CSI UNDERGRADUATE CONFERENCE ON RESEARCH, SCHOLARSHIP, AND PERFORMANCE*

April 25, 2013
Center for the Arts, 1P-Atrium
11:00am - 4:00pm

*Sponsored by the Division of Academic Affairs with funding from the CSI Student Government, the Office of Alumni Relations, and the CSI Foundation
CSI Undergraduate Conference on Research, Scholarship, and Performance 2013

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Message from the President

CSI Undergraduate Conference on Research, Scholarship, and Performance

Message from the President

It is my pleasure to welcome you to the 12th Annual Undergraduate Conference on Research, Scholarship, and Performance.

The conference theme, “Your Passport to Knowledge,” exemplifies the breadth and depth of knowledge and talent of our undergraduate students. This annual event showcases the intellect and talent of CSI students, as well as the commitment of our faculty to provide a world-class education for our students. It is through the guidance of and the collaboration with CSI faculty that our students are able to construct research, scholarship, and performances of the outstanding caliber that you will enjoy today.

This year, we have over 200 participants in the conference representing an extensive range of disciplines within the College. This year’s conference features abstracts being presented either by individual students or groups of students, musical and dance performances, and student exhibitions of works of art. Today, you will have the opportunity to immerse yourself in creative musical and dance performances, rigorous analyses of social scientific and literary ideas and theories, and meticulous mathematical and scientific investigations and inquiries.

It is important to note that CSI Undergraduate Research Awards, sponsored by the CSI Foundation, supported 20 of our students’ research projects. In addition, we are extremely grateful to the Office of Academic Affairs for its financial support.

I would like to acknowledge Kristen Lindtvedt and Dr. Alan Benimoff, who have assisted our student participants by providing workshops and technical assistance that enabled them to enhance the visual components of their presentations; Jonna DeSantis, Office of the Associate Provost for Undergraduate Studies and Academic Programs; and Jessica Stein, Delia Rios, and Barbara Verteramo, Office of the Provost, all of whom created a great team that handled a myriad of tasks and details. Lastly, I would like to thank Associate Provost for Undergraduate Studies and Academic Programs Deborah Vess for coordinating the conference.

I would also like to thank the Alumni Association for donating T-shirts for the volunteers; Design Services; the Center for the Arts for their technical support; Media Services; members of the Faculty Review and Planning committees for the conference; and the Verrazano School volunteers for taking the time to assist with the organization of this event.

I am indeed proud that this conference represents a true collaboration of the College community, and I appreciate the many roles played by all in presenting this conference, which highlights the critical research and experimentation that define and enhance the college experience.

Congratulations to each and every one of today’s participants!

Sincerely,

William J. Fritz, PhD
Interim President
The Department of Performing and Creative Arts

Presents

An Art, Dance, and Music Exposition

at

The 12th Annual CSI Undergraduate Conference on Research, Scholarship, and Performance

The Atrium, The Recital Hall, The Dance Studio, The Williamson Theatre, and The Student Art Gallery

Center for the Arts
Thursday, April 25, 2013
Art, Dance, and Music Exposition

THE RECITAL HALL, 1P-120

CSI CHAMBER MUSIC
11:15am –12:05pm

A showcase of chamber music featuring students of the CSI Music Program

Dr. David Keberle, Performance Coordinator

Program
Romance .................................................................... Anonymous
Saltarello ..................................................... Vincenzo Galilei (1520-1591)
Joseph Bushman, guitar

Dolly Suite, Op. 56 for Piano Four Hands ......................... Gabriel Fauré (1845-1924)
  1. Berceuse
  6. Le pas espagnol

Hosca Mak, Shiyun Shang, piano

Duet for Violin and Bass ............................................... Astor Piazzolla (1921-1992)
  Teresa LoBello, violin    Patrick Lane, bass

Cantata .......................................................... John Carter (1932-1981)
    Rondo
    Recitative
    Air
    Toccata

Ashley Gill, soprano    Prof. Ah Ram Lee, piano

Cavatina ...................................................... Stanley Meyers (1930-1993)

Lagrima tango ................................................................ attributed to Francisco Tárrega (1852-1909)

Stephen Flannery, guitar

Ombra mai fu .......................................... George Frideric Handel (1685-1759)
Beau soir ..................................................... Claude Debussy (1862-1918)
Nuit d’étoiles ............................................................ Claude Debussy

Denise Sergi, soprano    Prof. Ah Ram Lee, piano

Danza, danza fanciulla gentile ..................................... Francesco Durante (1684-1755)
Chanson d’amour ................................................... Gabriel Fauré (1845-1924)
Frühlingsnacht ..................................................... Robert Schumann (1810-1856)
What Good Would the Moon Be? ............................... Kurt Weill (1900-1950)

Noa Miranda, soprano    Prof. Ah Ram Lee, piano
CSI JAZZ BANDS
3:15pm–4:00pm

The CSI Big Band explores literature of that genre ranging from swing to modern with an emphasis on clarity and ensemble performance and development of each individual player's musicianship.

Prof. Michael Morreale, Director

The CSI Big Band
Tim Adorno—guitar
Thomas Cropley—trombone
Al DeRosa—piano
Sara Dupre—piano
Stanton Estwick—piano
Sean Feldman—drums
James Fletcher—tenor saxophone
Jessica Geraci—trumpet
Miles James—trombone
Caesar Krit—trombone
Patrick Nowak—guitar
Ari Parness—guitar
Adan Paz—guitar
Andrew Robles—trombone
Francis Rogers—trumpet
Alan Rogozin—bass

Program
Dat Dere ............................................................................ Bobby Timmons
Uh-Huh ............................................................................. Hank Mobley
Hymn 44 ................................................................. Michael Morreale
Killer Joe ........................................................................... Benny Golson
Con Alma ................................................................. Dizzy Gillespie
Blue in Boogie ............................................................... Dizzy Gillespie

All arrangements by Michael Morreale. Program subject to change.

CSI JAZZ REPERTORY COMBO featuring Linda Soria, jazz vocals

All the Things You Are ....................... Jerome Kern (1885-1945) lyrics by Oscar Hammerstein (1895-1960)
arranged by Linda Soria

Footprints ................................................................. Wayne Shorter (b. 1933)
arranged by Michael Morreale

Linda Soria—voice • Patrick Nowak—guitar • James Fletcher—tenor saxophone • Miles James—trombone
• Patrick Wakie—bass • Darryl Todman—drums • Michael Morreale—faculty advisor, trumpet
**Art, Dance, and Music Exposition**

**THE DANCE STUDIO, 1P-220**

**CSI DANCE PROGRAM**
3:00pm –3:45pm

*The Training of a Dancer*

Professor Charles Thomas, *Dance Coordinator*
Professor Niambi Keyes, *Dance Instructor*

Jazz (Dan 261/262)
Barre/Centre Practice/Floor Work/Jazz Movement

Choreography (Dan 111)
“Creating Outside of the Box”

Improvisation (Dan 171/172)
Audience Participation

Works-In-Progress, excerpt from “Elements” for Spring 2013

Contemporary Styles of Dance (Dan 101)
Introduction/Warm-Up/Execution

Dance Students: Sam Adesola, Samantha Arnaout, Sherrihan Attia, Katelyn Cermenello, Afifa Cummings, Jayson Edmund, Angelina Fedna, Stephanie Fermin, Trevon Forde, Jessica Gonzalez, Kayla Hill, Anastasia Johnson, Marcus Long, Norma Matos-Jackson, Brandon Modeste, Rachel New, Ashley Ocasio, Devon Phillip, Keisha Phillip, Valerie Pinilla, Amanda Raffack, Ashley Robinson, Alejandra Romero, Demountria Samuels, Davon Titus, Michael Tobia, Joey Anne Tuason, Jessica Viggoson
THE WILLIAMSON THEATRE, 1P-111

THE CSI GOSPEL CHOIR (CSIGC)
2:30pm–3:00pm

*The CSIGC aims to enrich the lives of participants and listeners through inspirational music.*

Professor Sylvia Kahan, Faculty Advisor

**CHOIR**
Nicole Fenton—Soprano
Florence Aro—Tenor
Arnelle Nonon—Alto
Lilja Perdijk—Alto
Stefi Bastiaensz—Alto
Kayla Hill—Alto
Anastasia Johnson—Alto

Ashley Gill—Director/Soprano

**BAND**
Stanton Estwick—Piano    Darryl Todman—Drums    James Renna—Lead Guitar

The Lord Is Blessing Me ................................................................. Larry Trotter
No Coward Soldier ........................................................................ Glenn Edward Burleigh
God Is on Our Side....................................................................... Andraé Crouch
God Is in Control ......................................................................... James Hall
And He Blessed My Soul ............................................................... Anita Watkins-Stevens
Changed/Going Up Yonder ............................................................. Tramaine Hawkins
II Chronicles ............................................................................. Darryl Coley
Art, Dance, and Music Exposition

CSI Student Art Gallery, 1P-118B

Undergraduate Research Conference Exhibition
2:30pm–4:00pm

The Spring Art Program Exhibition is a student-curated group exhibition representing the wide range of talent in the CSI Art Program. It includes student work in drawing, painting, sculpture, printmaking and photography. Curated by CSI Art Majors: Michael Crocitto, Chelsea Taylor, and Tonion Tesoriero.

Dr. Siona Wilson, Faculty Advisor

Rose Jane Tan Basa
Brandon Bivings
Susanna Camaj
Jeanine Casaline
Jin Chong
Dania Churovich
Sean Cullen
Judith Damti
Renee Decker
Anthony DePrimo
Lisa Fredricks
Samantha Garbarino
Ekaterina Golovinskaya
Janet Gonzalez
Leroy Graham
Hyekyura Ho
A. Hunt
Myлина Iannucci
Sara Ibrahim
Edyta Kostka-Makwska
Lulu Liu
Mary Katherine Lynch
Raphael Magalong
Jeffrey Manlebo
Vianney Martinez
Zabehah Mohammed
Natalia Nikiforova
Sarah Chikh Ousman
Pola Poskrobko
Marilyn Ricco
Duckgyun Shin
Jillian VanPelt
Yuliya Vaslycva
Aliaa Youseff

The Gallery of the College of Staten Island, 1P-112

A Rich and Diverse Palette

The PCA Art Faculty of the College of Staten Island

Noon–4:30pm

Student Chelsea Taylor will be available for Gallery tours from 2:30pm to 4:00pm.
CSI SCULPTURE EXHIBITION

2:30pm - 4:00pm

Prof. Marianne Weil, Asst. Professor of Sculpture

AFTER LEONARDO

Leonardo da Vinci, the artist, the engineer, the architect, and the scientist, developed numerous technical and scientific studies. These include building site machinery, lifting equipment, textile technology, mechanical clocks, measuring instruments, and flying and war machines.

The project, After Leonardo, required Advanced Sculpture students (ART 350) to investigate kinetic movement and machinery in combination with the creation of a sculpture to engage the viewer. Objectives of this research were to examine “the machine” as a topic in art-making with all of its ramifications; to consider simple tools, partly wielded by the body (i.e., hammer, drill, knife) to develop more complex ones, and to understand natural forces such as gravity, pressure currents, air, and water; and contrast this to machines controlled by motors, electronics, and computers.

Participants

Jacqueline Cappadora
Michael Crocitto
Lisa Fredericks
Risa Fujimori
Samantha Garbarino
Maryna Inchercera
Jun Lu
Lali Partsvania
Brian Rodrigo
Igor Smolianski
Rebecca Wheeler
Rosalie Zawadzki
Research Paper Presentations

Center for the Arts
12:30pm–4:15pm
Research Paper Presentations

1P-109
2:30pm – 4:00pm

PAPER 1

Mayors and Housing Policy in Three Cities
Kanika Khanna (Macaulay Honors College)
Faculty Mentor: Professor Richard Flanagan
Department of Political Science/Economics/Philosophy

“Mayors and Housing Policy in Three Cities” studies the relationship between housing policy and mayoral politics. This project will examine the administrations of Michael Bloomberg (New York City), Rahm Emanuel (Chicago), and Antonio Villaraigosa (Los Angeles) and each of their respective low income housing policies, as well as their supplementary social and poverty programs. This project will measure the successes of these policies by previously outlined projections and goals set by each administration. Additionally, this thesis will consider the role of political interests from individuals and groups, as well as public opinion, in the creation and implementation of these issues.

PAPER 2

Mom, I’m not Feeling “Right”: Influence of Motor and Language Onsets on Infant Lateralization
Samantha Agnese (Verrazano Honors School)
Faculty Mentor: Professor Sarah Berger
Department of Psychology

The neural cortex is arranged asymmetrically such that the left hemisphere controls right-sided movement and language in 95% of humans. During infancy, lateralization, or side preference, follows a non-linear trajectory. Around 6 to 7 months, infants favor their right hand for manual activity, but this preference decreases between 11 and 14 months. What is happening during this time period to cause a decrease in right side preference? Since the onset of walking and vocabulary explosion both typically occur around 12 months, the inconsistent side preference may be a result of trade-offs needed to master motor and language skills simultaneously. If there are motor-language trade-offs, we predict either a preference for left handedness or no preference at all. The aim of this study is to examine whether fluctuation in side preference can be related to the onset of critical motor and language milestones around 1 year.

Twelve 13-month old walking infants (mean age=12.99 mos; 5 female) participated. Infants walked down a marked path towards their caregiver and were encouraged to reach at the end of each trial. We coded hand and foot preference (proportion of trials favored for first step and reaching) and duration of vocalizations during the task. Infants demonstrated a side preference significantly more often than no preference. 58% percent of infants demonstrated a left foot preference and 75% of infants demonstrated a left hand preference. These results are especially interesting since only 10% of the adult population is left-handed. Future analyses will calculate side preference relative to amount of vocalization exhibited during the task. These findings suggest that increased activity in the left hemisphere during language acquisition may lead to a decrease in right-sided motor activity.

This provides insight into how infants efficiently accommodate new cognitive skills and suggests that lateralization may be a manifestation of motor-language trade-offs.
**Research Paper Presentations**

**PAPER 3**

**Face Value: Identity, Status, and the High Society Stock Market of 18th Century England**

Janine LoGelfo  
Faculty Mentor: Professor Michael Schuyler  
Department of English

My paper will examine the politics of high society in eighteenth century England as represented in Frances Burney's novel, Evelina. I will analyze how, in the upper echelon of British society, social identity is related to name, familial associations, and status. I argue that the social scene of the eighteenth century operates like a modern stock exchange. Specifically, that social identity is such a valuable commodity that it is often exchanged for actual wealth, or used as currency itself. Additionally, I will discuss how Burney's main character, Evelina, as a single woman of no great wealth, has no social identity of her own. Her “stock” rises and falls in tandem with the identities of her chaperones. Lastly, I will explore the ways Burney challenges societal perception of worth.

**PAPER 4**

**To Love, Honor, and Obey?: An Analysis of Jane Eyre as a Victorian Medieval Woman**

Christina Terracino (Verrazano Honors School)  
Faculty Mentor: Professor Katharine Goodland  
Department of English

There is an ongoing debate among scholars regarding the classification of the eponymous heroine of Charlotte Brontë’s novel Jane Eyre. Should she be viewed as a model of subservience or as an extraordinarily independent woman during a time of enormous female suppression? In my paper, I argue that she cannot be interpreted wholly as occupying either extreme. Within the framework of Victorian Medievalism, the influence of the Middle Ages present in Victorian literature, I examine Jane in comparison to Geoffrey Chaucer's Dorigen of “The Franklin’s Tale” and Griselda of “The Clerk’s Tale,” arguing that Jane is a woman caught between two eras. Unlike her Chaucerian foremothers, most of Jane's journey occurs outside of marriage, where she generally remains strong-willed and independent. Yet, in many aspects of her relationship with Edward Rochester, she shows traces of the same obedience that was typical of Dorigen and Griselda and continued to be expected in Brontë’s world as well. I pay specific attention to romantic relationships in all three works, as well as the significance of religion and morality to both Jane and Chaucer's exemplary women. I discuss Brontë's beloved character as both a harbinger of feminism and a woman.
Research Paper Presentations

Paper 5

Egypt’s New Freedom

Lena Abdelhamid
Faculty Mentor: Professor Bilge Yesil
Department of Media Culture

Egyptian media landscape changed drastically after the 2011 revolution. From Facebook to television, Egyptians’ experience of media also went through a transformation mostly thanks to their new sense of freedom. Though positive and negative changes took place, it is evident that the country is working to modernize and liberalize its political, economic and social structures.

In this project, I will discuss the major developments before and after the revolution, and explore the significance of new communication technologies during the revolution. My research will be based on analyses of blogs, Facebook and Twitter posts by political activists, as well as analyses of journalistic accounts in the Egyptian and the Western press, and scholarly books on Egyptian politics, society and culture.

My research question is concerned with the role of new communication technologies in the revolution. I argue that the revolution did not happen simply because of the Internet or social media, but had been in the making since the late 1980s through small-scale strikes, protests, etc. However, it must also be noted that social media contributed to the revolution as activists and protestors communicated with each other, spread ideas, exchanged information through SMS, Facebook or Twitter.

In this project, I discuss the role of media in this major political, social shift. I argue that though social media did not kickstart the revolution, it definitely played a role in disseminating information and ideas about the revolution, the actors and their activities. Therefore, this paper focuses on the role of social media in the Egyptian Revolution and discusses the relationship between digital communication technologies and social, political movements.

Panel Discussion

The History of the International Committee of Political Prisoners, 1924-42: Origins and Debates about Communism and Fascism

1P-222, 12:30pm–2:15pm

Faculty Mentor: Professor Mark Lewis
Department of History

Left: Motivations for Left Wing Criticism of the USSR in the 1920s and 1930s

Gregory Scott Lella (Macaulay Honors College) (Panel with Jillian Mattera, Vincent Saladino)

In 1924 Roger Nash Baldwin, founder of the American Civil Liberties Union, and other major left-wing American figures created a group called the International Committee of Political Prisoners (ICPP) which was active until 1942. Their original goal was to defend political prisoners of left-wing political status in the Soviet Union, but they soon expanded to other countries.

Given the importance of Roger Nash Baldwin as a figure in the history of the American left, and his contacts with other important historical figures, the ICPP records become an important window into the mindset of the American left towards the USSR in the lead-up to World War II. Figures such as Upton Sinclair, Emma Goldman, W.E.B. Du Bois, Oskar Jászi, and others who participated (or in some cases refused to participate) in criticism of the Soviet Union reveal their opinions in the records of the ICPP. Furthermore, the ICPP had documented interactions with many other left-wing groups in reference to the Soviet Union. The records, which are held by the New York Public Library’s Manuscripts and Archives Division, have not featured prominently in past historiography concerning Roger Baldwin or the American Left.

Using these records, and other primary and secondary sources, this paper argues that the ICPP and the American left as a whole were almost totally disinterested in helping any right wing or supposed “counter-revolutionaries” in the Soviet Union. They were only interested in helping leftist, socialists, and anarchists in the USSR. Rather than arguing or fighting for the “freedom of Opinion throughout the world”, as the ICPP claimed it was...
Research Paper Presentations

The Origins of the International Committee for Political Prisoners: An Early Human Rights Group
Jillian Mattera (Panel with Gregory Lella, Vincent Saladino)

In response to the 1917 Bolshevik Revolution and the U.S. Red Scare in 1919-20, the International Committee for Political Prisoners (ICPP) formed in New York City’s Greenwich Village. Operating between the years of 1924 and 1942, the ICPP was a diverse, left-wing group of liberals, socialists, and anarchists who came together initially to send relief to political prisoners in Russia. What united its unique membership were the fundamental liberties of free speech, an uncensored press, and the right to assemble and agitate for political beliefs and legal fairness. ICPP advocates, including its most prominent and vociferous member Roger Nash Baldwin, managed to set aside their own political views to lobby against government officials, raise funds, and engage in a media campaign through their own publications and the press for the cause of political prisoners and exiles.

