5th Annual Undergraduate Research Day

April 24th
9 to 5pm
Academic Core Building

Research Day is a celebration of undergraduate research and creative scholarship in all disciplines at York College.

Keynote Speaker
CHARLES DUHIGG
Proceedings of the 5th Annual
Undergraduate Research Day at York
College of the City University of New York

Office of Undergraduate Research
York College of the City University of New York

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These proceedings were prepared by the Office of Undergraduate Research at York College of the City University of New York.

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This report is available for download on the York College website at https://www.york.cuny.edu/academics/undergraduate-research.

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About York College

Mission

York College enriches lives and enables students to grow as passionate, engaged learners with the confidence to realize their intellectual and human potential as individuals and global citizens.

Vision

York College's hallmark academic programs in liberal arts and sciences will be recognized as centers of excellence within CUNY, attracting and graduating some of the best and most highly motivated students from New York City and the greater New York area. We will be the first choice for prospective CUNY students interested in the health professions, allied health sciences, and business, including aviation management. York College will also establish itself as a model for enabling first generation college students to earn an undergraduate degree, and will fulfill students' individual academic goals while preparing them for graduate education and the competitive marketplace. Students are at the center of their own learning at York College. We offer multiple opportunities for student engagement, inquiry and research-based scholarship, and experiential learning. York maintains a vibrant campus where students actively participate in extra-curricular programs and collaborate with faculty and academic peers whose backgrounds are distinctly different from their own. The College has a dynamic student life with athletic and visual/performing arts programs, special interest clubs and social organizations where students develop enduring relationships and refine interpersonal skills.

The College will enable faculty and students to pursue their highest goals and foster their development as individuals and professionals. York College will be an attractive place to work, which will draw highly qualified candidates for its academic, executive, professional and administrative positions. The multicultural nature of our sustainable academic and social environments enriches the collegiate experience for all students, faculty and staff.

York College will be a magnetizing institution within the Queens community where students and graduates are mobilized as advocates/participants in continuous civic engagement. Our strong alumni network supports our programs, serves as ambassadors and donates time, talent and capital to advance our mission. Our Continuing and Professional Education function attracts students, graduates, individuals and professionals in pursuit of continued personal and professional development. Our business outreach activities engage the business community to strengthen our town-grown relationships.
About the Office of Undergraduate Research

Program Mission

To promote and facilitate student engagement in research and other creative activities in order to demystify research, increase knowledge about its nature and methodologies, and secure competitive advantage for graduate and professional school and the workforce.

Getting Involved in Research

There are several ways to get involved with undergraduate research at York College. The York College Honors Program provides opportunities to enhance the intellectual development of motivated students. The Louis Stokes Alliance for Minority Participation (LSAMP) seeks to increase the number of underrepresented minority students in STEM. York College conducts a federally funded Summer Research Program. The CUNY Pipeline Program provides orientation to the academy through a six-week summer research institute at the Graduate Center and research projects conducted with a CUNY faculty member. The Systems Biology Center New York (SBCNY) Undergraduate Research Program offers summer research fellowships to City University of New York (CUNY) undergraduates who are planning to pursue PhD or MD/PhD degree programs after graduation and who are interested in incorporating systems biology approaches into the research that they pursue. The CUNY Summer Undergraduate Research Program (C-SURP) provides students with 10 weeks of hands-on research experience in a CUNY laboratory. Students are matched with a faculty mentor and research team based on their expressed interests. To find a mentor or program that suits you, contact the Office of Undergraduate Research at uresearch@york.cuny.edu. To contact the LSAMP program, e-mail Lyndon Haynes at lhaynes@york.cuny.edu. To contact the Honors Program coordinator, e-mail honors-program@york.cuny.edu. For scholarship opportunities and general announcements, follow us on Facebook© and Twitter©.

Student Research Day

Every April, York College students engaged in undergraduate research present their findings through poster and panel presentations. In 2011, the 2nd Annual Student Research Day involved more than 200 participants, including keynote speaker Staceyann Chin, performer and Co-writer of Russel Simmons Def Poetry Jam on Broadway, The Other Side Of Paradise. In 2012, the 3rd Annual Student Research Day involved more than 250 students, and featured award-winning novelist Hari Kunzru, author of "Gods Without Men." Participation continued to grow to nearly 300 students for our 4th Annual Research day, which featured Dr. Partha P. Mitra, Professor of Neuroscience and Theoretical Biology at Cold Spring Harbor Laboratory.

Program History

The launch of a York College Undergraduate Research Program was first announced by Provost Ivelaw Lloyd Griffith at the CUNY Academic Council on January 6th, 2010. He subsequently named Dr. Rishi Nath, Assistant Professor in the Department of Mathematics and Computer Science at York College, as the first Director. The first annual Student Research Day was held on April 15th, 2010 with over 150 participants. The York College Office of Undergraduate Research, located in room AC-3E07b, was opened on September 30th, 2010. Dr. Robert O. Duncan, Assistant Professor of Behavioral Sciences, was appointed as the second director on July 1, 2013.
Keynote Speaker: Charles Duhigg

In 2013 Charles Duhigg was awarded the 2013 Pulitzer Prize in Explanatory Reporting as a member of The New York Times staff for the series “The iEconomy,” which examined Apple’s manufacturing practices overseas and what they can tell us about the American economy. Duhigg is also the winner of the National Academies of Sciences, National Journalism, and George Polk awards, and a frequent contributor to television and radio, including the Newshour with Jim Lehrer, Frontline, Dr. Oz, This American Life and various programs on CNBC and NPR. He is a graduate of the Harvard Business School and Yale College.

Charles Duhigg’s The Power of Habit: Why We Do What We Do in Life and Business spent over a year on the New York Times bestseller list. The book contains specific strategies that can transform lives and workplaces. It details scientific studies on boosting willpower, replacing bad habits, and revolutionizing companies’ productivity.

Duhigg’s journalistic accomplishments as an investigative reporter for The New York Times, have made him an in-demand speaker for organizations such as the UCLA School of Management, M.I.T., The Johnson Foundation and the Pasadena Art and Science Festival. Full of compelling narratives, Duhigg’s lectures draw on insights from the likes of Howard Schultz (Starbucks CEO), Tony Dungy (Super Bowl-winning football coach), and Bob Bowman (coach of Olympic legend Michael Phelps).
Featured Students

Each year, members of the Advisory Council select a representative sample of excellent students from various disciplines at York College to tell their story. Students participate in a panel where they speak openly about how they became interested in research, their experiences with conducting original research, and future directions for their work and careers.

Yousef Almomani was born in Amman, Jordan. At the age of fifteen, he migrated with his family to the United States. Yousef overcame the challenges of learning English as a second language and quickly adapted to New York City life. Yousef’s parents emphasized that education is the key to success. Yousef graduated from Hillcrest High School and is pursuing a Bachelor’s Degree in Aviation Management. In addition to being an outstanding student with cumulative GPA of 3.6, Yousef works full-time as a lead in the lost and found department for Kuwait Airways at JFK International Airport. Yousef is also the president of the Aviation Club at York College, where he works hand-in-hand with club advisers, officers, and members to promote the CUNY Aviation Institute. Yousef was recently selected for the Dean’s List at York College. Yousef proves that, with hard work and determination, the sky is the limit. He is known to be a very outgoing person, loves a challenge, and is always happy to lend a helping hand when needed. In the future, he plans on obtaining his Master’s Degree and share his knowledge and experiences by becoming an instructor in his field of study.

Ai-Mei Chen is a second degree Chemistry major. She was born and raised in Flushing, Queens, and graduated with Associate’s and Bachelor’s degrees from the Fashion Institute of Technology. After a half a decade of working in the fashion industry, Ai-Mei decided to pursue a career in medicine. She is currently applying to PA schools, and has been able to garner invaluable academic and clinical experiences at York College. This is her first semester doing research with Dr. Emmanuel Chang and she feels it has not only enhanced her critical thinking skills, improved her interpretation of the literature, and enabled a deeper understanding of the clinical field, but the experience has also heightened her interest in research overall. The experiences and skills obtained at York College have only strengthened her resolve and desire to persist in medicine.

Abraham Dickey III is an African-American who experienced an unconventional childhood that featured nihilistic Black urbanism alongside an army “brat” subculture predicated upon sociopolitical dominance. He subsequently developed a passion for becoming a research-driven cognitive neuropsychiatrist with a focus on the transdisciplinary investigation and management of interpersonal aggression. In roughly 10-15 years, he anticipates being able to accurately diagnose and skillfully treat violent offenders using cognitive-behavioral, neuropsychodynamic and psychopharmacological strategies. Additionally, through the employment of functional magnetic resonance imaging, behavioral analysis, and other psychophysiological techniques, he plans to study the developmental psychopathology and cognitive-phenomenological
profile of psychopathic personality disorder. Eventually, he would like to serve as an expert witness in the criminal court system, in order to provide independent mental assessment of antisocial behavior. Abraham is a double major in Biology and Psychology with minors in Cognitive Neuroscience and Sociology. His mentors include Dr. Villegas (Behavioral Neuroscience, Experimental Cognition), Dr. Hansen (Socio-political and Moral Psychology), and Dr. Hua (Neurophysiology, Computational Neuroscience) at York College, as well as Dr. Gao (Clinical Neuroscience, Psychophysiology) at Brooklyn College. Abraham intends to pursue an MD-PhD after graduation. He also has a wide range of interests that include bodybuilding, professional boxing, mixed-martial arts, and entrepreneurship.

Malika L. Jones is a Community Heath Education Major who is driven by a passion and enthusiasm for health promotion and disease prevention. Her goal is to help individuals, communities and populations, locally and globally, and to improve their quality of life through effective health initiatives and interventions. She has international experience working with the Global Foundation for Democracy and Development (GFDD), the Ministry of Agriculture of the Dominican Republic, and the Adventist Development and Relief Agency (ADRA) to address the global issue of food insecurity. She appreciates CRG-HPP’s interdisciplinary approach to solving some of our society’s emerging and complex health issues, viewing it as an improved approach by addressing the multi-level determinants of health.

Abbas Nazir came to New York in 2012 as an international student from Pakistan. He finished high school in 2010 but had lost interest in the Pakistani education system. The country was entrenched in post-9/11 civil war and, despite opposition from his family, he came to America to study. Abbas is a Chemistry major who feels fortunate to be a part of Dr. Chang’s lab for almost a year. In the future he plans on attending graduate school to get a Ph.D. in molecular biology and biochemistry. He wants to help humanity and serve the community through research through research and drug discovery. He believes that only science can eliminate the global inequity we see today.
Awards

Each year, members of the faculty who participate in mentoring a significant number of students are recognized for their outstanding achievement. The Office of Undergraduate Research is proud of anyone who takes on the role of mentor, and we seek to broaden participation and quality of life for faculty mentors and those interested in becoming involved.

**President’s Award**
*Awarded to mentors who support 15 or more research projects*

Deb N. Chakravarti
Kelly Josephs
Olajide Oladipo

**Provost’s Award**
*Awarded to mentors who support 10 or more research projects*

Ian G. Hansen

**Dean’s Award**
*Awarded to mentors who support 5 or more research projects*

Elizabeth Alter
Laura Beaton
Emmanuel Chang
Kristin Davies
Ratan Dhar
Chun-Pin Hsu
Tom Zlabinger

**Special Recognition**
*Awarded for creative vision and achievement*

Ivelaw Lloyd Griffith
Rishi Nath

**Service Award**
*Awarded for excellence in service and support of undergraduate research*

Rudolf Nisanov
Avis Lau-Quan

**Director’s Award**
*Awarded to mentors who support 5 or more students in research projects*

Ivica Arsov
Margarita Drago
Shao-Ying Hua
Nazrul Khandaker
Ray Marks
Gerard McNeil
Jonathan Quash
Yolanda Small
Francisco Villegas
Program

Itinerary

8:00am Registration Opens
9:00am – 5:00pm Oral Presentations and Poster Presentations

Luncheon Session

11:30am Lunch Service Commences
12:00pm Opening Remarks
   Robert Duncan, Program Director
   President Marcia Keizs
   Provost Panayiotis Meleties
12:10pm Featured Student Panel
   Moderators: Chun-Pin Hsu and Ian Hansen
12:35pm Musical Interlude
   Director: Jonathan Quash
12:45pm Introductory Remarks to the Keynote Address
   Elizabeth Alter
12:50pm Keynote Address
   Charles Duhigg
1:45pm Faculty Awards
   Robert Duncan
1:55pm Remarks by the Program Founder
   Ivelaw Lloyd Griffith
2:00pm Concluding Remarks
   Robert Duncan

Afternoon Tea

2:00pm Book Signing in the Faculty Dining Room, AC-2D01
   Charles Duhigg
2:00pm – 3:00pm Reception for Distinguished Guests
   Office of Undergraduate Research, AC-3E07b
### Overview of Panel Sessions

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<td><strong>9:00 – 10:15am</strong></td>
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<tr>
<td><strong>Session 1</strong></td>
<td><em>The Tension of Diaspora</em></td>
<td>AC-3B04</td>
<td>Kelly Josephs</td>
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<td><strong>10:30 – 11:45am</strong></td>
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<td><strong>Session 2</strong></td>
<td><em>Walking the Line: Negotiating Diasporic Lives and Lines</em></td>
<td>AC-3A10</td>
<td>Kelly Josephs</td>
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<td><strong>Session 3</strong></td>
<td><em>Shadowed Pictures: Memory and Identity in Caribbean Literature</em></td>
<td>AC-2A15</td>
<td>Shereen Inayatulla</td>
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<td><strong>Session 4</strong></td>
<td><em>York Reports: Feature Writing on a College Campus</em></td>
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<td>Thomas Moore</td>
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<td><strong>Session 5</strong></td>
<td><em>In the Wake of Capitalism: A Love Story or Not?</em></td>
<td>AC-2C07a</td>
<td>Michael Sharpe</td>
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<td><strong>Session 6</strong></td>
<td><em>To Dream a World: York College Studies Abroad</em></td>
<td>AC-3B04</td>
<td>Hamid Bahri</td>
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<td><strong>Session 7</strong></td>
<td><em>An Interior Diaspora: The Personal Price of Colonialism</em></td>
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<td><strong>Session 8</strong></td>
<td><em>Let’s Play TloTo: Gaming Culture in a Modern World</em></td>
<td>AC-2B06a</td>
<td>Thomas Zlabinger</td>
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<td>Session 9</td>
<td>Another World is Possible: Subversive Trends in Modern Literature</td>
<td>AC-2A15</td>
<td>Enrique Villatoro, Jessica Salamalay, Kimone Reeves, Phylicia Ramjattan, Alexis Haynie, Alisha Amin</td>
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<td>Session 10</td>
<td>The Biology of Modern Life</td>
<td>AC-2C07a</td>
<td>Phebe Kirkham, Ratan Dhar, Ana Chavez, Valodia Francois, Avanel Riley</td>
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<td>Session 11</td>
<td>How Friendly are the Skies?: Postmodern Trends in Aviation</td>
<td>AC-3A10</td>
<td>Chun-Pin Hsu, Yousef Almomani, Yan Jin, Moses Lee, Dongmei Zhu, Mayuresh Kamath</td>
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<td>Session 12</td>
<td>The Diasporic Underbelly</td>
<td>AC-3B04</td>
<td>Kashfi Fahim, Michelle Heslop, Khalid Straker, Jennifer Warren</td>
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<td>Session 13</td>
<td>We Dream a World: Memory, the Imaginary Past, and the Postmodern Present in Caribbean Literature</td>
<td>AC-2A15</td>
<td>Kelly Josephs, Alisha Amin, Felicia Peters, Regina Brewington, Marissa Lutchman</td>
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<td>Session 14</td>
<td>A Not-So-Distant Mirror: How Culture Responds to History</td>
<td>AC-3A10</td>
<td>George White, Matthew Wilson, Monique James, Acquanetta Benjamin, Amina Alexander</td>
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<td>Session 15</td>
<td>“But Tell Them a Story . . .”: Narrative Interventions Inside and Out</td>
<td>AC-2B06a</td>
<td>Shereen Inayatulla, Hanna Joseph, Tishena Sylvester, Nasrin Sultana, Dina Amer</td>
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<td>Session 16</td>
<td>What the Data Says: York Scholars Doing Original Research</td>
<td>AC-2C07a</td>
<td>T.B.A., Tiffany Ford, Abraham Dickey III, Mario Luna, Shabana Shamin, Rufino Abreu</td>
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## Overview of Poster Sessions

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<td>Aviation Management</td>
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Original Research

Original research is defined as an inquiry or investigation conducted by undergraduate students that makes an original intellectual or creative contribution to the field.

Accounting (BS)

STUDY ABROAD AND BEYOND
Gayatri Charran
I always love the idea of traveling and touring the world, so when I got the opportunity to participate in a study abroad program I jumped at it. I never expected that studying in another country would have much of an impact on me; little did I know that it was an opportunity of a lifetime that changed my perspective of the world and contributed to my growth as an individual. The Study abroad program I took part of was A Fashion Marketing Class in Florence, Italy. During my time there I traveled to Rome, Tuscany and Venice to truly indulge in the Italian culture. This Experience made me more culturally aware and equally open minded. I also took away a true sense of independence, self confidence, and became more determined to accomplish my goals. From my experience, those are valuable qualities that cannot be learned in a class room therefore, I would highly encourage other students to participate in such extracurricular activities.

Anthropology (BA)

EFFECTS OF PARENTAL INVOLVEMENT AND CHILDREN’S SUCCESS IN SCHOOL
Dalicia Quongsing
Education is the key to success individually and collectively. It has been proven time and time again to create a gap between success and failure in life. In a less dramatic sense, it may be the difference between a life of excellence and mediocrity. Despite difference in culture, economic status, and other demographics the value of education holds true around the globe. There has been extensive research done on education globally and particularly here in America. Unfortunately, there are gaps in prior research. Upon review of literature related to the issue research shows an overwhelming acceptance that parental involvement in students’ academic affairs positively effects their success in school. However, research has not been able to find a direct correlation between parental involvement or explain every student’s success. I hypothesized the effect of
parental involvement on academic achievement is not purely positive but dependent on the way a parent involves himself or herself. I surveyed parents and teachers of a New York City Catholic school which serves primarily Black elementary and middle school students. Parents were surveyed on their involvement in their child’s education within and outside of school. Teachers were surveyed on their perception of parental involvement and student achievement. Results of the survey will be presented on Research Day.

Aviation Management (BS)

BANKRUPTCY PREDICTION: AN EMPIRICAL STUDY OF THE AVIATION INDUSTRY
Yousef Almomani
Since 1980s, more than 100 air carriers have experienced financial difficulty and sought court protection. From investors' point of view, how to accurately predict a company's financial health has become an important topic. This study intends to investigate several approaches in predicting bankruptcy. Specifically, I follow the approach suggested by Altman and its advanced version suggested by Gritta to examine the airline industry. The empirical results indicate that the two approaches have a certain extent of accuracy in predicting bankruptcy.

