hailin Du, Michael Feliciano, Kevin Gonzalez, Lorena Gonzalez, Alexander Guerrero, Zenoa Hinds-Lewis, Xiaocen Jiao, Cheng Long Lin, Dongmin Lin, Roberto Lopez, Priya Maharban, Mickala Mcfarlane, Jessica Pareja, Moeen Razak, Richard Rice, Sheryl Varricchio, and Janet Whitten

**Profs. Jody R. Rosen and Jenna Spevack**

**ENG 1101:** English Composition I

**ADV 1100:** Principles of Graphic Design

### Out of Many, One: Exploring Cultural Connections through Folklore

Homaira Abeda, Fayad Abraham, Tiffany Badillo, Wynter Battle, Dereck Bhoag, Jasmine Clark, Christian Desinor, Anthony Dyce, Fance Harrell, Ksama Gumbs, Natassia Harte, Jordan Holmes, Lelanda Jones, Anjorn Lavia, Amanda Martinez, Daniella Martinez, Adrian Montalvan, Jasmine Morales, Robinson Perez, Bijan Reid, Pemba Sherpa, Ishmael Veira, and Joshua Vera

**Profs. Annie Ngana-Mundeke and Chandra Young**

**ENG 092R:** Developmental Reading Level II

**AFR 1130:** Africana Folklore

### Biology-Math

Sekhri Ahmed, Natasha Aimas, King Alcock, Arlyn Aquino, Jean Carlo, Chee Fong Chai, Xu Hui Chen, Luis G. Giraldez, Abujafar Kazi, Shinan Lui, and Gerlyn Pichardo

**Profs: Holly Carley and Shahnewaz Rahim**

**BIO 1100:** Human Biology

**MAT 1190:** Quantitative Reasoning

# Special Projects

## **Authentic Research Experiences in Microbiology: How Studying the Urban Environment and Posing Thoughtful Questions can Lead to a Real Impact on Student Learning**

Prof. Davida Smyth  
**BIO 3302:** Microbiology

*Funded by National Science Foundation TUES Grant  
(Theodore Muth, PI, Brooklyn College)*

## **Climate Change Impacts on Water Resources**

Gregory DeVico, Shaun Hoffman, Courtney Scipio,  
Hiu Lee Tsui, Lucia Vlad-Berindan, and Jacky Xu

## **Climate Change Impacts on Health**

Khayri Alphonse, Dannifer Cueto, Mairovi Garcia,  
Navindra Haripersaud, Jonathan Martinez, Elina Savina,  
Sonia Tovar, and Shantal Valdez

## **Climate Change Impacts on Energy**

Ibrahima Barry, Carla Cruz, Ehis Igbinosa, Jaime Martinez,  
and Kim Moore

Prof. Reginald Blake  
**PHYS 1112:** Principles of Science II

## **GUNY Service Corps: Increasing STEM Awareness at Daniel Hale Elementary School**

Abigail Doris (*Lehman College*)  
Areeba Iqbal (*New York City College of Technology*)  
Dante Francis (*New York City College of Technology*)

Profs. Diana Samaroo and Melanie Villatoro

## **Designing Effective Student Advisement Tools: Department of English as a Case Study**

Mandy Mei  
Prof. Julian Williams

**Abstract:** Every student attending New York City College of Technology must take at least one English course to complete their degree. How can faculty provide information to students about course offerings? Dr. Julian Williams and Mandy Mei created a marketing campaign as a solution.

## **Enhancing Student Outcomes by Integrating Inquiry Based, Student Driven Exercises into the Undergraduate Biology Laboratory Classroom**

Profs. Jeremy Seto, Davida Smyth, and Andleeb Zameer  
**BIO 1101:** Biology I

*Resources for Evidence-based Laboratory Experiences  
Funded by Perkins VTEA Major Effort*

## **Molecular Genetics and the Influence on Taste: Bringing Biology to a Beverage Management Class**

Profs. Karen Goodlad, Jeremy Seto, and Ghassan Yehia  
**BIO 3620:** Molecular and Cell Biology  
**HMG 2402:** Wines and Beverage Management

## **The Improvement of Faculty Commons Website: How will it Impact User Experience?**

Maen Caka and Kevin Rajaram  
Prof. Julia Jordan

**Abstract:** The changes to the website are made to enhance user experience. They include accessibility, ease of use, and a wide array of new features. The site is now easier to read and navigate through pages with the ability to search and find information. Its engine has been updated, making it a fully functioning web application. Calendar events can be searched and users now have the ability to add them to their personal eCalendars. The Faculty Commons website is now mobile optimized to allow a better experience on desktops, laptops, and handheld devices.