Little historical significance has been placed on the ICPP as the first activist group in the United States to argue for all factions of political prisoners abroad. This research paper shows how and why the ICPP organized, but most importantly it reveals the democratic and socialist principles it relied on, even during the leftist-liberal attraction to the communist revolution in Russia. Using the ICPP’s work as my evidence, this paper proves that although members believed that America had descended into a “vulgar capitalist state”, democratic concepts like free speech and political thought served as the foundations for the Committee’s work.

Also, it shows that international concepts of human rights existed in the 1920s and 30s, although at the time the common term was civil rights.

The International Committee for Political Prisoners and Fascist Italy
Vincent Saladino (Panel with Jillian Mattera, Gregory Lella)

In 1926, based on Italian intellectual Gaetano Salvemini’s prediction of the violent overthrow of the Fascist regime in Italy, the International Committee for Political Prisoners (I.C.P.P.) began a crusade of sorts against the Italian government. Relying on the power of the written word, it published journals, letters from leading intellectuals in the United States, and surveys as a means of both protesting that government and raising the awareness of the American people about the dangers of Fascism and events in Italy. While the I.C.P.P. focused much of its attention on its campaign of raising awareness, it made very little effort to raise material aid for political prisoners in Italy, the one thing that the I.C.P.P. was supposed to stand for. This leads to the question: why did the I.C.P.P. take such strong stance against Fascist Italy? The I.C.P.P., as an organization dedicated to free speech and the rights of the individual, felt it was its duty to speak out against the Fascist Regime in Italy, especially in light of the fact that the United States government was cultivating a relationship with that regime and turning a blind eye to its injustices and shortcomings.
The International Committee for Political Prisoners: An NGO Too Far Away

Jessica D. Stein (Panel with Ramije Qoku, Daniel Jakubowski)

The International Committee for Political Prisoners (ICPP), 1918-1942, based in New York, was an organization whose members belonged to assorted leftist groups, and opposed the imprisonment of non-violent political prisoners across the world. During the late 1920s the ICPP took an interest in the conditions of political prisoners and refugees in Austria and Germany. Its interest sparks a question: What kind of success did the ICPP have in helping political prisoners and refugees in Austria and Germany during the 1920s and 30s? Authoritarian governments in Austria and Germany produced a large number of political prisoners and refugees, many of whom fled to Czechoslovakia and France. The ICPP was marginally successful in helping political prisoners and refugees.

The research is centered on the ICPP files from the New York Public Library and grounded in Jean Quataert’s theory of mobilization and Robert C. Williams’ view of political exiles. Quataert’s theory of mobilization states that rights groups from different countries and perspectives developed identities that pushed beyond national boarders and joined together from across the world to achieve common goals. According to Williams, political exiles have an important effect on the country they seek refuge in as well as the homeland they return to because refugees change the social and political landscape of their host nation and can help to reshape their native country upon returning.

The ICPP’s original focus was helping political prisoners in countries with oppressive governments. In Austria and Germany the ICPP attempted to do this. When the ICPP became involved in Czechoslovakia and France, it changed direction and focused on helping political refugees. Though the ICPP worked with other organizations, its reach was incredibly limited and was only partially successful in helping political prisoners and refugees.
The International Committee for Political Prisoners and Its Connections

Ramije Qoku (Panel with Jessica Stein, Daniel Jakubowski)

The International Committee for Political Prisoners (ICPP) was a New York group of left-wing political activists and intellectuals. Founded in 1924 by Roger Nash Baldwin, the committee tried to publicize the fate of political prisoners in the 1920s-30s. Its goal was to agitate the release of political prisoners and raise money for their relief throughout the world. In the case of Macedonia, the ICPP corresponded with Macedonian exiles in Bulgaria and in the United States. The ICPP was willing to support organizations that shared the same interest concerning political prisoners. Through this shared common interest, they were able to associate with one another and additionally focus on the condition of minorities in Yugoslav Macedonia, mostly concerning the Bulgarian Macedonians under the Yugoslavian government during the 1920s-30s.

The ICPP heavily relied on facts, but what constituted a fact was based on numerous inquiries. If answers seemed adequate to the ICPP, mainly to Baldwin, no further questions were asked. If misinformation was communicated between the ICPP and the Macedonian Political Organization in the United States, what does this tell us about the ICPP's transnational connections?

One begins to question the accuracy of the information exchanged between the Macedonian Political Organization and the ICPP during the 1920s-30s.

PAPER 6

A Key to the Not So Recent Conduct of Aleksei Evstaf’ev

Catherine Basile (Verrazano Honors School)

Faculty Mentor: Professor Susan Smith Peter
Department of History

My essay is focused on a man named Aleksei Evstaf’ev. He was a Russian diplomat in the late 1800’s who lived in America and yet was very critical of America. Aleksei Evstaf’ev is the author of an unpublished manuscript titled The Great Republic Tested by the Touch of Truth. In this manuscript Evstaf’ev is very critical of America. But, I find him to be less critical then in his prior writings such as, A Key to the Recent Conduct of the Emperor of Russia. Over time I believe Evstaf’ev became less suspicious towards America. I believe this was due to the revolutions of 1848. The 1848 revolutions in Europe were basically about overthrowing monarchs, and setting in a place a democratic system. In this essay I wish to compare and contrast these two writings and show how the 1848 revolutions proved to Evstaf’ev that monarchies could withstand democracy. Also, I want to introduce him as both the diplomat and playwright. Often he is portrayed as one or the other. Thus, providing a key to the not so recent conduct of Aleksei Evstaf’ev.

The conclusion of my essay is titled The Great Republic Tested by the Touch of Truth. Aleksei Evstaf’ev was both a diplomat and a man of the arts. After the revolutions of 1848, Evstaf’ev in a sense realized that even though he viewed democracy as a threat to monarchy, monarchy could not be defeated by democracy. He believed that democracy would not last long. After living in America for 40 he got to know the American people and realized there was no great plot to take down Russia and England. Evstaf’ev even admits to admiring American people, which is something I do not believe he would agree with in 1807. Thus showing that the 1848 revolutions altered Evstaf’ev’s opinion towards America for the better.
Research Paper Presentations
Research Poster Presentations

Center for the Arts
Atrium
2:15pm - 4:00pm
# Research Poster Presentations

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P O S T E R # 1 0 5

Construction of Ino80-FLAG Gcn5p Knockout Yeast Strain to Identify Novel Role of Histone Acetylases in INO1 Transcriptional Activation

Alina Kogan (Macaulay Honors College), Wafa Shakil, Valerie Imaduerie, Aun Syed, Michelle Esposito

Faculty Mentor: Professor Chang-Hui Shen
Department of Biology

Phospholipids are a major component of cell membranes and act as a selective barrier, while also acting as key secondary molecules within cells. In Saccharomyces cerevisiae, INO1 is crucial to the production of phospholipids. Transcriptional co-activators, such as histone acetylases and chromatin remodelers, contribute to this gene’s expression through different mechanisms. Histone acetylation is associated with the transcriptional activity through the remodeling of chromatin structure. Recently, it has been shown that histone acetylases can also acetylate non-histone proteins such as chromatin remodelers during transcription process. Chromatin remodelers provide another dynamic modification of chromatin architecture to allow access of condensed genomic DNA to the regulatory transcription machinery proteins, and thereby control gene expression. In our current model of INO1 activation, chromatin remodelers, INO80 and SNF2, and histone acetylase Gcn5p are recruited to the promoter region, but the acetylases have recently been identified as dispensable with regard to INO1 induction. This suggests that the recruited histone acetylases may have a role beyond acetylating the histones for transcriptional activation. Instead, it is also possible that histone acetylases may be acetylating the chromatin remodelers for recycling purposes. To determine if Gcn5p is responsible for INO80 acetylation and its subsequent dissociation from the INO1 promoter, recombinant technology, such as transformation, miniprep, and electroporation are being employed to construct INO80-FLAG tagged Gcn5 knockout mutants. These mutants will then be screened to determine if INO80 acetylation is hindered.

P O S T E R # 1 0 3

The Role of Pah1p in the Expression of Phospholipid Biosynthetic Genes

Amara Abid, Merlin Raj (Verrazano Honors School)

Faculty Mentor: Professor Chang-Hui Shen
Department of Biology

Phosphatidate (PA) phosphatases play a crucial role in the Saccharomyces cerevisiae phospholipid biosynthetic pathway. PA phosphatases are key enzymes that catalyze the reaction which dephosphorylate PA to form diacylglycerides (DAG), the first step in the synthesis of triacylglycerols. There are a number of PA phosphatases in yeast including those encoded by DPP1, LPP1, APP1, and PAH1. Interestingly, the PA phosphatase encoded by PAH1, Pah1p, has been shown to be involved in a number of other roles. It has been shown to be important for nuclear membrane biogenesis as well as the regulation of phospholipid biosynthetic genes expression. The aim of this project is to better understand how the activity of Pah1p affects various other genes expression in the phospholipid biosynthetic pathway. Quantitative polymerase chain reaction (qRT-PCR) was used to examine the expression profile of both wild type and pah1Δ strain cells under various growth conditions, including the presence or absence of inositol and choline. Results are in the progress of being collected, although preliminary data show that certain genes are up-regulated in the pah1Δ strain. More experiments will have to be conducted in order to further confirm the results. Overall, studying Pah1p allows for a greater understanding of phospholipid homeostasis in yeast and eukaryotic cells.
**POSTER # 106**

**NAD Synthesis in Candida Albicans**

Angela Fried  
Faculty Mentor: Professor Elena McCoy  
Department of Biology

NAD+ can be synthesized through two biochemical pathways: de novo from tryptophan, and salvage from nicotinamide compounds. Diethyl phthalate (DBP) is a plasticizer that has been implicated in a number of endocrine and behavioral problems, and is believed to affect the tryptophan-NAD+ pathway.

We believe that Candida albicans can be used to investigate the toxicological effects associated with DBP exposure. In previous experiments, the combined effect of tryptophan and DBP in growth medium resulted in increased quinolinate phosphoribosyl transferase, an enzyme that leads to the bioconversion of quinolinic acid to NAD+. It has been reported that exposure to DBP results in the proliferation of peroxisomes in mammalian cells, and the excretion of N-methyl nicotinamide (NMA), has been demonstrated with peroxisome inducers. In our laboratory, peroxisomes were shown to be induced by DBP exposure in C. albicans. In this study, overnight cultures of Candida albicans ATCC 36252 and Candida glabrata (an NAD+ auxotroph) were grown in YEP (yeast extract Peptone-Dextrose NAD+ complete medium) harvested by centrifugation and used to inoculate glucose minimal media enriched with biotin and tryptophan and incubated for 48 hours at 37°C. Spheroplasts were prepared and spheroplast lysates and spent media were analyzed by thin layer chromatography with tryptophol and 3-Hydroxy Anthranilic acid standards. Tryptophol is metabolized by an enzyme that is not involved in the kynurenine pathway (a pathway of tryptophan catabolism associated with the de novo pathway in NAD synthesis). 3-Hydroxy Anthranilic acid is a precursor in the de novo pathway—its presence would support a de novo pathway. We observed 3-Hydroxy Anthranilic acid in C. Albicans spent media and spheroplast lysates with an Rf value similar to NMA in two experiments. Since the data is inconclusive, In future experiments, we plan to evaluate the concentration of tryptophan required to enhance NMA production.

**POSTER # 92**

**Breast Cancer Cell Response to Amilorides**

Diane Narouz (Macaulay Honors College), Nidhi Khanna, Jawad Popalzai, Kavitha Param, Edmund Charles Jenkins, Jimmie Fata  
Faculty Mentor: Professor Jimmie Fata  
Department of Biology

The objective of this project is to test the impact of two different drugs on three human breast cancer cell lines. 5-methyl-N-isobutyl Amiloride (MIA) and Amiloride Hydrochloric Acid (Amiloride HCL) were tested on MCF-7, SKBR3, and MDAMB468 cell lines. The half maximal inhibitory concentration (IC50) of both drugs on each cell line indicated the concentrations at which these Amilorides terminated half the metabolic activity of the respective breast cancer cells that were tested. MCF-7 cells were the first known breast cancer cell line that was isolated for laboratory use, and it was noted to be the least aggressive of the three cell lines. The SKBR3 breast cancer cell line has an overexpression of the ERB2 gene with HER2 protein. Women that are diagnosed with aggressive breast cancer usually exhibit elevated levels of the ERB2 gene with HER2 protein; therefore the prognosis for women battling the disease is not very good. MDAMB468 cells are the most aggressive of the cell lines, and are often described as triple negative cells, due to their lack of ability to bind estrogen, progesterone, and EGRF2 (a subfamily of the ERB2 gene). NHE1 is an important modulator of cell function, and its pHi (intercellular pH) can be deregulated after binding to MIA. Amiloride HCL is an amiloride used to treat congestive heart failure in patients, but it can be used as an oral anti-cancer drug with other current chemotherapeutics. MTT assays are colorimetric tests used to monitor cell viability in culture. Each cell line was exposed to both drugs separately, and MTT assays were performed to determine the mitochondrial activity of the living cells. Immunostaining was completed to establish the presence of NHE1, NHE2, and NHE3 in each cell line. In the near future, the findings of this experiment can be implemented in clinical trials as a new form of chemotherapy treatment.
**Research Poster Presentations**

**POSTER #67**

**Dibutylthalate Causes Gender Specific Neurobehavioral Emotional Disruptions in FVB/NJ Mice and the Fragile X Model**

Ehab Jawad, Alyssa Ferraro, Chuhyon Corwin, Francoise Sidime, Lorenz S. Neu wirth, Abdeslem El Idrissi

Faculty Mentor: Professor Abdeslem El Idrissi

Department of Biology/Neuroscience

The wide use of phthalates including Di-butylphthalate (DBP) in cosmetics, children’s toys and plastic goods are a growing concern. Exposure risks to DBP are significantly high, thus justifying the need to evaluate behavioral consequences in response to DBP exposure. Although many studies have addressed the influence of phthalates in prenatal exposures, there are no reports addressing gestational DBP exposure effects on developmental behavior. The present study aimed to evaluate the neurobehavioral effects of DBP in two month old male and female FVB/NJ WT and FM R1-KO mice. FM R1-KO mice have down regulated GABAAR and were therefore used as a model to assess GABAergic influences in response to gestational DBP exposure when compared to WT mice. When DBP was administered mice showed significant alterations in the open field, elevated plus maze, and 3 day context and auditory cued conditioning tests which characterizes locomotor activity, anxiety, and emotional learning and memory respectively. Our data revealed that DBP resulted in gender specific differences in select tests indicating a potential neuroendocrine action associated with these behavioral phenomena.

These observations suggest that DBP exposure may cause genomic effects on GABAAR by the direct loss of allosteric modulation of the ion channels. The consequence of such action is the altered neurobehavioral responses of hypoactivity, increased freezing, and enhanced emotional learning and memory consistent with positive allosteric modulation of inhibitory function via GABAAR. Consistent with the literature, DBP exposure in early development produces neurodevelopmental disorders and here we have shown that gestational exposure causes altered neurobehavioral actions and may target the GABAergic system as an allosteric modulator.

**POSTER #46**

**The Effect of Hyperphosphorylation of Tau on the Development of the Drosophila Eye**

Elaina Lei (Macaulay Honors College)

Faculty Mentor: Professor Alejandra Alonso

Department of Biology

The tau protein is a major microtubule associated protein (MAP) that is particularly abundant in neurons of the central nervous system and is responsible for the stabilization of the microtubules in the brain.

Microtubules are a component of the cytoskeleton in the neuron and are found in the axon, where chemical messages are transmitted between nerve cells. Defects of the tau protein can impair its ability to stabilize axonal microtubules and result in dementias, such as Alzheimer’s Disease and Parkinson’s Disease. Tau proteins control microtubule stability in two ways, one of which is phosphorylation. If multiple phosphorylation sites are fully saturated, hyperphosphorylation occurs. It has not been proven as to whether neurodegeneration is the cause or a consequence of tau phosphorylation. However, in vitro studies have shown that hyperphosphorylated tau promotes neurodegeneration and that the combination of phosphorylation at Thr 212, Thr 231, and Ser 262 produces a toxic effect in the cell. This study uses Drosophila flies, characterized by a short life span and ability to be genetically manipulated, to investigate the toxicity of hyperphosphorylated tau.

We generated transgenic Drosophila flies, characterized by a short life span and ability to be genetically manipulated, to investigate the toxicity of hyperphosphorylated tau. These proteins will be expressed in the flies under the induction of Gal4. Therefore, transgenic flies were crossed with flies that possessed inducer transgene that will express Gal4 in the Drosophila eye, which induces an expression of tau or PH-Tau in the eye. Images of the transgenic flies’ eyes were photographed for four weeks in order to observe the degenerative process in the eyes. The pictures show that the fly eyes of Drosophila expressing PH-Tau were progressively deformed in comparison with the eyes of the flies expressing normal Tau. These results suggest that the expression of PH-Tau has a cumulative toxic effect in vivo, supporting the hypothesis that hyperphosphorylation of tau is an upstream event in the process of neurodegeneration.
Research Poster Presentations

POSTER # 58
The Study of Hyperphosphorylated Tau in Neurons
Engerlina Olivares (Macaulay Honors College), Thomas McCauley
Faculty Mentor: Professor Alejandra Alonso
Department of Biology

A collective group of neurodegenerative diseases, including Alzheimer's disease, are commonly referred to as tauopathies because of the pathological role played by the neuronal microtubule associated protein, tau. These diseases are histopathologically characterized by neurofibrillary tangles (NFTs) composed of hyperphosphorylated forms of tau. Normally this phosphoprotein plays a key role in the stabilization of the microtubule networks. When hyperphosphorylated tau no longer binds to microtubules, it begins to aggregate. Here our objective is to study the influence of tau phosphorylation at Thr 212, Thr 231, and Ser 262 (P^H-tau) on tau effect on cellular dynamics as well as the induction of caspase activation and actin filament disruption.

Pseudophosphorylated tau was generated by site directed mutagenesis, switching the above mentioned amino acid residues with glutamic acid, to mimic the effect the phosphorylation would have on the protein. The expression of tau pseudophosphorylated at Thr212, Thr231, and Ser262 triggers caspase 3 activation in as many as 85% of the transfected cells, tau translocates in the nucleus and disrupts actin cytoskeleton. This project will analyze the cellular dynamics using live cell imaging over a period of 48 hours. With this experiment, we will analyze the movement and growth of the cells, at which point during the experiment they begin to die and what happens to the cells movement and the cytoskeletal composition and actin cytoskeleton. Additionally, we will look into caspase 3 activation in real time to determine if surrounding, non-transfected cells begin to become pre-apoptotic. With these studies, we will gain additional information concerning the prion-like nature of tau protein.