HOW HAS TERRORISM CHANGED AIRPORT SECURITY SYSTEM IN THE UNITED STATES?
Anna Anoszko-Turnier
The aviation security system is changing, being highly sensitive to any form of violence. The terrorist attacks are the most influencing aspect on the Aviation Industry. When the terrorism hits a nation then certain steps need to be taken to implement new policies and to improve the overall safety. This approach was exemplified by the government especially after the September 11, 2001 attack. The aviation environment had to modify its safety procedures to overcome any future unpredictable acts of violence. The study investigates the changes through terrorist acts on aviation sector. The government agencies that are responsible for maintaining security in the airports also underwent transformation. The research findings also suggest that security technologies were enhanced by the government budget after 9/11 attack. To overcome the constant threat of terrorism the security system changed to a great extent by creating new laws and procedures.

SINGAPORE AIRLINES
Luisa Ayala
Singapore Airlines is one of the most important airlines in the world and one of the best in Asia. Being part of the alliance with Malaysian Airlines, this airline has been able to grow and position itself as one of the best in the industry. This company has succeeded due to their excellent service and organizational structure. In addition,
Singapore Airlines has spread into similar industries and sectors, covering ground handling, aircraft leasing, air catering, tour operations and more.

HOW THE MINIMUM WAGE LAW WILL AFFECT THE AIRLINE INDUSTRY?
Ramchan Boodram
The paper investigates the implication of higher minimum wage of the Airline Industry. The paper found that increase in minimum wage will have implications for cost of airline tickets, employees, and other fixed costs in the industry.

EMIRATES AIRLINES
Khadim Kebe
This study investigates Emirates Airlines exponential growth. Emirates was launched in 1985 with two leased aircraft from a rudimentary airport. Its phenomenal growth is reflected in the 170-plus aircraft in its rapidly expanding fleet – a mix of the latest wide-body Airbus and Boeing aircraft - as well as Dubai’s state-of-the-art Emirates Terminal 3, which is used solely for the airline’s flights. Over the next few years, the airline will welcome 187 aircraft to its fleet, including three Boeing 777Fs and 61 Boeing 777-300ERs. The airline ranks among the top 10 carriers worldwide in terms of passenger kilometers, and has become the largest airline in the Middle East in terms of revenue, fleet size, and passengers carried as of 2007. In 2012 the airline was the fourth-largest airline in the world in terms of international passengers carried and scheduled passenger-kilometers flown. The airline was the third-largest in terms of scheduled freight tons-kilometers flown.

THE INTERNATIONAL CIVIL AVIATION ASSOCIATION
Khadim Kebe
The international Civil Aviation Association is a United Nations (ICAO) specialized agency, which serves as the global forum for international civil aviation. The ICAO was established by the Chicago conference in December 1944, and was originally known as the Provisional International Civil Aviation Organization (PICA). It underwent a name change to ICAO in 1947, and Montreal, Canada, became its permanent headquarters. The ICAO’S vision as mention on its website is to achieve “safe, secure, and sustainable development of civil aviation through cooperation amongst its member states.” To implement this vision, ICAO has the following strategic for 2005-2010: (1) Safety: Enhance global civil aviation safety; (2) Security: Enhance global civil aviation security; (3) Environmental Protection: Minimize the adverse effect of global aviation on the environment; (4) Efficiency: Enhance the efficiency of aviation operations; (5) Continuity: Maintain the continuity of aviation operations; (6) Rule of Law: Strengthen law governing international civil aviation; (7) History of the creation of ICAO. The roots of ICAO date back before World War 1 to a period shortly after the Wright brothers’ historic flight in December 1903. The development of ICAO and its history is well-documented on the ICAO Web site; therefore, only the major milestones will be discussed here.
**EMIRATES AIRLINES**

*Moses Lee*

It is the largest airline in the Middle East, operating nearly 3,400 flights per week from its hub at Dubai International Airport, to more than 150 cities in 74 countries across six continents. Cargo activities are undertaken by the Emirates Group's Emirates SkyCargo division. Recently, Emirates ranks among the top 10 carriers worldwide in terms of passenger kilometers, and has become the largest airline in the Middle East in terms of revenue, fleet size, and passengers carried as of 2007. In 2012 the airline was the fourth-largest airline in the world in terms of international passengers carried and scheduled passenger-kilometers flown. The airline was the third-largest in terms of scheduled freight tonne-kilometers flown. Finally, Emirates currently operates four of the world's longest non-stop commercial flights from Dubai to Los Angeles, San Francisco, Dallas/Fort Worth, and Houston.

**COMMERCIAL AIRLINE ACCIDENTS AND THE UNITED STATES ECONOMY**

*Eun Chan Mok*

The paper investigates the impacts of commercial airline accidents on the economy. Using annual data from 1970 to 2013, the research examines the effects of major American airline accidents on the economy. The immediate effect of airliner accidents would be hundreds of deaths and a cost to the airline of about $1 billion for the aircraft and payments to the survivors of deceased passengers, as well as reduced demand for all air services. Reduction in demand for air services depends on how the government, the media and the general public react to the accidents. The study recommends that the airlines develop protocols to balance the need for security with inconvenience to employees, passengers, and people living near the airports.

**THE MIDDLE EAST ECONOMY AND AVIATION AS A NEW APPROACH**

*Cedrick Pierre*

To maintain a steady economy, countries typically changes their business approach as one of their techniques to stimulate growth. United Arab Emirates (UAE) is located in the Middle East and will be the focus of this research as a growing economy. Over the years, the country has used the profits from oil to strengthen its economy, but now, it is looking for a different approach to how it brings in its revenue. The UAE is currently looking to enhance its position in the field of aviation. The government has invested millions of dollars in the airline industry and transporting air cargo. The Middle East is desperately looking for an alternative way of bringing income because oil is depleting. From the Middle East, we will examine the correlation between the growth of economy and the airline industry and how they affect each other negatively.
AN ANALYSIS OF THE CHINESE AVIATION INDUSTRY

**Philip Thomas**

As the GDP of China rises, it is predicted that the disposable of China’s middle class will increase. With the spending of about 1.35 billion people gaining momentum, the aviation industry, just like the rest of the Chinese economy, is growing rapidly. With the forecast growth rates of 10% to 15%, the expectation is that this will translate into enormous changes in passenger, aircraft, airport and air traffic numbers resulting in the need to revolutionize the Chinese aviation sector in order to meet future demand. In addition to analyzing China’s aviation past, present and future, arising issues such as the need for massive injection of funds for new infrastructure, the reform of the Chinese aviation regulations, education of millions of future aviation workers, reform of the air traffic control system, equipment supply, and solutions to environmental concerns, will be investigated.

THE PROPOSED INCLUSION OF THE AVIATION SECTOR INTO THE EUROPEAN EMISSIONS TRADE SCHEME AND ITS IMPLICATIONS

**Philip Thomas**

In order to monitor, control and eventually reduce greenhouse gas emissions, the government of the European Union has created a “market” to purchase rights to greenhouse gas emissions in monitored quantities. This market presently includes emissions from factories, power stations and the like. In 2012 the EU government pushed for an inclusion of the aviation sector into the emissions trade scheme, causing an outcry from airlines and other governments. The paper investigates the implications of the inclusion of the aviation sector into the European emissions trade scheme may have on the Aviation industry. Also, the effect of the emission control systems on ticket prices, supply, and demand of seats will be discussed.

THE EFFECTS OF GLOBAL WARMING ON AVIATION

**Ibrahim Zbib**

Aviation is a leading form of transportation that has touched down in all corners of the world. There are many reasons to why aviation is successful but one main reason is the strive to succeed as an industry. The aviation industry tries to meet the demands of many countries especially when it comes to dealing with emission control, and the impact of global warming. Global warming is the overall increase of the earth’s temperature which leads to climate change, once this happens weather patterns are offset. One main cause of global warming is the release of co2 into the atmosphere. Methods include addition of new planes, breaking norms, and overall awareness of the issue and it's solutions. There are many obstacles the industry faces that will prove challenging, and success will not be easy.

ANALYSIS OF UNEMPLOYMENT TREND IN THE UNITED STATES

**Dongmei Zhu**

This research investigates the relationship between unemployment, economic growth and the offshore outsourcing of the American jobs. Using annual data, the
study compares the unemployment rate and GDP annual growth rate in the United States, India, China, Singapore and Malaysia. The paper found that outsourcing has worsening unemployment situation in the US and that the unemployment rate is higher in the US than India, China, Singapore and Malaysia. The policy implication is that the government should create enabling environment to discourage companies from shipping jobs overseas and provide tax incentives for companies that continue to create jobs in the US.

**Biology (BA-BS)**

**RHODOPSIN GENE IN FUNDULUS HETEROCLITUS AND FUNDULUS GRANDIS**

Samavia Ahmed

The mummichog, Fundulus heteroclitus and Fundulus Grandis, is a small killifish found in the eastern United States. These fish are found in wide variety of environments, from brackish and coastal waters to estuaries and salt marshes along the eastern seaboard of the United States. These fish span a large gradient of latitude – and therefore UV exposure – suggesting that many aspects of their physiology, including photoreception, may vary along the gradient. Rhodopsin is a biological pigment in photoreceptor cells of the retina that allows light perception. We analyzed sequence-level and amino acid changes in rhodopsin between populations of Fundulus heteroclitus living at high and low latitudes.

**THE EFFECT OF THE LOWER CONGO RAPIDS ON GENE FLOW AND DIVERGENCE TIME IN THE MASTACEMBELIDAE SPECIES**

Bianca Brown & Elizabeth Alter*

With the high endemism and species richness of fishes in the Lower Congo River (LCR) when compared to other African rivers, the LCR and its inhabitants offer a unique opportunity to study speciation processes. This multifaceted research project is investigating the hypothesis that hydrological conditions in the Lower Congo region may have shaped speciation events in the fish taxa that reside there using the endemic Mastacembelus brichardi, Mastacembelus simbi, Mastacembelus crassus and Mastacembelus aviceps. The first finding of the project confirmed the LCR rapids are interrupting gene flow using the species M. brichardi. This onset of microevolution is consistent with the rapids as a source of species divergence. The second finding was that the mastacembelidae species endemic the Lower Congo River shares a deep evolutionary history with the mastacembelidae species from Lake Tanganyika. The third was the extremely close phylogenetic relationship between Mastacembelus brichardi and brachyrhynus. This finding is distinct in that the two species are disparate in appearance the Mastacembelus brichardi has no visible external eyes and is albino while the Mastacembelus brachyrhinus has eyes and pigments. The close phylogenetic relationship between Mastacembelus brichardi and Mastacembelus brachyrhinus has led to the investigation of the genetic changes...
that has led to the investigation of the genetic changes that led to their phenotypic differences.

**COMPUTATIONAL STUDY OF THE CEREBELLAR FUNCTION: A MODEL OF CEREBELLAR CIRCUIT FOR MOTOR ERROR DETECTION AND CORRECTION**

*Abraham Dickey III*

Based upon firmly established neuroscientific investigation, the cerebellum – one of the major structures of the brain – functions as a rapid, corrective feedback loop, smoothing and coordinating movement. Furthermore, there has also been mounting evidence indicating that this “little brain” is incorporated into cognitive-emotional processing as well. More specifically, motor learning, which is predicated upon integrative neuroplasticity within and between neurons, is the capacity to acquire new repertoires of movement and skills that emerge through the detection and corrective analysis of “motor error. Since their 1967 monograph “The Cerebellum as a Neuronal Machine," which pioneered thorough exploration of cerebellular neurocircuitry, John Eccles, Masao Ito and Janos Szentágothai paved the way for systematically constructing network models representing information processing within the cerebellum. Surprisingly, up until this very moment, despite ongoing research, the exact understanding of how this distinct area of the brain operates remains a mystery. By using MATLAB® software – an intricate language and interactive environment for quantitative computation, graphic imagery, and computer programming – we purpose a novel mechanism and connectivity that describes a functionally and biologically realistic neuronal system which simulates the abstract physiology and dynamics of cerebellular function.

**EVALUATION OF WATER QUALITY OF WATER SUPPLIES IN SOUTH-WEST OF HAITI**

*Valodia Francois & Ricardo Jules*

The study aims to test the quality of the water from the soil of Haiti to know the reliability of public and private water sources that provide drinkable water. Water samples were collected from different water sources: springs, wells, and they were collected in the South-West area of the country. Water samples were stored in freezer. Physical parameters including pH, conductivity, salinity, turbidity were measured at York laboratory using YSI and Orion meters. Alkalinity was measured by Metro Ohm Titrator using Gran method. Chemical constituents including nitrate, phosphate, ammonia, sulfate derived from fertilizers were determined by Chemetrics Vacu-vial method using V-2000 spectrophotometer and also colorimetric techniques. Eventually a suit of heavy metals will be determined by Echo-Chemie and by colorimetric method. Common anions including fluoride (F), chloride (Cl), nitrate (NO₃), nitrite(NO₂), phosphate (PO₄), sulfate (SO₄) and cations including sodium (Na), potassium (K), calcium (Ca), magnesium (Mg) will be determined by Ion chromatography method using recently acquired DIONEX 2100S at York. This permitted us to know to what extent those water sources were or were not toxic to human’s health. As the levels of anion and cations were now
found in those water samples, specific sources of water will be recommended to the Haitian population and improvement will also be suggested to the Haitian government and the different NGOs and private water institutions.

**THE EFFECT OF ACID RAIN ON SUNFLOWERS**
*Lida Omar, Kavita Mahabir, & Mohammad Shari*

This experiment will investigate and compare the different effects of nitric and sulfuric acid on sunflowers. The nitric and sulfuric acid will be incorporated by using pH levels of acid rain. Plant seeds from Utah and Illinois will be used to determine whether or not the origin of the plant seeds affect the impact of acid rain. Five test groups were created, (1) sulfuric acid with a pH value of 5 for Utah and Illinois seeds, (2) sulfuric acid with a pH value of 3 for Utah and Illinois seeds, (3) nitric acid with a pH value of 5 for Utah and Illinois seeds, (4) nitric acid with a pH level of 3 for Utah and Illinois seeds, (5) a pH value of 7 for the control group. The acids will be sprayed onto the leaves of the sunflowers and the growth and appearance will be examined weekly.

**THE AFFECT OF ACID RAIN ON SUNFLOWERS**
*Mohammad Shari, Lida Omar, & Kavita Mahabir*

This experiment will investigate and compare the different effects of nitric and sulfuric acid on sunflowers. The nitric and sulfuric acid will be incorporated by using pH levels of acid rain. Plant seeds from Utah and Illinois will be used to determine whether or not the origin of the plant seeds effect the impact of acid rain. Five test groups were created, (1) sulfuric acid with a pH value of 5 for Utah and Illinois seeds, (2) sulfuric acid with a pH value of 3 for Utah and Illinois seeds, (3) nitric acid with a pH value of 5 for Utah and Illinois seeds, (4) nitric acid with a pH level of 3 for Utah and Illinois seeds, (5) a pH value of 7 (neutral) for the Utah and Illinois control group. The acids will be sprayed onto the leaves of the sunflowers and the growth and appearance will be examined weekly.

**DNA BARCODING TO IDENTIFY DOMESTIC AND IMPORTED SPECIES OF CATFISH SOLD IN NEW YORK CITY**
*Lloyd Succes*

The objective of this experiment is to use DNA barcoding to determine which species of fish are being sold under the label “catfish” in New York City markets. According to the Federal Food, Drug and Cosmetic Act, only fish from the family Ictaluridae can be called “catfish”, for consumer safety reasons. We collected fish samples from markets all over New York City sold as the following names: “catfish”, “tra”, “basa”, “swai”, “sutchi” or “pangasius”. We performed a careful DNA extraction of the samples using the DNeasy® DNA extraction protocol and analyzed the amount of DNA using a NanoDrop®. Polymerase Chain Reaction was performed on each of the samples to amplify their DNA sequences. All the PCR samples were then processed via agarose gel electrophoresis to sort out the successful amplifications. After these steps were completed, the PCR products were
sequenced by GENEWIZ®, an institution specialized in DNA sequence analysis and identification. Our preliminary results indicate that a variety of species are sold under the label “catfish”, including fish in the families Ictaluridae, Pangasiidae, and Bagridae. Additional studies are ongoing to determine the relative frequency of each species in New York markets.

DETECTING STRUCTURAL DEFECTS IN RUGOSE MUTANTS’ NEURAL SYNAPSE TO STUDY AUTISM

Dolkar Tsekyi, Maximilian Ehrman, Jannatul Tazrin, & Nicholas Weir

Autism Spectrum Disorder (ASD) is a disorder caused by developmental defects in the patients’ brain. Disruptions in several genes have been associated with ASD, one of which is the gene called neurobeachin. The protein Neurobeachin is mostly found at the postsynaptic membrane and plays a vital role in endo-membrane traffic in neurons and in synaptic formation. The rugose gene in Drosophila melanogaster is the homologue to the neurobeachin gene in mammals. When rugose is mutated, behavioral changes were observed in flies which were similar to the behavioral changes observed in autistic patients. Therefore, the rugose mutants of flies are used to analyze the mechanisms of synaptic malfunction involved in autism. Building on our ongoing study which focuses on muscle cells, this study will focus on the neural synapses in the brain of both adult flies and 3rd microscope, we will be comparing the wild type flies with several mutants such as EMS, rgp2, rgp6, and rgγ7 for their synaptic structure. Specifically, the number of vesicles present in the axon terminal of the neurons in the brain, the shape and size of the vesicles, and the structure of the terminals will be examined.

Biotechnology (BS)

FINISHING A 100KBP DNA FRAGMENT OF DROSOPHILA BIARMIPES

Joy-Ann Caesar, Nicholas Weir & Gerald McNeil*

The universal nitrogenous bases of DNA which are found in almost all organisms originating from a common ancestor enable researchers to compare DNA sequences of different organisms. This comparison reveals the similarity in genes (homologs), repetitious elements, and other features among organisms upon observing their respective DNA sequence. DNA sequencing reads and consensus of the heterochromatin dot chromosome or F element of Drosophila biarmipes that was generated using 454 and Illumina DNA sequencing methods will be finished. Researchers at the Washington University in St. Louis sequence the genome of D. biarmipes and called on finishers through the Genomics Education Partnership program to identify and correct errors. Finishers use the computer program consed, which allows them edit sequences and the consensus. In this project, the finishing of the 100kbp of DNA fragment of D. biarmipes will result in a more accurate DNA sequence eliminating errors made during the sequencing of the DNA fragment. The 100kbp of DNA fragment was obtained as an .ace file along with a corresponding
FINISHING THE SEQUENCE OF THE DISTAL REGION OF DOT CHROMOSOME OF THE SPECIES, DROSOPHILA BIARMIPES USING THE FINISHING PROGRAM, CONSED.
Ifrah Chowdhury, Kizzia Perez, & Vrajisha Patel
Drosophila is a common fruit fly that serves as an excellent model organism for studies in genetics. A sequence of Drosophila biarmipes was obtained from a partnership between undergraduate centers, the Biology Dept, and the Genome Center of Washington University in St. Louis. Our primary focus is to correct the errors in the sequence of the distal region of dot chromosome of the specie, D. biarmipes. This is achieved by using a finishing program, called Consed, which was developed by David Gordon et. al in 1998. Consed is a software for viewing, editing, and finishing sequence assemblies created with phrap. It uses error probabilities generated from programs called Phred and Phrap as a guide to finishing. Phred is software that reads DNA sequencing trace files, calls bases, and assigns a quality value to each called base, while phrap is a program for assembling shotgun DNA sequence data. We use these tools to ensure the representative sequence or consensus generated by Phred/Phrap of D. biarmipes, has a Phred score of 30 or above which implies that the quality of data is acceptable. Our team will use Consed to mindfully inspect other data anomalies such as numerous high quality discrepancies (HQS) within the consensus and problems regarding mononucleotide runs (MNR). Additional data may be collected by our group to close gaps and resolve low quality regions. Our project will delineate the walkthrough of our modifications and analysis in detail.