## **We're Growing Brains at City Tech! Transforming RNA-Seq Analysis to Align a Curriculum and Bring Internship Opportunities through Authentic Research in the Classroom**

Profs. Jeremy Seto, Davida Smyth, and Ghassan Yehia  
**BIO 3620:** Molecular and Cell Biology  
**MED 3910:** Internship/Research in Biomedical Informatics  
*Funded by National Science Foundation DUE Grant #1323522*



National Science Foundation REU Program  
Howard University Beltsville Laboratory  
Francois Mertil and Md Arefin

## Number Theoretic Explorations

Christina Assante, Saloua Daouki, Loudia Desir, Joshua Haber, Owen Hewitt, Alan Jara, Joseph Mongo, Leonardo Perez, Jean Poyo, Rafael Regalado, Julia Rivera, Renautha Rose, Joseph Ruiz, Ricky Santana, Denice Santos and Jian Sun

**Abstract:** We investigate the infinitude of the primes for arithmetic progressions and other interesting problems in number theory by focusing on specific questions. In this journey of discovery we see the magnificence of numbers and touch upon some of their properties that safeguard our data.

Prof. Satyanand Singh

**MAT 3021:** Number Theory

## Josephus Permutation

Hamzah Alhamayel, Eric Aung, Atif Baig, Phillip Bharath, Brian Bones, Ingrid Espinoza, Marco Estrada, Anton Fedorov, Jibriel Hasan, Nicholas Lefkarites, Leonel Lopez, Luka Machavariani, Gary Mei, Wilgene Mejias, Daniel Otero, Christian Ovalles, Christopher Pan, Sunil Patel, Sadaf Ramzan, Imani Rush, Swastika Shrestha, Angela Tang, Somrow Zainul, and Yaoxin Zheng

**Abstract:** We illustrate a classic problem, touch on recursive relations and program in Java, Python and C ++. We will describe this permutation and trace its roots whilst we illustrate the versatility from various programming perspectives.

Prof. Satyanand Singh

**MAT 2440:** Discrete Structures and Algorithms I

## Chemical Markers of Water Quality: A CHEM 1210 Investigation of the East River

Hamzah Alhamayel, Helena Asamoah, Najma Bibi, Stephanie Bisram, Lily Chan, Alexander Chaparro, Tristan Charran, Brian Gomes, Fatema Jannat, Christina Lafontant, Shannon J. Lewis, Keefe Lim, Tiara Mitchell, Linalee Moreira, Anthony Paulino, Marina Portnaya, Somat Thakali, George Varghese, and Shaniqua A. Walker

Prof. L. Jay Deiner

**CHEM 1210:** General Chemistry II



National Society for Collegiate Scholars  
Leadership Team



Museum of Chinese in America  
November 6, 2014



## NSF Louis Stokes Alliance for Minority Participation (LSAMP) Program

Program Coordinator: Mr. Marvin Bennett

### Detection of Terahertz Signals Using Fiber Based Multiple Sagnac Interferometers Coupled with a Variable Stress Dependent Polarizing Material

Muhammed Abubakar  
Prof. Xin-Zhou Wei

### New Design of Combustion Chamber in a Water-to-Energy Plan

Eric Bravo  
Prof. Masato Nakamura

### Cloning MGLUR2 and 5HT2a Receptors to Understand the Effects of Expression Abnormalities on Neurodevelopment and Behavior

James-David Brown  
Prof. Jeremy Seto

### Computational Design of Polariton Nanodevices for Information Transfer and Quantum Computing

Ricardo Ferro  
Prof. German Kolmakov

### Using Next Generation Sequencing Technology to Elucidate the Microorganism Diversity in Water Sites in Brooklyn

Fabiola Fontaine  
Prof. Davida Smyth

### Using CAD in Custom Design Medical Devices

Rachid Moumni  
Prof. Gaffar Gailani

### Open Linked Data: Queries and Visualization

Adedamola Shomoye  
Prof. Benito Mendoza

### Spectral Analysis of Water Soluble Tetra-Methylpyridinium Porphyrin [TMPyP] and Copper (II) Phthalocyanine-tetrasulfonic Acid [CuPc-(SO<sub>4</sub>)<sub>4</sub>] with Albumin

