The City College of New York
Student Support Services Program
Scholars Showcase
Abstracts

March 10th, 2016
Marshak 1104
Suliman Ahmed (Environmental Earth System Science, Senior)
Faculty/Mentor: Angelo Lampousis

“Did Stop and Frisk Have an Effect on Major Crime?”

For my final project of my Geographic Information Systems class, I had to analyze data and to provide a map with it. I decided to see whether or not stop and frisk had any significant effects on the crime rate in NYC. I chose this research topic because, while I was taking this class, I heard a lot of things on the news about stop and frisk during the NYC mayoral elections. I decided to look at the numbers myself. I concentrated on Manhattan and on major crimes, such as armed robberies and murder, to make the data smaller and easier to deal with when doing the analysis.

Kaisa Ajaye (English, Senior)

“The Stele with two Bodhisattvas. Art History: Research through Discovery”

The Stele is a relic from the Tang Dynasty, circa 700AD. Carved from black limestone, it is representative of relief sculpture during China’s six dynasties period. There are two prominent figures: the Bodhisattvas are Kuan-yin (Avalokitesvara) on the right and Ta-Shih-Chih (Mahasthamaprapta) on the left. Various other Buddhist figures are featured on the rear and sides of the Stele.

Mojgan Asadi (Chemistry, Junior)
Faculty/Mentor: Herbert Bernstein

“The Geometry of Niggli Reduction: SAUC-Search of Alternative Unit cells”

A database of lattices using the G6 representation of the Niggli-reduced cell as the search key provides a more robust and complete search than older techniques. Searching is implemented by finding the distance from the probe cell to other cells using a topological embedding of the Niggli reduction in G6, so that all cells representing similar lattices will be found. The embedding provides the first fully linear measure of distances between unit cells. Comparison of results with those from older cell-based search algorithms suggests significant value in the new approach.
Special Thanks to:

SSSP students who participated in this event. Thank you for your outstanding contributions to academia.

Faculty mentors who have worked with these wonderful scholars. Thank you for your time and guidance.

Leadership Engagement Initiative Club, thank you for your collaboration.

Federal Work Study students who helped organize the SSSP Scholars Showcase. Thank you for all the help and availability.

Azor Carme (Architecture, Junior)  
Faculty/Mentor: Loukia Tsafoulia  
“Redesigning Manhattan”  
The goal of the second-year students at the Bernard and Anne Spitzer School of Architecture for this spring semester is to redesign Manhattan. Manhattan used to be a very natural landscape with lots of hills and marshes. As the city grew, the need for an organized layout of streets and building lots became irrefutable. To address this issue, in 1811 the state employed a team of surveyors to design a uniform grid to be used throughout the city. A strict rectangular grid was imposed on the landscape with no regard to the existing natural elements or the built homes. This semester, we are returning to the year 1811, before the Grid as we know it today was imposed on Manhattan. With our acquired knowledge of the land mass and the city, we are redesigning Manhattan.

Mariah Cameron (International Studies, Sophomore)  
“Education Systems in the Caribbean”  
The educational systems in the Caribbean are in crisis. The fact is that they have always been, but some recent developments have increased concerns about the future of Caribbean education. The problems range from poor discipline to poor performances at the examinations level. Recently, hundreds of qualified teachers have emigrated from schools in the Caribbean to schools in North America and Europe.

Gregory Cortorreal (Psychology/Sociology, Senior)  
Faculty/Mentor: Eric Fertuck & Elliot Jurist  
“Dark Tetrad, Sadism & Schadenfreude”  
The un-empathic pleasure often experienced at another’s misfortune is recognized by the German term schadenfreude. This effect of malicious enjoyment, when exhibited by normal populations in more severe or personally relevant contexts, may be behaviorally characteristic of Dark Tetrad personality traits. The Dark Tetrad is a consortium of everyday socially maladaptive callous traits in the subclinical range: psychopathy, narcissism, Machiavellianism and sadism. This two-part study attempts to operationalize schadenfreude as one of the behavioral tendencies that characterizes the vicarious factor of subclinical sadism and uncover the relevant Dark Tetrad traits, context parameters, and cognitive tendencies that interact with sadism to create variance in the expressions of effectual schadenfreude.
Wilka Diaz (Global Health, CUNY BA, Senior)  
Faculty/Mentor: Lourdes Huaman  
“Summer with a Purpose: Promoting Global Health”  
My project will be based on my GlobeMed at City College Grassroots-On-Site-Work (GROW) summer internship. I will provide information about the organization, the chapter’s mission, the purpose of our internship in Peru, our partner CCC-UNSCH and the role GlobeMed members play in promoting health equity. Through the presentation, we will display our work with the elderly and ways students can get involved in the chapter and participate in the internship.