INVESTIGATING REGULATORY SITES ON TRNASE Z
Taikchan Lildar & Pratik Rathod
tRNase Z is an enzyme responsible for removing tRNA 3’ trailer which is essential to tRNA maturation. It was first identified about eleven years ago and is believed arise from a tandem duplication of a shorter version of tRNase Z. Recent studies on using X-ray crystallography revealed a flexible arm (FA) remote from the active site that binds tRNA. The region adjacent to flexible arm is believed to have phosphorylation sites which may be involved in regulation. Careful analysis of peptide sequence revealed a serine rich region that may be capable of phosphorylation. Using mass spectrometry, the protein has been identified, characterized, and quantify in its unphosphorylated form. Results from the phosphorylated tRNase Z are still being processed. The presence of phosphorylation sites next to the flexible arm may shed light on the tRNase Z structure and function.
COMPARATIVE PHYLOGEOGRAPHIC STUDY OF FUNDULUS HETEROCOILITUS POPULATIONS FROM VARIOUS HIGHLY POLLUTED SITES AROUND NEW YORK
Janet Long & Ezazul Haque
The marine organism Fundulus heteroclitus is a well-known model organism used in various laboratory studies including embryology, developmental genetics, and toxicity. It is also known that F. heteroclitus is tolerant of extremely variable environmental conditions; specifically, high levels of heavy metals and PCP. In this study, we attempt to show the magnitude of genetic drift and evolution among different populations of killifish in various superfund sites around the New York area. Genomic DNA was extracted from fish obtained from various sampling excursions and sequenced. Furthermore, the gut microbiota was also extracted to be analyzed. Preliminary shotgun sequence analysis revealed a high percentage of the bacteria Psudomonas and Enterobacter of the random sequences chosen. Additionally, 16s rRNA sequence analysis will also be used to characterize the different populations. Ultimately, we endeavor to isolate and analyze the genes involved in physiological adaptation of F. heteroclitus, and expression between the different populations.

A NEW MECHANISM FOR CONTROL OF HIV REVERSE TRANSCRIPTASE
Abbas Nazir, Ai-Mei Chen, & Emeka Nnaji
Novel strategies have been developed in the last few decades to counter the viral pathogenesis of HIV-1 in human T cells. Our lab studies HIV-1 reverse transcriptase; an enzyme responsible for reverse transcribing the viral RNA into DNA; a step crucial for genome integration and ultimate expression in host cell. Here, we show that HIV-1 phosphorylation at a well conserved residue (Thr 216); by a host cyclin dependent kinase 2 (cdk 2) increases the rate at which double stranded synthesis takes place in reverse transcription. It is also found that Cdk2 dependent HIV-1 phosphorylation also increases the efficacy and stability of viral reverse transcriptase; which is also seen to improve virus’s ability and fitness to infect the host cell. Bioinformatics analysis was also performed to analyze the conservation and phosphorylation of RTs found in different patients. This study can further lead to the development of new drugs targeted at silencing the phosphorylation of RT and hence inhibiting the infecting ability of HIV-1.

SEQUENCE IMPROVEMENT OF 100-KILOBASE REGION OF DROSOPHILA BIARMIPES CHROMOSOME 4 USING A FINISHING TOOL CALLED CONSED
Vrajisha Patel, Kizza Perez, & Ifiha Chowdhury
Drosophila is a common fruit fly that serves as an excellent model organism for studies in genetics. A sequence of Drosophila biarmipes was obtained from a partnership between undergraduate centers, the Biology Dept, and the Genome Center of Washington University in St. Louis. Our primary focus is to correct the errors in the sequence of the distal region of dot chromosome of the specie, D.
biarmipes. This is achieved by using a finishing program, called Consed, which was developed by David Gordon et al in 1998. Consed is a software for viewing, editing, and finishing sequence assemblies created with phrap. It uses error probabilities generated from programs called Phred and Phrap as a guide to finishing. Phred is software that reads DNA sequencing trace files, calls bases, and assigns a quality value to each called base, while phrap is a program for assembling shotgun DNA sequence data. We use these tools to ensure the representative sequence or consensus generated by Phred/Phrap of D. biarmipes, has a Phred score of 30 or above which implies that the quality of data is acceptable. Our team will use Consed to mindfully inspect other data anomalies such as numerous high quality discrepancies (HQC) within the consensus and problems regarding mononucleotide runs (MNR). Additional data may be collected by our group to close gaps and resolve low quality regions. Editing and tagging are done whenever we encounter any inconsistencies.

SUNFLOWER (HELIANTHUS ANNUUS) PLANT DEFENSE AGAINST HERBIVORES AND JASMONIC ACID

Vrajisha Patel

Herbivores are organisms that feed on autotrophs such as plants, algae and photosynthesizing bacteria. The Herbivory usually refer to organisms that feed on plants. The plant and herbivores especially insect herbivores have prey-predator relationship. In order for plants defend themselves, they develop different traits. The plants can resist or tolerate herbivores either chemically or mechanically. Some of the mechanical defenses include thorns, trichomes, thigmonnasty, and indirect method while chemical defenses include cutin, subrin, pyrethroids and terpenes. These defenses can be present all time or can be induced. When plant defense is induced by herbivores, its denial will be specific and will fend for itself against specific herbivores whereas when induced by chemicals, its denial will be general and it can be able to maintain itself against more types of herbivores. In this experiment, Helianthus annuus plant’s defenses are induced with herbivores-caterpillar and chemically with jasmonic acid. These Induce defenses will be measured with plant biomass and other methods. Our project will walk through the experiment and analysis in detail.

USING CONSED TO GENERATE A COMPLETE ASSEMBLY OF A FOSMID OF DROSOPHILA BIARMIPES

Bibin Thomas & Alberto Vides

In our Bioinformatics class we participated in the GEP, Genomics Education Partnership, and their continuation of studying genomics to better understand the information we can learn from genome sequencing. GEP’s ongoing research involves finishing and annotating of the forth chromosome, the dot chromosome, in various species of Drosophila, the fruit fly. This region is of interest because it’s structured as a heterochromatin however also contains some euchromatin regions. The goal of this research is to discover more information on the evolution of this
region by sequencing, finishing and annotating dot chromatin in 2 species of fruit flies, D. biarmipes and D. ananassae and comparing them to the known D. melanogaster. Our task in this research, which we are presenting, is to finish selected regions within this dot chromatin known as fosmids from D. biarmipes. We will be using consed, which is a finishing program, to carry out our task. With consed we can read the sequences made by Illumina and 454 sequencing technology.

**Business Administration (BS)**

AWAKENING THE DEAD: EDITING ABANDONED INDUSTRIAL / ORGANIZATIONAL PSYCHOLOGY WIKIPEDIA ARTICLES WITH RELIABLE AND VERIFIABLE SOURCES

**Brandon Breary, Kierra Andrews, Devika Singh, & Taksim Chowdury**

Regardless of Wikipedia's intended use in academia (Wales, 2006), Wikipedia has become a popular source of information with over 18 million page views per month (New York Times, 2014). Acknowledging Wikipedia's importance, the Association for Psychological Science has formed a Wikipedia Initiative to encourage its members and their students to improve Wikipedia's coverage of psychological science. Following this initiative, we are working to create and improve Wikipedia articles on Industrial / Organizational (I/O) Psychology. I/O Psychology represents the research and application of psychological principles regarding employees within the workplace. This poster will highlight some of our work.

FRINGE BENEFITS AND EMPLOYEES PERFORMANCE

**Bria Bruce**

The paper investigates the effects of fringe benefits in the compensation package on performance. Theoretically, fringe benefits have two implications in relation to employees: they are effective instruments that provide incentives; at the same time, some fringe benefits, especially the power-related benefits, are often used for exploitation of self-interests. The paper found out that, in general, these types of compensations do promote good performance. In some cases, the designs in pay for performance need to be efficient.

THE IMPACT OF AMERICA'S DEBT ON THE ECONOMY

**Nicola Byfield**

This research seeks to investigate the various ways that America’s economy has been impacted by its increasing debt. Presently, the rate of spending and debt are at alarmingly high levels and the recent decision of The Senate to approved a House-passed measure that allows the government to borrow more money to pay its bills through March 2015, guarantees that future debt will be even higher. This high debt does not bode well for America, as the outcome may result in a rise of
price inflation and interest rates and a lowering of investors’ confidence in the government’s ability to repay loans which would result in higher interest rates. This would have a severe impact on Americans especially the poor, elderly and middle class.

CORPORATE SOCIAL RESPONSIBILITY IN A CHALLENGING GLOBAL ENVIRONMENT

Estefani Chimbo
This research investigates the impact corporate social responsibility has towards a challenging global environment. In recent times many well-known businesses are giving their valuable time and resources to corporate social responsibility. According to the Berkeley Office of Marketing & Business Outreach glossary corporate social responsibility is a corporate belief that a company needs to be responsible for its actions – socially, ethically, and environmentally. Corporate Social Responsibility of works towards the environment, general public, local community, government, consumers, employees, and shareholders. Companies around the world have followed this business model and it has become an integral part of a company’s strategy causing many impacts. This investigation will help us find the real impacts of corporate social responsibility within this challenging global environment. Whether it is a negative impact or in contrast a positive impact which provides better opportunities to employees, consumer, and communities. We question whether corporate social responsibility will change and create a better global environment for all.

UNEMPLOYMENT IN THE UNITED STATES

Nazmus Choudhury
Since 2007, the duration of a typical unemployment spell in the United States has increased substantially relative to the unemployment rate. Using quarterly data between 1980 and 2012, the paper investigates the causes and consequences of rising unemployment duration in the United States. The study found that rising unemployment duration has lowered the aggregate unemployment rate that is consistent with stable wage and price inflation.

DISCRIMINATION IN THE WORKPLACE

Priya Somwaru
Workplace discrimination occurs when an employer takes adverse action against a person who is an employee or prospective employee because of the following attributes of the person: race, color, sex, sexual preference, age, physical or mental disability, marital status, family or career's responsibilities, pregnancy, religion, political opinion, national extraction or social origin etc. Using annual data, the paper investigates the main causes of discrimination in the workplace and provide useful suggestions on how it can minimized if not eliminated.
CHINA: FROM EMERGING ECONOMY TO POTENTIAL SUPERPOWER

Tiffany Thomas

The People Republic of China (China) has transformed itself globally during the last two centuries. Economic reforms that began in 1978, under Deng Xiaoping, slowly transitioned China from a complete socialist economy to a less socialist economy with capitalist characteristics such as privatization of business, and openness to trade and foreign direct investment. Xiaoping’s economic reforms have contributed greatly to China’s GDP growth. Overcoming famines and civil unrest in the 19th and early 20th centuries, drastically improving living standards, becoming the world’s second largest economy and increasing the growth rate of its gross domestic product (GDP), has led many economists to believe that China is on its way to becoming the next superpower. However, the country is not without fault; rising population and increasing environmental problems could hinder China in reaching its full potential. This paper explores China’s potential of becoming a regional, if not global superpower in the years to come. This paper also considers which kind of superpower China might become, i.e., economic, political, or military. Additionally, this paper will discuss the implications, with a concentration in the United States, if China achieves superpower status.

HOW FINANCIAL LOBBYING IMPACTS THE POLITICAL STRUCTURE

Donna Williams

Conventional wisdom suggests that lobbying is the preferred mean for exerting political influence in rich countries and corruption the preferred one in poor countries. Since the 1970s, lobbying activity has grown immensely in terms of the numbers of lobbyists and the size of lobbying budgets, and has become the focus of much criticism of American governance. The study investigates the impact of lobbying on the political structure in the US. The paper found that lobbying happens at every level of government, including federal, state, county, municipal, and even local governments. In Washington, lobbying usually targets congresspersons, although there have been efforts to influence executive agency officials as well as Supreme Court appointments.

Chemistry (BA-BS)

HALFWAY AROUND THE WORLD AND BACK: STUDYING LANGUAGE AND CULTURE IN JAPAN

Muhaned Mohamed

As part of the Queens College Japanese Language and Culture Study Abroad program, I had the wonderful opportunity to study Japanese language and culture in Tokyo. I will highlight most of 4 week trip and explain how I got there, what did I do and what I learned about Japanese culture.
COMMUNITY HEALTH EDUCATION (BS)

INFLUENCES OF MOBILE “APPS” ON SEXUAL HEALTH: FINDINGS FROM FOCUS GROUPS WITH MEN WHO HAVE SEX WITH MEN (MSM) IN NEW YORK CITY

Malika Jones, Rudolf Nisanov, & Ryan Levy (SUNY Albany)

Despite the plethora of empirical research on the use of the Internet among men who have sex with men (MSM) to seek sex partners, sexual risk behavior and HIV risk, little is known about how and why men use mobile-based applications (apps) to meet potential partners. Four focus groups with MSM in NYC (N=20) were conducted to identify socio-cultural and phenomenological factors related to the use of mobile apps to meet potential sex partners. Six themes emerged based on focus group discussions: 1) Perceptions and Practices of App Use; 2) Technology’s Effect on Community Engagement; 3) Developing Trust and Safety; 4) Virtual Sexual Scripting; 5) Commodification of Sexuality; and 6) Diffusion and Evolution of Innovations. These narrative data indicate that there is more research needed to understand the reasons why men use these apps and potential implications for HIV/STI mobile-based prevention programming.

DETERMINANTS OF HEALTH AMONG SELF-IDENTIFIED LESBIAN AND BISEXUAL WOMEN: A SYSTEMATIC REVIEW

Vicky Rajcoomar

Background: Research shows that lesbian and bisexual women experience a number of common risk factors which are responsible for disparities in health outcomes when compared to their heterosexual counterparts. Method: This systematic literature review identified, selected, and synthesized empirically-based research literature on lesbian and bisexual women’s health using full-text, scholarly peer-reviewed academic journal articles published from 2009 to 2014 in America, with results generated with the terms “lesbian” and “health” in the Academic Search Complete Database.

Results: The systematic literature review yielded five studies that highlighted determinants of health affecting lesbian and bisexual women. Tobacco use and exposure to second-hand smoke were found to be greater and women in same-sex couples, had a greater age-adjusted risk for fatal cancers, and were more likely to suffer from cardiovascular diseases (CVD). Lesbian and bisexual women were found to be at risk for significant psychological distress and reported a greater prevalence of using alternative medicine and having difficulties with activities of daily living in old age.

Discussion: Lesbians and bisexual women suffer from greater health issues than heterosexual women. Efforts and studies to reduce smoking, second-hand smoke, cancer morbidity and mortality, CVD, obesity, and breast cancer are needed in order to provide better public health interventions that are culturally competent.
PSYCHOSOCIAL ISSUES INVOLVING HIV/AIDS INFECTED AFRICAN AMERICAN MALE PAROLEES REENTERING THEIR COMMUNITIES
Shabana Shamin & Frederick Samuels

Disclosing their status to their family members or significant others: Most of these individuals become aware of their HIV status whilst incarcerated, and may not have the right opportunity to discuss their status prior to being discharged. Therefore individuals need to be informed on how to share the information with their family members or significant others, this may include: getting them ready for rejection from loved ones once they reveal their status. It is equally important that services are made available for their family members to assist them in coping with the HIV/AIDS disease.

Housing needs: Parolees need to be prepared on housing availabilities and procedures in obtaining one. Housing becomes very crucial in managing HIV/AIDS disease. Some parolees when released become homeless immediately, as such it is imperative that the housing services available are made known to this vulnerable population before they are discharged from the prison.

Nutritional needs: Nutrition plays a vital role in HIV/AIDS management, and despite all the nutritional information available in today’s society, it is alarming as to how many health disorders associated with nutrition that impact on our society let alone the HIV/AIDS populace. Making sure that adequate nutritional training and access to healthy food choices are major disparities that must be addressed for HIV/AIDS management.

Earth and Physical Sciences

GEOTEchnical SIGNificance OF MArlBe, New York City
Mandeep Singh , Brian Velez, Muyiwa Taiwo, Monia Salam, Eric Saidoff, Dyrdza Cezary, Stacy Anne Pink, & Kyla Seereeram

Encountered marble samples ranged between pure calcitic to mixed dolomitic/siliceous types and revealed distinctive geochemical data: Lime (25-45%), Silica (4-7%), Alumina (1-3%), MgO (5-20%), and LOI (35-42%); compressive strength of unweathered marble varied between 2000-3000 Kg/cm2. Geotechnical characteristics such as sudden decrease in N-value (blow counts), faster drilling rate, and poor RQD (Rock Quality Designation) associated with this weathered zone also suggested incompetent and unconsolidated rock debris. Both physical and geotechnical attributes of the marble indicated the existence of dissolution-controlled subsurface conditions. Usually, solution voids in carbonates do not occur at such depth, unless there is the presence of intricate joint or fracture systems, which continue deep within the subsurface rocks. Possible occurrences of complex and perhaps interconnected fractures, enlarged by solution within the marble, may create an easy passageway for water flow. If a water filled void, which is part of an interconnected fracture system, is encountered during the tunnel boring, then water could enter the tunnel at a rate that would be difficult to control. From the test boring data, it appears that the present, proposed tunnel alignment is
well west of the major occurrence of the marble. Nevertheless, it would be prudent to be alert to signs of excessive water entering the tunnel, particularly during the probe drilling operations.

**Economics (BA)**

**CHILD LABOR**
**Stephanie Chino**
168 million underage children are working worldwide for wage rates that don’t surpass subsistence levels. According to the International Labour Organization, the institute has taken action to reduce these numbers, but still projects high child labor rates to persist for years to come. Children in extreme poverty are used and abused to keep the costs of production low in both developed and developing countries. The ongoing problem of child labor continues to be tolerated and the existing laws against it are not being enforced. Data shows that Brazil, Russia, India, China and South Africa are rapidly strengthening their economy with their abundant resources and with the use of child labor. The worse the living conditions are in any country, the greater the impact of child labor will exist. Therefore, child labor becomes a global concern when these countries export their products to foreign countries creating a domino child labor violation.

**THE EFFECT OF STUDENT-FACULTY RELATIONS ON STUDENT PERFORMANCE**
**Xavier Crandle**
The primary purpose of this study was to examine the relationship between students and faculty. Students were given a survey to measure the level of interaction between themselves and the faculty of the academic departments of their major. The results will attempt to determine a possible correlation between quality of faculty advising, and the usefulness of faculty and student performance. In addition, the results may reveal if certain academic departments have students with higher overall GPA than others.