POSTER # 100
The Characterization of Lead Toxicity on the Rat Cardiovascular System: An Assessment of Lead Induced Pathophysiology
Evelyn Okeke (Verrazano Honors School)
Faculty Mentor: Professor Abdeslem El Idrissi
Department of Biology

Lead (Pb2+) has been known as a poison for millennia, and has been the focal point for public regulation in many industrialized nations for the past century [1]. The effort for increased regulations concerning Pb2+ was a direct result of extensive scientific research conducted to illuminate the effect of Pb2+ [1]. Today, Pb2+ is not only commonly classified as a neurotoxin which is negatively affecting the cognitive ability especially in the developing brain, but is also associated with hypertension and endocrine alteration [1]. The aim of our study was to investigate the manifestation of cardiovascular hypertension through chronic low level Pb2+ exposure in the diet using a rat model. We predicted that Pb2+ competition with voltage sensitive calcium channels (VSCCs) in myocardial cells, as suggested in the literature, will result in elevated systolic and diastolic blood pressure, as well as, increased heart rate. We further hypothesize that the hearts of Pb2+ treated rats would have a significant thickening of the ventricular walls, and the histology of the aortas will be altered. In addition, we sought out not only to investigate the effects of Pb2+ on the voltage sensitive calcium channels (VSCCs), but also the potential impact it may have on contributing GABAergic neurons in regulating cardiovascular physiology. The blood pressure measurements were taken from only adult rats that were 38-48 days old, as well as 58-68 days old, and 83-85 days old rats. We have confirmed the Pb2+ induced cardiovascular hypertension across all age groups, but did not observe a significant difference in the muscle tissue of the heart, thus we suggest that Pb2+ may affect the SA node directly, or it may compete with calcium at the calcium channels.
Colonization of new niches is a complex process involving arrival, establishment, and potentially spread. On Staten Island Freshkills Park, a former landfill is an example of a newly colonized system, while Wolfe Park was initially thought to be an example of a more established system. To better understand two of these phases of colonization at these study sites I carried out two separate projects. In the first project I investigated the arrival stage using ArcGIS mapping analysis of turtles. Potential paths used by turtles for arrival at Freshkills were identified with respect to habitat fragmentation and urban sprawl, and based on documented species-specific movement abilities, and mapped using ArcGIS. It was hypothesized that the turtles in the study could have utilized waterways to traverse the landscape to gain the shortest route of travel to the Freshkills site. When discovering possible paths from source ponds to new colonization sites it was there for vital to take into account any water features. In the second project I investigated the establishment stage using observational analysis of birds. Aves species were observed in the field, and mathematical analyses were performed between Wolfe’s Pond Park and Freshkills locations to test the null hypothesis that there is no difference in diversity between the two sampling sites. It was discovered that in fact early-succession habitat at Freshkills was more diverse than the more established habitat at Wolfe’s Pond.

Chelydra serpentina, the snapping turtle, is a large turtle common to North American freshwater habitats. It is a bottom dwelling species, and as such it has a tendency to have large external parasite loads as opposed to their basking brethren-Chrysemys picta. Both the snapping turtle and the leech species that parasitize it (among others, Placobdella ornata and Placobdella parasitica) are abundant in nature, and yet genetic information about these species is lacking. To characterize these taxa genetically we utilized DNA Barcoding, a species identification technique based on short mitochondrial DNA sequences, akin to the identifying barcodes used in stores for merchandise. Both the turtles and the leech specimens used in this research were collected from the newly created and now second largest park in New York City, Freshkills Park, site of the infamous former landfill. Leech specimens and blood samples were taken from the snapping turtles over the summer of 2012. I, along with two high school students under my mentorship, then analyzed the samples in the laboratory through DNA extraction, polymerase chain reaction, cycle sequencing, and an editing sequencer. The lack of data and species-specific barcodes on both Chelydra serpentina and the leeches that parasitize it, combined with the rare research opportunity provided by Freshkills Park, make this investigation into the genetics of the target organisms imperative.
Research Poster Presentations

**POSTER # 52**

**Mitochondrial Control Region Study Between Freshwater Turtle Communities of Fresh Kills and Long Pond, Staten Island**

Juan Mafla (Macaulay Honors College)
Faculty Mentor: Professor Eugenia Naro-Maciel
Department of Biology

In 2008, the Fresh Kills Landfill in Staten Island began its transformation into a recreational park, with nature preservation as an objective as well. This study is concerned with how the creation of an ecosystem affects wildlife communities from a genetic perspective. Turtles are the focus of this project because of their status as bio-indicators. The Freshkills park population is being compared to the population of Long Pond, another pond in Staten Island. Blood samples were gathered in the summer of 2012 from 3 species of turtles found in Staten Island (Chrysemys picta, Trachemys scripta, and Chelydra serpentina) and were analyzed during the fall and spring semesters of the CSI school year. The DNA was extracted from the turtles, and polymerase chain reaction, as well as gel electrophoresis were carried out. We are focusing on the mitochondrial control and the CO I regions of the mitochondrial gene for our genetic analysis. All results were recorded and analyzed using the DNA Subway software application for bioinformatics.

**POSTER # 88**

**Testing Amiloride as a Novel Breast Cancer Therapy**

Kaitlin Kelly (Macaulay Honors College), Mino Abdelmessih (Macaulay Honors College)
Faculty Mentor: Professor Jimmie E. Fata
Department of Biology

MCF-7 is a breast cancer cell line that models estrogen receptor (ER) positive breast tumors. Using this cell line, we investigated whether the response by MCF-7 cells to two commonly used chemotherapies, Doxorubicin (DOX) or Cyclophosphamide (CPA), could be augmented when co-treated with an amiloride. An amiloride is a potassium conserving diuretic. Amilorides have been proven effective in the treatment of congestive heart failure and hypertension. Furthermore, recent evidence indicates that amilorides also exhibit anti-cancer activity. The amiloride we used in this study was N-Methyl N-isobutyl amiloride (MIA), which specifically inhibits the function of sodium hydrogen exchanger-1 (NHE1), a protein located on the plasma membrane that maintains intracellular pH. We hypothesized that DOX and CPA will be more effective therapies when tumor cells are also inhibited in NHE1 activity by MIA. Our findings indicate that MCF-7 cells express NHE1, and that MIA co-treated with DOX or CPA can alter both the anti-proliferative and increased death response induced by these drugs. Determining the effects of combining CPA and MIA as well as DOX and MIA will help us gain further knowledge in molecular action of these drugs and may benefit future breast cancer therapies.
Research Poster Presentations

P O S T E R  # 4 8

Drugs Counteracting Pathological Human Tau’s Toxic Effect

Kawsar Ibrahim (Macaulay Honors College)
Faculty Mentor: Professor Alejandra Alonso
Department of Biology/Neuroscience

The microtubule associated protein, tau, is a key player in a neuron’s cytoskeletal structure. With this in mind, we can predict that an abnormality in tau must be a root cause of a cell’s apoptotic (programmed cell death) process, which effectively causes neurodegeneration. Thus, this project aims to understand the effects of several chemical compounds/treatments on the apoptotic process in Chinese Hamster Ovarian cells (CHO cells) after the cells have been transfected with an abnormal form of tau. The form of tau we are using has been mutated by site-directed mutagenesis to Glutamic acid to incorporate a negative charge and therefore mimic the phosphorylated sites found in Alzheimer’s disease. We have named this pseudo-phosphorylated tau at positions Ser199, Thr212, Thr231 and Ser262, Pathological Human Tau (PHTau). Therefore the expression of PHTau in CHO cells induces processes that initiate apoptosis such as microtubule breakdown, PHTau nuclear translocation, and caspase-3 activation. Caspase 3 is an enzyme that monitors the well-being of the cells: if it is active, the cell has started the program to cell death (apoptosis). We have received ten compounds from a pharmaceutical company to test them in their ability to protect neurons in Alzheimer disease. By monitoring each of ten unknown compounds over a series of timeframes, we can determine which respective compound delays, or, significantly reduces, the initiation of the apoptotic process via observation of the extent of cytoskeletal breakdowns in the CHO cells. Thus far, we have observed that when untreated CHO cells express PHTau for 24 hours, they have a significantly high amount of blebbing (exocytosis of membrane containing PHTau), whereas with longer incubation times, cells die and detach from the plate. Hence, we hypothesize that the compound that demonstrates a minimal or a significantly low amount of cell blebbing over the varying timeframes would indicate a delayed or perhaps a halted progression of neurodegeneration as a result of a particular compound. In fact our unknown compound three has shown a protective effect against tau toxicity. Therefore, this observation (and any other future observations as we continue to monitor these compounds) will serve as an indication of a promising compound in the potential treatment of neurodegenerative diseases.

P O S T E R  # 4 2

The Interaction of Normal and Pathological Human Tau

Macy Lorraine Lindain
Faculty Mentor: Professor Alejandra Alonso
Department of Biology

In vivo interaction of normal and Pathological Human-tau (PHTau) are microtubule-associated proteins protein mainly found in neurons. In Alzheimer’s disease, the tau protein is abnormal and as a result the cytoskeleton becomes distorted and tangled up and abnormal tau forms neurofibrillary tangles. Studies have shown that the hyperphosphorylation of tau causes its malfunction. Abnormal hyperphosphorylated tau destabilizes microtubules and eventually leads to tauopathies (dementia disorders) such as Alzheimer’s disease. The main objective of this research is to study the interactions of the normal and abnormal human tau by the co-transfection of cells with one form of tau expressed with green fluorescent protein and the other with red fluorescent protein. In this experiment, we need to generate the red fluorescent-tagged plasmids. We used restriction enzymes BglII and EcoR1 to cut the DNA at a specific target site. The fragments were purified by gel electrophoresis, using a ladder to see the molecular weight or how big the fragment is. Once cut, we can then introduce the desired DNA fragment, which possess ‘sticky ends’ into a circular DNA molecule, then ligate them together to generate an engineered cloning vector. In our lab, we have previously shown that there is an effect and interaction between wild type and PH tau (pseudophosphorylated at Ser199, Thr212, Thr231 and Ser262) when a fluorescent tau vector was co-transfected with a non-fluorescent PH-tau vector. And because of this correlation, we expect to see an interaction of green fluorescent protein and red fluorescent protein by imaging on a confocal microscope.
Conservation Biology of Loggerhead and Green Turtles of Two National Parks in Florida

Matias Larrosa
Faculty Mentor: Professor Eugenia Naro-Maciel
Department of Biology

Sea turtles, being highly migratory organisms travel thousands of miles in their voyages. Many species of marine turtles are endangered due to predation, pollution and other climate and human influences. These species are protected in areas worldwide, giving them a safe haven from other harsh environments.

Although these areas protect the sea turtles, these highly migratory animals are no longer protected when they travel far away from protection. In our lab some species, like the Loggerhead (Caretta caretta) and the Green turtle (Chelonia mydas) are studied to enhance our understanding of the conditions that these endangered turtles encounter in their voyages. The samples collected from sea turtles coming to the lab can be analyzed to understand the effects that the current environment has on the organism. It also helps us understand their breeding locations and dispersion patterns throughout the world.

The latest progress achieved in Dr. Naro-Maciel population genetics laboratory has been the extraction of DNA from samples received from Dry Tortugas National park in Florida. The extractions have been run through PCR cycles and are currently waiting to be sequenced.

Validation of the Light/Dark Social Avoidance Test Using the Fragile X Mouse Model

Navita Madan, Michael Johnson, Nicholas Volpe, Jaritza Lima, Lorenz S. Neuwirth, Abdeslem El Idrissi
Faculty Mentor: Professor Abdeslem El Idrissi
Department of Biology/Neuroscience

Genetically altered mice are engineered to create Autistic-like models for investigating behavioral endpoints consistent with human symptoms. Notably, the Autistic-like mouse models target social approach behavior rather than avoidance behavior inconsistent with the Diagnostic Statistical Manual IV DSM-IV) criteria for clinical features of the Autism syndrome. Here we evaluated the Fragile X syndrome KO mouse (FXS KO), a well established model of autism and mental retardation, in a standardized 3 chamber social approach task and contrasted its findings with a novel Light/Dark social avoidance test to best elucidate between these social behavior accuracies in confirming construct validity between tests and mice behavioral effects. In the traditional 3 chamber social approach test FXS KO mice exhibited a reduced time in zone compared with wild type (WT) mice when presented with a stranger mouse, and no difference in time spent with a novel toy. When comparing the familiar mouse with a novel mouse, the FXS KO mice spent more time with the familiar mouse than the novel stranger compared with WT mice, indicating a social deficit in approaching novel conspecific mice. In addition, FXS KO mice also spent more time moving away from the novel stranger mouse than WT mice. FXS KO mice also spent more time moving away from the novel mouse when presented with a familiar mouse when compared to WT mice. In the light/dark social avoidance test, interestingly the FXS KO mice exhibited increased time and entries in the light and social zones. Taken together the novel light/dark social avoidance test was validated with the three chamber social approach test but evidenced another way to investigate social behaviors using an intrinsic motivator (i.e. the dark box). This choice system to socialize or avoid may be useful in elucidating how genetic mice with an Autistic-like syndrome behave consistent with DSM-IV criteria for autism.
**POSTER # 78**

**The Effect of Crowd Size on Individual Honesty**

Rossana Cruciatata (Macaulay Honors College), Reshma Varghese (Macaulay Honors College), Nechama Averick (Macaulay Honors College), Kawsar Ibrahim (Macaulay Honors College)

Faculty Mentor: Professor Daniel McCloskey
Department of Biology/Neuroscience

The experiment tests the effect of crowd size on an individual’s honesty.

Confederates dropped a wallet in both crowded and un-crowded settings, and observers recorded the responses of subjects in the area. The hypothesis is that subjects are more likely to return a lost wallet in a crowded setting.

The results show that there is no correlation between crowd size and the likelihood of returning a wallet. However, there is a correlation between gender and the probability of returning a wallet.

**POSTER # 91**

**Regulation of Estrogen Receptor Signaling by Microtubule-associated Protein Tau in MCF-7 Breast Cancer Cell Line**

Samantha Ni

Faculty Mentor: Professor Jimmie Fata
Department of Biology

Microtubule-associated protein Tau (MAPT), originally associated with neurodegenerative diseases, has also been found to be ectopically expressed in human breast cancer cells. Evidence indicates a direct correlation between increased levels of Tau and resistance to the chemotherapeutic drug Paclitaxel. Our previous work demonstrated that MCF-7 breast cancer cells become resistant to tumor necrosis factor alpha (TNFα) induced cytotoxicity and cell apoptosis when Tau is overexpressed. Here, we have created a Tau knockout MCF-7 cell line, which shows significant reduction in proliferation. Furthermore, serum-starved knockout cells, when treated with 10 nM β-Estradiol, showed significant decrease in cyclin D as compared to the control when analyzed at various time points. Since cyclin D transcription is downstream of Estrogen receptor (ER) activation, we are interested in exploring the relationship between Tau and ER signaling. This may have important implications in endocrine therapy of breast cancer with drugs that depend on Estrogen receptor for therapeutic effects, such as Tamoxif.
**Poster #2**

**Colonization of Reconstructed Habitat at Fresh Kills Landfill by Painted Turtles (Chrysemys picta)**

Seth Wollney

Faculty Mentor: Professor Eugenia Naro-Maciel

Department of Biology

Fresh Kills Landfill on Staten Island, NY has not received materials since April 2001, and is now is being converted into Freshkills Park. Habitat destruction is the leading cause of biodiversity loss, but the value of reclaimed habitats, such as Freshkills, to make up for such loss is still poorly understood. Turtles are long lived and occupy a high level on the food web; turtles are a prime organism for long-term monitoring on reclamation efforts. In the summer of 2012, we began a long-term monitoring of the freshwater turtles at Fresh Kills (FK) and Long Pond (LP), a reference pond to assess the stage of colonization of the reclaimed habitat. We tested the null hypothesis of no difference between shell length and body mass, sex ratios and age-class distribution of painted turtles at Freshkills (n=29) and Long Pond (n=48). The null hypothesis was accepted for shell length (mean FK = 120.2mm; mean LP = 120.1mm), and the sex-ratio (both locations = 1:1). Body mass (mean FK = 271.6g; mean LP = 295.0g) show statistical difference; visual assessment of age-distribution curve reveal an older distribution at Freshkills, whereas a normal curve was found at Long Pond. These results indicate that Freshkills is in the early stages of colonization by painted turtles. Blood samples were taken to assess the rate of health issues and parasite load at the two sites. Currently, little is known colonization of reconstructed habitats that we are providing new data on these processes.

**Poster #68**

**Effect of Nigella Sativa Oil on GABAA-receptor Mediated Neurobehaviors in Mice**

Simon Ng, Lorenz S. Neuwirth, Abdeslem El Idrissi

Faculty Mentor: Professor Abdeslem El Idrissi

Department of Biology/Neuroscience

Black cumin oil is the seed extract from Nigella sativa Linn that shows promising medical applications. The oil is suggested to activate the benzodiazepine site of the GABAA receptor; thus, effectively being an agonist for GABAA. We assessed and characterized the effect of black cumin on anxiety, seizure susceptibility and learning in FVB/NJ mice. As a continuation from our previous study, we instituted a dose response treatment design. Black cumin oil was injected intraperitoneal at 3, 6, 12 and 24 mg/kg dosages prior to behavioral testing. Previous data showed that black cumin treatment resulted in decreased locomotor activity, lower anxiety profiles and increased seizure susceptibility. We hypothesized thought that black cumin would lower seizure susceptibility, but ameliorative outcomes were subtle. In order to best address this question larger sample sizes of mice would be required. The aim of the proposed research was to initially examine taurine alternatives as means to studying GABAA receptor modulation in mice. Since Nigella sativa is an agonist of GABAA, we suggest that use of black cumin may aid in studying the GABAergic system of Fmr1-KO mice. We hope to extend this research to the Fmr1-KO mouse model as it has increased seizure susceptibility and hyperarousal parallels symptoms of autistic-like behaviors.
**POSTER # 86**

**Na+/H+ Exchanger Type 1 is Critical for Maintenance of Mammary Gland Tissue Architecture**

Sophia Varriano (Macaulay Honors College)

Faculty Mentor: Professor Jimmie E. Fata
Department of Biology

Previously, Dr. Fata has developed three-dimensional (3D) tissue cultures to accurately image the morphogenetic development of mammary gland branches by using pieces of ducts isolated from the mouse mammary gland. We chose to use this system to study the role of Na+/H+ exchanger type 1 (NHE1) in the maintenance of branched mammary tissue architecture. We inhibited NHE1 function with an amiloride, specifically, N-methyl, N-isobutyl amiloride (MIA). MIA is a drug that inhibits the function of NHE1, which itself is responsible for maintaining intracellular pH at about 7.0. Dr. Fata’s group has already shown that NHE1 is expressed in this model system to the exclusion of other subtypes of this exchanger and that it functions as a critical regulator of branching morphogenesis (Jenkins et al., 2012). We have used MIA along with a growth factor (TGFα) to investigate the role of NHE1 in the maintenance of mammary tissue architecture. We monitored the effects of NHE1 inhibition by live imaging and we have characterized this loss of architecture by examining tissue polarity assayed by immunostaining for cyto-keratins as well as for NHE1 itself.