Khadeeja Din (Computer Science, Senior)  
Faculty/Mentor: Jie Wei  
E-book library is a stand-alone application developed in python. The software is Internet and operating-system independent, and currently it can only be run on a computer. The GUI for the app was created using Qt. This project demonstrates simple app development based on an object-oriented structure. E-book library is a user made collection of E-books. Users can upload books, earn points, read books, rate & review books, share book reading time, and complain about bad words in books. In this unique library users do not need money to read books; instead, they need points to read books. Points can be earned by contributing to the library catalog, i.e. adding new books.

Cynthia Gonzales (Childhood Education, Junior)  
Faculty/Mentor: Ahalya Bodasing  
“To Inspire Our Youth”  
My project will consist of multiple drawings produced in my art education class. There will be about a total of 13 art projects done in different styles. Art is extremely important as a form of expression especially for the younger students. I will showcase art composed by me that is inspiring and humble. I will introduce ways to create art that is inexpensive and easy to do with students. The premise of my project is that you do not have to be an artist to create art, and that creating art is crucial in giving our youth a different way to express themselves.

Zhying Zhu (Biochemical Engineering, Junior)  
Faculty/Mentor: Dr. Steven B. Nicoll  
“Injectable Cellulosic Hyrogels for Soft Tissue Reconstruction Following Breast Resection”  
In 2013, there were 5.7 million surgical breast reconstructions, of which, more than 4.4 million procedures were for tumor removal. Developing a biocompatible, long-lasting, injectable and anti-tumorigenic soft tissue filler would be beneficial for breast cancer patients who have undergone tumor resections. The goal of this project is to investigate the potential of cross-linked methylcellulose hydrogels as curcumin delivery vehicles in vitro for potential soft tissue reconstruction.
Mateen Yousaf (Civil Engineering, Freshmen)
Faculty/Mentor: Arvdan Yazdanbakhsh

“Can the Compression and Flexion of Recycled Concrete Aggregate be Improved?”

This research investigates the mechanical properties of concrete made with recycled concrete aggregate (RCA). As most previous research substantiates, the incorporation of recycled concrete aggregate reduces the compressive and flexural strength of concrete. This research seeks to enhance the strength of concrete made with RCA without increasing cement content by adhering to ASTM the standard specifications for concrete aggregates. In the United States the amount of construction and demolition waste is over 300 million tons per year. Another motivation for this research, in addition to increasing the strength of the recycled concrete, is to increase environmental the sustainability or “green rating” of concrete.

Adatchede Louis Zannou (Biomedical Engineering, Junior)
Faculty/Mentor: Dr. Marom Bikson

“Monitoring Temperature Difference on the Skin during Transcranial Direct Current Stimulation: a Subjective and FEM Study”

Transcranial direct current stimulation (tDCS) is a non-invasive neuromodulation technique that involves passage of low-intensity direct current (1-2 mA) across the brain using surface electrodes. Generally, tDCS is well tolerated with transient sensation or skin lesions during or after stimulation. These sensations might arise due to poor skin-electrode contact, electrochemical reaction, heat generated on the skin-electrode interface due to the joule heating or metabolic responses to stimulation. This study aims to investigate if the temperature change on the skin-electrode interface is enough to address the cause of these side effects and thereby investigate whether direct currents are responsible for temperature rise within the tissues.

Kevin Gonzalez & Kazi Hossain (Biology, Sophomore)
Faculty/Mentor: Dr. Mark Emerson

“Regulation of PTF1A in Differentiating Horizontal Cell Progenitors”

Multipotent progenitor cells generate specific neuronal cell types with unique gene expression patterns. Thrb has been shown to be expressed in a specific progenitor cell population, which generates specific retinal cell types, mainly horizontal cells or cone photoreceptors. We will identify the genes and pathways that control the generation of horizontal cells from these cells. Our approach is to identify the earliest known factor specifically, transcribed in horizontal cells and to investigate how this specific expression arises.