**THE UNITED STATES NATIONAL DEBT**
**Paul Gentile**
The purpose of this research is to take a closer look at United States national debt from 2008 through the end of 2013. In this time frame, the national debt has close to double in value. Many reasons can be attributed to this. 2008 was the year of the big financial crisis. It started with the housing collapse, followed by the stock market losing half its value. This forced the United States government to take action by bailing out several big insurance companies because they were “too big to fail.” All this has a trickle down domino effect on the economy as one sector affected another and caused economic chaos. What has been done since then to help lessen the national debt and prevent the 2008 crisis from happening again? Have we looked at other similar well developed countries such as Japan to see if we can
learn from them as both countries have similar debt issues? What solutions have been offered or implemented to get out of the massive debt that the Government owes? This project will take an in depth look at the national debt, the reasons behind it and what can be done to fix it.

POVERTY IN BANGLADESH
Mohammad Mamun
Since gaining independence in 1971, Bangladesh has increased its real per capita income by more than 130 per cent and cut poverty by more than half. It is now well positioned to achieve most of its Millennium Development Goals, but it remains a low-income country with substantial poverty, inequality and deprivation. The paper found that at least 45 million people in Bangladesh, almost one third of the population, live below the poverty line, and a significant proportion of them live in extreme poverty. The poverty rate is highest in rural areas, at 36 per cent, compared with 28 per cent in urban centers. Many people have an inadequate diet and suffer from periods of food shortage. Half of all rural children are chronically malnourished and 14 per cent suffer from acute malnutrition. Poverty is especially persistent in three areas: the north-west, which is affected by droughts and river erosion; the central northern region, which is subject to serious seasonal flooding that limits crop production; and the southern coastal zones, which are affected by soil salinity and cyclones

English (BA)

CHILDREN OF DIASPORA
Kashfi Fahim
My research explores the roles offsprings of diasporic communities play in preserving and destroying histories of homeland.

THE DOUBLE-VOICE OF MUTED WOMEN
Alexis Haynie
I used to believe that there could be very noticeable differences between male and female writing. That is until recently, when we did an exercise in class that had us blindly read selected passages and guess the gender of the authors. My decisions were made mostly based on the language and whether I could identify it as “feminine” or “masculine.” I wrongly distinguished the two nearly every time. Because of this, I more readily agree with Prose’s stance that “there is no male or female language.” Male authors have written with the language and about the content that I believed was feminine, and vice versa. To try and mark true differences seems nearly impossible, especially when the factors that are supposed to differentiate the two can be found in writings from both genders.

CULTURE ADAPTATION: STRUGGLES FACED BY THE DIASPORA
Tracey Reid
As individuals leave their Home land in search for a better life and great opportunity they venture of to countries where in most case their are the minority. Placed into a different culture where their morals and ethics are often challenge, they often times required to learn a different language and adapt. In an attempt to get a better understanding of the diaspora and how they adapt to the culture of their host country, I will reading and analyzing the Educational Journals, Novels, and articles of several different authors. Gathering different points of views, and information on their process of adaptation, and how and it why it may or may not effect different aspects of their lives.

RESEARCH PAPER
Jasmyne Trinidad & Kelly Josephs*
My goal in this research paper is to dig deeper into the cultural clashes that inevitably take place when parents raise their children in diaspora. Parenting is a difficult task, but it seems more of an intricate undertaking for parents who attempt to raise their children in a country that is not of their own descent. The child grows up becoming torn between two cultures, thus making it a difficult task for the parents to instill cultural traditions within their children.

Environmental Health Science (BS)

DIFFERENTIAL PULSE-CATHODIC STRIPPING VOTAMMETRY (DPCSV) FOR SIMULTANEOUS DETERMINATION OF CU, PB, CD AND ZN IN ENVIRONMENTAL SAMPLES

Bita Adabi
In this study, attempts were made to modify an existing CSV (Cathodic Stripping Voltammetry) with SW (Square Wave) mode for simultaneous measurement of multi metals in sea water. The modification includes changing the SWCSV to DPCSV options with optimization of ligand and buffer strength to enhance sensitivity of the method. The experiments were conducted to investigate the potential interference due to presence of multiple elements. The primary objective of this optimization is to be able to measure Cu, Pb, Cd and Zn simultaneously in complex matrices including brackish water, groundwater leachate from column experiments with soils, sands and biochar, rain water and finally digested biological samples. The voltammetric measurements were carried out using a three electrode system which are the mercury working electrode, platinum auxiliary electrode, and a reference electrode. The autolab voltammeter (Eco Chemie), connected to a hanging mercury drop electrode (HMDE, Metrohm 663 VA stand drop surface area=0.1 to 0.6 mm2) with the method of differential pulse-cathodic stripping voltammetry was used to gain a basic standard for Cu, Pb, Cd, and Zn. Scans containing four resolved peaks corresponding to these metals were obtained using a combination of tris buffer solution (2- Amino-2-hydroxymethyl-propane-
1,3-diol) and oxine (8-hydroxyquinoline) in Nanopure water and pure sand column leached water.

DATA FUSION ALGORITHMS FOR EARTH OBSERVATION
Leroy Brown & Sunil Bhaskaran (Bronx Community College)*
This research aims to develop innovative classification techniques to map urban and environmental features from time-series of multi-sensor, multi-resolution space borne data. Per-pixel and object based methods will be employed on fused optical and fine resolution ultra-fine beam and polarized microwave satellite data. Innovative data fusion techniques will be developed by using different approaches including Intensity Hue Saturation (IHS), wavelet and other methods. Anticipated results will demonstrate a classification model that could be useful to different applications including urban planning, land cover mapping and natural resource management. Other results will include new data fusion technique that may be used in fusing multispectral optical and microwave radar data.

MICROBIAL MOBILIZATION FROM URBAN SOILS TO ADJACENT LAKES AND PONDS
Ana Chavez & Emofovwah Oboerhiri
Anthropogenic activities cause an increase of organic materials and nutrients and this poses a serious threat in urban environments. The densities of fecal indicator bacteria (FIBs) in the urban area exhibit a clear land-use dependency in the natural water and are often linked with nutrient inputs. Data from preliminary investigation indicated elevated FIBs in soil and water of a NYC lake even in the winter. Very few studies on mobilization of FIBs in natural water from surrounding soils were reported in NYC area. In an attempt to study temporal and spatial bio-geochemical dynamics of both fresh water lake and pond environments, the study was done in two fresh water lakes and two ponds that vary in terms of recreational activities and different environmental settings. This study focused on environmental research to improve understanding of FIBs transport processes in the environmental system which is a critical aspect of decision-making in risk assessment, and remediation strategies. Preliminary results from Meadow Lake were found to exceed the EPA permissible limit for FIBs with the average counts of 714, 28 and 35 MPN/100mL for Total Coliform, E. coli and Enterococci respectively. Soil microbes showed a wide range of counts from 800 to 80,200 counts/kg wet sample for total Coliform. The results consistently indicated that E. coli may not be able to survive well in cold environments.

ASTHMA MANAGEMENT IN NEW YORK CITY: A SCHOOL HEALTH ASTHMA MANAGEMENT PROJECT OF NYC DEPARTMENT OF EDUCATION AND THE DEPARTMENT OF HEALTH AND MENTAL HYGIENE (DOHMH)
Yeimy Gil Villega
Asthma is a chronic lung disease that affects an estimated 16.4 million adults (aged ≥ 18 years) and 7.0 million children (aged< 18 years) in the United State. In NYC,
Asthma is a leading cause of absences from school and the most common cause of hospitalization for children ages 14 and younger (NYC asthma hospitalizations are higher than national levels). OSH, a joint Program of DOHMH is currently implementing “Managing Asthma in School” (MAS), a compressive asthma management program that includes efforts to obtain the Medication Administration Form (MAF) for known students with asthma. A total of 56 elementary schools having students from pre-Kindergarten through 8th grade, were selected for participation in this study. These schools have the highest number of persistent/poorly controlled asthma cases within the NYC public school system. The main objective of this exploratory research is to determine if improving adherence to inhaled corticosteroids for students with persistent/poorly controlled asthma can reduce the frequency of asthma symptoms and absenteeism in schools. The expected outcomes of the project include the reduction in hospitalizations, emergency department visits and school absences. The project in its initial stage, data are being collected throughout a parental outreach by completing a Student Asthma Questionnaire (SAQ), as standard questionnaire to help assess the effectiveness of the child’s treatment in controlling asthma symptoms.

ANALYSIS OF EUKARYOTIC SEDIMENTS BY PYROSEQUENCING AS A TOOL FOR ASSESSING IMPACT FROM HUMAN ACTIVITIES IN JAMAICA BAY

Ezazul Haque

Jamaica Bay spans 18,000 acres of wetland estuary bordering the boroughs of Brooklyn and Queens. This ecosystem is one of the largest open space areas in the New York metropolitan area and hosts considerable natural diversity. Biodiversity assessment is an important tool for understanding of ecosystems and selecting suitable environmental management decisions on resource use and conservation priorities. However due to increasing urban development and anthropogenic activities, Jamaica Bay’s position amid a dense city has resulted in ecosystem degradation in the form of eutrophication, loss of salt marsh habitat, hardening of the shoreline and, in places, severe pollution. Recently, a new discipline – environmental or ecological genomics (ecogenomics) – has emerged from major advances in sequencing technologies, such as pyrosequencing. In this study we will use next-generation pyrosequencing to identify eukaryote species assemblages as a tool for the assessment of the impacts of human activity on the Jamaica Bay ecosystem.

ENVIRONMENTAL IMPACT OF GROUNDWATER CONTAMINATION IN SOUTHEAST QUEENS, NEW YORK CITY

Ezazul Haque, Barbara Barnett, Tenzin Choeying, Chabilall SeePaul, Fayeola Daniels, & Timothy Fraser

The Jamaica Water Supply Company (JWSC) owned and operated wells that served over 500,000 residents in central and eastern Queens, New York City up until May 1996 when the New York City Department of Environmental Protection (NYCDEP)
assumed operation and ownership of the Queens service area of the Jamaica Water Supply Company. Since 1979, the New York City Department of Health (NYCDOH) has monitored these wells for volatile organic compounds and three classes of non-volatile organic compounds; pesticides/herbicides, PCB’s and seventeen polycyclic aromatic hydrocarbons in compliance with federal requirements such as Safe Drinking Water Act (SDWA) and also local requirements. The majority of these contaminations have resulted from anthropogenic activities. In Jamaica, Queens a company called West Side Cooperation served as the site for storage and distribution of PCE/TCE between 1969 to 1992 in the 4.5 acre site. Improper handling of the chemicals has led to severe contamination of soil and groundwater. This has a led to a plume of contaminated groundwater to extend from the site in a south-southwest direction. The NYSDEC (New York State Department of Environmental Protection) is currently developing a map of open and closed spills in Kings and Queens County. The objective of this project is to help better monitor, predict and ultimately curtail plumes of contaminants to improve the quality of the environment and protect public health.

TEMPORAL VARIATION IN GROUNDWATER CHEMISTRY OF UPPER GLACIAL AQUIFER
Aremu Olusola, Junior Smith, & Ricardo Jules

Groundwater nutrient concentration in the urban areas to some extent can exceed the EPA permissible limit and thus pose a threat to public health. The Upper Glacial Aquifer of Long Island New York consists of a layer of stratified sediment, which underlies Kings, Queens and Nassau Counties. Previous pumping of water from this aquifer resulted in the encroachment of salt water and other contaminants into the aquifer. In an attempt to study hydro-geochemical dynamic, time series monitoring has been conducted to investigate the temporal variation of physical and chemical constituents of groundwater in this aquifer. The study utilizes data gathered in situ through two USGS well (40°42′12″ N, 73°47′36″ W) located in the vicinity of York College, Jamaica, NY at the depth of 50 ft. Results showed the minimal fluctuation in groundwater level with an average hydraulic head of 24.8 ft. Physical parameter including temperature, pH, salinity, conductivity, and ORP (oxidation reduction potential) are 17.7°C; 6.44; 0.76 ppt; 1293 µS/cm and 108 mV respectively. Groundwater samples were also collected from the same well for detailed chemical analyses in the laboratory. High level of nitrate (45.7±9.5 ppm) with significant fluctuation compare to low nitrite (1.2±1.0 ppm) and non-detectable ammonia is consistent with positive ORP value. The water is indeed limited by the phosphate and always below the detection limit of chemetrics Vacu-vial colorimetric method.
INVESTIGATION OF HEAVY METALS BURDEN ON FISH POPULATION IN WATER WAYS OF NEW YORK CITY

Junior Smith, Ricardo Jueles, Latoya Bailey, & Junior Roberts

Metal contamination of estuarine water and sediments is an increasing problem as urbanization continues to extend. Jamaica Bay, an embayment of the Atlantic Ocean on southwestern Long Island receives a large inputs from waste water treatment plants, sewage outflows, and surface runoff enriched with nutrients and heavy metals poses a serious concerns. As a preliminary initiative of broader study to understand the ecological stress in highly urbanized area, this research aims to focus on the determination of heavy metals concentration including lead (Pb), cadmium (Cd), Copper (Cu) and Zinc (Zn) in fish tissues and muscle. Fishes will be sampled from Howard Beach area of Jamaica Bay near to sewage outflows. Fish tissues/muscles will be obtained from multiple spots of the fish. Digestion will be done by following standard hot digestion technique with mixed acid (nitric acid and hydrochloric acid) for 4 to 8 hours on hot plate. Finally, deionized water diluted digested samples will be filtered and run by Voltammetric technique. Standard addition calibration will be conducted to obtain the slope to calculate the final concentration. A sub-set of samples will be sent to Horiba Instruments Incorporated laboratory in New Jersey for cross check with Ultima 2 ICP-OES (Inductively Coupled Plasma- Optical Emission Spectrometry). The study will be further extended by obtaining the fishes from different water bodies of New York City including fresh water and brackish water.

Geology (BS)

EVALUATION OF THE SORPTION CAPACITY OF BIOCHAR AMENDED SEDIMENTS: AN EFFECTIVE WAY TO REMOVE CONTAMINANTS FROM NATURAL RESOURCES AND TO REDUCE CARBON EMISSION

Avanel Riley

Water-soluble inorganic pollutants including heavy metals and nutrients may comprise an environmental toxicity problem if their movement through soils and potential transfer to plants or groundwater is not captured. Biochar, derived from various biomass by pyrolysis under anoxic conditions can immobilize heavy metals due to its high porosity, cation exchange capacity and charge density. Further, its ability to improve nutrient retention in topsoil results faster uptake of atmospheric CO2 via photosynthesis. The study reports the results from several column experiments to understand the factors that control biochar's ability to adsorb and retain the heavy metals including arsenic (As), lead (Pb), cadmium (Cd), copper (Cu), zinc (Zn) and fertilizer nutrients including nitrate (NO3), phosphate (PO4), ammonium (NH4). An improved understanding of these physico-chemical factors has broad implications for contaminated water and soil remediation. Sediments were amended with finely crushed and sieved (<250µm) biochar in a 4:1 ratio by volume. The mixture was packed into chromatography columns and leached
against the gravity using a multi-channel Gilson peristaltic pump. Metals and nutrient concentrations were measured in leachates using ion chromatography and spectrophotometer. Preliminary results show significant sorption of metals and limited sorption of nutrients. An obvious competition between heavy metals and nutrients on sorption sites were observed.

**Information Systems Management (BS)**

**TECHNOLOGY AND PRIVACY**

**Leanne Tavernier**

Companies such as Microsoft, Facebook, Twitter and other major websites obtain the majority of their earnings through advertisements. Consequently, in an effort to boost sales and maximize profits, our personal information including our emails are made accessible to outside parties. Also, with the issue of National Security, we ultimately cannot have complete control over our privacy. For example, the National Security Agency (NSA) is constantly screening personal calls and emails in an effort to protect the Nation from terrorism and other threats. New threats to our privacy surface everyday due to the dynamic nature of technology. Therefore, how much control over our privacy do we really have?

**Mathematics (BA-BS)**

**APPROACHING PROBLEMS IN CONTEMPORARY MATHEMATICS: INVESTIGATION OF THE BIRCH AND SWINNERTON-DYER CONJECTURE**

**YongHong McDowell**

The Birch and Swinnerton-Dyer (BSD) Conjecture is that for any elliptic curve, E defined over Q, the Algebraic rank, r of E, and the analytic rank, p of E, are Equal, and its form is $L(E,s) = c(s-1)p + \text{higher order terms at } s = 1$ with $c \neq 0$ and $p = \text{[the algebraic] rank of } E(Q)$. This problem is unsolved, and many mathematicians are still trying to figure out how to solve this equation. Some mathematicians have adapted mathematical methods such as complex numbers, modular forms, commutative algebra, and algebraic geometry to solve the equation. Obviously, there are difficulties in computing the set of solutions to the BSD Conjecture because it involves elliptic curves. The set of solutions to an elliptic curve is like measuring the size of refracting galactic light by using a telescope. The research is aimed to test various mathematical ideas in order to approach the set of solutions to the BSD based on mathematical methods and possibly to explore mathematical ideas.
DISCRETE LAPLACIANS AND DIFFERENCE EQUATIONS

Dayne Richards

Graph theory is the study of relationships between objects where vertices represent the objects and edges represent a connection between them. Graph theory has become a very important branch of mathematics and its uses can be seen in areas such as biochemistry, computer science, electrical engineering, and operations research. This poster will discuss some properties of the Laplacian on infinite graphs with arbitrary vertex measures and arbitrary edge weights. In particular, we are interested in conditions which imply that solutions to certain difference equations on these graphs are square summable.

Nursing (BS)

DISEASE BURDENS AFFECTING THE POPULATION IN CARRIES, HAITI
Natalie Velasco, Margarett Alexandre, Maria DiVito, Mery Mustafa, & Iddan Brown

During the summer of 2013 a group of York College Nursing students traveled under the guidance and mentorship of Professor Alexandre to Haiti. Qualitative research was conducted during the student's involvement in a clinic in Carries. While performing basic nursing care, documentation was kept recording the population statistics of the patients, such as gender, age and the disease burdens they suffered from. Upon returning to New York, the Nursing students analyzed the data and recorded the trends in the disease burdens. With this information the nursing students seek to identify methods in which to educate the patients on prevention and safe practices, which will be taught to them upon the nursing students return to Haiti in the summer of 2014.

YORK COLLEGE NURSING PROGRAM CURRICULUM MNEMONIC - CALMRNS
Natalie Velasco & Heather A. Gibson*

The purpose of this project was to develop and implement a curriculum mnemonic with visualizations that would assist students and faculty to remember essential curriculum concepts of a nursing program. The students of the York College Nursing programs were meeting the learning outcomes of the programs. However, the students and faculty of this fairly new program expressed difficulty in verbalizing the essential curriculum concepts that were the basis for the terminal student learning outcomes. The lack of articulation could ultimately lead to a deficiency during the upcoming site accreditation visit for the nursing program. One professor noted this issue and developed an acronym mnemonic - CALMRNS - to assist students and faculty. Subsequently, the faculty decided that student participation in the development and implementation would be beneficial to learning as it would make the process fun and create camaraderie that would enliven the nursing programs. To this end, a student contest for creating a mnemonic graphic visualization was initiated that encouraged student creativity.
and originality with the guidance of the professor. One student researcher created an original graphic that symbolized the mnemonic and the essential curriculum concepts. The next steps are to develop a questionnaire that elicits both quantitative and qualitative evaluation data from students and faculty that will be analyzed, discussed and disseminated at a future date.