**POSTER # 50**

**MtDNA Analysis of Green Turtles from Palmyra Atoll**

Yarlene Hernandez

Faculty Mentor: Professor Eugenia Naro-Maciel
Department of Biology

To uncover sea turtle migratory patterns, scientists use genetic analysis. For this study we examined green sea turtles feeding at the Palmyra Atoll National Wildlife Refuge. Palmyra sea turtles are potentially linked to threatened areas when they leave this protected area for breeding and/or development. Patterns of mitochondrial DNA (mtDNA) variation were used to uncover these relationships and to analyze population genetic structure. To accomplish this, DNA extractions, polymerase chain reaction (PCR) amplifications, purification, and sequencing of samples were completed, as well as training on the software program Geneious that is used for editing and identifying the sequences. Once the editing for the sequences was complete, identifying the haplotypes was the next step and 11 samples were assigned standardized haplotype designations. The results of the genetic analysis showed that the origin had a wide range from eastern Pacific to Australia to closer central Pacific Islands. Arising discoveries have shown that PANWR origins contrast with localized Hawaiian green turtle stock. Thus, causing an intricate understanding of the green turtle dispersal in this specific region.
**Health Analysis of Freshkills Turtles**

Danielle Riili (Macaulay Honors College)

Faculty Mentor: Professor Eugenia Naro-Maciel
Department of Biology

This project is concerned with population and community ecology. Looking specifically at the relationship between turtles and their physical environment, this project focuses on colonization at Freshkills, site of the former landfill, and the effects of small population size. My research involves analyzing blood lab results taken from turtles in the summer of 2012. By doing this blood examination, it can determined whether or not the turtles are healthy. The health of the turtles is a good indication of the environmental characteristics. The analysis requires looking at various chemical levels such as calcium, glucose, potassium, and chloride. There are 35 blood tests being examined with results from three turtle species: red-eared sliders, painted turtles, and snapping turtles. These 35 turtles are from two sites, Freshkills and the Long Pond reference site. The external parasite load (leeches) was highest for bottom-dwelling snapping turtles but internal hemogregarine blood parasites were relatively rare. Chemical parameters such as AST (SGOT) may indicate muscle, liver, or bone issues in the turtles. Results from blood sampling indicated generally healthy populations with possibly greater exposure to toxins at Freshkills than at Long Pond.

**The Impact Of Culture On Human Resources Processes (USA and UAE)**

Ali Alaskari

Faculty Mentor: Professor Alan Zimmerman
Department of Business

Disparities in different cultures often affect human resource practices. Since human resource is based on people, the differences between people in different parts of the world will affect the way human resource processes are practiced. There are many aspects in the human resource field such as management of human capital, compensation of employees, and relationships between the different workers in an organization. This paper will focus on two countries, namely the United States of America (USA) and the United Arab Emirates (UAE). Human resource practices in these two countries are different. The issue of gender for instance, is contentious on the human resource front. One will find out that the United States labor market can accommodate both men and women. Both the social and corporate cultures in this country allow for full participation of both genders. The same cannot be said of the UAE. While the trend of shunning women away from the labor force is decreasing, there are still some similar practices going on. This is one of the major cultural effects that is reflected on the human resource process.

This paper will discuss other processes, for example, recruitment, terms of appointment of individuals in these countries, performance evaluation, and code of conduct among others. The main focus will be on how different cultural practices affect human resource policies in these two countries. There are different methods used to measure cultural differences in countries. According to Hofstede, they include power distance, uncertainty avoidance, masculinity versus femininity, and individualism versus collectivism. These influence the way people behave at their workplace. In the UAE for instance, masculinity is more pronounced than femininity, while in the USA, they tend to strike a balance. This paper will use this theoretical base to further analyze the human resource practices in the two countries.
Research Poster Presentations

POSTER #72

Does The Committee of Sponsoring Organizations (COSO) Model Prevent Fraud?
Daniel O’Shaughnessy
Faculty Mentor: Professor Joseph Petrucelli
Department of Business

Fraud has remained a serious problem within corporate culture despite the institution of fraud prevention models such as The Committee of Sponsoring Organizations (COSO) framework. The COSO framework is a set of guidelines established to promote organizational security through various internal controls and monitors. The research conducted within this thesis demonstrates that organizations often lack an ethical spirit which allows fraud to penetrate internal controls. An ethical spirit is the absolute belief in the mission of an organization by its employees who are dedicated to acting ethically and maintaining their integrity. Fraudsters are clever and often figure out ways to circumvent internal controls. The reality is that, even with rules and regulations in place, people behave unethically. Perhaps the only true defense against the imaginative and creative strategies of a fraudster is to create awareness of the COSO framework and continually develop the right questions to ask when addressing and preventing these fraud perpetrating strategies.

Based on the research and analyses I have conducted it is clear that the present COSO framework is not keeping pace with the creative twists and imaginative turns of the modern fraudster.

This project involved a detailed comparison of several of the major frauds in history including the 1637 Tulip Mania and the 1919 Charles Ponzi scheme to more recent ones like the 2001 Enron scandal and the 2008 Bernie Madoff. Examining the common trends and results of these accounting and financial frauds, allows one to develop better perspectives on how to safeguard organizations against fraud in the future. By qualitatively understanding the past fraud motivations such as greed, conflicts of interest, lack of internal controls and a desire to commit fraud just because one can, one can better understand the necessary actions to proactively prevent them.

The results of this research have concluded that people within organizations need open channels of communication that reward ethical behavior, updated employee background checks, segregated responsibilities, and unexpected monitors who carry high levels of ethical spirit. The COSO framework must be adjusted to combat the ever changing and more sophisticated fraud motivations that may exist by learning from frauds of the past. From the executives at the top down to the mail room employees, organizations must develop people that accept the COSO framework of internal control as their own mission and help promote the proper awareness throughout the organization.

POSTER #41

Worldly Managers: The Effect of Cultural Values on Management
Danielle Bottaro
Faculty Mentor: Professor Alan Zimmerman
Department of Business

In my thesis for this paper, I will be proving how cultural values affect the styles of different managers around the globe. In today’s world, it is important for businesspeople to be educated in the impact of global leadership. With many businesses expanding their network across the globe, the inability to keep up with globalization can make or break one’s success. Understanding the differences between cultural workplaces can turn an ordinary businessperson into a commodity. Many people do not understand that making cultural faux pas can be detrimental to their job and very offensive in certain environments. I will research the ideas of GLOBE and Geert Hofstede to explain the methods of cultural leadership. For example, it is offensive to show the soles of your shoes to another in India. However, in the United States, crossing one’s leg and showing the bottom of your shoe is a very natural gesture. With the use of the tool “The One Minute Manager Builds High Performing Teams” by Ken Blanchard, I will describe how a typical American manager leads a team. I will use another country on the opposite side of the spectrum to compare and contrast the managers styles. The preliminary research suggests that cultural differences affect management styles. The research is important because how one is presented in a business environment could help or hurt their chances of helping the company they represent to gain success.
Levenson’s Locus of Control in Malaysian Undergraduate Students: A Valid Scale?

Eman Safi
Faculty Mentor: Professor Heidi Bertels
Department of Business

Locus of control is a theoretical construct which refers to the extent to which individuals believe they are in control of their own lives and the events that happen in one's life. Various studies (Rotter, 1966; Nowicki and Duke, 1974; Mueller and Thomas, 2000; Hansemark, 2003; Lee and Tsang, 2001) show that people with internal locus of control are more likely to become successful entrepreneurs than those with external locus of control. We analyze data from freshmen students at Universiti Kebangsaan Malaysia (UKM) which were enrolled in a required entrepreneurship course to test our hypothesis that locus of control moderates the effect an entrepreneurship course has on one’s entrepreneurial intentions, i.e., people with internal locus of control will experience larger, more positive changes in entrepreneurial intentions after taking an entrepreneurship course compared to those with external locus of control. However, our study finds that a commonly used scale for locus of control (Levenson, 1974) has insufficient validity and reliability in our sample and hence we cannot validly test our hypothesis. We discuss why locus of control, a scale developed for a North-American population, might not transfer to other cultures and also consider implications for research.

Press Start to Play: The Future of Home Gaming Consoles and the Video Game Industry

Joseph Coluccio
Faculty Mentor: Professor Alan Zimmerman
Department of Business

The video game industry has grown exponentially over the past two decades. Since its inception, game consoles have been the dominant force in the medium, however the past decade has seen a slow shift within the industry. The influence of Michael Porter's Five Forces Framework, which includes rivalry among competitors, threat of entrants, bargaining power of suppliers, bargaining power of buyers and the threat of substitutes are beginning to change the console manufacturing business model. New venues for gaming have appeared such as mobile gaming via a smartphone, tablet gaming and playing online through computers and Cloud technology. The industry is in a state of flux, as effects of hypercompetition can be felt, such as rapid escalation of competition amongst competitors for price and quality, to strengthen their hold on the current market or to invade another. As a result, console manufacturing has become less and less profitable in the past several years. This paper will analyze the video game industry using the Five Forces Framework and hypercompetition and explore how current console manufactures are planning to adapt to this changing market, as well as explore whether or not consoles will still be the dominant way to enjoy video games in the next decade.
**P O S T E R  # 5 4**

**Estimating the Financial Impact of Superstorm Sandy on the Regional Housing Stock—New York and New Jersey**

Katherine Brigandi (Macaulay Honors College)

Faculty Mentor: Professor Jonathan R. Peters

Department of Business

This project examines the impact of Superstorm Sandy on the housing stock in New York City and New Jersey with a special focus on the neighborhoods of Staten Island. The author develops metrics of damage based on the reported incidence as released by the Federal Emergency Management Administration (FEMA) in an analysis of Damage Assessment impact from Superstorm Sandy.

Using this source, the author then organized the data into categories on neighborhoods in Staten Island. The categories FEMA uses to categorize the damage assessment were examined and critiqued. The author then applies cost estimates for the various damage classes and validates the scale of damage reported in the FEMA data using field examination of various Staten Island and New Jersey neighborhoods. The data helps the author identify the hardest hit areas as well as determine various methods that could be done to help mitigate risks if an event like this occurs in the future and made comparisons to other cities methods of dealing with flooding and storms.

**P O S T E R  # 7 3**

**Examining Brand Communication Across Cultures: LG Electronics’ Advertising Strategy in South Korea and the United States**

Kubra Shirazi (Verrazano Honors School)

Faculty Mentor: Professor Alexei Matveev

Department of Business

The advertising strategies of LG Electronics stand out from their competitors. Applying global adaptive advertising to marketing the LG Cinema 3D TV across cultures has been a coveted success for LG Electronics amongst its competitors as Philips, Samsung and Panasonic. LG Electronics’ ability to design and produce effective cross-cultural advertisements has been globally recognized. A Korean-based global leader in technology and design ranks 65th World’s Most Powerful Brand on the Forbes List in 2012 and 196th on Global 500 (CNN Money, 2012; Forbes, 2012).

This research analyzes and interprets LG Electronics’ cross-cultural brand strategy in print and television advertisements in the United States and South Korea, two highly sought after consumer markets. Although similar in consumer demands, the U.S. culture is contrasting in many ways to the South Korean culture. While the individualistic Americans strive to stand out among their peers, the collectivistic South Koreans focus on sustaining a harmonious environment and devote to bettering institutional needs (Hofstede, 2012). Hofstede’s cultural dimensions and Hall’s communication context variety explain many cultural and communication differences among cultures (Hall, 1992; Hofstede, 2012).

Understanding cultural varieties of local consumers helps to explain the choice of an advertising strategy for similar LG Electronics products in the U.S. and South Korea. LG Electronics tends to apply the adaptation technique rather than standardized advertising approach in diversifying its commercials in both countries. LG Electronics’ successfully uses local celebrities to showcase their products and appeal to the technology and idol addictions in the U.S. and South Korea. This presentation will vibrantly demonstrate the strategic choice of advertising communication of popular LG Cinema 3D TV in two culturally diverse and competitively vibrant economies.
Research Poster Presentations

POSTER # 82
Taking the “Mystery” Out of Financial Statements
Mario Lee Gonzalez
Faculty Mentor: Professor Deborah Brickman
Department of Business
We have all heard the saying “it’s a mystery to me” when describing something that you try to understand and fail to comprehend. In the accounting and financial world, financial statements are the report card or health record of an entity for the period covered.

When it comes to financial statements, many people feel that they are exclusively for sophisticated readers and that they are not capable of understanding them.

Really, one should not be afraid to pick up a set of financial statements in order to analyze the financial condition of a company and make investment decisions. A discussion of how to understand financial statements follows:

- Define “what are financial statements”
- Identify the various facets of the financial statements
- Identify how to use key financial ratios to help indicate economic health
- Question and Answer (Q&A) session will apply the aforementioned to actual financial statements

POSTER # 80
Study on Social Media Use by Healthcare Providers—Perceived Benefits and Risks
Michael Allamby
Faculty Mentor: Professor Soon Ae Chun
Department of Business
Many industries leverage social media as a new platform to connect to their customers for not only promoting and marketing products and services but also receiving and sensing the customers’ needs and preferences. This two way connection and instant data sharing from the end-users allow the organizations to be more adaptive and flexible by reflecting the needs of customers. However, the social media also suffers from various issues, such as data quality, data reliability and data authenticity issues in the crowd generated “dirty” data, privacy and security issues in sharing and combining of multimedia personal data at ease, and “unintended representation or spokesman” issues by posting or citing a group, event, organization or product. The natural question is, then, whether the social data is worthy of paying attention. This perception may affect the use and adoption of social media in organizations and individuals.

This research investigates some benefit and risk factors that may affect their perceptions on social media adoption and use in patient care, where the professionals heavily rely on the Electronic Health Records (EHR) that are generated by the authoritative professionals like doctors. This research, first, summarize the literature on a state of the art social media adoption and use in medical sector. We identify some of the factors that may affect the overall perception towards social media, which in turn may affect their adoption and use in healthcare of patients. We discuss the preliminary survey results from medical professionals from New York City’s boroughs, including Staten Island and Manhattan. We compare the findings with social media use and adoptions in other sectors, such as government, journalism, or businesses.
POSTER # 43

Evaluating the Operating Financial Impacts of Opening the 2nd Avenue Subway

Michael Evans (Macaulay Honors College)

Faculty Mentor: Professor Jonathan Peters
Department of Business

The Metropolitan Transit Authority (MTA), in conjunction with the New York Metropolitan Transportation Council (NYMTC) began construction on the new Second avenue subway in March 2007. It will be completed in four phases, the first scheduled to be completed in 2016. This is a construction project started with the goal of relieving overcrowding on the Lexington line by creating a new line spanning 8.5 miles of Manhattan. The construction is currently being funded by a combination of federal, state, and MTA money, but it is not yet clear how the MTA will finance the operating costs once the line is put into use. By analyzing the MTA's current operating budget, I hoped to learn how they plan on funding the operation of the Second avenue line. I found that there are currently no publicly available plans for the MTA's funding of any of the Second Avenue subway's phases. Lacking an official proposal, I sought to create a projection of the financial impacts of the line's operations and, by using that projection, create funding alternatives that could mitigate the negative impact the subway line is likely to have on the MTA's books. The annual deficit for Phase I is estimated to be $73.4 million, while the annual deficit for the operation of the entire line is estimated here to be $204.7 million. The alternatives include a premium pricing model, reconsideration of capital allocation, breakeven pricing, taxes, and fare subsidies. Each would potentially fund all of the expenses of running the SAS without creating additional deficit.

POSTER # 44

How do Millennials Utilize Smartphones, Social Media, Retail Stores and Blogs to Shop?

Nicholas Zikos (Verrazano Honors School)

Faculty Mentor: Professor Dan Zhang
Department of Business

This paper investigates how Millennials utilize smartphones, social media, retail stores and blogs to enhance their consuming abilities. We test whether companies are effectively delivering their products to Millennials, or need to modify their existing business models. A survey of 100 participants aged 18-33 in New York City, will enlighten the habits that they frequent when making shopping decisions. The results will enlighten us on how Millennials interact with products, survey competing products, and interpret peer input. Managerial recommendations will be provided in terms of what businesses need to do to stay relevant to the ever-changing consumers of the Millennial and future generations.
**POSTER # 63**

**Managing the World of Beauty**

Zabebah Mohamed  
Faculty Mentor: Professor Thomas Tellefsen  
Department of Business

Businesspeople are sensitive to the old adage: “Beauty is in the eye of the beholder.” Modern cosmetics companies try to understand how consumers around the world define beauty in response to their environments and cultures. Innovative companies then adapt their strategies to fulfill local desires on a global basis. This paper explores how perceptions of beauty are changing and how cosmetic companies are shifting the way they manage their businesses to reflect these trends. The final conclusion is that cosmetics companies are riding a wave of cultural change and may be supporting that change.

**DEPARTMENT OF CHEMISTRY**

**CONFERENCE LOCATION: BOTTOM FRONT**

**POSTER # 11**

**“Clicked” BSA Conjugates with Curcumin**

Andrew Mancuso, Dhiwyia Alex  
(Macaulay Honors College)

Faculty Mentor: Professor Krishnaswami Raja  
Department of Chemistry

Bovine Serum Albumin (BSA) is a readily available protein with thirty modifiable NH$_2$ groups. In this project I propose to chemically conjugate dyes and the bioactive molecule Curcumin to BSA via click chemistry. We have demonstrated this technology with a Near Infrared Fluorescent dye and BSA. We will dissolve BSA in a phosphate buffer solution and add to it a mixture of an azide linker in Dimethyl Sulfoxide (DMSO). By the addition of the BSA mixture and the azide linker mixture we will modify the NH$_2$ groups of the BSA with an azide group for further attachment of a curcumin alkyne derivative. By performing a dialysis with 0.1M Tris Buffer, we propose to remove any excess reagents from the solution allowing a higher yield of our final product. We will employ a Cu(I) solution as a catalyst and perform a click reaction to eliminate the use of high temperatures. We will then characterize the compound using SDS PAGE and FPLC with a Superose 6 column with water as eluent and to test the ability of the curcumin conjugate against the HE LA human cervical cancer cell line via the MTT assay. In the later part of the experiment, we will use an IgG antibody in place of the BSA. These constructs have several potential Biomedical applications.
Formulation and Characterization of a Curcumin-based Cream for the Treatment of HPV-mediated Cervical Cancer

Anita Mata

Faculty Mentor: Professor Probal Banerjee
Department of Chemistry

Cervical cancer is the most frequently diagnosed cancer of females in developing countries and the second most frequent cancer affecting women worldwide. By the age of 50, 75-80% of sexually active women have acquired HPV at some point in their lifetime, making it the most common sexually transmitted disease in the United States.

Human papillomavirus (HPV) infections remain a leading cause of mortality worldwide. In the U.S., strategies via screening and vaccination prevent HPV-associated cervical neoplasms, but consuming immense healthcare costs.

The spice component curcumin has potent anticancer and antiviral properties, which have been difficult to harness as a treatment, due to its poor systemic bioavailability. This project tests the possibility of developing a curcumin-based therapy for cervical cancer. Using HPV (+) cervical cancer cell lines and normal fibroblasts we first tested the selectivity and potency of curcumin in eliminating HPV (+) cells. Then, we developed a curcumin-based cervical cream and tested its efficacy in eliminating apposed HPV (+) cells and also its possible side effects on the vaginal epithelium of healthy mice. Curcumin selectively eliminates a variety of HPV (+) cervical cancer cells (HeLa, Me180, SiHa, and Sw756), suppresses the transforming antigen E6, dramatically inhibits the expression of the pro-cancer protein epidermal growth factor receptor (EGFR), and concurrently induces p53. We have developed a curcumin-based vaginal cream, which eliminates HPV (+) cancer cells and does not affect non-cancerous tissue.

Our preclinical data support a novel approach for the treatment of cervical HPV infection.

Expression of the KvAP Potassium Channel Voltage-sensing Domain

Fatima Azhar

Faculty Mentor: Professor Sebastien Poget
Department of Chemistry

Sodium and potassium channels are membrane proteins that allow the highly specific flow of sodium or potassium ions at near-diffusion speed through the membrane. They are of great importance in many physiological processes including transmission of the nerve signal and regulation of the heartbeat.