Andrew Wills  
Prof. Diana Samaroo



## Research Experiences for Undergraduates in Satellite and Ground-based Remote Sensing at NOAA-CREST 2

Funded by NSF REU Grant # AGS-1062934

Prof. Reginald Blake, Prof. Janet Liou-Mark, and Ms. Laura Yuen-Lau

### Holistic Investigation of Water Pollution in the Harlem River

Augustine Amissah

### Seasonal impact on Boundary Layer Heights in a Heterogeneous Landscape

Md Arefin

### Identification of Phreatophytic Ecosystems Depending on Groundwater in Texas Based on NVDI Data

Keisha Baxter

### Multi instrument Classification of Atmospheric Boundary Layer Stability

Raymond Bishir

### Detection of Land Cover Change and Drought Trend Using Brightness Temperature and Microwave Emission

Yanna Chen  
JFEW Scholars Program

### Spatial Variability of Ambient Ozone Concentrations during Three Heat Waves in the Northeast Megaregion of the United States

Brittany Dhital  
JFEW Scholars Program

### Flood Prediction Based on Multidimensional Analysis of Precipitation and Inundation in the Mekong River Delta

Andrew Fitzgerald

### Comparison of NOAA-CREST Soil Moisture Measurements with AMSR-2

Akiema Forbes

### Evaluate the Performance of Different Water Classification Algorithms to Determine Clear Sky Water Pixels in VIIRS Satellite Images

Indrajit Gurung

### Comparison of Two Different Type of Ceilometers

Francois Mertil

### Characterizing Arctic Land Surfaces Using a Forward Looking Infrared (FLIR) Camera

Berenice Oseguera

### Creating Water Body Maps for the Pacaya Samiria, the Everglades, and the US Gulf Coast Using NASA UAVSAR Imaging Radar Data

Stivaly Paulino

### Summertime Wind Speed Trends in Southern California

Esha Rahman

### Geospatial Modelling of the Harlem River Pollution

Modou Sene

**A Seasonal Investigation of Heat Fluxes in the New York City Region**

Selma Skoko

**Landsat Retrieved Surface Properties Effects on the Day Time Temperature Pattern in New York City**

Awolou Sossa

**Fusing Spatial Kriging with Satellite Estimates to Obtain a Regional Estimation of PM2.5**

Daniel Vidal



Cultivating Fine Dining Etiquette  
Prof. Karen Goodlad  
October 7, 2014



Research Scholars Luncheon  
Mathematics Professor Mboyo Esole from Harvard University  
October 30, 2014

**IS901: Independent Study  
MEDU 2901: Peer Leader Training  
in Mathematics**

Prof. AE Dreyfuss

*Funded by the Black Male Initiative, Perkins VTEA and CUE*

**How can a Peer Leader motivate students to come to Biology workshop?**

Rimsha Azhar

**How can the Peer Leader assist the students with studying strategies in a Biological Sciences workshop?**

Manuela Hoyos

**How does the use of images help students understand Biology?**

Christopher Mason

**How is a Math Workshop developed through relational leadership?**

Francois Mertil

**What behavioral patterns do students demonstrate in a Precalculus (Math 1375) Workshop?**

Jeffrey Michel

**What techniques are involved in remedying students' misconceptions in Mathematics (MAT 1175) workshop?**

Rushdha Rafeek

**What factors influence students' learning in a Statics workshop?**

Ngima Tashi Sherpa

**What techniques can the Peer Leader use to develop students' conceptual understanding in Chemistry workshop?**

Yuly Chiang Yu

# Acknowledgements

To the dedicated professors for mentoring students.

A heartfelt thank you for making this event a successful one:

Dean Karl Botchway  
Dean Kevin Hom  
Interim Dean David Smith  
Prof. Julia Jordan  
Ms. Laura Yuen-Lau  
Mr. David Turkiew  
Mr. George Lowe  
Mr. Jeff Novak  
Mr. Lubosh Stepanek  
Ms. Shawn Beatty  
Ms. Mursheda Ahmed

A special thank you to the judges of the poster competition:

Monica Berger  
Reginald Blake  
Aida Egues  
Gaffar Gailani  
Evgenia Giannopoulou  
Pa Her  
Paul King  
Alberto Martinez  
Ariane Masuda  
Masato R. Nakamura  
Mark Noonan  
Hamidreza Norouzi  
Patrick O'Halloran  
Kara Pasner  
Jonas Reitz  
Jody Rosen  
Diana Samaroo  
Satyanand Singh  
Davida Smyth  
Liana Tsenova  
Yu Wang

A special recognition and appreciation to Mr. Raciél Guzman for designing the program.