**Pharmaceutical Sciences (BS)**

**BIOCHEMISTRY OF ELASTIN**  
Ludma Delva  
In this project we are going to work on Elastin also name tropoelastin. Elastin, component of connective tissue, is present in nearly every organ. It has undoubtedly an important and unique role, even though it may make up only a small percentage of a tissue. Elastin is the functional protein component of elastic fiber, the component of connective tissue that has an amorphous, highly refractive. Elastin is composed of hydrophobic amino acid residues such as glycine, alanine, proline and valine. The inelastic areas are composed of polyalanine sequences with lysine residues. During pregnancy the uterus is known to have an increase in elastin content. The purpose of this project is to use mass spectrometry to determine the molecular weight of the protein which will allow us to study concentration of elastin in parts of the body.

**MASS SPECTROMETRY OF OXYTOCIN AND VASOPRESSIN**  
Ibrahim Halilu & Raisul Islam  
Mass spectrometry is a great analytical technique that identify the fragmentation of a molecule based on the mass over charge ratio(m/z). In our experiment, we analyzed two protein, oxytocin and vasopressin. The molecules of oxytocin and vasopressin are very similar in nature. They both are cyclic rings composed of disulfide bonds. Using the mass spectrometry technique, we were able to observe the fragmentation of oxytocin and vasopressin. The goal of this experiment was to identify the fragmentation of both peptides. Also to explore how cyclic peptides fragment and if there is a relationship between cyclic peptide fragmentation.

**OXIDATIVE MODIFICATION OF PROTEINS DUE TO AGING: DETECTION OF MALONDIALDEHYDE AND 4-HYDROXYNONEAL MODIFIED PROTEINS IN MOUSE LIVER AND KIDNEY**  
Kavita Khadar, Chheten Sherpa, Devasrie Bose, Kakoli Paul Chowdhury, Kavita Khadar, Bulbul Chakravarti*, & Deb N. Chakravarti*  
Several evidences support the free radical theory of aging and the role of damages caused by reactive oxygen species (ROS) in aging and the gradual loss of physiological function of different tissues and organs. In addition, there is increasing evidence supporting the involvement of reactive aldehydes in the onset and progress of various disease conditions. Lipid peroxidation is one of the major
sources of reactive aldehydes. Malondialdehyde (MDA) and 4-hydroxynonenal (HNE) are the most abundant reactive aldehydes produced as a result of lipid peroxidation. The purpose of the present investigation was to find out whether we could detect proteins in mouse organs which have undergone HNE and MDA modification. In the current study, we have used two different mouse organs – liver and kidney, both of which show age-related decline in functional activities. Our initial studies reported here indicate that using appropriate antibody (anti-HNE and anti-MDA) it is possible to detect proteins in the kidney which have undergone HNE modification as well as proteins in the liver that have undergone MDA modification. The future goal is to study the effect of aging on the degree of MDA and/or HNE modification of proteins in these organs, identify the differentially modified proteins at the molecular level and find out any possible correlation of these modified proteins with the functional loss of the corresponding organs using a systems biology approach.

SYSTEMS BIOLOGY APPROACH TO STUDY MOLECULAR PATHOGENESIS OF TYPE 1 DIABETES (T1D): BIOINFORMATIC ANALYSIS OF DIFFERENTIAL PROTEOMICS OF EXPERIMENTAL T1D IN MOUSE

Kakoli Paul Chowdhury, Chheten Sherpa, Devasrie Bose, Kakoli Paul Chowdhury, Kavita Khadar, Deb N. Chakravarti*, & Bulbul Chakravarti*

To understand the molecular basis of the pathogenesis associated with Type 1 diabetes T1D, a systems biology approach was applied to compare the expression of proteins in the pancreas from mice with streptozotocin induced diabetes with that of control mice using two dimensional gel electrophoresis (2D-GE) followed by liquid chromatography-tandem mass spectrometry (LC-MS/MS). The expression levels of 26 protein spots were up-regulated while that of only 16 protein spots were downregulated. Among these proteins, 23 up-regulated proteins and 10 down-regulated protein spots were identified and were categorized into different functional categories: (i) Fifteen different protein spots contain exocrine enzyme components (or their precursors) of the pancreas involved in the metabolism of proteins (such as Chymotrypsinogen B), lipids (such as Pancreatic triacylglycerol lipase precursor) and carbohydrates (such as Amylase 2a5, pancreatic precursor) and (ii) Five different protein spots contain proteins involved with chaperone/stress response (such as Protein disulfide isomerase). Rest of the proteins are involved primarily with growth and apoptosis, amino acid metabolism or energy metabolism. Several proteins such as Trypsin 5 precursor are present in multiple forms, possibly arising due to proteolysis and/or post-translational modifications. The above functional categories suggest specific mechanisms and pathways for molecular pathogenesis associated with T1D pancreas.
Physics (BS)

MUON BEAMLINE STUDIES FOR THE MU2E EXPERIMENT AT FERMILAB
Angelina Almonte

Mu2e is a landmark experiment to build a high-intensity pulsed muon beamline at the Fermi National Laboratory and a high-rate detector system to directly observe the rare and as yet unseen process, coherent conversion of a muon into an electron in the field of a nucleus. Mu2e will be the most sensitive rare decay experiment ever performed, with sensitivity to one event in 10^17 muon decays. The search for charged muon and electron number violation, i.e. lepton flavor violation (LFV), has continued since the discovery of the muon, with no evidence found for such processes. My research focuses on carrying out computer simulations aimed at developing and refining various aspects of the design and operation of the Mu2e apparatus. This experiment requires 2 X 10^12 high energy protons, every second, to strike a dense target situated in a sophisticated magnet system. Charged pions are collected and rapidly decay into muons, which are then guided by another set of magnets to a distant muon “stopping” target. Muons become trapped in atomic-like orbits and usually decay into an electron and two neutrinos or are captured on a nucleus, converting the nucleus into a new element. A series of detectors intercept the electrons that emerge from the stopping target to measure their energy. The goal of this experiment is to carefully measure the electron energy spectrum from these decays.

Political Science (BA)

WHAT IMPEDES AND FACILITATES CONFLICT RESOLUTION AND ITS IMPACT ON POLITICAL DEVELOPMENT IN EAST AFRICA?
Abdulai Bah

This research paper will focus on the East African region particularly the Horn of Africa. It will discuss the roots and causes of the heinous conflicts that have lasted for years. One hypothesis to be tested is whether the scarcity of resources and the unequal distribution of natural wealth have been great sources of the factors of the conflicts. The large amount of various ethnic groups and religious differences may also be determinants of the causes of the civil wars. The roles of world superpowers as well as the UN and NGOs as major players in conflict resolution plans will be discussed. Other aspects of the paper will explore the lack of political development due to the conflicts. This paper will examine the issues that sustain conflict and its resolution and their respective impact on economic, political and social development.
INTEREST GROUPS AND THEIR INFLUENCE ON THE JUDICIAL PROCESS

**Tiffany Ford**

Interest group behavior is a fundamental part of American life. The ability for the public to be involved in shaping their government is a part of the democratic system. Interest groups have long been a concern for political scientists. There have been studies on the influence interest groups have on legislation, executive and bureaucratic decisions and policies. There are fewer studies done on how interest groups affect judicial activities. In this paper I will examine how interest groups influence judicial decision making. In this paper I will compare how interest group activity at different stages of the judicial process influence judicial activity in the Ledbetter v. Goodyear Tire and Rubber Co, a woman's right for equal pay case and the United States v. Windsor case which decided the Defense of Marriage Act was unconstitutional.

SHOULD TURKEY BE ALLOWED TO JOIN EU?

**Navi Johal**

Republic of Turkey, a secular democratic nation at the crossroads of Europe and Asia, has been 'westernizing' towards Europe ever since its foundation in 1923. It officially became an associate member of European Community, predecessor to European Union, and since has been eyeing accession as a full member. Turkey’s bid to accede into EU has faced several internal and external political challenges and still continues to linger almost 54 years later. A nation with an overwhelmingly Muslim majority, Turkey has key support for accession and many see it as the future regional geopolitical stabilizer. This presentation will discuss the background and current status of enjoinment process from a focus point of what is causing the partnership to languish and how Turkey and EU are inherently bound for each other.

NATURAL DISASTERS AND POLITICA LEGITIMACY: WHAT EFFECT IF ANY, DID THE NATURAL DISASTERS IN EL SALVADOR AND NICARAGUA HAVE ON ITS’ RESPECTIVE POLITICAL LEGITIMACY?

**Mario Luna**

Governments' responses to natural disasters vary depending on the state. Two particular cases studied in this analysis are El Salvador and Nicaragua. Both nations suffered through horrific earthquakes and government responses varied. The purpose of this analysis is to answer the question what effect did the government’s responses to these natural disasters have on its political legitimacy?

AN AUTHORITARIAN PEACE?

**Nicholas Spector**

The separate peace maintained by liberal democracies since the end of WWII lent a great deal of validity to Democratic Peace Theory and the absence of conflict with the authoritarian great powers (ex. Soviet Union) could be partially explained by containment as well as a perpetual nuclear standoff. The end of the Cold War
ushered the world into a new era dominated by the US and its liberal democratic allies. “The End of History?” (Fukuyama, 1989) proclaimed the last major ideological battle between competing political systems had been fought and won by liberal democracy; a system defined by integrated market economies and representative government. These two components of liberal democracy are not inextricably linked. The success of non-democratic states with market economies (ex. China) is grounds to reexamine the causality of the absence of major international conflict and whether an authoritarian giant like China can integrate and/or dominate without disturbing the peace. “The Capitalist Peace,” (Gartzke, 2007), attributes the lack of large-scale conflict in the developed world to shared interests and deterrents created by advanced capitalist economies. If political freedom, to the degree that it exists in the West, is not a necessary component of economic development, and if costly conflicts can be avoided with non-democratic states as effectively as they have been with liberal democracies, is the authoritarian capitalist model a viable alternative to modernity?

Psychology (BA)

"OFFLINE" CROSS-GROUP INTERACTIONS AND PERSPECTIVE OF THE OUT-GROUP
Marysol Arbelaez & Kristen Davies*
Earlier research has shown that social communication has a profound effect in constructing intergroup relationships, which leads to reducing prejudice towards outgroups (Koshcate & Kuchenbrandt, 2012). Past research has also shown that anxiety is reduced and attitudes towards an outgroup improve after recurrent self-disclosure with outgroup members (Turner & Feddes, 2011). This research demonstrates how extended personal contact can influence ingroup-outgroup perspectives and attitudes. The current study seeks to establish whether time spent “face-to-face” with an outgroup friend relates feelings of having gained a better perspective of the outgroup. We plan to recruit 100 participants this semester to take part in an online survey assessing online and offline interactions with a close outgroup member. A measurement of intergroup attitude (feelings that a new perspective has developed) will also be observed. We anticipate that the results of a regression analysis will reveal that more interactions with the outgroup friend will predict greater feelings of a “new perspective” concerning the outgroup. Due to the amount of time people are spending online in today’s society, these results would suggest the importance of personal, face-to-face contact in fostering positive outgroup perspectives and attitudes.

HIP-HOP THE CULTURE, THE LYRICS AND ITS GENERATIONS
Acquanetta Benjamin
Hip-Hop a cultural movement wherein music infused with vicious rhymes; coupled with dancing, clothing, and the art of graffiti started in the ghettos of the South
Bronx, New York. When Hip-Hop started it was a movement, a new fad or phase the youth of the South Bronx created. At the time, these youth had no idea Hip-Hop would ultimately become the globally recognized culture that it is today. Kool Herc, Afrika Bambataa, Grandmaster Flash and countless others wanted to have fun, buy clothes and tell their stories all the while promoting peace and unity on their communities through music. Hip-Hop was a movement early on because it was as described in Merriam-Webster’s dictionary: a tendency, trend, and series of organized activities working toward an objective... It was a movement in that Hip-Hop brought groups of people together through the shared interest in this new form of music, dance, language and social commentary. Even though, Hip-Hop in its origins was not conceived as music; however, the lyrics had power, the beats were energetic, and the youth owned it all. There was to be no denying the youth of the privilege, honor, recognition and pridefulness of the music of their creation, a music that spans generations from 1973 until now. This paper will discuss Hip-Hop as a movement and culture, while also establishing the power and meaning of lyrics in Hip-Hop music and demonstrating the many generations of Hip-Hop music.

THE POLITICS OF ENGAGING MORAL BEAUTY

Gabriela Cedillo & Ian G. Hansen*

In Graham’s (2011) Yourmorals.org sample, we examined the relationship of Moral Beauty Engagement (Diessner et al, 2013) to various measures of political attitudes and policy positions and to politically-relevant indices of morality and values. Moral Beauty Engagement (MBE) has been shown to be associated with empathy, care, love and benevolent intentions towards others (Diessner et al, 2013) and thus should be negatively related to political attitudes that countenance malevolent behavior towards others. We found that MBE was only modestly related to self-reported liberalism-vs.-conservatism (leaning slightly liberal). Yet MBE was unrelated to Right Wing Authoritarianism—which often divides liberals from conservatives, moderately positively related to religiosity (usually considered conservative) and modestly positively related to "binding" orientation (Graham et al, 2009)—suggesting an inclination to rely on the moral foundations of Ingroup, Authority and Purity, foundations that conservatives tend to embrace and liberals tend to reject (Graham et al, 2009). MBE was, however, moderately negatively related to Social Dominance Orientation—often considered a conservative trait. It was also negatively related to support for war, torture and the death penalty, and positively related to support for peace and bank regulation—all positions often framed as "liberal." MBE was strongly positively related to Schwartz Self-Transcendence values, which have bipartisan appeal.

MOST EFFECTIVE TREATMENTS FOR NON-SUICIDAL SELF-INJURY

Rose Deng

Studies have shown that the emotional and stress-relieving properties of self-injury are common reasons why non-suicidal self-injury (NSSI) participants often engage
in self-destructive behaviors. Although most acts of self-harm may lack serious and lethal intent, NSSI has become increasingly alarming as studies show that about 70 percent of teenagers who self-injure have made at least one suicide attempt, while some reported multiple attempts. In order to prevent, as well as treat this behavior, an adequate and efficient treatment is most essential. This study will review and evaluate various treatments to see which type is most effective in preventing and treating NSSI among adolescents. By providing alternative methods to coping with stress and adverse life events, the participant's emotional distress will decrease, as well as the likelihood of engaging in self-destructive behaviors.

EFFECTS OF INTRACRANIAL SELF STIMULATION ON NEUROGENESIS IN A RAT MODEL OF ALZHEIMER’S DISEASE

Abraham Dickey III, Ariel Rosario, Lucia Nunez (Queensborough Community College), Cindy Zhou, & Tracy Mejia

Alzheimer’s disease (AD) is the most pervasive form of dementia among the elderly and is characterized by progressive neuropathological hallmarks. Our research is an attempt to determine whether the increased excitation of “reward” circuits and the hippocampus will promote “therapeutic” adult neurogenesis through the application of intracranial electrical self-stimulation (ICSS). Newborn neurons could possibly repair and alleviate neurocognitive degeneration exhibited in an amyloid-beta (Aβ) (25-35) rat model via cellular plasticity. Thirty male Sprague-Dawley rats from three randomized groups will be used: intact control group (n = 10), sham-operated Aβ(25-35) control group i.c.v. (n = 10), and Aβ(25-35) experimental ICSS group (n=10) i.c.v. After surgical recovery, specific cognitive deficits in visual, temporospatial and non-spatial working memory will be tested using the Morris Water Maze and Social Discrimination test. Sections of the denate gyrus of the hippocampus will be immunolabeled for bromo-deoxyuridine (BrdU) biomarkers for immature neurons and neuronal nuclei (NeuN) in order to identify neuronal proliferation during the S stage of mitosis. It is posited that ICSS-induced neurogenesis in a rat model of AD in combination with a training protocol will enhance cognitive-behavioral performance, and thereby diminish memory deficits when compared to control groups.

LEFT, RIGHT AND PSYCHOPATHIC: THE RELATIONSHIP OF PSYCHOPATHY TO IDEOLOGY AND VALUES

Abraham Dickey III & Marlinda King

Analyzing data taken from a well-known political psychology survey website (yourmorals.org), we examined the relationship of subclinical psychopathy to indices of religion, ideology (liberalism vs. conservatism), moral foundations (Graham et al, 2009), and the various subscales of the Schwartz Value Scale (Schwartz, 1992), as well as various policy positions considered consistent with conservative vs. liberal views. Psychopathy, as an indicator of insensitivity both to the rights of others and to normative rules generally, should intersect in revealing
ways with ideology. Liberals and conservatives, left and right, all tend to exalt the moral validity of their position at the expense of rival positions. We expected psychopathy to intersect with ideology in a way that would upset the myth of an ideologically dichotomous world (in which people are either liberals or conservatives, and in which it is better to be one than the other).

EXPANDING THE SELF THROUGH CROSS-GROUP FRIENDSHIP

Keshia Frankin & Kristin Davies*

The “self-expansion model” is a central human motivation desire to expand the self—to acquire resources, perspectives, and identities that enhance one’s ability to accomplish goals (Aron et al., 2004) By using this model, people are able to build relationships: platonic or romantic. The result of building these relationships using self-expansion is that it leads to variety of positive inter- and intrapersonal outcomes, including enhanced relationship quality (Mattingly, McIntyre, Lewandowski, 2012). This means that in relationships, one partner can evaluate the world in terms of how his/her partner is evaluating the world. This work encouraged the development of the current hypothesis; the more one feels that they “know” an outgroup friend, the more one will feel that they have “gained a new perspective about the world and about oneself” from their close relationship with that outgroup member. An online survey using SONA subject pool software will be administered to 100 York undergraduate students. This survey contains questions concerning online relationships and intergroup attitudes. We expect that the result of a regression analyses will be in line with the hypothesis. The anticipated results of this study imply that people use cross-group relationships as a way to expand their sense of self.