Their tightly regulated voltage-dependent opening and closing is mediated by the voltage-sensing domains. KvAP is a voltage-gated bacterial potassium channel that has been extensively structurally characterized by X-ray crystallography and NMR. We will express the KvAP voltage sensing domain (VSD) for NMR studies of its interactions with the tarantula toxin VstTx and for determining how this alpha-helical transmembrane domain folds in real time. In this presentation the production of an expression plasmid for KvAP VSD by PCR-based cloning methods and the expression optimization of the protein in different E. coli expression strains by Western blotting will be discussed.
**POSTER # 104**

**Synthesis of Copolymer-templated SBA-15 Silica with 2-D Hexagonal Structure Using 1,3,5- Triisopropylbenzene as Micelle Expander**

Ilona Stoyko, Doriane Bouobda  
(Verrazano Honors School)

Faculty Mentor: Professor Michael Kruk  
Department of Chemistry

Ordered silicas with large cylindrical pores (diameter ~10 nm) templated by block-copolymer surfactant micelles and arranged in two-dimensional (2-D) hexagonal (honeycomb) arrays (referred to as SBA-15 silicas) have received much attention as catalyst supports, hosts for nanoobjects and media for immobilization of biomolecules. In some applications of these materials, it would be beneficial to enlarge the pore diameter beyond 12 nm, which is a typical limiting pore size value for SBA-15. Recently, our research group demonstrated that this goal can be achieved by adding 1,3,5-triisopropylbenzene (TIPB; micelle swelling agent) to the synthesis mixture, which results in the pore diameter from 12 to 26 nm, depending on the synthesis conditions. The synthesis is carried out using tetraethyl orthosilicate (TEOS) as a silica precursor, which hydrolyzes and condenses in the presence of a small amount of ammonium fluoride (NH₄F) catalyst. The current project is intended to better understand and possibly improve the synthesis of highly ordered ultra-large-pore SBA-15 and to gain better understanding of the influence of the synthesis conditions on the structure of the products. In particular, in our current protocol, ammonium fluoride is not used and the influence of the sequence of addition of the swelling agent and the silica precursor is investigated. The resulting materials are characterized to determine the unit-cell size, specific surface area, pore size and pore volume.

**POSTER # 69**

**Amphiphilic Poly (Vinyl Esters) for Antibacterial Applications**

Kevin Lee (Macaulay Honors College), Edwin He (Macaulay Honors College)

Faculty Mentor: Professor Nan-Loh Yang  
Department of Chemistry

Ever increasing infections involving multi drug resistant bacteria have become a serious threat to human population and a nightmare for healthcare providers across continents. Bacterial resistance towards cationic amphiphilic synthetic polymers, based on Natural Antimicrobial Peptides (AMPs) design principles, is believed to be nonexistent. Although synthetic amphiphilic polymers have attracted significant research interest in recent years, there are no reports of antibacterial polymers based on amphiphilic poly(vinylesters) - biocompatible and degradable materials ubiquitously used in biomedical applications. We synthesized amphiphilic poly(vinylester) random copolymers by free radical polymerization of vinyl chloroacetate and vinyl versatate (VeoVa-10), followed by quaternization with N,N-dimethylamylamine. Their antibacterial activity (Minimum Inhibitory Concentration, MIC) towards E. coli (ampicillin resistant) and S. aureus, and toxicity towards mouse RBCs (Hemolytic Concentration, HC50) were assessed. 2.5k g/mol series copolymers displayed higher antibacterial activity towards S. aureus (MIC=12 µg/mL) as compared to 5.5k g/mol (MIC=21 µg/mL), or 11k g/mol (MIC=52 µg/mL) series copolymers. Similar results were observed for E. coli. Contrarily, 2.5k g/mol homopolymer manifested lower activity towards S. aureus (MIC=964 µg/mL) as compared to higher molecular weight homopolymers (MIC 62 µg/mL). Moreover, homopolymers displayed no toxicity towards RBCs (HC50 >2000 µg/mL). Most of the copolymers demonstrated high toxicity towards RBCs, but 2.5k g/mol series copolymer with 90% cationic mole percentage was found to be non-toxic and highly antibacterial. Increase in mole percentage of hydrophobic groups (VeoVa-10) resulted in higher antibacterial activity, but excessive hydrophobicity reduced antibacterial activity towards E. coli and S.aureus.
POSTER # 15

A Green Drug Approach to Treating Cervical Cancer

Nechama Averick (Macaulay Honors College), Serena Simone
Faculty Mentor: Professor Krishnaswami Raja
Department of Chemistry

Green drugs are those that originate in renewable resources such as plants which can be used either directly after isolation or after efficient chemical modification. According to some estimations, over 61% of drugs used today have their roots, almost literally, in natural products. Benefits to using green drugs include smaller environmental impact and xenohormesis—co-evolution of the human and plant potentially refined the human reaction to the bioactive chemicals and increased tolerance of them.

One possible green drug source is Clerodendrum viscosum or Cv, a perennial shrub that grows wildly in India. This plant has been reported to treat cervical cancer and has been used for that purpose in the area. New treatments for cervical cancer are of great importance since according to the Center for Disease Control, 12,000 women in the U.S. are diagnosed with cervical cancer every year. Worldwide, cervical cancer is the third most prevalent cancer in women and causes an estimated 275,000 deaths every year.

Our research has indicated the major component of standardized CV extract Cv is a glycoprotein. In vitro tests with HELA cervical cancer cell lines and normal cell lines, standardized Cv extract was active against the former but not the latter. We have developed a standard technique for the purification of the glycoprotein component EPHP3 and have characterized it using SDS-PAGE, UV spectroscopy and via Concanavalin A binding studies.

POSTER # 56

Degradation of Dyes Used in Undergraduate Instructional Laboratories

Rania Skaf (Verrazano Honors School), BiBi Ghafari
Faculty Mentor: Professor Alan Lyons
Department of Chemistry

Chemistry and biochemistry undergraduates generate organic waste in laboratory classes. These wastes include dyes that are non-hazardous but difficult to degrade in our sewer systems. The purpose of this project is to decompose these wastes before the dyes are disposed into the sewer system by using TiO₂ nanocomposite materials with sunlight irradiation. Titanium dioxide nanoparticles are well known to exhibit photocatalytic properties when exposed to light. The lamination fabrication method used in our lab to produce the TiO₂-polymer nanocomposites increases the availability of TiO₂ particles on the surface, and so their catalytic efficiency, while minimizing the quantity of particles used. TiO₂ nanocomposite films are also lightweight and flexible and can be easily incorporated into plastic bags.

Waste dyes were taken from undergraduate labs and include crystal violet, methylene blue and carbol fuchin. Dye solutions (1mM) were placed into contact with the TiO₂-polymer film inside a plastic bag and exposed to either a UV lamp or sunlight. Photodegradation of dyes were monitored and reaction rates were calculated by UV-vis spectroscopy. Reaction products were analyzed by using Raman spectroscopy. Based on the results of this project, the use of TiO₂-polymer surfaces to treat hazardous wastes will be examined in the future to create a greener campus.
**P O S T E R # 3 0**

**Recombinant Expression and Purification of Tx7335 in Escherichia Coli**

Christopher Price  
Faculty Mentor: Professor Sebastien Poget  
Department of Chemistry

Tx7335 is a snake toxin found in the venom of the Eastern Green Mamba. This toxin exhibits abnormal and potentially useful properties pertaining to voltage-gated potassium channel activation. In order to optimally express this protein, several bacterial expression plasmids were created, all containing a polyhistidine tag for protein purification. After multiple trials with different plasmid-encoded fusion proteins, the most promising approach was expression as Trp-Δ-Leader fusion protein. Expression of this plasmid was tested in several different strains of E. coli. The most cooperative strain was the BL21-AI strain, and after harvesting, FPLC was used to obtain pure fusion protein through use of a nickel column.

Subsequent refolding and cleavage yielded significant albeit somewhat impure toxin. Future experiments will be performed to optimize the purification protocol in order to maximize the yield and purity of toxin. Eventually, the recombinant toxin will be used in binding assays with E. coli derived potassium channels, and may some day serve as a lead compound in the development of beneficial drugs which could manage potassium channel-related conditions such as multiple sclerosis, diabetes, and arrhythmia.

**P O S T E R # 7 5**

**Purification and Reconstitution of Chimeric Cation Channel Voltage-sensing Domains**

Sara Ishak  
Faculty Mentor: Professor Sebastien Poget  
Department of Chemistry

Sodium channels are membrane proteins that allow the highly specific flow of sodium ions at near-diffusion speed through the membrane. Many animal toxins are known that alter sodium channel voltage dependence by binding to the region responsible for voltage sensing, the so-called voltage-sensing domains (VSDs). These toxins may provide useful lead compounds for drug development. Therefore, we intend to study the interactions of animal toxins with voltage-sensing domains on a structural level.

Structural studies will be based on the potassium channel KvAP VSD, which can be easily expressed and is structurally well-characterized. In order to be able to capture interactions with toxins that target human sodium channels, we will replace the parts of the protein that interact with the toxin with the corresponding sequence from the human sodium channels, thus creating a bacterial-human chimeric protein.

Gene fragments for these chimeric constructs were generated by PCR from the human and bacterial genes. These fragments were reassembled into chimeric DNA sequences by assembly PCR. The chimeric genes were ligated into a bacterial expression vector and are being transformed into E. coli.

Expression levels of the final bacterial-human chimeric proteins will be tested by Western blot analysis. Using optimal expression parameters, large-scale cultures will then be grown and a purification protocol for the chimeric VSDs developed. These purified VSDs will then be reconstituted into different membrane mimetics (detergent micelles and detergent-lipid bicelles) to obtain a suitable system for NMR structural and toxin-binding studies.
DEPARTMENT OF COMPUTER SCIENCE
CONFERENCE LOCATION: WEST LOUNGE

POSTER #13
Biological Image Segmentation
Deepa Sivaprakash
Faculty Mentor: Professor Shuqun Zhang
Department of Computer Science

Automatic image segmentation of cells in a medical image is essential in the vast array of biomedical fields. It is helpful to those in the biomedical field because manual segmentation can be very tedious and time consuming.

The results from manual segmentation compared to automatic segmentation may suffer from observer variability. By detecting the edges or boundaries of cells, the automatic image segmentation program can detect that a cell is present more efficiently.

However, while this process may have a typically high degree of accuracy in detecting the number of cells, it will not be 100% accurate in every case. In our research, we are looking for new ways to optimize the automatic image segmentation process by creating an algorithm incorporating color detection and cell clustering detection. By incorporating a color detection technique based on color range and a cell cluster detection technique based on the mean shift theory, the accuracy of the program will hopefully not be negatively impacted by variables like noise and the background of medical images.

POSTER #83
Analyzing and Training Emotions in Children Using Serious Games
Ed Peppe
Faculty Mentor: Professor Deborah Sturm
Department of Computer Science

Emotional perception deficits are often noted in children with Autism Spectrum Disorder (ASD). We developed a serious game for a mobile platform to implement facial emotion analysis and training for children with (ASD). The game displays varying facial expressions and records individual recognition skills, reaction time and decision-making patterns. The log includes the amount of time taken by the player to make initial and subsequent choices, the success rate, and bias factors. The goal of the game is to both monitor a child's individual perception patterns and implement customized remediation procedures.

The game runs on a touch-capable mobile platform with an easy-to-navigate user interface, extensive administrative controls, data transfer capabilities between devices and verbose experiment results.

This is an interdisciplinary effort in collaboration with Dr. Bertram Ploog and Dr. Patricia Brooks of the Department of Psychology.
Research Poster Presentations

POSTER # 61
Studying Procedural Learning Using Serious Game-Apps
Jonathan Parziale
Faculty Mentor: Professor Deborah Sturm
Department of Computer Science

Children with specific language impairment (SLI) often have difficulty with procedural learning. We developed a serious game/app for the iPad to implement serial reaction time (SRT) tasks for typical and children with (SLI). The game involves following images of semi-random pattern sequences.

Response times and incorrect sequences are recorded. We hope to use this game to study serial reaction time learning in children with and without SLI. We are adding administrative functionality so experiments can be saved, modified and retrieved. The final game will also contain testing/analysis and training phases.

This is an interdisciplinary effort in collaboration with Dr. Bertram Ploog and Dr. Patricia Brooks of the Department of Psychology.

POSTER # 53
Enhancing Corpora for Text Classification
Nuwan Panditaratne (Macaulay Honors College)
Faculty Mentor: Professor Sarah Zelikovitz
Department of Computer Science

This research project addresses problems and evaluates potential solutions in the domain of text classification. Text classification is the task of assigning predefined categories to “free-text” documents. This is usually done through comparison of document corpora against other documents already defined in a particular category. Error rates in results of such practices have varied due to issues related to low counts of particular words, which makes the counts insufficient in comparisons of corpora. In addition, the bag-of-words model does not take into consideration how compound words or sequences of particular words will affect a document’s classification.

To address these issues, our research makes use of an application called Wordnet (http://wordnet.princeton.edu/), in a creative way. Wordnet is a program that allows a user to input a word along with parameters for a search. We have chosen to enhance our text bases with hyponyms, which are members of the same class of words as the root word. Running our text documents through Wordnet allows two things:

• It enhances our original background sets with hyponyms, which creates larger word counts.
• It alerts us when two words should be grouped together in sequence instead of being matched individually.

The main issues over the course of this research arose when attempting to output results. Several early models of our output created unfairly enhanced data; meaning the results could be unfairly interpreted. We controlled these problems by using a stemming algorithm and by comparing the words in such a way that a sequence of words meant to remain in sequence was compared as if it were only one word.

The methodology used in this work, in conjunction with other tools available in the text classification domain will enhance the reliability and efficiency of useful practices and applications to advance this important area of research.
**POSTER #108**

**Force-Feedback System for 3D Printer**

Robert Dacunto  
Faculty Mentor: Professor Deborah Sturm  
Department of Computer Science

3D printers enable the deposition of various inks into complex patterns on a variety of substrates. To form patterns with micrometer dimensions, a high degree of control is required both of the rheological properties of the ink as well as the precise mechanical position of the print head. In this interdisciplinary project, an existing 3D printer was modified to improve the mechanical control of the instrument. This required the integration of a 5-axis stage, capable of nanometer step sizes, with a force sensing gauge capable of milligram resolution such that the system can use a feedback loop to achieve a precise and reproducible displacement for each printing operation. The ongoing project involves designing a user interface and developing software to acquire force data and cause the stage to move to a pre-set location until a predetermined force is achieved.

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**POSTER #81**

**A Solution for the Traveling Salesman Problem Using Ant-colony Optimization on a Small Computing Cluster**

Brian Wong (Verrazano Honors School), Jonathan Parziale, Christopher Savo, Michael Costantino  
Faculty Mentor: Dr. Michael Kress  
Office of Technology Systems

The traveling salesman problem (TSP) is the task of finding the shortest route by which a set of cities can be visited exactly once, given a set of cities and distances between each pair of cities. This is a computationally intensive task, with complexity increasing exponentially as the number of cities increases. The TSP has a wide variety of applications in computer science and in real-world scenarios such as in logistics and GPS route calculation. Our goal was to produce an efficient TSP solver program for small-scale cluster computers, aiming to generate near-optimal results in a reasonable amount of time using hardware that is more economical than that found in typical supercomputers.

We present a small computing cluster called LittleFe, which consists of several low-cost computer boards connected together using a networking switch, as well as a solution to the TSP based on Thomas Stützle's ant-colony optimization (ACO) TSP solver. We have modified the solver to reduce memory usage, allowing it to handle larger sets of cities within the memory limitations of the cluster. We have also written programs designed to facilitate stopping and restarting the solver using different variants of the ant-colony optimization algorithm, allowing us to more quickly generate better solutions. Additionally, because the solver is a serial program capable of running on only one processor at a time, we have developed tools and methods designed to allow each processor on the cluster to run the solver with a different configuration, taking full advantage of the cluster's resources to produce high-quality results with a minimum of communication between processors, which can reduce performance.
Poster #101
Parent Involvement Within the Elementary School
Brittany Buggé (Verrazano Honors School), Alfred Venturino
Faculty Mentor: Professor Judit Kerekes
Department of Education
Parent involvement is an important aspect of a school's culture. It can benefit the student body on many levels. In order to assess the nature of parent involvement in a local elementary school, we designed a survey to gather relevant information. We began the research process by interviewing the school principal. After discussing the needs of the school, we created a parent involvement survey that incorporated the major components of our findings. The survey's purpose was to identify which grade(s) have the most parent involvement, and the difference in involvement between working and non-working parents. We believed the parents with younger children will be more involved than parents with children in higher grades. We also predicted that non-working parents will be more involved in their child's school than working parents. Another goal was to identify how prevalent the ESL population is in the school. We compiled data, calculated percentages, and created graphs to organize our findings. After reviewing our data, we were surprised at our results. A larger percentage of parents with children in higher grades returned the surveys on time. A small percentage of early childhood parents returned the survey and some did not return it at all.

Poster #102
Benefits of Technology (Smart Board)
Kayla Giacomi, Christine D'Amico
Faculty Mentor: Professor Judit Kerekes
Department of Education
Technology has impacted student teachers in the classroom in many ways. Student teachers benefit from the Smartboard as much as the students have. The Smartboard helps student teachers focus on their lessons, while making them fun and interesting for the students. The technology that is used in the schools today helps student teachers to expand their lessons. It also helps the student teachers to go more in depth on a topic. While the student teachers taught their lessons they used the Smartboard. The lessons were completed with success. The students benefit from the technology used in the classroom as well as the student teachers.
**Department of Engineering Science and Physics**

**Poster #84**

**Full Spectrum Prismatic Concentrator**

Thomas Rodberg (Macaulay Honors College)

Faculty Mentor: Professor Yasha Yi
Department Engineering Science

In the process of solar cell power generation, only specific windows of wavelengths can be absorbed. Different types of solar cells can be made for different regions of the spectrum, but the bottom line is that more than 70% of the incident full spectrum is wasted when using photovoltaics. To solve this problem, we propose a design of a prismatic lens which will concentrate incident full spectrum light onto different focus points based on the wavelength of light. By doing so, arrays of solar cells can be optimized to absorb only the wavelengths of light at that specific point. This theoretically can allow for maximum power generation from any incident beam of light. The design will be done using Matlab and AutoCAD, and simulations will be run on commercial ray tracing software TracePro.

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**Department of English**

**Poster #87**

**The Unseen War: Microbiological Resistance**

Christine Fisher

Faculty Mentor: Professor Steve Fried
Department of English

As antibiotic use increases, so does microbial resistance – notably in the multidrug resistant strain Methicillin-Resistant Staphylococcus aureus (MRSA). The dangers of overprescribing and ignorance towards appropriate usage are beginning to reveal themselves, and bacterial strains are increasing their drug resistance at an alarming pace, so that drugs once regarded as a last line of defense are now no match for these superbugs.

Listed as the number-one threat to society in the twenty-first century by the Institute of Medicine, resistance is outpacing researchers’ development of more powerful treatments. This pervasive danger affects not only at-risk populations like those weakened by age, chronic conditions, and immune compromise, but ultimately poses grave implications for every individual in society.

Organisms' development of drug resistance is a natural biological adaption, but the rate at which it progresses in this critical instance can largely be attributed to physicians’ inappropriate usage and injudicious prescription of, as well as the public’s rampant misconceptions about, antibiotics.

This paper explores popular opinions about bacteria, antibacterial therapy, and medical treatments, along with the role of physicians' prescription patterns and their relation to patient expectations. Methods to combat imprudent antibiotic practices are investigated, with a central focus on the value of a widespread educational intervention for medical personnel and patients alike. Based on statistical evidence for the relation between overuse of antibiotics and the progression of deadly bacterial strains, it is necessary to implement a federal educational system. Agencies currently in place have failed to deliver this crucial information to vulnerable populations. This critical issue must be addressed in the early stages.