Mryam Hinson (English/Sociology, Junior)
Faculty/Mentor: Jeff Coots

“Homeless Outreach Project”

In an attempt to eradicate homelessness in New York City, we asked homeless participants questions about their experiences with law enforcement as well as with living on the streets. While we may think that there are simply not enough shelters in the city, the true reason for homelessness is far greater than that. People have lost their jobs and housing or even refuse to live in crowded spaces. Homeless individuals often travel, from the trains to the parks, or roam under bridges and in tunnels, where they make temporary shelters. We hope that our research will bring insight on the necessity of creating safe havens for homeless individuals and prevent homelessness in the future.

Darinel Montero (Architecture, Sophomore)
Faculty/Mentor: Ahalya Bodasing

“The Arising of an Analytical Perception of Paintings by Pablo Picasso”

Some of Picasso’s cubistic paintings of the 20th Century are being displayed. In the 1920’s, Picasso was still exploring cubism as an art form. Cubism was one of his long lasting styles which lasted for more than twenty years. During this time, most painters were focused on a style known as Post-Impressionism. This post-impressionist style was characterized by the painting of realistic objects. Picasso’s cubistic styles changed how observers view paintings and how they become aware of the qualities of paintings by applying psychological concepts of the 20th century.
Nino Thinkashvili (Sociology, Senior)

“Winter Term Abroad: Studying in Argentina”

My presentation will focus on my experience studying abroad in Argentina during the winter 2014 semester. My presentation will cover the chronological steps in studying abroad, from the application process, to adjusting to a new home, and learning to utilize your study abroad. Studying abroad will broaden a student's horizons and develop a sense of independence and curiosity. I had the chance to study abroad in Argentina during the winter 2014 semester, and the memories I have made will last a lifetime.

Suzie Saint-Vil (English, Sophomore)
Faculty/Mentor: Ahalya Bodasing

“Voodoo and Film”

I will tackle the misconceptions of voodoo in film, as well as the history of many common movie figures with respect to voodoo and the “supernatural.” I will discuss common voodoo figures and symbols, such as Papa Legba and the voodoo doll. I became interested in the topic because I researched it for a class on African and Caribbean culture. I am also Haitian and all my life people have always asked me about voodoo. I decided to research it because I didn’t know anything and I learned so much about this multifaceted religion.

Assata Sangary (International Studies, Senior)

“Non-Profit Organization: Expanding the Circle Inc.”

I will be showcasing how Expanding the Circle was established, why it was founded and who it serves. I will display the events we have held so far and the importance of my role in the organization. I will also talk about the impact of this organization on my life.

Zunxu Tian (Biology, Senior)
Faculty/Mentor: Dr. Levitt

“Ultrastructural Correlates of Axons and Synapses Belonging to Different Circuits in Mammalian Primary Visual Cortex”

A number of areas dedicated to visual functions exist in the mammalian cerebral cortex; neurons in these areas are linked by an extensive network of anatomical connections. By studying these circuits at the ultrastructural level, we aim to find evidence of what differentiates these circuits to clarify their functions. This study aims to test the hypothesis that different anatomical circuits within and among visual cortical areas display different morphological and ultrastructural characteristics.

Jasmin Torres (Chemical Engineering, Junior)
Faculty/Mentor: Ilona Kretzschmar

“Exploration of Photonic Properties in Crude Asphaltenes for Dye Utilization in DSSCs”

The sun provides us with vast amounts of energy. DSSCs are a type of photovoltaic cell that transforms sunlight into electricity; these cells utilize dye molecules to maximize the motion of electrons through molecular excitation. Asphaltene molecules are constituted of a multi-conjugated ring system that resembles the structure of conventional dyes used, such as N 719. Thus, they could be used as a dye in DSSCs. The cell is made out of a cathode and anode side, and each component of the cell is assembled and put together with the use of sealant and heat. Different dyeing methods are employed and later tested to see which one yields higher efficiencies. Asphaltenes from a new region are being used and several analysis methods are used to characterize this fraction of asphaltene.

Melissa Torres (Chemical Engineering, Junior)
Faculty/Mentor: Marco J. Castaldi

“Using Thermal Analysis to Assess the Capability of Non-Recyclable Waste Plastic as Energy Source”

Energy recovery from municipal solid waste (MSW) disposal is becoming a global growing source of clean sustainable energy. Landfills constitute one of the largest sources of methane, a top ten greenhouse gas. Landfills are not a sustainable waste management option because they take up a lot of space. Energy recovery from waste is a better alternative to landfill in the waste management hierarchy because it reduces the volume of municipal solid waste that is disposed and generates heat, electricity, liquid fuels and chemicals from the waste.