AWED OUT OF AUTHORITARIANISM? EXPERIENCING TRANSCENDENCE REDUCES RIGHT WING AUTHORITARIANISM

Shabana Khan & Ian G. Hansen*

We analyzed a subset of participants who contributed to Graham's (2011) Yourmorals.org dataset and were randomly assigned to primes of transcendence (awe, elevation or admiration) or non-transcendence (cute, amusing, or neutral). Experimental priming with transcendence significantly reduced Right Wing Authoritarianism (RWA). Mendez and Hansen (2014) have found that transcendence also reduced the right wing trait of Social Dominance Orientation, but only for those with a personality inclination to moderately engage moral beauty. The reduction in RWA, in contrast, was constant across low, moderate and high Moral Beauty Engagement (MBE) groups. This may be related to the fact that low, moderate and high MBE groups did not differ notably in RWA (Cedillo & Hansen, 2014) which allowed all groups to be equally sensitive to the manipulation. The results may indicate that, when experiencing transcendence, a more open and less rigid orientation takes hold, consistent with findings that transcendence reduces Need for Closure (Monroe & Hansen, 2014).
AWED INTO OPPOSING OPPRESSION? EXPERIENCING TRANSCENDENCE REDUCES SOCIAL DOMINANCE ORIENTATION AMONG THOSE WHO MODERATELY ENGAGE MORAL BEAUTY

Andrea Mendez & Ian G. Hansen*

We analyzed a subset of participants who contributed to Graham's (2011) Yourmorals.org dataset and were randomly assigned to primes of transcendence (awe, elevation or admiration) or non-transcendence (cute, amusing, neutral). Among those scoring between 4 and 6 on a 7 point scale measuring the personality trait "Moral Beauty Engagement" (MBE), experimental priming with transcendence significantly reduced Social Dominance Orientation (SDO). The primes had no effect on SDO, however, for those who scored below the midpoint in moral beauty engagement or those who scored high (between 6 and 7). Moral Beauty Engagement has been shown to be associated with empathy, care, love and benevolent intentions towards others (Diessner et al, 2013) and is itself negatively related to SDO (Cedillo & Hansen, 2014). Our results are consistent with the idea that Moral Beauty Engagement prepares individuals to interpret transcendent experience in a humane and benevolent way, and thus in a way inconsistent with social domination. We attribute the null experimental results for high MBE individuals to floor effects--these individuals had the lowest scores on SDO compared to moderate- and low-MBE individuals--a mean of 2.14 on a 1 to 7 scale.

MARKING RELIGIOSITY, AUTHORITARIANISM AND SOCIAL DOMINANCE ON THE SCHWARTZ MAP OF HUMAN VALUES

Sandra Moloney & Ian Hansen*

Working with Graham's (2011) Yourmorals.org dataset, we analyzed three variables known to be correlated with self-reported conservatism--Religiosity, Right Wing Authoritarianism and Social Dominance Orientation. We correlated these conservatism-related variables with the subscales of the Schwartz Value Scale (Schwartz, 1992) and represented each of these scales as one dimensional lines drawn through the center of Schwartz's value map at different angles. We determined the angles by which "wedges" of the Schwartz value scale were most strongly correlated with the pro-trait items of each conservatism-related scale. Religiosity and RWA were both most strongly correlated with Schwartz Values of Tradition and Conformity, but Religiosity was correlated with Benevolence and not Security, while RWA was the opposite. SDO was most strongly correlated with Power. The results portray these three correlates of "conservatism" fanning out across two-dimensional space, with one conservatism measure--religiosity--close to the Schwartz quadrant of "Self-Transcendence" and another conservatism measure--Social Dominance Orientation--solidly in the opposing Schwartz quadrant of "Self-Enhancement." The results help to make sense of seemingly paradoxical findings about these elements of conservatism--e.g. that religiosity, RWA and SDO are all correlated with conservatism, but religiosity has a negative independent relationship to SDO when RWA is held constant (Hansen, 2012).
THE PARADOX OF TRANSCENDENCE: EXPERIENCING TRANSCENDENCE CAN REDUCE RIGHT WING ATTITUDES, BUT THE EMOTIONS ASSOCIATED WITH TRANSCENDENCE CAN INCREASE THEM

Victoria Monroe

We analyzed a subset of participants who contributed to Graham's (2011) Yourmorals.org dataset and were randomly assigned to primes of transcendence (awe, elevation or admiration) or non-transcendence (cute, amusing, neutral). Khan & Hansen (2014) have found that participants primed with transcendence reported lower Right Wing Authoritarianism (RWA). And Mendez & Hansen (2014) have found that, among participants claiming moderate pre-existing experience with moral beauty, those primed with transcendence reported lower Social Dominance Orientation (SDO; also a right-wing characteristic). We examined potential mediators of these effects. One plausible mediator was the feeling of elevation, as this feeling was reliably higher in the transcendence than the non-transcendence conditions. However, we found that among participants who were affected by the prime (those with moderate exposure to moral beauty), such feelings of elevation were positively—not negatively—associated with right wing attitudes. This is consistent with the idea that emotional elevation can often be manipulated to serve oppressive or violent ends. Further analysis suggested that the primes reduced right wing attitudes in this population by a more cognitive pathway—reducing Need for Closure, a trait associated with these attitudes. Though not a significant mediator of the effect of transcendence on RWA, Need for Closure was a significant mediator of the effect of transcendence on SDO.

WEIGHT, BODY IMAGE, AND THE CULTURAL MEANING OF FOOD

Mariecruz Nazario & Deborah Majerovitz*

Recent evidence demonstrates that early family experiences impact adulthood lifestyles. We examined whether family attributes affect eating and exercise habits in early adulthood. In this study, female college participants were asked to complete a survey regarding their cultural and ethnic background, personal and cultural views on ideal body image, and everyday eating habits as well as habits within their family/culture. Each participant was weighed and their height was measured in order to attain their BMI (body mass index). These data explore the following questions: How do family health practices and cultural norms regarding women’s body size and portion size impact BMI, eating habits, and exercise habits? Are better self-reported eating habits and exercise habits associated with normal BMI? Implications for improved health in ethnically diverse communities is discussed.
AWED INTO OPPOSING WAR? EXPERIENCING TRANSCENDENCE REDUCES SUPPORT FOR WAR AND INCREASES SUPPORT FOR PEACE AMONG THOSE WHO MODERATELY ENGAGE MORAL BEAUTY
Vi Ngo & Ian Hansen*
We analyzed a subset of participants who contributed to Graham's (2011) Yourmorals.org dataset and were randomly assigned to primes of transcendence (awe, elevation or admiration) or non-transcendence (cute, amusing, neutral). Among those scoring between 4 and 6 on a 7 point scale measuring the personality trait "Moral Beauty Engagement" (MBE), experimental priming with transcendence significantly reduced support for war and increased support for peace on an Attitudes Towards Peace and War (APW) scale. The primes did not have consistent effects, however, for those who scored below the midpoint in moral beauty engagement or those who scored high (between 6 and 7). Moral Beauty Engagement has been shown to be associated with empathy, care, love and benevolent intentions towards others (Diessner et al, 2013) and is itself negatively related to Support for War and positively related to Support for Peace (Cedillo & Hansen, 2014). Our results are consistent with the idea that Moral Beauty Engagement prepares individuals to interpret transcendent experience in a humane and benevolent way, and thus in a way consistent with peace and inconsistent with war. The null experimental results for high MBE individuals may result from ceiling effects at least regarding support for peace. These individuals had the highest scores on support for peace compared to moderate- and low-MBE individuals—a mean of 7.01 on a 1 to 9 scale.

A REVIEW ON THE RELATIONSHIP BETWEEN EXERCISE AND ANXIETY
Christie Nicholas
Exercise has been shown to have positive effects on both physical and psychological well being (Stubbe, Moore, Boomesma, and Geus, 2006). As it pertains to psychological health, exercise improves mood, increases feelings of vigor, reduces stress, and reduces symptoms of depression and anxiety (Bartley, Hay, and Blotch, 2013). Recent studies have examined the relationship between exercise and anxiety (Strohle, Graetz, Scheel, Whittmann, Feller, Heinz, Dimeo, 2007). It has been found that exposure to acute exercise significantly reduces anxiety symptoms in general anxiety and specific anxiety disorders (Herring, Lindheimer, and O’Connor, 2013). However, a consensus on how exercise reduces anxiety has not been met. This review will discuss the various mechanisms by which exercise reduces anxiety. A future proposal will be given.

IDEOLOGY AND ATROCITY: UNDERSTANDING THE COMPLEX RELATIONSHIP BETWEEN IDEOLOGY AND SUPPORT FOR TORTURE
Prianka Parmar & Ian Hansen*
We examined two theoretically independent dimensions of moral concern, "individualizing" and "binding" morality (Haidt, 2012) in relation to three scales measuring constructs considered relevant to conservatism (vs. liberalism):
religiosity/spirituality, authoritarianism, and social dominance. We also examined how individualizing and binding morality and the three conservatism-related scales predicted support for a human rights atrocity: torture. We compared a York College sample to a large online sample gathered by the website yourmorals.org. In the yourmorals.org sample individualizing and binding morality were very weakly negatively correlated but in the York College sample they were strongly positively correlated. Also, in the yourmorals.org sample, binding morality was positively related to support for torture and individualizing morality was negatively related, but in the York College sample, binding morality and individualizing morality were both unrelated to support for torture—though with a more abstract measure of support for torture, the York College sample results approached those of the yourmorals.org sample. In both samples, multiple regressions with religiosity and authoritarianism as predictors revealed that authoritarianism was a positive predictor of support for torture, while religiosity was a negative predictor. It appears that aspects of conservatism and liberalism both provide some motivation to oppose torture, regardless of sample.

THE ROLE OF TRUST IN THE DEVELOPMENT OF WARMTH FOR AN OUTGROUP

Shivana Persaud

There is much work investigating trust in the development of online business relationships (Gundlach & Cannon, 2009). For example, one study found that people felt that a close relationship was unnecessary for trust in an online work relationship (Wade, Cameron, Morgan & Williams, 2011). However, less is known about trust within the context of interpersonal relationships online. Also, in the area of intergroup relations, it’s been proposed that the internet might be a good environment for cross-group relationships to develop (e.g. Walther, 2012).

Therefore, the goal of the current study is to see whether trust for an internet friend from another group (i.e. an outgroup) will encourage warmer feelings towards that outgroup. We are currently recruiting 100 participants from the York subject pool who will take an online survey assessing their online relationships and intergroup attitudes. SONA subject pool software will be used. We expect that the results of a regression analysis will reveal that trust felt for an online outgroup friend will predict warmth for friend’s group. This study could have important implications for professionals trying to better understand the relationship between members of different ethnic groups.

CULTURAL DISSIMILARITY AS AN OPPORTUNITY FOR SELF EXPANSION

Danielle Philip & Kristin Davies*

Previous work has found that people possess an innate desire for self expansion, which can be described as a want to expand their sense of self by treating a close other’s resources as their own (e.g. Aron et al., 2004). In intergroup relations theory, the Intergroup Contact Hypothesis (Allport, 1954) finds that interactions with outgroup members encourage better attitudes for that outgroup. More
recently, a longitudinal study of cross-group friendship development highlighted the particular importance of intimate contact (Davies, 2009). Despite this previous work, more research is needed to determine how intergroup attitudes are influenced by online interactions (Walther, 2012). In the current study we hypothesize that the more dissimilar to their own (ingroup) cultural practices one sees the outgroup as being, the more likely they will be to consider their online cross-group friendship as being a resource for developing a “new perspective” on life. We plan to recruit 100 participants from a New York City college's subject pool to measure intergroup attitudes and online interactions with a close outgroup member using an online survey. We expect that the results of regression analyses will support our hypothesis. These results can be integral to individuals and organizations working to avoid conflict and foster healthy intergroup relationships.

ADHD MISDIAGNOSIS: REVISIONS TO THE DIAGNOSTIC CRITERIA FOR ADHD AND ANXIETY DISORDERS

Manuel Ramirez & Kathariya Mokrue*

Diagnosis of attention deficit/hyperactivity disorder (ADHD) among children has increased over the past decade, leading to concerns of inaccurate diagnosis among professionals. Studies show that symptoms of certain anxiety disorders, learning disorders, and depression can be mistaken as ADHD. Consequences of misdiagnosis can be detrimental to the person’s life. Hence, there is a need for more precision in the assessment and diagnosis of ADHD. The proposed study intends to address the two core symptoms inherent with ADHD: inattention and impulsivity, in an attempt to find an approach that will separate the diagnostic criteria for ADHD and anxiety, two disorders that are often mistaken for each other. The study proposes to compare two groups of participants: young adults who have been diagnosed with ADHD (as a child or young adult) and those who have been diagnosed with symptoms of anxiety disorders. The study examines the extent to which GoStop/StopGo Impulsivity Paradigm, which measures impulsivity/inhibition, can be used as an adjunctive tool to differentiate the two groups of participants. Incorporating experimental measures to more appropriately and accurately differentiate the two disorders may help to suggest revisions for the current diagnostic criteria of ADHD (Inattentive, Hyperactivity and Combined subtypes) and anxiety disorders.

MEASURES OF SUSTAINED ATTENTION IN AN AMYLOID B (25-35) RAT MODEL OF ALZHEIMER’S DISEASE

Ariel Rosario, Jamel Travis, Taramati Shew, Rudolf Nisanov, Pharel Germain, & Francisco Villegas*

Alzheimer’s disease (AD) is one of the most common neurodegenerative disorders, affecting over 5.5 million people in the United States. The purpose of this study was to induce an Alzheimer’s disease analogue in rats via unilateral/bilateral intracerebroventricular (icv) injections of the Amyloid Beta (25-35) [Aβ (25-35)] to investigate and measure deficits in sustained attention. As hypothesized, the
experimental groups, injected with aggregates of Aβ (25-35), should show a decrease in correct responses and head entries along with an increase in omissions and premature responses, as measured in the 5-Choice Serial Reaction Time Task. Preliminary analyses show significant differences between groups evident in the following variables; correct response, omission, head entry, and average incorrect latency. These results, however, are contraindicative of the posited hypothesis and the rat model Aβ (25-35) may not serve as an adequate representation of Alzheimer’s disease.

ACROSS ALL LEVELS OF AUTHORITARIANISM, RELIGIOSITY IS NEGATIVELY RELATED TO SOCIAL DOMINANCE ORIENTATION AND TORTURE

Karen Ruiz, Karen Ruiz, & Ian G. Hansen*

Hansen (2012) found in various samples that when controlling for Right Wing Authoritarianism (RWA), religiosity is negatively related to Social Dominance Orientation (SDO). This finding is puzzling, however, because religiosity often has a positive zero-order correlation with SDO. Such suppression effects (a changed directionality of relationship when moving from zero-order measurement to measurement in regression) are sometimes the result of statistical artifacts. We therefore used a large dataset (Graham, 2011) to examine the zero-order correlation between religiosity and SDO at five different levels of RWA: 1 < RWA < 1.99; 2 < RWA < 2.99; 3 < RWA < 3.99; 4 < RWA < 4.99, and 5 < RWA < 6. No participant in the sample scored higher than 6 on a summary index of the RWA scale, with individual item choices ranging from 1 to 7. At each level of RWA, the zero-order correlations between religiosity and SDO were negative, and at least marginally significant. Religiosity was also significantly positively related to firm opposition to torture—a policy manifestation of social dominance—in 4 out of 5 RWA groups (and positively but non-significantly related in the fifth group). These results suggest that the negative independent relationship found between religiosity and SDO is not a statistical artifact, but is a robust independent relationship across various levels of authoritarianism.

EVEN CONSERVATIVES PREFER CARE AND FAIRNESS TO INGROUP, AUTHORITY AND PURITY WHEN IMAGINING THEM AS INCOMPATIBLE

Rafael Salas & Ian G. Hansen*

We will present evidence that imagining a "Moral Foundations Compatible" (MFC) condition vs. a "Moral Foundations Incompatible" (MFI) condition affects endorsement of conservatism-related variables. MFC portrays a hypothetical social divide in which one group embraces all five moral foundations—Ingroup, Authority, Purity (IAP) and Care Fairness (CF) (Graham et al, 2009)—and the other group rejects all five. MFI portrays a divide in which one group embraces only IAP foundations and the other embraces only CF foundations. MFI participants hand lower scale means along three different measures of conservatism—"Conservation" from the Schwartz Value Scale (Schwartz, 1994), IAP morality from the Moral Foundations Questionnaire (Graham et al, 2011), and Right Wing Authoritarianism.
Ideological identification--liberal vs. moderate vs. conservative--did not moderate this effect. Religiosity, Social Dominance Orientation and support for torture did not differ between conditions. Since the MFI condition associated socially conservative IAP values with the rejection of care and fairness values, participants may have felt forced to choose between them, and, whether liberal or conservative, they generally distanced themselves from IAP values rather than CF values. This "liberal" prioritizing of CF over IAP values (Graham et al, 2009) appears to be manifest across the liberal vs. conservative spectrum if participants face an explicit choice between the two axes of morality.

EXENDIN-4 PRESERVES SUSTAINED ATTENTION IN A RAT MODEL OF SPORADIC ALZHEIMER’S DISEASE
Taramati Shew, Rudolf Nisanov, Jamel Travis, Abdul Yousaf (Queensborough Community College), Juan Mosquera (Queensborough Community College), & Francisco Villegas*

The proposed study will examine the effects of Exendin-4 on sustained attention in a rat model of Alzheimer’s disease. Exendin-4 will be used as a treatment against hippocampal neural degeneration after intracerebroventricular injections of streptozotocin (STZ). STZ will produce high oxidative stress, insulin resistance and behavioral abnormalities. The 5 Choice Serial Reaction Time Task will be employed as a measurement of sustained attention. The Morris water maze will be used in order to assess reference memory, while the elevated plus maze evaluates potential changes in anxiety-like behavior. Cell-death marker flouro-jade C will investigate the effects of the Exendin-4 treatment on hippocampal neurons. The western blot will be used to detect and quantify the presence of glycogen synthase kinase (GSK-3), phosphorylated GSK-3, tau and phosphorylated tau. If the results are positive for beneficial effects, administration of Exendin-4 may be used as a preventative measure towards sporadic Alzheimer’s disease.

THE DEVELOPMENT OF TRUST THROUGH ONLINE INTERACTIONS
Evelyn Vargas & Kristin Davies*

Research has shown adolescents use the internet to connect with known others. They use online contexts to strengthen offline relationships (Reich & Espinoza, 2012). In addition, surveys have also shown that those who had better expressed their "true selves" online were more likely to have formed close online relationships and to have moved their friendships offline; the majority of these relationships were still intact two years later (McKenna, Green & Gleason, 2002). Other surveys have shown that young adults rated their online relationships as equal to or superior to those they had established offline on measures of strength, satisfaction, and ease of communication (Nice & Katzev, 1998). These studies suggest that people consider their online interactions as being equally valuable as their offline interactions. However, there is less known about the degree of trust that develops in an online relationship. Using the SONA subject pool software, we are currently recruiting 100 people from the York College subject pool who will take an online survey.
assessing their online relationships and intergroup attitudes. We expect that the results of a regression analysis will reveal that individuals who communicate online more frequently will report a greater degree of trust for their online friend. This finding would add further support to the notion that meaningful interpersonal processes can unfold through internet exchanges.

Social Work (BS)

SOCIAL WORKER’S KNOWLEDGE, ATTITUDES AND BEHAVIOR PROVIDING SERVICES TO HIV-AFFECTED FAMILIES: A REVIEW OF THE LITERATURE

Victor Dominguez & Susan Letteney*

Purpose: This literature review will present studies to date on the topic of HIV/AIDS; specifically the impact of social workers’ knowledge, attitudes and behaviors on service delivery to children residing in HIV-affected families.

Background: HIV/AIDS is now recognized a chronic “family disease”, and social workers provide services to families affected by HIV/AIDS. Studies have been conducted on social workers’ negative attitudes and fears towards HIV-affected populations. Future research should include empirical studies that address social work practitioners’ knowledge base in relation to the future care of children of HIV-positive parents.