Without such measures, we run the risk of regressing to a condition in which society saw over a century ago — a world without antibiotics.
DEPARTMENT OF MEDIA CULTURE
CONFERENCE LOCATION: WEST LOUNGE

POSTER # 107
Surprising Guard
Aliaa Youssef
Faculty Mentor: Professor Valerie Tevere
Department of Media Culture

Surprising Guard is an animation project that plays with fantasy and surprise. For this project, I decided to create a short and humorous cartoon. I came up with the story line first, created an environment for my animation, and then began producing the animation. As I am interested in drawing and have created digital drawings, I chose to draw all the characters and the graphics in the video.

The process of the Surprising Guard animation was rigorous and challenging.

The most difficult part was animating the panda because I had to use certain tools to give it realistic cartoony movements. For example, to turn the panda from a forward view to a side view, I had to draw three pandas so that the one appears to turn in real movement and in sequence. Character animation or animation in general is very challenging and requires a lot of time. In animation everything should be in a time line and all the movements should be in the desired sequence. For the Surprising Guard, animation, I began with the car animation and the sun because I wanted the car to appear first. I then animated the panda and the stop sign because I wanted them to follow. I decided to produce a short cartoon animation because I interested in the production process and building a story line.

POSTER # 33
Moneyball: The New Formula to America’s Past Time
Christopher Bitetto (Verrazano Honors School)
Faculty Mentor: Professor Tara Mateik
Department of Media Culture

Moneyball is a philosophy used by Major League Baseball teams to evaluate players in a way that will give them the most value for the best price. Although teams have used this philosophy in different forms since 1980, Moneyball has become the new way of thinking across the league. After witnessing the Oakland Athletics succeed with just a $40 million payroll by using this new baseball logic in the early 2000’s, other teams, such as the Tampa Bay Rays and Minnesota Twins, began adopting “Moneyball” to make up for the large discrepancy in payroll throughout the league.

“Moneyball” serves a means of evening the playing field for smaller market teams against high payroll teams like the Boston Red Sox, New York Yankees and Philadelphia Phillies.

In my production, “Moneyball: The New Formula to America’s Past Time,” I will debate the topic of “Moneyball” in Major League Baseball with Anthony Pieno, co-host of WSIA's “The Voices of Summer.” We will discuss “Moneyball’s” success over the past ten years.

During the debate, our argument will be supplemented by interviews with high profile sports broadcasters, including Brian Kenny of the MLB Network and Bruce Murray of Sirius XM’s Mad Dog Radio. They weighed in with their expert opinion discussing, for example, whether they believe a small market team can use this philosophy to compete and win against big market, high payroll teams, on a yearly basis. Full-length interviews were also broadcasted over the airwaves of WSIA Staten Island 88.9 fm on my weekly sports talk show “The Voices of Summer.”
**Poster #99**

**Egypt's New Freedom**

Lena Abdelhamid  
Faculty Mentor: Professor Bilge Yesil  
Department of Media Culture

Egyptian media landscape changed drastically after the 2011 revolution. From Facebook to television, Egyptians' experience of media also went through a transformation mostly thanks to their new sense of freedom. Though positive and negative changes took place, it is evident that the country is working to modernize and liberalize its political, economic and social structures.

In this project, I will discuss the major developments before and after the revolution, and explore the significance of new communication technologies during the revolution. My research will be based on analyses of blogs, Facebook and Twitter posts by political activists, as well as analyses of journalistic accounts in the Egyptian and the Western press, and scholarly books on Egyptian politics, society and culture.

My research question is concerned with the role of new communication technologies in the revolution. I argue that the revolution did not happen simply because of the Internet or social media, but had been in the making since the late 1980s through small-scale strikes, protests, etc. However, it must also be noted that social media contributed to the revolution as activists and protestors communicated with each other, spread ideas, exchanged information through SMS, Facebook or Twitter.

In this project, I discuss the role of media in this major political, social shift. I argue that though social media did not kickstart the revolution, it definitely played a role in disseminating information and ideas about the revolution, the actors and their activities. Therefore, this paper focuses on the role of social media in the Egyptian Revolution and discusses the relationship between digital communication technologies and social, political movements.

**Poster #40**

**New Media Art: Pixel Perfect**

Nicole Boffa (Macaulay Honors College)  
Faculty Mentor: Professor Valerie Tevere  
Department of Media Culture

New Media art refers to projects that make use of emerging media technologies and are concerned with cultural, political, and aesthetic possibilities of these tools. The term was adopted in 1994 and was deemed an intersection of both art and technology. It calls upon Dada 1920s style and strategies of photomontage, collage, the readymade, political action and performance. Just as Dadaists responded to the mechanical reproduction of texts and images, New Media art is a response to the information technology revolution and the digitization of culture. Other art historical antecedents include Pop art, Conceptual art, and video art. This project focuses on the latest facet of New Media art, Net art, which employs internet-based artistic practices.

Computers enable a gateway to an international community of artists, critics, curators, collectors, and other art enthusiasts. Although some artists use the Internet as a way of disseminating documentation of work made in other media (e.g. an online portfolio), I researched others who approached the Internet as a medium in its own right or as a new kind of space in which to intervene artistically. I was inspired by John Simon's "Every Icon" (1996), a Java-applet which relates to a system of instructions with the idea being more important than the object. Similarly, my project is outside the realms of traditional handmade art and serves primarily as an interactive multimedia installation. I utilized HTML, CSS, JavaScript, and jQuery to enumerate a grid based upon hover functions that track mouse movement to randomly generate RGB colors. Reminiscent of pixelated icons, each interaction with this installation is unique, static, and most importantly, user-generated. Consider other inexpensive and accessible New Media art that no longer exists with the dreadfully familiar shut down 404 error. Overall, this work is a commentary on the collection and preservation of New Media art.
**DEPARTMENT OF NURSING**

**CONFERENCE LOCATION:** West Lounge

**POSTER # 70**

**A Qualitative Assessment of Revisions to the Norbeck Social Support Questionnaire**

Brian F. Gordon, Peter Acerios
Facility Mentor: Professor Eileen Gigliotti
Department of Nursing

**Background:** The Norbeck Social Support Questionnaire (NSSQ) was developed in the early 1980’s. This self-administered questionnaire asks respondents to list members of their support network and answer questions on a 5-point scale, revealing functional properties of their social support: affect, affirmation, and aid. Dr. Gigliotti’s previous research resulted in several revisions to the NSSQ that may improve precision of measurement including: a format change, a n/a response option and the removal of the aid question examples.

**Objectives:** Our project is an assessment of the effects such changes have on network nominations and aid ratings in preparation for a large-scale psychometric analysis of the revised NSSQ (NSSQ-R). We are specifically interested in whether respondents completing the original NSSQ vs. NSSQ-R nominate more peripheral network members and make more spurious nominations, and their interpretation of the terms “immediate aid” and “aid for several weeks.”

**Method:** We will interview 12 people as they complete either the NSSQ or NSSQ-R while “thinking aloud.” Upon completion, they are asked a series of structured probes. They also complete a network map to chart the closeness of their relationship with each network member. All interviews are audiotaped and interpretation problems later coded as either comprehension, recall, bias, response category or logical processing.

**Results:** Results thus far indicate that, compared with the original NSSQ, respondents completing the NSSQ-R list fewer network members, and there is a large reduction in spurious nominations, though the n/a option was rarely used. With the absence of examples, respondents interpreted aid questions in multiple support contexts. These results suggest an increase in survey accuracy.

**Note:** These are preliminary results and we would like to send more complete results for publication of this abstract by 4/1/13.

**POSTER # 18**

**Complementary and Alternative Modalities and Power in Breast Cancer Survivors**

Vlada Lyzhina
Facility Mentor: Professor Arlene. T. Farren
Department of Nursing

Breast cancer survivors account for a large number (2.9 million) of cancer survivors in the United States. Survivors report using complementary and alternative modalities during and following treatment. Breast cancer survivors express their desire to be aware of options, make personal choices, be free to make change in their lives, and to be involved in creating change. The aim of this research is to examine the relation between complementary and alternative modality use and power as knowing participation in change in breast cancer survivors. Barrett’s Theory of Power provides the theoretical basis for the study. This research is part of a larger study. A novel research question is being explored; what is the relationship between the use of complementary and alternative modalities and power as knowing participation in change in breast cancer survivors? The methodology includes a correlational design using a mailed survey. Two of the instruments from the larger study will be used to answer the research questions (demographic data form and the Power as Knowing Participation in Change Tool, Version II). The sample (minimum of 104) will consist of breast cancer survivors in the extended stage of survivorship. This study has approval from the College of Staten Island (CSI) IRB. Data collection is in progress from a variety of settings. Evidence from a previous study and the literature regarding complementary and alternative modality use will be presented. Procedures in the current study include informing women about the study through flyers and, if interested, they receive additional information from the principal investigator of the parent study. Eligible participants receive a research packet. Data will be analyzed using descriptive statistics such as frequencies, means, and standard deviations and correlations to explore the relationship. The dissemination plan is to report findings of the research through poster presentations and publications.
The Idiot Box: Research on Dramaturgy and Character Study

Nicholas Easton

Faculty Mentor: Professor Maurya Wickstrom
Department of Performing and Creative Arts

My project is centered around the play, The Idiot Box, by Michael Elyanow.

The show is currently being directed by Megan Jardine and will be performed later this semester. The play, which is based on the sitcom, Friends, is not your average piece of comedic theatre. The show begins in a sitcom world, but the reality of the character’s lives come crashing down, as each character develops a new and quite controversial aspect to their lives.

Specific aspects about the show that are emphasized include: Minorities, Sexuality, Gender, Reality, Terrorism, Race, and Death. Because of such strong topics, my research has gone into developing an idea of how these controversial topics are dealt with in American television sitcoms. As the dramaturge, much research has been done to compare and contrast both The Idiot Box and Friends. Research includes an understanding of how these worlds function, their association with reality, and their function with comedy. More specialized research also had to be done for the specific characters of the play, as each of them correlated to a specific character from the sitcom. How exactly these characters were similar and different is important, as to truly emphasize the impact that reality makes once it crashes into the world of a sitcom. As an actor, I have specifically worked on my character, Billy, and have gone through a character study. My presentation of the character study, should show what exactly goes into researching, and ultimately becoming a character. Because Billy had been inspired by the Friends character Joey, much research has been done in determining the major similarities and differences in character. Billy’s storyline mainly focuses on sexuality, homosexuality, masculinity, and intelligence. I decided to display both the technical aspects through my notes, articles, photos, etc. and the creative aspect through comparisons between the filmed performance clips from The Idiot Box, and the scene clips from Friends.

Prostitution Through the Eyes of Picasso, 1901-1907

Nicole Castaldo

Faculty Mentor: Professor Siona Wilson
Department of Performing and Creative Arts

This thesis, “Prostitution through the Eyes of Picasso, 1901-1907,” tracks the formal progression and changing roles of the female figure depicted in Picasso’s paintings with specific emphasis on the subject of prostitution. Utilizing publications of scholars such as Michael Leja, Elizabeth Cowling, and Tamar Garb I was able to focus on specific paintings that exemplify these changes throughout the Blue Period until the creation of Les Demoiselle d’Avignon. Prostitution was a prominent theme that surrounded the women of Picasso’s paintings as well as Parisian life in the late nineteenth and early twentieth century. The works I analyze show a change in style, mood, and spectator interaction, which allow the spectator to see not only the stylistic evolution of the women, but also the evolution of the perception of prostitution.
**POSTER #93**

**Health Analysis of Freshkills Turtles**

Danielle Riili (Macaulay Honors College)

Faculty Mentor: Professor Eugenia Naro-Maciel
Department of Biology

This project is concerned with population and community ecology. Looking specifically at the relationship between turtles and their physical environment, this project focuses on colonization at Freshkills, site of the former landfill, and the effects of small population size. My research involves analyzing blood lab results taken from turtles in the summer of 2012. By doing this blood examination, it can determined whether or not the turtles are healthy. The health of the turtles is a good indication of the environmental characteristics. The analysis requires looking at various chemical levels such as calcium, glucose, potassium, and chloride. There are 35 blood tests being examined with results from three turtle species: red-eared sliders, painted turtles, and snapping turtles. These 35 turtles are from two sites, Freshkills and the Long Pond reference site. The external parasite load (leeches) was highest for bottom-dwelling snapping turtles but internal hemogregarine blood parasites were relatively rare.

Chemical parameters such as AST (SGOT) may indicate muscle, liver, or bone issues in the turtles. Results from blood sampling indicated generally healthy populations with possibly greater exposure to toxins at Freshkills than at Long Pond.

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**DEPARTMENT OF POLITICAL SCIENCE, ECONOMICS AND PHILOSOPHY**

**CONFERENCE LOCATION: WEST LOUNGE**

**POSTER #22**

**Reviving Identity: How the Living Conditions of Refugee Camps in Lebanon Reinforce Palestinian Nationalism**

Marwa Janini

Faculty Mentor: Professor Peter Kabachnik
Department of Political Science/Economics/Philosophy

I will be examining the effects of the 1948 Arab-Israeli war on Palestinians, specifically focusing on those who were displaced to Lebanon. How do Palestinian refugees contend with harsh living conditions in refugee camps? How do they conceptualize home and remember Palestine? And how does living in refugee camps impact their identities and their desire to return home? To answer these questions, I will analyze memoirs and oral histories of Palestinian refugees who were displaced to Lebanon following the 1948 war. Using coding, an established method of qualitative analysis, I have explored these narratives to provide examples of how memories of Palestine are kept alive within the context of their daily struggle to survive. I will demonstrate how memories of their past and their current place-making practices in these camps are strategies used to reproduce Palestinian national and cultural identity. For many Palestinian refugees, life in these refugee camps is typified by cramped and unhygienic living conditions and extreme poverty. Many people experience food and water scarcity, lack of electricity, and little outside communication. Moreover, the Lebanese state restricts many basic rights for Palestinians. Palestinian refugees have been denied the right to vote, are offered limited educational options, lack economic opportunities, and often contend with violence between Lebanese authorities and militant political activists, all of which further complicates their everyday lives. These are significant factors to examine as they can stimulate the desire to return to their homeland as well as foment unrest. Despite these adversities, Palestinian national identity is continuously reproduced in their everyday practices (e.g. the stories told by older generations to younger generations of how life was like for a Palestinian before 1948) and in the landscape of the refugee camp (e.g. photos of martyrs, “Free Palestine” graffiti, political posters, etc.).
POSTER # 39

The Role of Religiousness in Prospective Employers’ Decisions: Discrimination Toward Muslim Women Wearing the Hijab

Ala Jaarah
Faculty Mentor: Professor Florette Cohen
Department of Psychology

Past research on the relationship between religiousness and prejudices has indicated that religious individuals tend to be more prejudiced. In the present study, I hypothesize that the more religious prospective employers are, the less likely they will hire a Muslim woman wearing a hijab. A total of 231 undergraduates from the College of Staten Island participated in a three-part study. Part I of this study primed students to consider their own death (mortality salience group) or distress associated with an exam (control group). Part II of this study consisted of a job application with a picture and name of a prospective employee for review. Participants were exposed to one of three conditions: (a) pictures of a woman wearing a hijab with a Muslim name (b) a woman not wearing a hijab, but has a Muslim name or (c) a woman not wearing a hijab with an American name. Participants were asked to provide feedback of the prospective applicant. Part III assessed Islamophobia and collected demographic information. A Univariate ANOVA yielded significant results, F (2, 156) = 4.38, p = .01, which indicates that participants whom are less religious are less likely to hire a Muslim woman wearing a hijab relative to a Muslim woman not wearing one. The implications of these findings will be discussed in this presentation.

POSTER # 32

An Investigation of the Mental Health Services Available to Burn Survivors in the United States

Ali Qadri
Faculty Mentor: Professor John Lawrence
Department of Psychology

Psychological and social complications following a severe burn are common. To date, there have been no studies on the psychosocial services available to burn survivors in burn center across the United States. This investigation surveyed burn health professionals to determine whether regular psychological services are available to burn patients both during hospitalization and after hospitalization.

Methods: Sixty-five burn professions completed the survey. Of the participants, 36.9% were nurses, 23.1% were surgeons, 16.9% were mental health professionals and 20.0% were occupational/physical therapists. Of these professionals, 40.0% worked in a university hospital.

Results: 38.5% of the respondents indicated that there is no routine screening for psychological complications of burn survivors. Only 16.9% of participants indicated that a formal mental health screening is routinely administered.

Seventy-two percent of participants indicated it was easy for burn survivors to access psychotherapy during hospitalization; however, after hospitalization the percentage fell to thirty-two percent. Forty-three percent of participants indicated that their hospital has a support group for burn survivors. Burn professionals reported that “very often” burn survivors have social problems such as low social support (43.1%), family conflict (40.7%) and under-insurance (41.4%). Burn professionals indicate that they are “very good” at treating acute pain (62.7%), however participants also indicated that they “need more training” in the management of post-traumatic stress disorder (20.3%) and helping burn survivors with changes in intimate relationships (22.0%). Conclusion: The availability of psychological services varies greatly across burn centers.

Services are particularly difficult to obtain following discharge.
**Research Poster Presentations**

**POSTER # 14**

**Heroes: Who are They and do They Make a Difference in Terms of Resilience**

Amy Lee, Martin Garfinkle, Mirette Misak

Faculty Mentor: Daniel Kaplin
Department of Psychology

The choice of hero that one idolizes and the reason behind the selection of the hero varies between different people. This study explores whether the type of hero that a person has will have an effect on their ability to successfully adapt to challenging situations, otherwise known as resilience.

The purpose of this study is to examine the relationship between one’s choice of hero and its role on resilience and psychological wellbeing. A total of 139 undergraduate students that participated in this study were handed a survey that contained a 3-item self-report questionnaire about heroes, Wagnild and Young’s (1987) 25-item resilience scale (RS), and a demographics questionnaire. Using a regression analysis, there were significant relationships between one’s primary hero and their ability to keep interested in things, finding something to laugh about, feeling that life has meaning, having enough energy to do things. Additionally, the total resilience score are significantly related to having a hero $R^2 = .419$, $F(28, 80) = 2.058, p = .007$. The regression analysis for a person’s second hero produced $R^2 = .419$, $F(28, 80) = 1.654, p = .043$ with significant findings on “making myself do things whether I want to or not,” life having meaning and having other heroes. The implications of this research are discussed.

**POSTER # 4**

**Modern Anti-Semitism and the Economy: An Examination of Jewish Stereotypes Through Financial Transgressions**

Amy Lee

Faculty Mentor: Professor Florette Cohen
Department of Psychology

Anti-Semitism occurs at a time when explicit expressions of prejudice towards different ethnic groups are socially unacceptable. Since society frowns upon prejudice, people will express their prejudices through other channels. The term modern anti-Semitism refers to the idea that people who hold anti-Semitic views will express it discretely by opposing Israel. The purpose of this study was to highlight the ongoing existence of modern anti-Semitism. A total of 163 undergraduate students that participated in this study were handed a survey that contained either a Ponzi-scheme article or a farming article, word fragment task and a questionnaire that contained several scales which includes the support for Israel scale and anti-Semitism scale. Using an univariate ANOVA, cultural stereotypes of Jews yielded a significant interaction when Jewish names were present in the article $F(1, 153) = 3.83, p = .05$ depending on whether it was Ponzi-scheme or farming article.

With Jewish names and anti-Semitism, there was no significant main effects or interactions with the Ponzi-scheme article $F(1, 153) = .011, N.S.$ However, there was a significant decrease in the support for Israel whenever a Jewish name was present $F(1, 155) = 10.78, p = .001$, which highlights modern anti-Semitism. The implications of this research are discussed.
POSTER # 49

Therapeutic Music Properties and its Effects on Anxiety and Depression

Atdhe Pilku
Faculty Mentor: Professor Florette Cohen
Department of Psychology

The reason for this research was to see if different types of music (percussive/non-percussive) or even the absence of music (no music) would raise or lower anxiety and/or depression levels in college students. This study is a replication of a previous study done by Marcy Carr (N.D).