Methods: Databases used for this literature review include: Psychology Journals, PsychINFO, SocINDEX and Social Work Abstracts.

Results: Preliminary findings show that education and training of HIV/AIDS is positively correlated with social workers providing: preventative services, risk assessment and child custody services for HIV affected families. Additional research discovered after 2010 will also be presented in the findings of this literature review.

Conclusion: This review confirms the findings of previous studies in two ways: 1- HIV/AIDS related services for HIV-affected families will continue to increase within the field of social work practice and, 2- training and education of social workers in HIV/AIDS will increase the likelihood of practitioners delivering evidenced based services to HIV-affected families.
Classroom Projects

*Classroom projects are defined as original writing that satisfies a classroom assignment but does not necessarily make an original contribution to the field.*

Anthropology (BA)

CULTURE VALUES AMONGST CHINESE BALLROOM DANCERS

*Katrina Moise*

The purpose of this pilot study was to explore whether or not Chinese ballroom dance students maintain their cultural values in their dance education in Flushing, Queens. The cultural values focused were food, language and dress. The study utilized a survey questionnaire to a purposive sample of ten (10) Chinese ballroom dance students along with a one (1) hour face to face interview. The study revealed that culture has a significant impact on the sample of Chinese ballroom dance students. They were found to maintain their language, cultural foods and style of dress in their ballroom dance education.

Art-Studio (BA)

THE HISTORICAL ACCURACY OF ASSASSIN’S CREED

*Marisa Ramcharan*

I will explore the historical content (including accuracy and inconsistency) in the Assassin’s Creed series, with special attention to the context of the actual facts from the era. What facts have been fabricated or emphasized?

DO VIDEO GAMES ENCOURAGE AND EMPOWER PLAYERS TO TRAIN IN SELF DEFENSE?

*Valderrama Ricardo*

How do video games like Mortal Kombat, Street Fighter, Tekken, Marvel vs Capcom and other amazing fighting games influence young boys into taking mixed martial arts classes and get them interested in fighting and self defense. When all of these games first came out, their popularity grew over the years of new games and upgrades in the storylines and graphics, but the most fans of these types of games are young boys, teenagers and young adults. What they like most of these games is the way how they fight, and each has characters that know a fighting style that can be deadly if used against an opponent who does not fight the same style. There are many different variety of fighting styles out there, and anyone can learn them. I
myself have played these games since I had my first Playstation and Nintendo 64. As a result of playing these games, I began watching kung fu movies and any types of cartoons movies or shows with fighting. Years later as soon as I was at a good age to learn how to train, I decided to take up jujitsu, boxing, and muay thai classes. These experiences helped me ever since to defend myself and stay fit, all because of playing Mortal Kombat. But have others had this same experience?

Aviation Management (BS)

HUMAN FACTORS AND THE 12 COMMON ERRORS
Luisa Ayala
Human factors have become the most important factor to cause aviation accidents. In this study, the 12 common errors including, Complacency, Lack of Knowledge, Lack of Teamwork, Distraction, Fatigue, Lack of resources, Pressure, Lack of Assertiveness, Lack of Communication, Norms, Stress, and Lack of awareness were fully examined. Moreover, the cause of the 12 common errors and the way to avoid making the 12 common errors were discussed as well.

THE MYSTERIOUS AND UNSOLVED PLANE CRASH OF EGYPT AIR FLIGHT 990 FROM NEW YORK TO CAIRO
Maya Ghanem
Egypt Air Flight 990 (MS990/MSR990) was a regularly scheduled flight from Los Angeles to Cairo, Egypt, with a stop at JFK International Airport, New York City. On October 31, 1999, the Boeing 767-300 operating the route crashed into the Atlantic Ocean killing all 217 passengers and flight crew on board. Egyptian government asked the Nation Transportation Security Board (NTSB) to handle the investigation. Two weeks after the crash, the NTSB proposed handing the investigation over to the Federal Bureau of Investigation, as the evidence they had gathered suggested a criminal act had taken place. This research summarized the findings from the authorities and discussed the possible reasons that caused this crash. The evidence suggested that the crash was intentional rather than accidental. Also, one of the suspicious part is that the black box was destroyed. Moreover, it appeared to be that the flight may be hit by a foreign object as the flight had 13 Egyptian Army senior officers.

LOW COSTS AIRLINES' SURVIVAL RULES, TREND AND INFLUENCE
Yan Jin
After Southwest Airlines created the successful precedent of low cost carrier (LLC), more and more LLC emerges out after that. Right now, there are over 100 LLCs all round the world. Since airlines industry has very thin profit margin, the growth of LLC not only wins people’s great admiration of making money, but also poses a threat to conventional airlines. Realizing LLC’s survival rules, trend and influence
can help aviation managers understand the developing tendency; therefore, make correct decision of airlines’ future.

ANALYSIS OF THE COMMON REASONS CAUSING CONTROLLED FLIGHT INTO TERRAIN

Moses Lee
Controlled Flight into Terrain (CFIT) occurs when an airworthy aircraft under the complete control of the pilot is inadvertently flown into terrain, water, or an obstacle. The pilots are generally unaware of the danger until it is too late. Most CFIT accidents occur in the approach and landing phase of flight and are often associated with non-precision approaches.
This research investigated the reasons of causing CFIT and we found out that many CFIT accidents occur because of loss of situational awareness, particularly in the vertical plane, and many crash sites are on the centerline of an approach to an airfield. Lack of familiarity with the approach or misreading of the approach plate are common causal factors, particularly where the approach features steps down in altitude from the initial approach fix to the final approach fix.

INTRODUCTION AND DISCUSSION OF INTERNATIONAL OPERATION IN MEXICO

Carin Solis
International operation is much more complicated than domestic operation. There are many differences to be aware of when flying outside the United States (U.S.). International Civil Aviation Organization (ICAO) rules prevail and member states should follow ICAO guidelines as published, with differences noted, in their official Aeronautical Information Publication (AIP). This research will introduce the international operation. Specifically, I will use Mexico as an example to discuss what an airline needs to prepare if it desires to provide services to Mexico.

PILOT ERRORS AND THE TAM CRASH

Dongmei Zhu
Pilot error becomes the leading cause of commercial airlines accident, which causes nearly 80% of the total accidents. A simple mistake or lacking of proper action by pilots can play a critical role to cause an accident. This presentation focuses on the TAM Airlines 3054 air crash, which caused by pilot error from an experienced captain and a skillful pilot. Due to the bad weather condition in Congonhas-Sao Paulo Airport, the captain decided to land the aircraft by himself and under the instruction of the old landing procedure, which would work more efficiently to reduce the speed of the aircraft when it was sliding on the run way. However, his wrong operation and unintentional reaction under the emergency caused TAM Airlines 3054 crash on July, 17, 2007. It is the deadliest air disaster in Brazilian territory and the deadliest aviation accident involving an Airbus A320 anywhere in the world.
Biology (BA-BS)

HERBIVORY AND PLANT DEFENSE AGAINST HERBIVORES
Alana Duguid & Oladimeji Eric Okubadejo
The focus of our research is to see the relationship between herbivores and plants defense against herbivores. The question been tested is to see if the plants original defense mechanism is stronger than the induced defense mechanism, which is the addition of jasmonic acid as a sprayed on hormone to boost the plant defense. We are also testing the effects of different climate on the growth rate of each plant; the name of the plant is Queen Anne’s Lace (with a strand from Tunisia and Russia). The plants will be growing in a greenhouse, and after a few weeks we will collect data on the plants height and number of leaves for each plant weekly. To test the plant original defense system against the induced defense mechanism, we are going to cut a piece of the control plant leave and the original plant leave and place them in a petri dish with a corn earworm in it. We are going to see if the corn earworm will eat a lot of the leaves that was sprayed with jasmonic acid compared to the original leave without jasmonic acid. Our predication is that the plant sprayed with the jasmonic acid will protect itself better than the plant that doesn’t have jasmonic acid.

CHICORY PLANT DEFENSES AGAINST HERBIVORY
Dominic Germain, Desiree Brown, & Deyjauneh Billups
In this experiment we will observe the defenses of Cichorium intybus, Common chicory against two species of herbivores: Tobacco Budworm Moth (Heliothis virescens) and. corn earworm (Helicoverpa zea). We ask two questions: (1) To what extent does C.intybus rely on induced defenses (produced when plant suffers herbivory) and constitutive (always present in plant) defenses? (2), Are C. intybus defenses specific for each type of herbivore? Our study is on the basic defenses plants exhibit on herbivores and pathogens. We plant 40 samples of C.intybus to be studied. After several weeks of growth, we place C. intybus plants into four treatments: 10 samples of plants are control (receive no treatment), 10 are predated by the Helicoverpa zea, 10 are predated By Heliothis virescens. Lastly we have our plant exposed to both herbivores to observe if the competition effect on the defense the plant exhibits. To achieve this we conduct a bioassay (feed the tissues of the plants to baby caterpillars of both species and see how their growth progress). We expect, if the plant defenses are effective, they will not only inhibit herbivores fitness (perhaps through underdeveloped growth), as well as their ability to reproduce effective through underdeveloped growth to effect these herbivores negatively by inhibit their growth big they get – indicate the level of defense of the plant against that particular herbivore.
PLANT DEFENSES AGAINST HERBIVORY: EFFECTIVE RESISTANCE AGAINST PREDATION

**Dominique Germaine, Deyjauneh Billups, & Desirie Brown**

In this experiment we will observe the defenses of *Cichorium intybus*, Common chicory against two species of herbivores: Tobacco Budworm Moth (*Heliothis virescens*) and corn earworm (*Helicoverpa zea*). We ask two questions: (1) To what extent does *C. intybus* rely on induced defenses (produced when plant suffers herbivory) and constitutive (always present in plant) defenses? (2) Are *C. intybus* defenses specific for each type of herbivore? Our study is on the basic defenses plants exhibit on herbivores and pathogens. We plant 40 samples of *C. intybus* to be studied. After several weeks of growth, we place *C. intybus* plants into four treatments: 10 samples of plants are control (receive no treatment), 10 are predated by the *Helicoverpa zea*, 10 are predated by *Heliothis virescens*. Lastly we have our plant exposed to both herbivores to observe if the competition effect on the defense the plant exhibits. To achieve this we conduct a bioassay (feed the tissues of the plants to baby caterpillars of both species and see how their growth progress). We expect, if the plant defenses are effective, they will not only inhibit herbivores fitness (perhaps through underdeveloped growth), as well as their ability to reproduce effective through underdeveloped growth to effect these herbivores negatively by inhibit their growth big they get; indicating the level of defense of the plant against that particular herbivore.

HERBIVORY DEFENSES OF PLANTS *MELILOTUS ALBUS* AND *MELILOTUS OFFICINALIS* IN SUNLIGHT VERSES IN SHADE.

**Feruza Ibragimova, Melissa Martinez, Feruza Ibragimova, & Zartasha Bhatti**

The purpose of this lab project is to observe the plant defenses against the herbivore, the tobacco budworm, under different light conditions: In sunlight and shade. Also the differences between the plants of 4 different periods, such as white sweet clover (WSC) from 1930, yellow sweet clover (YSC) from 1987, WSC from 2007 and YSC from 2009 will be observed in order to verify if the ecology of different periods of time play a role in plant defenses. Lastly white and yellow sweet clovers will be compared in regards to their color differences so as to detect which color will have better plant defenses against herbivores. Our hypothesis is that the plants that were exposed to shade after a certain amount of time would have lower defense and be more susceptible to herbivore attacks.

THE EFFECTS OF ACID RAIN ON SUNFLOWERS

**Kavita Mahabir, Lida Omar, & Riham Shari**

This experiment will investigate and compare the different effects of nitric and sulfuric acid on sunflowers. The nitric and sulfuric acid will be incorporated by using pH levels of acid rain. Plant seeds from Utah and Illinois will be used to determine whether or not the origin of the plant seeds effect the impact of acid rain. Five test groups were created, (1) sulfuric acid with a pH value of 5 for Utah and Illinois seeds, (2) sulfuric acid with a pH value of 3 for Utah and Illinois seeds,
(3) nitric acid with a pH value of 5 for Utah and Illinois seeds, (4) nitric acid with a pH level of 3 for Utah and Illinois seeds, (5) a pH value of 7 (neutral) for the Utah and Illinois control group. The acids will be sprayed onto the leaves of the sunflowers and the growth and appearance will be examined weekly.

WHAT'S IN YOUR SCHOOL'S BURGER?
Pin Lam & Lida Omar
In this experiment we used a classical immunological technique known as Ouchterlony procedure. The procedure tests and confirms the animal source of one or more samples of the raw meat. For our experiment, we tested the purity of hamburger meat at York college. We used goat anti-horse albumin, goat anti-bovine (cow) albumin and goat anti-swine (pork) albumin as our reagents. Three reagents were placed into wells and were used to test the meat. After performing the experiment, we found that only goat anti-bovine (cow) was found in the meat.

Biotechnology (BS)

PHAGOCYTOSIS OF SALMONELLA AND E. COLI BY MACROPHAGES
Rachel Martin, Clerol Austrie, Alexa Ramsey, & Jack Alezxis
Macrophages, also known as “Scavenger” or monocytes, are white blood cells located within our tissues. It functions by engulfing and destroying debris and foreign particles by means of phagocytosis. Macrophages are one of the first white blood cells to respond to invasion of pathogens in the body through the breaking of the skin barrier. They circulate the body constantly to search and destroy dead and unwanted cells, however, they cannot identify targets specifically and as a result, they are considered part of the innate immune response. Macrophages are attracted to the infectious sites in the body because they receive chemical signals sent out by the bacteria, that are enabled by special receptor sites on the cell membrane. Macrophages can differentiate between the body cells and the outside cells by analyzing the specific structure of the proteins that coats the body cells. In this experiment, we exposed the macrophage to two types of bacteria, E. Coli and Salmonella the observed how they functioned. The macrophages were expected phagocytose E. Coli more efficiently than Salmonella bacteria.

Business Administration (BS)

FINANCIAL CRISIS IN UNITED STATES OF AMERICA
Mayuresh Kamath
The U.S is experiencing it biggest financial crisis since the great depression. It started with the so-called "Sub Prime" mortgage spreading to commercial real estate and other forms, thereby leading to decreased bank lending. Firstly, there was a decline in the rate of profits. Secondly, the need to restore the rate of profits was on
everyone's mind. Thirdly, even after a slight recovery, it did not show any increase in business investment nor in employment. Fourthly, it is important to understand the structure of the Home Mortgage Market. Starting from the Commercial Banks which owned the mortgages, to selling them to Hedge funds and Foreign Investors. Thus, Commercial banks no longer had a financial incentive to make sure that the home-buyers were creditworthy. Fifthly, the multi-billion dollars government bailouts and the heavy price the exchequer had to pay is a subject that will have ramifications for a long time to come. Finally, the conclusion would have to focus on 1) why people who could not afford dream houses, bought them in the first place? 2) The banks and financial institutions lending money to uncreditworthy customers for so many years is a subject of debate. 3) It is time to rewrite the rule books which have been lax for both sides. Rules have to be stringent, but also customer friendly. Rules are made for the convenience of the society, but also we must make sure that this mayhem should not take place in the future. Bailouts should not the the final answers each time.

Chemistry (BA-BS)

DAWN OF A NEW ERA
Peter Conaty, Christian Franco, Jessica Garcia, Raisul Islam, & Evgeny Skypkin
Classical physics teaches us much about how the world operates, but there are situations in which the laws they teach break down and do not work. It is at these times that the laws of quantum mechanics begin to explain the trends that classical physics could not. When we look at three classical experiments, Blackbody Radiation, the Photoelectric Effect, and the Double-Slit Experiment, we will point out exactly where the breakdown happens and where quantum mechanics takes over. We will also explore modern day versions of these experiments, as well as new experiments, and how they have applications in today’s world such as the Photoelectric Effect and medical imaging, and the Stern Gerlach experiment with CD ROM’s.

QUANTITATIVE ANALYSIS OF IRON CONTENT IN AN IRON TABLET
Peter Conaty, Ai-Mei Chen, Nina Olladikankwu, & Nia Rene
Often times, the content stated in a substance must be tested and confirmed. In our experiment, we are testing an iron tablet that states it contains a certain amount per tablet. This amount may vary by batch and or even per tablet. Therefore, we will be using two different chemical analysis techniques to confirm if in fact the stated amount is correct. Through redox titration and precipitation gravimetry, we can test and calculate the amount of iron in a tablet to compare the amount obtained statistically vary or not.
QUANTITATIVE DETERMINATION OF IRON IN A SUPPLEMENT PILL.
Muhaned Mohamed, Misfa Khanam, Raisul Islam, & Zulec Dominguez
Iron supplements are dietary supplements primarily used to treat anemia or other iron deficiencies. The goal of our work is to determine the amount of iron in commercial iron supplement pill. There are many ways to quantitatively determine the amount of elemental iron in a sample. The two approaches we have chosen are redox titration and spectrophotometry. A redox titration is a type of titration based on a redox reaction between an analyte and a titrant. In the titration, standardized potassium permanganate solution works as oxidizing agent and Iron (II) as reducing agent. By determining the necessary volume of potassium permanganate necessary to reduce all the iron, one can calculate the amount of iron in a pill using the stoichiometry of the reaction. Spectrophotometric analysis will be performed using 1,10-phenanthroline, which is a heterocyclic nitrogen compound that reacts with iron and forms a colored complex. Using Beers law and a spectrophotometer, the concentration of iron in the pill can be determined with a high degree of accuracy.

WHAT THE THEORY TELLS US ABOUT MOLECULAR INTERACTION BASED ON HARMONIC OSCILLATOR AND RIGID ROTATOR MODELS
Nia Rene, Linda Kontoh, Saquille Griffiths, Eric Sasu, & Nina Oll-Adikankwa
The linear rigid rotator model and harmonic oscillator system provide great insight into the conformational behavior of diatomic molecules. The rigid rotor model describes the rotational motion between atoms, while the harmonic oscillator system describes the vibrational motion between atoms in a diatomic molecule. Both models are examined in this research and two experiments are conducted. One experiment includes a vibrating string with a rigid boundary that demonstrates the vibrational motion in the harmonic oscillator system. The other experiment includes the propeller of a helicopter, which demonstrates the rotational motion of a rigid rotator model. The mathematics used to formulate the two models is also examined. Moreover, examples from spectroscopy are given where these models provide insight into the structural orientation of the atoms in diatomic molecules (NO, HCl, Cs2).

Community Health Education (BS)

THE DOMINICAN REPUBLIC: A BIPARTITE EXPERIENCE OF DOMINICAN CULTURE AND SERVICE-LEARNING
Malika Jones
Study abroad provides the opportunity for cultural and academic enrichment and professional development in a global setting. This presentation consists of two parts. First, I will share with you the service-learning project on urban farming and how this opportunity enabled me to make a global impact in addressing food security and build professional networks with leading international organizations such as, The Global Foundation for Democracy and Development (GFDD), The
Ministry of Agriculture of the Dominican Republic, Adventist Development and Relief Agency (ADRA), The National Botanical Garden of the Dominican Republic, and the Global Coalition for Peace and InterDom. The second part consists of the African influence on culture and identity in the Dominican Republic (DR). I will address my personal experiences in DR as a woman of the African-diaspora. I will also share findings based on my experience and bibliographic research, and show how the African presence is an integral part of Dominican Culture.