Carr’s study involved only percussive music and no music, this study includes an added variable of non-percussive music. Carr’s study does show a causal relationship between mood and percussive music. For this study, 33 participants, 3 men and 30 women, were required to follow a three week process of surveys and music listening. Surveys measured levels of anxiety and depression throughout the three weeks. Survey analysis was ongoing throughout the entire three week period with total data analysis done at the end of the study. Upon completion of data analysis it was concluded that there is no significant main or interaction effect. All F < 1, all P > .05.

Serious limitations to the research include, but are not limited to, the study being administered during hurricane Sandy (implication to be discussed).

POSTER # 65

Behavioral and Social Analysis of the Naked Mole Rat Through RFID

Chaim Averick
Faculty Mentor: Professor Dan McCloskey
Department of Psychology

The automated tracking of social behavior in laboratory housed animals is an approach that could yield important information about the mundane social behaviors of animals without the need to create artificial social scenarios.

The purpose of this study was to use radio frequency identification (RFID) data to track movements of the highly social naked mole rat in the home environment to determine how behavior is influenced by social conditions.

Our initial study focused on behavior as animals crossed tunnels to move from one habitat cage to another. When tunnels are “book ended” by two RFID readers, we can determine (to some degree of confidence) whether an RFID tagged animal crossed the tunnel, which direction it went in, and how long it took. We can see what interactions occur with other animals by that tunnel at the time. A simple interaction to check is changes in travel time.

We predict that there will be individuals that consistently yield behavioral changes that are correlated to video recordings. We anticipate we can identify animal-animal tunnel interactions for each dyad of animals in a colony. Measures of social-network connectivity are expected as predictors of net animal velocity.
Research Poster Presentations

**POSTER # 16**

**The Development of Posture in Infancy**

Christina Gioeli  
(Macaulay Honors College)

Faculty Mentor: Professor Sarah E. Berger  
Department of Psychology

Infants begin developing postural control through supported sitting around 4 months. As trunk stability builds, reaching skills also emerge, with perseveration a common occurrence. Perseveration occurs when infants are unable to inhibit a prior action, or in this study, they manually search for an object at an original hiding place despite seeing the object moved to a new location. This study sought to determine how sitting development affects the way infants manipulate their environment, why perseveration and problem-solving skills are important for learning, and what differences exist between full term and preterm infants. Fourteen 5- to 8-month-old typical infants and four 12- to 15.5-month-old preemies participated in an A-not-B reaching task and a problem-solving exercise. Infants tended to manually perseverate on the switch trials in the A-not-B task, and relied on supported sitting when reaching to play with objects; \( t(12) = -2.34, p = .04 \). Infants also tended to shift their posture from independent to supported sitting on the switch trials in each condition of the reaching task, but more in the control trials; \( t(10) = -2.29, p = .05 \). Differences were seen between the two groups, with preterm infants generally having delayed postures and skills. Understanding the role of sitting skill in an object-retrieval task demonstrates the importance of the combination of motor and cognitive skills for learning, with physical delays having dramatic impacts on development. Children born prematurely are at risk for neurological, physical, intellectual, and behavioral problems, calling for early intervention methods that can effectively promote future academic achievement and a normal lifestyle.

**POSTER # 5**

**Musical Ability Predict Novel Speech Perception**

Christina Grenoble, Gina Martino, Joseph Rivera  
Faculty Mentor: Professors Patricia Brooks and Dennis Bublitz  
Department of Psychology

Adults show considerable individual differences in the ability to perceive foreign language speech sound contrasts. One way to measure discrimination of such contrasts is to use a language, such as Norwegian, containing pairs of words distinguished only by rising or falling pitch accents (tonemes). Previous work of Kempe et al. (2012) used same-different judgment tasks and found that gender, temporal processing ability, and self-ratings of musical skills were predictive of discrimination of Norwegian vowels, tonemes, and pitch contours extracted from the Norwegian tonemes. In this study, men were found to outperform women in making accurate discriminations of minimally different Norwegian words. Our study attempts to replicate these findings with the addition of a standardized musical assessment—Gordon's Advanced Measures of Music Audiation (AMMA) — in order to re-evaluate the role of musical ability in foreign language speech sound perception. Using a sample of 60 women and 52 men and multiple regression analyses, we found that individual differences in the perception of contrasts in Norwegian tonemes, their extracted pitch contours, and the Norwegian vowels were predicted by AMMA scores, temporal processing ability, and/or gender, but not by self-reports of musical ability. In addition, a measure of pure pitch discrimination was predicted by gender and AMMA scores. In all cases in which a gender effect was observed, men outperformed women. We also found that self-report measures were only weakly correlated (\( r = .33 \)) with performance on the music aptitude test, which questions the validity of self-reports of musical ability in research studies.
**Research Poster Presentations**

**POSTER # 64**

**Behaviorally-Relevant Changes in Brain Development Following Prenatal Hypothyroidism in Long Evans Rats**

Christina Vicidomini (Macaulay Honors College)

Faculty Mentor: Professor Dan McCloskey

Department of Psychology

The thyroid hormones thyroxine (T4) and triiodothyronine (T3) are important factors in regulating metabolism, growth and development, and cellular level functions such as cell proliferation, neuronal development, and synapse formation. In humans, prenatal insufficiencies in thyroid hormone (TH) have been correlated with irreversible neurological and psychiatric symptoms in offspring. This includes alterations in fetal brain development, which is a strong predictor of reduced IQ scores and deficits in memory and cognition.

In a previous study we have found that the offspring of developmentally hypothyroid rats showed a dose dependent increase in cortical volume on post-natal day (PND) 23 which resolved on PND 86 when the rats were euthyroid (Biffa-Mirabella et al., 2012). The current study looks deeper into the composition and behavioral consequences of this cortical enlargement by studying PND 23 rats after inducing maternal TH insufficiency (using doses of 0, 3, 10 ppm of propylthiouracil). Immunohistochemical techniques were used and data were collected using unbiased microscope images to analyze the effects of treatment on neurons and astrocytes in the cortex.

Behavioral tests were also performed on the pups to determine levels of anxiety and social behavior. An analysis of variance has indicated a significant treatment effect on the concentration and percentage of cortex occupied by neuronal components, without any significant change in astrocyte components.

In addition, when compared to the control group, PTU treated rats demonstrated more anxious behavior during open field testing and spent less time in the novel object chamber during the social approach task, as determined by a Student's ttest. These differences in both behavioral and neurological results may contribute to the elucidation of the underlying problems in human developmental hypothyroidism. Furthermore, this area of investigation has important clinical relevance as it may account for some developmental disorders of unknown etiology.

**POSTER # 21**

**The Link Between Hallucinogen Use and Spiritual Intelligence**

Danielle Bohmer

Faculty Mentor: Professor Daniel Kaplin

Department of Psychology

Past research has focused on the deleterious effects of the use of drugs, alcohol, and nicotine. However, recent research has shown specifically that hallucinogens, when administered safely, have the potential to produce creativity and mystical experiences in subjects. The present study was performed in order to explore the link between hallucinogen use and the factor of "spiritual intelligence". A total of 384 undergraduate students participated in this study. The survey consisted of a 14-item Drug, Alcohol, and Nicotine (DAN) Scale, the Spiritual Intelligence Self Report Inventory-24 items (SISRI-24), and 17 items from the Drug Use Disorders Identification Test-Extended (DUDIT-E). A Pearson Correlation was done to examine the relationships between the use of "all arounders" (hallucinogens, cannabis and dissociative drugs) and the factor of "spiritual intelligence" in four different sub-scales. Significant relationships were found for cannabis use and Critical Existential Thinking ($r = .290, p < .001$), Transcendental Awareness ($r = .136, p = .007$), and Conscious State Expansion ($r = .201, p < .001$). Similar findings were observed with hallucinogens and Critical Existential Thinking ($r = .242, p < .001$), Transcendental Awareness ($r = .159, p = .002$), and Conscious State Expansion ($r = .131, p < .011$).

The scale measuring Personal Meaning Production showed no significance in relation to use of the aforementioned drugs. No significant correlations were found between dissociative drug use and the subscales of the SISRI-24. Implications of these results are discussed.
The Enhancement of Cognitive Flexibility Through Aesthetic Experiences

Elizabeth S. Che (Macaulay Honors College)
Faculty Mentor: Professor Irina Sekerina
Department of Psychology

Ritter et al. (2012) showed that participating but not just viewing unusual events can enhance cognitive flexibility. We hypothesize that viewing unusual events could do the same if these events are depicted in art as opposed to everyday actions. Although the viewer experiences art vicariously, unusual stimuli (i.e. surreal paintings) may engage individuals in a more flexible and creative thinking process in contrast to representational stimuli (i.e. realistic paintings). Two groups of undergraduate participants (N = 18) are randomly assigned into either the realistic (control) or the unusual (experimental) group. The participants complete a background questionnaire and Guilford’s Unusual Uses test (1956) prior to vicarious exposure of paintings. Participants are then eye-tracked while viewing the paintings and answering questions verbally.

Afterwards, the participants complete Version 2 of the Unusual Uses test, and Perceptual Exploration Inventory. There was no correlation between curiosity scores and cognitive flexibility but higher scores on the general perceptual curiosity scale was correlated with more eye-movements. In addition, participants who viewed surreal paintings had higher cognitive flexibility scores (M = 12, SD = 4) than participants who looked at regular paintings (M = 9, SD = 1). The results of the study emphasize the necessity to diversify arts experience in college because visual aesthetics can foster more flexible and creative thinking in students.

New York State Nurse Practitioners Support Prescriptive Authority for Psychologists

Ermona Ismail, Amy Lee, Ala Jaarah, Michael Dacunto, Mirette Misak
Faculty Mentor: Professor Daniel Kaplin
Department of Psychology

Since the 1990’s psychologists have been in favor of prescriptive authority for psychologists (also known as RxP). However, psychiatrists have largely opposed of RxP. The focus of this research study is to extend this research to nurse practitioners (NPs). A total of 118 nurse practitioners were surveyed about prescriptive authority for psychologists using a 15-item scale adapted from Sammons et al. (2000). Nurse Practitioners show significant support for RxP. Majority of NPs supported the concepts that appropriately trained psychologists should be provided legal authority to prescribe psychotropic medication (68%); the acquisition of prescriptive privileges will enhance the ability of psychologists to more effectively treat certain clients/patients (79%), increase psychologist’s scope of practice (82%), lead to increased ability to care for underserved populations (77%), and increased ability to practice in a hospital setting (49%). All results were significant at p < .01.

Some of the items of the study were reverse coded. Therefore, support for RxP is measured by lower levels of agreement. Few NPs felt that the acquisition of prescriptive privileges would lead to damaged relations between psychologists and psychiatrists (22%), would lead to underprescription (4%), over-prescription (20%), inappropriate prescription (18%), suboptimal medication (15%), insufficient monitoring of medication (19%), and prescriptive privileges would lead to medication taking the place of psychotherapy (23%). All results were significant at p < .01.

Nurse practitioners showed significant concern that prescriptive privileges would lead to an increase in malpractice rates (51%) change psychologist’s professional identity (62%), and should be limited to doctoral-level licensed providers (44%). All results were significant at p < .05. The implications of this study will be further discussed.
Research Poster Presentations

POSTER # 3 1

Development of Deictic Gestures Among Lazuri Speaking Parent-Child Dyads During Play in Rize, Turkey
Georgiy Lyzhin (Verrazano Honors School)
Faculty Mentor: Professor Peri Ozlem Yuksel-Sokmen
Department of Psychology

Our study aimed to document the development of prelinguistic forms of communication in a community experiencing rapid language loss due to assimilation into the mainstream Turkish community. It is the first to examine the development of deictic gestures of Lazuri, an endangered Southwest Caucasian language spoken by less than 50,000 people along the East Black Sea coast of Turkey. We examined distinct patterns of interaction between 10 mother-child (5 girls, 5 boys, ages 15 to 56 months, mean age 36.9) and 10 father-child dyads (3 girls, 7 boys, ages 20 to 57, mean age 37.9). Each dyad played for 10 minutes each with a farm animal toy set and a tea party set. These toys were selected to reflect familiar daily activities of Lazi people, e.g., pasteurizing milk and preparing tea. We applied a coding scheme adapted from previous studies of gesture (Bates et al., 1976; Yuksel-Sokmen et al., 2011, 2013). These deictic gestures included index pointing, non-index pointing (such as head and lip pointing) and showing gestures, which were used to pick out referents, share attention, and make requests. Preliminary analyses showed developmental increases in the frequencies of gesture use among children. As children got older, they produced more deictic gestures, especially pointing around 20 months. We observed differences among mothers' and fathers' frequency of gesture use. Mothers produced significantly more showing gestures than index or non-index gestures when they played with younger children. Mothers also produced half as much index pointing with older children. Conversely, fathers also produced more showing gestures than index and non-index finger pointing when interacting with younger children. Fathers' showing gestures declined with older children. Our findings suggest widespread use of deictic gestures and parental differences in Lazi caregiver-child interactions, with culture-specific patterns of gesture use developing in tandem with age.

POSTER # 3 7

Priming Effects in Picture Naming in Typical and Language Impaired Children
Gina Martino, Christina Grenoble, Arianna Miskin
Faculty Mentor: Professor Patricia Brooks
Department of Psychology

Our study used a cross-modal picture-word interference (PWI) paradigm to test the hypothesis that children with Specific Language Impairment (SLI) benefit less than their peers from associative context in spoken word production. Children (N = 42, mean age 8;11, range 7;1-10;7, half with SLI, half age-match controls) named pictures paired with interfering words (IWs), presented through headphones. Multiple blocks of trials were presented to allow each of 16 target pictures to be paired with multiple IWs at multiple stimulus onset asynchronies (SOAs) ranging from -550 to +200. Typical children showed associative priming at all SOAs, and children with SLI showed priming at all except -400 and -250. These results strongly demonstrate that children with SLI benefit from associative primes under some circumstances. Group differences were more evident for the identical condition, which was faster than baseline for typical children at early SOAs (-550 to -250) but only at +200 in children with SLI. Thus, children with SLI appeared less inclined to anticipate a matching picture than their peers.
Levenson’s Locus of Control in Malaysian Undergraduate Students: A Valid Scale?

Joanna Irizarry-Zaraza (Verrazano Honors School), Lauren Overeem (Macaulay Honors College)

Faculty Mentor: Professors Bertram O. Ploog and Edward Meehan

Department of Psychology

Cognitive flexibility refers to the ability to adapt and restructure one’s knowledge to a changing situation. Taurine has been shown to improve cognitive flexibility in some animal models particularly when the animals were old. Twenty-two pigeons were tested using a serial discrimination reversal learning procedure which was as follows: After an intertrial interval of either 4 s or 32 s, a red and green key light were presented on two side keys (position randomized). For two sessions, pecking at green produced food whereas pecking at red was extinguished (no food). After two sessions, the color-food correlation was reversed for two additional sessions. After this, the color-food correlation returned to the original correlation. This reversal procedure was in effect for 40 sessions (20 reversals). Three groups of pigeons served: Old-Taurine, Old-No Taurine, and Young No Taurine. In addition, we measured the effects of intertrial interval duration on performance and its interaction with age and taurine.

Preliminary results suggest that the taurine-treated birds showed less variability in their pattern than either the young or old birds that did not received taurine. A clear effect was that shorter intertrial intervals produced better performance, which suggests that the pigeons used the outcome of the prior trial to either stay with pecking the same key or switched to peck the alternative key (i.e. a so called win-stay lose-shift strategy). The effects of taurine and age are not clear at this time.

Effects of a Hybrid Format in an Introductory Psychology Course

Kenny Zeng

Faculty Mentor: Professor Patricia Brooks

Department of Psychology

The number of college-level courses offered through online and hybrid formats is increasing as digital technology advances. These formats offer a solution for increased enrollment and limited classroom space. As part of a CUNYwide initiative, several sections of Introductory Psychology (PSY 100) at CSI have been converted to a hybrid format reducing in-class time by 30%.

The online portion of the course has three parts: completing MyPsychLab activities (Pearson’s Course Management System), reading the textbook and taking online quizzes, and answering critical thinking questions posed in Blackboard forums. Within the present study, we sought to explore the pros and cons of hybrid instruction in comparison to traditional lecture-based instruction on student performance.

Three surveys were administered to students in the hybrid sections over the course of the semester to assess perceptions of the course. Basic demographic data was gathered from students in the traditional sections.

There were no demographic differences found between the students’ enrolled in the hybrid or traditional lecture sections. Overall, perceptions of the hybrid format were favorable. To compare students’ exam performance, 25-question multiple-choice exams were given in both the hybrid and traditional sections. Analyses revealed that students enrolled in traditional sections fared slightly better on exams than those in hybrid sections; with a mean score of 69.7% in traditional sections and 67.1% in hybrid sections. These results support the finding that students fared better with explicit teaching compared to self-directed learning. Next, we examined students’ final grades across formats, and again found higher final grade averages in the traditional sections (79.9%) versus the hybrid sections (72.9%). In the hybrid sections, instructors used online homework as a component of their final grades. Instructors of traditional sections used different criteria to assign grades. Further analyses needs to examine how instructors calculated their final grades.
**POSTER #62**

**A Study of Cortical Neuron Morphology in the Naked Mole Rat**
Kunzah Syed (Macaulay Honors College)

Faculty Mentor: Professor Dan McCloskey
Departments of Psychology and Neuroscience

Naked mole rats are a mammalian species with a very unique social structure. They are colonial and highly social, with a queen who is solely responsible for colony reproduction. To date, no studies have examined the morphology of neurons in the brain of the naked mole rat. The purpose of the present study was to conduct the first neuron morphology analysis of naked mole rat neurons using the Golgi-Cox staining method. Following staining, 3-D reconstructed stained neurons were microscopically analyzed for observable features such as dendrite number, length, and branch points, dendritic spine number, and soma volume using Imaris software. These measures were compared across animals of different age and social status using an analysis of variance. This project tested the hypothesis that dendrite features will be enhanced in the prefrontal cortex of naked mole rats that show the highest levels of pro-social behavior.

**POSTER #97**

**The Effects of Mortality Salience on Religious Attitudes of Children of Intermarriage**

Lielle Magori

Faculty Mentor: Professor Florette Cohen
Department of Psychology

The present study examined whether being a child of interfaith marriage versus those of same faith marriage affected their attitudes toward religion in their adult years. Surveys were distributed to students at the college of Staten Island and were used to determine whether children of interfaith marriage are more likely to be anti-religion in comparison to those of same-faith. As hypothesized, those of same-faith marriage were intrinsically more religious than those of inter-faith marriage. Results also suggested that a marginal interaction effect was present within both extrinsic and intrinsic religion within the mortality and exam salience manipulations, showing $2$ (mixed marriage) $X$ $2$ (ms, es), $F(1, 207) = 3.41, p = .066$ for extrinsic and a marginal interaction effect $2$ (mixed marriage) $X$ $2$ (ms, es), $F(1, 207) = 3.42, p = .066$ for intrinsic religiosity. Children born into mixed marriages tend to report lower levels of religiosity $F(1, 207) = 8.45, p < .01$. Overall, this study contributes to our understanding of the role of religion within interfaith households and how it effects later years. The implication of this study will be discussed.
Research Poster Presentations

**POSTER # 45**

**Processing of an Unfamiliar Language in Children with Autism Spectrum Disorders**

Melice A Golding (Verrazano Honors School), Alexa Scharf (Verrazano Honors School, 2011)

Faculty Mentor: Professor Bertram O. Ploog
Department of Psychology

Children with autism spectrum disorders (ASD) show deficits in social and communicative skills. For example, Ploog, Banerjee, and Brooks (2009) reported that children with ASD were accurate in perceiving the content and prosody (question vs. statement) of spoken English sentences (e.g., “Bob parked a van?” vs. “Tim shut a door!”), but, unlike children with typical development (TYP), failed to prioritize content when presented with test foils comprising re-combinations of the content and prosodic features of the training sentences (e.g., “Bob parked a van!” vs. “Tim shut a door?”). In an extension of this study, we used again a discrimination-choice procedure embedded in a video game but now examined whether these abnormalities might be similar when affective prosody (grumpy vs. enthusiastic) rather than question/statement prosody and an unfamiliar language (German) rather than a familiar language (English) were used.

Affective prosody was used because it has been reported that children with ASD have specific difficulties with perception of affect; German was introduced in an attempt to manipulate “meaning” of the stimuli. Our preliminary results show a decreased differentiation of content and prosody in the ASD group compared to the TYP group — i.e., we replicated the same group differences found in the original Ploog et al. (2009) study now with German stimuli, with statement/question prosody, and with grouchy/enthusiastic prosody. When the study is completed, an ANOVA and post-hoc t-tests will be applied with Group as a between-subjects factor, and Stimulus Set, Content, and Affect as within-subjects factors.

**POSTER # 27**

**The Impact of Cultural Values on Disclosure in HIV+ Women**

Nicholas Gonzalez (Macaulay Honors College)

Faculty Mentor: Professor Frances Melendez
Department of Psychology

Data from the Center for Disease Control (CDC) illustrates how women, in particular women of color, are disproportionately affected by HIV/AIDS. Black women accounted for 64% of new AIDS diagnoses among women, ages 13 and older, in 2010. Latinas accounted for 17% of new AIDS diagnoses (CDC, 2013).

Disclosure, or the action of sharing one’s status as HIV+, is tremendously important as a woman learns to cope with the virus in daily life. However, cultural factors, such as a woman’s religious beliefs and the Latino concepts of ‘machismo’ and ‘marianismo’, may impact the ways in which a woman responds to having contracted HIV/AIDS.

The present study aims to examine the impact of cultural beliefs and practices on a woman’s ability to disclose her status as an HIV+ individual. Several African American and Latina women were selected from a community based organization in New York City to be interviewed for the purpose of the study. Subjects related their individual experiences in contracting and continuing to live with HIV/AIDS. Their responses were transcribed and analyzed for content, paying close attention to instances where women discussed the influence of culture and their present and past level of comfort in disclosing their status as HIV+ to others.
Paving the Way for Empathy: Effects of Maternal Speech on Children's Jealousy Understanding

Nicole Kwoka (Macaulay Honors College)
Faculty Mentor: Professor Naomi Aldrich
Department of Psychology

How mothers talk with their children about emotional experiences may guide children's situational appraisals in ways that support emotional development and self-awareness. For instance, maternal elaboration facilitates preschoolers' emotional self-concept, while maternal repetition inhibits (Fivush et al., 2003). Although many studies have examined maternal speech with young children about basic emotions, few studies have investigated talk with older children about more complex emotions such as jealousy (a ubiquitous emotion that fundamentally concerns interpersonal rivalry). Our study investigated (1) whether the gendered patterns found in preschoolers' and mothers' emotion talk would be displayed during middle childhood, and (2) whether maternal reminiscing speech would function in the same manner during middle childhood as has been reported in the preschool literature.

Eighty 5- to 11-year-olds (40 girls, 40 boys) and their mothers participated. Children and their mothers were asked to narrate a wordless story about a frog experiencing jealousy separately. Children were also asked to talk about a previous experience of jealousy and mother-child dyads were asked to recount a previous experience involving the child's experience of jealousy. Furthermore, children's socio-cognitive understanding was assessed through standardized measures of emotion comprehension and perspective-taking ability. Narratives were coded for use of emotion words, and reminiscing styles.

Our data reflect girls' internalization that emotions arise largely from interactions with others and are also resolved through interactions with others more so than boys. Furthermore, our findings extend the role of maternal speech in the development of children's emotion understanding to middle childhood by suggesting that it is how mothers talk with their child that influences children's abilities to talk about their own past experiences of emotion.

Behavioral and Physiological Responses to New Colony Transitions in the Naked Mole-Rat

Noorelhoda Mahmoud (Verrazano Honors School)
Faculty Mentor: Professor Dan McCloskey
Department of Psychology

Moving from one culture to another has been described in psychological literature as a stressful experience with several transition stages; the most stressful known as culture shock. Culture shock is a fascinating psychological phenomenon that affects millions of sojourners. Its symptoms include anxiety, depression, change in eating and sleep patterns, difficulty in social relationships, and hostility toward local residents. Past studies evaluated stress primarily by use of surveys or self-reports. One study had used physiological measures but found no effect on cortisol levels. Until recently, cortisol, the stress hormone, could only be measured through blood. This factor made it difficult to obtain physiological measurements of stress. Now, however, it is possible to measure cortisol through saliva, feces, and urine.

We are conducting a second trial of our previous study on African naked mole rats. They are one of few rodent species known to produce cortisol in response to stress. They live in colonies in which each develops its distinct behavior patterns. We are observing two colonies located at CSI. Colony A is cleaner and less active. Colony B is dirtier and more active. We randomly selected two animals from Colony A to move to Colony B. We hypothesized the transition would lead to the highest levels of culture shock, based on environmental and behavioral differences of the colonies. In our initial trial last year, the expected results were obtained. The “sojourner’s” levels of cortisol did increase after the transition. Yet based on the attempted transitions in this trial, it is apparent that stress had not only been induced on the “sojourner” but on the host colony as well. Fecal samples were obtained from every animal and are being assessed for cortisol by an ELISA test. We are also analyzing changes in movement behavior before and after the transitions, using the tracking technology of RFID chips that are implanted into each naked mole rat. All measures will be analyzed using a within-subjects paired Student's t-test.
Research Poster Presentations

POSTER #6

Effects of Age and Gender on Children's Emotion Attributions to Story Characters Experiencing Jealousy and Envy

Norma Matos-Jackson
Faculty Mentor: Professor Naomi Aldrich
Department of Psychology

Research suggests that feelings of jealousy (i.e., response to the threat of losing an important relationship) and envy (i.e., feelings associated with wanting something that another person possesses) often serve as powerful motivators for individuals' bullying behaviors. The present study is the first to examine the development of children's differential understanding of situations involving jealousy and envy. In doing so, we sought to investigate individual differences in children's emotion attributions to characters' experiences of different types of jealousy and envy. Eighty children (40 girls, 40 boys, 5- to 11-year-olds) were described four situations in which the main character experienced jealousy (i.e., sibling, friendship rivalry) or envy (i.e., possession, attribute envy). After the presentation of each vignette, children were asked "How does [the main character] feel?" and "How come?" and responses were coded for emotional discourse.

Analyses revealed that children most frequently attributed the emotions of sadness, jealousy, and anger to the main characters. When examining the effects of age, we found that younger children focused on sadness, while older children focused on jealousy. We also found differences in girls' and boys' emotion attributions to the main characters experiencing friendship rivalry. Girls were found to focus on sadness, boys focused on anger. Our findings provide evidence of considerable overlap in the feeling states children associate with jealousy and envy, and that girls and boys may perceive the emotional effects of an interloper in a friendship differently, which may have important implications for strategies in dealing with childhood aggression towards peers.

POSTER #74

Is Burlesque Sex Work?

Olga Gavriluk
Faculty Mentor: Professor Darryl Hill
Department of Psychology

Burlesque is a form of entertainment that involves, in some part, stripping and nudity, along with humor, parody, and sometimes classic erotica. While New York City has been home to burlesque since the late 1800’s, a revitalized scene has re-emerged in the last two decades. Forty-three burlesque performers in New York City were interviewed as part of an oral history project to document their life history and thoughts on relevant issues. One contentious issue is whether burlesque constitutes sex work (the exchange of one’s sexual labor or performance for compensation). There was a range of opinions on the issue amongst performers. Several performers interviewed admitted that burlesque can be considered sex work as in performances they use their bodies to titillate and make a statement, which at times is of a sexual nature and always involves the removal of clothing. Other participants expressed burlesque was not sex work as their performances were satirical, humorous, artistic and an extension of performance art. These two positions illustrate the range of performers and the meanings they attribute to their performances in contemporary burlesque.
**POSTER # 9**

**Risk and Protective Factors for Substance Abuse**

Vincenzo Infante, Amanda Tousson, Amy Lee, Danielle Bohmer, Jennifer Guinta

Faculty Mentor: Professor Daniel Kaplin
Department of Psychology

This study explores the relationship between substance abuse, anxiety, depression, and religiosity. A total of 384 undergraduate students were recruited to participate using an electronic recruitment system. Students were administered a 14-item Drug Alcohol and Nicotine (DAN) Scale, the Patient Health Questionnaire-9 (PHQ-9), Generalized Anxiety Disorder-7 (GAD-7), and the Daily Spiritual Experience Scale (DSES). A strong positive correlation was found between anxiety and depression, $r = .771, p = .001$.

Moreover, depression levels increase with the use of stimulants ($r = .244, p = .001$) and depressants ($r = .302, p = .001$). Anxiety also increase with the use of stimulants ($r = .244, p = .001$) and depressants ($r = .302, p = .001$). However, no significant relationships were found between “All-Arounders” and anxiety ($r = .088, p = .08$) or depression ($r = .081, p = .12$). Inverse relationships were found between substance abuse and religiosity. This data suggests that anxiety and depression can be viewed as risk factors for substance abuse. Conversely, religiosity appears to have a protective effect against substance abuse.

**DEPARTMENT OF SOCIOLOGY, ANTHROPOLOGY AND SOCIAL WORK**

**CONFERENCE LOCATION: WEST LOUNGE**

**POSTER # 10**

**Fibromyalgia and Empowerment Gained from Online Support**

Janice Kerrigan

Faculty Mentor: Professor Lacey Sloan
Department of Sociology/Anthropology/Social Work

Fibromyalgia is a disorder characterized by chronic widespread pain, tenderness, fatigue, cognitive and psychological symptoms, and sleep disorders. Data previously collected included fibromyalgia patients and revealed that online support group membership causes the chronically ill to become empowered. The purpose of this study was to (1) quantify pre-existing data on online support in relation to empowerment, (2) collect data from a previously unmeasured subgroup within the online population, and (3) examine the hypotheses: (a) empowerment will increase as length of membership increases (b) if a member does not openly share with their group, they will become less empowered, (c) diagnosis is not related to empowerment. A twenty-eight-item questionnaire was developed.

Current findings from 68 participants include: (i) Quantification of terms of empowerment that were extrapolated from a previous study, (ii) empowerment does not increase as length of group membership increases, (iii) members who do not share with the group become more empowered. The subgroup of members who do not share has not been found in the literature prior to this study.
**Poster #59**  

**A Nation Divided: Haiti and the Dominican Republic**

Akinmide Johnson (Matthew Paillant), William Alesi (Macaulay Honors College), Cristina Clavijo-Marquez, Yazmin Galindo, Fadwa Masoud, Edwin Rodriguez  

Faculty Mentor: Professor Jane Marcus-Delgado  

Department of World Languages and Literatures  

Haiti and the Dominican Republic have shared the island of Hispaniola since the island split into two nations in the 18th century. The relationship between the two nations has been tainted with numerous contentions stemming from trust issues to uncivilized and heinous acts human rights violation. First invaded by Christopher Columbus and the Spaniards and then by the French, the island has been through numerous revolutions in attempts to establish freedom within both countries. Yet socially, both countries of similar yet extremely different pasts, cease to live in peace. Numerous events have taken place over the centuries creating somewhat of an answer as to why these nations have significant troubles. These events range from the massacre of over 25,000 Haitians living in the Dominican Republic and around the Haitian/Dominican border executed by Dominican dictator Rafael Leonidas Trujillo Molinas to the antimainismo ideology that is adopted throughout the Dominican Republic. My research examines the influence of political actors and governance in determining the relationships between the two nations on the island.  

I hypothesize that the two nations have not developed policies that adequately address issues of race within their governments and amongst their own people, and that this has kept them from establishing fair and just policies toward one another. I hope to understand how and why Hispaniola split into two countries who have such turmoil amongst them socially when at the beginning of their history, the Taino/Arawak people lived relatively peacefully. My analysis will be based on historical documents and an examination of current policies regarding race, and their influence on the interactions between Haiti and the Dominican Republic.

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**Poster #57**  

**War, Drugs, and Human Rights in Colombia**

Cristina Clavijo, William Alesi (Macaulay Honors College), Yazmin Galindo, Akinmide Johnson (Matthew Paillant), Fadwa Masoud, Edwin Rodriguez  

Faculty Mentor: Professor Jane Marcus-Delgado  

Department of World Languages and Literatures  

Colombia is one of the most stable democracies of Latin America, but also the one with the most violent history. Over the years Colombia has struggled with a complex conflict, with roots going back to its early stages. After independence, two political parties emerged in Colombia, the Conservative party and the liberal party. These two parties were the main actors in multiple civil wars in Colombia and the founders of the government institutions. Since political activity in Colombia was primarily limited to these two parties, many groups in the society were marginalized, which led to the creation of the guerrilla groups. Tired of being relegated by the elites, the low and middle class citizen formed these revolutionary groups to seize power into the government. This gave birth to the longest-running guerilla war in Latin America. The Colombian government has failed to establish an even rule of law in every part of its territory, allowing different authorities to rise up and creating a multisided conflict. This paper is an analysis of the profound reason of the Colombian conflict, its failing attempts at peace negotiation, patterns of violence, and human rights violations. The methodology will be an analysis of reports from human rights organizations (both domestic and international), secondary sources such as books and newspaper articles, and statistics about the effects of the conflict on the population. The conclusion posits that the current peace process is inadequate to solve this long-standing conflict, leaving serious crimes unpunished and not achieving a consolidated scenario for a peaceful future.
**POSTER # 85**

**Latin American Immigration and U.S. Economy**

Edwin Rodriguez, William Alesi (Macaulay Honors College), Cristina Clavijo-Marquez, Yazmin Galindo, Akinmide Johnson (Matthew Pilliant), Fadwa Masoud

Faculty Mentor: Professor Jane Marcus-Delgado

Department of World Languages and Literatures

Immigrants from Latin America have been an enormous part of the development of the United States of America and its economy. Immigration laws and the fact that many of Latin American countries throughout the 20th Century have been able to develop their own economy and become increasingly independent from the United States. Consequently, this has brought fewer immigrants from Latin American Countries to work the fields in which many Americans decline to work, therefore millions, if not billions of dollars of crops are being lost due to these changes.

Another issue that has affected the influx of immigrants from Latin America to the United States is that immigration policies in effect have not changed in decades even though most of the countries in Latin America have been trying to establish new ones with no avail from the United States. In the Summit of Americas conducted in 2012 there were no official declarations on the issue of immigration leaving many Latin American countries wondering what the future status of their citizens in the United States - and those wishing to emigrate—will be.

This research will show how U.S. policies toward Latin American immigration are evolving, and why. Factors addressed will include changing dynamics due to globalization, demands in labor markets, and political economic pressure—especially in the aftermath of the 2012 U.S. presidential election.

**POSTER # 25**

**Challenges to Democracy in Latin America**

Fadwa Masoud, William Alesi (Macaulay Honors College), Cristina Clavijo-Marquez, Yazmin Galindo, Akinmide Johnson (William Paillant), Edwin Rodriguez

Faculty Mentor: Professor Jane Marcus-Delgado

Department of World Languages and Literatures

The Struggle for Democratic Consolidation in Latin America: Focus on Venezuela and Cuba.

This research paper is to develop a clear analysis of the contemporary struggles for democracy that Latin America faces. The possibilities for democracy are ones that many long for. However, can they be accomplished or are they an illusion of hope? Latin America has had a long history of revolutionary movements with passionate citizens who only wish for stability in the nation and economic development to improve their living standards.

This paper will focus on Venezuela and Cuba because both are now undergoing periods of political transition, and their future is uncertain. Venezuela and Cuba are perfect examples of countries with long-standing presidencies that have faced accusations of being undemocratic. What are the challenges facing these two nations in today’s political environment? In addition, how has globalization had an effect on the process for democracy?

The methodology will consist of the following elements first, a review of classical definitions of democracy, to assess the quality and prospects for such transition in these countries. Second, an assessment of the current state of democracy in each country; and third, an evaluation of the actors and institutions that will participate in the consolidation of democracy in the transition period.
Research Poster Presentations

POSTER # 28

Latin America and Democracy
William Alesi (Macaulay Honors College), Fadwa Masoud, Yazmin Galindo, Akinmide Johnson (Matthew Paillant), Cristina Clavijo-Marquez

Faculty Mentor: Professor Jane Marcus-Delgado
Department of World Languages and Literatures

Since President Nixon first declared the War on Drugs in 1971, the United States has spent $51 billion annually in order to finance these anti-drug operations globally. This exorbitant amount of money comes in various forms via incarceration expenses, military excursions, rehabilitation programs, and foreign aid to countries of the world that are the chief exporters of these substances. Among these nations is Colombia, and this country is heavily impacted by the war. This paper looks at the effects of the War on Drugs on Colombian democracy and the subsequent violence that has stemmed from Colombian policies antagonistic towards drug cartels operating within the nation’s borders. This paper will derive much of its research from scholarly journals and newspapers, ranging from peer-reviewed academic journals like the Economist and the New York Times. It will look at first-hand testimonies of Colombians and their opinions on the war, as well as analyze recent political scandals involving cartel contributions to major political campaigns. The conclusions this paper will draw indicate a complicated relationship between the Colombian government and the Colombian cartels, which is often antagonistic while simultaneously appearing symbiotic in nature. This paper hopes to draw implications that will affect the world at large, but, specifically, the United States government and their anti-drug policies.

POSTER # 36

Challenges in Ciudad Juarez
Yazmin Galindo, Fadwa Masoud, Edwin Rodriguez, Cristina Clavijo-Marquez, William Alesi (Macaulay Honors College), Akinmide Johnson (William Paillant)

Faculty Mentor: Professor Jane Marcus-Delgado
Department of World Languages and Literatures

Ciudad Juarez became infamous for a wave of attacks beginning in the 1990s that left hundreds of women dead over the course of a decade. Even though international attention has moved on, killings have continued, with a second wave much larger than the first. Even as violence in Ciudad Juarez declines, slain women are continually being discovered. This paper examines challenges to democracy posed by this rise in violence and the absence of state authority in maintaining public order. It examines the government’s response to this situation by analyzing official documents and statistics. I will also analyze testimonies of family members who have been affected by this gender-based violence. I hypothesize that there has been a breakdown in democratic government at the U.S.-Mexico border, and that these human rights violations are evidence of this lack of state authority. What is the government’s response to this violence, and how can democracy be maintained in a situation of crisis such as that experienced in Ciudad Juarez? The conclusion indicates that the Mexican government, with the support of local and regional - as well as international - law enforcement organizations, must address this urgent public health and human rights crisis. It further suggests that attention must be paid to the economic and social roots that contribute to this problem.
## Undergraduate Conference on Research, Scholarship, and Performance—Faculty Mentors

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Research Paper Presentations—Student Scholars

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**Student Scholars**

**Undergraduate Conference on Research, Scholarship, and Performance—Student Scholars** (cont.)

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# Student Scholars

## Undergraduate Conference on Research, Scholarship, and Performance—Student Scholars (cont.)

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The committee gratefully acknowledges the contributions of the many individuals who helped make this conference possible.