STUDY ABROAD: GLOBAL HEALTH EXPERIENCE AND PROFESSIONAL DEVELOPMENT

Stephane Labossiere

My study abroad experience gave me the opportunity to rethink the way I view public health and its impact in the world. This presentation consists of two parts. First, I will describe my study abroad experience in China. Second, I am going to relate my experience to my future career in public health. I am going to discuss the health issues that I examined, and how I am going to use it in my career as a future public health leader. My personal experience in China as a foreigner, and how this experience has shape the way I think about public health will inspire undergraduate students at York College to take advantage of the opportunities both nationally and internationally.

HEALTH STATUS AMONG YORK COLLEGE STUDENTS: AN UPDATED ANALYSIS OF THE CENSUS DATA AND REPRESENTATIVE STUDENT’S BODY MASS AND BLOOD PRESSURE MEASURES

Shannon Roach, India Smith, LaShaun McPherson, Jioselin Rivas, Michele Chase, Emily Sukhdeo, Rosaline Jones, Simone Chung, Tina Lasker, David Ajuluchukwu*, & Ray Marks*

Census data conducted in 2003, showed over 50% of people in Jamaica, Queens were overweight, and 18% were obese, a health condition where excess weight as a factor leads to high rates of diabetes, as well as high blood pressure. In Jamaica, 23.9 percent of adults are obese with a Body Mass Index of 30 or greater, according to a survey conducted by the city Department of Health (2013). In 2006, in Jamaica, the hospitalization rates for both long-term diabetes complications and lower-extremity amputation among people with diabetes are higher than the rates in NYC overall. Although, when compared to 41 other NYC neighborhoods, people living in Jamaica are found to have a moderate burden of illness and mortality, the NYCDOH implied improving these aforementioned health indicators is a shared responsibility between all societal sectors. Health is also strongly linked to academic achievement, hence the Health and Physical Education Department of York College, has been undertaking concerted efforts for the past few years to promote the health of Jamaica and York College community members. In 2012, a review of available data confirmed a high percentage of York College students were overweight or obese. Aim: This poster will provide a snapshot of the 2014 body mass indices and blood pressure readings of selected members of the York
College Community, and will recommend what can be done to foster this communities’ health in the future based on these data.

**English (BA)**

**GENDER AND DIASPORA**

Alisha Amin

Diaspora is a massive term that it cannot be given one definitive definition. However, diaspora, loosely taken, can include a people who have moved from a homeland to a host-land, with emotions and beliefs being the strings that are attached. Diaspora can impact a number of things, from art, to politics, to class, and even gender. How are diaspora and gender linked? The two are knitted closely together, intertwined and overlapping in numerous ways. The threads of diaspora and those of gender are interwoven to contribute to the overall effect that takes place in the host-land. Only the eye of the beholder can tell whether or not these effects are positive or negative.

**AFTER OPPRESSION: HAITIAN SOCIETY POST DUVALIER**

Regina Brewington

In this essay I intend to examine how Haitian Society is/are functioning post Duvalier regime. Once known as a strong country that defeated France in 1803, and one of the first free countries. Haiti then became held down and oppressed by one of their own, Duvalier and the Tonton Macutes. I intend to explore briefly the countries history as one of the best to what has now become what some may consider one of the worst.

**MYTHS AND FOLKTALES IN THE BRIEF WONDROUS LIFE OF OSCAR WAO AND SOUCOUYANT**

Alana Duguid

This paper explores the use of myths and folktales in Soucouyant by David Chariandy and The Brief Wondrous Life of Oscar Wao by Junot Diaz. It focuses on the way Caribbean myths and folktales are view in relation to the Caribbean’s connection to colonialism, post-colonialism and diaspora. It questions the influence of colonialism and post-colonialism on the myths and folktales that are a part of the everyday lives of these people, both inside and outside the diaspora. In addition, it examines Chariandy’s and Diaz’s incorporation of myths and folktales and their connection to reality.

**GENDER AND DIASPORIC EXPERIENCES IN WHITE TEETH AND SOUCOUYANT**

Tanuja Hasan

This research is intended for English 410: Senior Seminar. The focus of this course is 21st Century Caribbean Diaspora. Diasporic experiences are gendered. This research paper explore the experiences of the diasporic community across different
gender especially women’s by examining the different characters of Zadie Smith’s White Teeth and David Chariandy’s Soucouyant. This research will try to answer the question of how does cultural memories affect members of the diaspora across different gender?

ISOLATION OF DIASPORIC YOUTHS IN THE BRIEF WONDROUS LIFE OF OSCAR WAO AND SOUCOUYANT

Benjamin Haynes

It is well-established that members of the diaspora are never fully accepted by the dominant culture, and are merely tolerated at best. Various scholars have emphasized the role of a European colonial attitude towards color, cultural practices, and socioeconomic privilege which still prevails throughout most of the industrialized world today. Other studies have ascertained that individuals who immigrate frequently carry remnants of their own culture that clash with their new environment. As a result, members of the diaspora to never feel completely settled in their adopted space. This polarity creates a profound, lingering sense of isolation, particularly among children and adolescents, who are still developing a sense of self and values. In this paper, we will examine how youths of the diaspora are marginalized, both within the dominant culture and their own culture, using examples from Soucouyant, The Brief Wondrous Life of Oscar Wao, and other scholarly sources. In addition, we will explore the effect that this isolation has on their outlook on the world and themselves. The goal of this paper is to expose the extent to which culturally-inflicted polarization during the formative years affect their future behavior, and how this detrimental cycle is ultimately passed on from one generation to the next.

MARGINALIZATION OF YOUTHS IN SOUCOUYANT AND THE BRIEF WONDROUS LIFE OF OSCAR WAO

Benjamin Haynes

Members of the diaspora are never fully accepted by the dominant culture, and this has particularly harsh consequences on youths, who are still developing a sense of self and values. If youths do not not meet the expectations of the diasporic culture, this can exacerbate their feelings of rejection. Typically, this inadequacy and self-loathing are continually reinforced by external factors, which further solidify their sense of loneliness. Ultimately these negative feelings persist and are passed on to subsequent generations.

THE LEGACY OF POLITICAL STRINGENCY

Michelle Heslop

This research examines the impact of families under stringent political regimes. Driven by Junot Diaz’s The Brief Wondrous Life of Oscar Wao and to some extent Edwidge Danticat's Create Dangerously, the research will further explore the nature of radical political systems with emphasis on how they relate to families. Both Junot and Danticat speak fervently about living under extreme political systems in their
work. This research will not only scrutinize their work but will seek to further develop and understand the essentials of radicalism in governments. Consequently, other sources, both primary and secondary, will be reviewed in order to garner adequate and consequential support for this research.

HISTORY SHAPING THE IDENTITIES IN THE DIASPORA

Jonelle Isaac
The paper will explore how history from the native land influences and shapes the identities of people living in the diaspora. Both Zadie Smith and Junot Diaz use their texts, White Teeth and The Brief and Wondrous Life of Oscar Wao respectively, to portray how important the past is, how it repeats itself, and the way the history of parents are transferred to children leaving marks that can never be erased. Does our past shape our future? Samad from White Teeth proclaims, "[T]he generations... they speak to each other, Jones. Its not a line, life is not a line-this is not palm reading-it's a circle" (153). In an attempt to show how the lives of the characters are shaped by their past, there are moments where flashbacks or narratives of the past are featured. The paper will investigate how people living in a diaspora carry their history, which includes their culture. The paper will investigate how history influences the lives of people living away from the homeland and how their roots/routes are part of their fragmented identity-a merge of the native and new home.

FIRST GENERATION IDENTITY COMPLEXITY IN THE BRIEF WONDEROUS LIFE OF OSCAR WAO AND WHITE TEETH

Hanna Joseph
It can be a difficult task for first generation children of diaspora to gain and maintain a concrete identity. This paper explores the issue of first generation identity complexity, usually resulted from the decision that has to be made pertaining to the cultural values of the host country and their family’s homeland. It examines the urge for first generation children of diaspora to assimilate into their host country’s culture and pressure from family to embrace and hold on to their native culture. It questions whether the complications of identity are also caused by these individuals' physical characteristics and not only because of the cultural aspects of their lives.

LANGUAGE, EDUCATION AND WORLD ENGLISHES

Hanna Joseph, Nasrin Sultana, & Tishena Sylvester
In "If Black English Isn't A Language, Then Tell Me What Is," James Baldwin writes "It is not the black child’s language that is in question, it is not his language that is despised: It is his experience." Investigating the relationship between attitudes to language, and attitudes to experiences, to is the focus of this panel presentation. In it, the three speakers will consider the following questions: How do students' linguistic identities affect their educational experiences? How can students negotiate and manipulate these linguistic identities, and the linguistic tools at their
disposal, to most closely approximate their own experiences for an audience? Using work from upper-division English major courses, Speaker 1 will consider ways in which instructors can use ESL/ELL students' experiences and background to help them in their classroom work, Speaker 2 will consider the ways in which students' linguistic identity changes the way in which they experience school, and the ways in which their teachers' linguistic identity factors into those experiences, and Speaker 3 will develop a narrative which shows how code-switching and code-switching can construct a more complex, and perhaps more authentic, account of the author's experiences than a narrative written solely in standard Academic English ever could.

YOUR NEIGHBOR MAY NOT BE INSANE AFTER ALL
Marissa Lutchman
Immigrants in a new nation still carry with them customs that were part of the original homeland. Although assimilation does occur, the traditional way of solving a problem or reacting to a situation often reflects the beliefs a person holds. This paper examines and argues that folklore and superstition is relied upon by people within a diaspora to serve as an allegorical explanation of occurrences in life. Using texts such as the novel Soucouyant, by David Chariandy and The Brief Wonderous Life of Oscar Wao by Junot Diaz, as well as incorporating research article serve as basis for my argument.

EFFECTS OF GENDER ROLES ON CHILDREN OF IMMIGRANT PARENTS
Jessica Marcia
Gender roles, especially Dominican gender roles exemplified in The Brief Wondrous Life of Oscar Wao, have negative effects on first generation American children of immigrant parents. Instead of celebrating or encouraging their uniqueness, Lola and Oscar are scorned, shunned, and ridiculed.

EXPLORING/EXAMINING LANGUAGE USE BY ARTISTS OF A DIASPORA
Yesica Olivo, Junot Diaz, & Edwidge Danticat
This paper will discuss how authors of a "Diaspora" such as Danticat and Diaz amongst others use language as an essential tool in their writing. The paper will explore the specific ways in which these authors present language such as techniques, vernacular language, etc.,. Also, towards the end, the paper focuses on the importance of language to the authors and how it becomes representative for the authors. The use of language in specific ways in a text is very important to acknowledge since these may/may not define the purpose of the piece and the many themes that had inspired the authors' writing.

MEMORY AND DIASPORA
Felicia Peters & Edwidge Danticat
I plan to talk about the effects memory has on people within a diaspora.
THE IMPORTANCE OF DOCUMENTING DIASPORA

Phylicia Ramjattan

Diaspora is a struggle that many people who come from other cultures go through. What they go through is an element that contributes to who they are thus far. Diasporic communities and people are known of and seen everywhere in New York City; many have a story to tell about their homeland or the homeland of their parents. Many people are second generation diasporic and live between two worlds, being in two places at once, connecting to one home they have never been to while never fully connecting to the homeland they live in currently. Family is a connection that some have to a homeland that is not the U.S and sometimes it is a traumatic experience that holds a connection. I argue that it is important to document diasporic stories because it connects us to other cultures, some even our own. Diasporic stories are the connection that future generations may later read in order to connect to their roots. The texts “Create Dangerously” by Edwidge Danticat and “Soucouyant” by David Chariandy both exemplify the importance of documenting diaspora.

HOW ARE MEMORIES CONNECTED IN THE DEVELOPMENT OF ONESELF AND ONES BELIEF?

Kimone Reeves

Memories are a key factor for people. It is memories that define our past and connect us to our future. For some people who come from a different homeland than the one they live in, they have memories to give them their connection of where they came from. While some memories give guidance from bad experiences. I argue that Memories help a character understand there past and reflect on their future, how connected and disconnected they are to their roots, and how this might have changed them. In the text Create Dangerously by James Clifford and Soucouyant by David Chariandy both authors gave experiences in how memories impacted them.

THE IMPORTANCE OF REBELLION, RESISTANCE, AND SELF-REALIZATION.

Jessica Salamalay

Using Dorothy Allison's Two or Three Things I know for Sure, and Marjane Satrapi’s Persepolis, I will be exploring the importance of rebellion, resistance and self-realization in a society where rebelling and resisting are against the social norms. I will also be exploring the consequences that can arrive from this behavior.

VIOLENCE AND HOW IT AFFECTS RELATIONSHIPS WITH OTHERS.

Jessica Salamalay

Exploring the affects of violence and how it's impact on relationships with others using Junot Diaz's novel, The Brief Wonderous Life of Oscar Wao.
THE IMPORTANCE OF RECORDING DIASPORIC HISTORY

Khalid Straker
In this essay I will argue that it is important to record the history of diasporic people. Afterward, I will go on to explain why that is. Finally, I will explain the importance of the recording itself being done properly.

DIASPORIC IDENTITY

Nasrin Sultana
The focus of this research paper is the concept of how members of a diaspora work to maintain their identity in a host country. A diasporic identity consist of members living in a host country yet holding on to their native cultural beliefs and values. The goal of this research is to explore and understand the struggles members of a diaspora goes through in order to maintain their native identity while assimilating in a host country. Researchers affirmed that the struggle of assimilation in a host country is shown in the interactions among the younger and the older generations in a host country. Older generations tend to hold on to and preserve cultural beliefs and values while the younger generations desires to assimilate to the host country's way of life. This paper will examine both the beliefs and values of the native homeland and host country members in a diaspora to show the struggles of assimilating in a host country. The research in this paper will show the struggles members a younger generation go through to create their own identity as they come in contact with older generations who holds on to their native homeland cultural beliefs and values.

TO WHERE DO I BELONG?

Tishena Sylvester
Explore how the diasporic experience can affect the cultural identity and nationalism of members of the diaspora and people who have not experienced diaspora.

WHAT IS IT TO BE MASCULINE

Jennifer Warren & Junot Diaz
What is the connection between Masculinity and the role of the Dominican male in diaspora?

TRUJILLO IN THE BRIEF WONDROUS LIFE OF OSCAR WAO

Othello Wurm
I'm examining how Trujillo, a past dictator in the Dominican Republic, is portrayed in literature. I'm going to look at criticism on other works that deal with the dictator, and compare those findings to the Trujillo in the The Brief Wondrous life of Oscar Wao.
Environmental Health Science (BS)

YORK STUDY ABROAD PROGRAM: STUDY ABROAD AND BEYOND: TROPICAL MARINE BIOLOGY IN COSTA RICA

Ezazul Haque

This winter session I had the opportunity to attend a study abroad program in Tropical Marine Biology in Costa Rica. The program was facilitated through Queens College, the University Studies Abroad Consortium (USAC) at the University of Nevada, Reno, and USAC branch in Puntarenas, Costa Rica. The program spanned from December 26th, 2013 to January 17th, 2014. My courses included a 3-credit class on Tropical Marine Biology, 1 credit field study, and 1 credit course on Dance. In the course, we learned about the major diverse groups of marine organisms and their evolutionary history. I’m thankful to York College Student Activities, and also Study/Travel Opportunities for CUNY Students (STOCS) grant for providing financial support for my study abroad program. I would strongly recommend study abroad programs to all York students. It provides fantastic opportunities for personal growth, intercultural development, and multilingual benefits. Participating in study abroad can help students acquire skill sets abroad that can help influence their career path and spark an interest in a career direction to pursue after the study abroad experience.

History (BA)

THE RISE AND FALL OF THE GUPTA EMPIRE

Madhdvie Bhagwandeen

In this research paper, I will be discussing the rise and fall of the ancient Indian empire, the Gupta Dynasty (ca. 320-600 AD). I will specifically discuss certain impacts they have created during their period, which have lasted for many centuries. Politically, culturally, and socially, the Gupta Dynasty united the entire India as one, for a couple of centuries. The Gupta Empire is also referred to as “the Golden Age of India”. The reason for this is because many discoveries in math, science, astronomy, literature, art, education, and philosophy. Although the previous empire, the Mauryan Empire, was highly flourished in the Buddhist culture, the Guptas made Hinduism its staple religion. These aspects they have created, made it one of the most unique reigning empires in India. Although it declined due to poor leadership, the Gupta Empire made their appearance in ancient Indian history imperative and memorable.
HOW CORPORATE HIP HOP DESTROYED THE CIVIL RIGHTS MOVEMENT: THE MOVEMENT AND THE ART

Monique James
America is often depicted as a beautiful, prosperous country built on the principles of liberty and justice for all. Yet, for a long time the lives of people of color in this country have been anything but beautiful, prosperous, or liberated. In fact, throughout American history, Blacks were enslaved and deprived of constitutional rights. Though slavery ended in the late 1800s, the lives of Blacks did not change much. Though they were freemen, they still were not treated just. All of this would gradually change after the Civil War was fought and the 13th-15th amendments were passed. These amendments aimed to give people of color the rights that they were naturally and constitutionally granted. However, Blacks still weren't accepted into society; in a matter of years, their rights were snatched away. Finally, people of color began to fight back in large numbers from the 1950s-1960s in what is known as the Modern Civil Rights Movement (CRM). The CRM brought about a sense of unity, pride, and an overall sense of strength, hope, and change in the Black community. Nonetheless, things would begin to shift as the CRM began to die down and hip hop culture emerged. The art created in the early years of hip hop reflected the power and pride of the CRM. However, over the years, corporate forces have dominated hip hop and the art that now emerges undermines those feelings. This paper will discuss the CRM and its effect on the Black community and analyze how corporate hip hop destroyed it.

CANT WE JUST ALL GET ALONG

Matthew Wilson
anti-Semitic behavior has been long standing in Germany along with bloodshed. the Jewish populations of this region have suffered because of the ignorance and the hatred of them by the German masses. the history of this racial violence targeted at the Jewish minority. the history will raise awareness of what occurred in the middle ages up until the fall of Berlin in 1945. moreover, the antisemitic behavior also includes the use of racist caricatures published in the 1930's and 1940's in some of Germany's newspapers to target the country's majority. the paper will then focus on some motives of antisemitic behavior. it was concluded that antisemitism is a social phenomenon that still exist and, throughout history Germany revealed its own racist agenda towards as religious minority. there should be more of an awareness of antisemitism in history to educate the masses on the subject.
ANALYSIS OF SOME OF THE OLDEST STARS IN THE UNIVERSE
Laura Farrell
A team of international astronomers searched for extremely rare stars using the Australian National University’s telescope SkyMapper. The astronomers searched for extremely old stars containing minuscule amounts of metals. Less metal means the star has a higher composition of hydrogen and helium, the two essential elements needed for star formation. According to the journal Nature the team discover the star SMSS0313 in the southern constellation Hydrus. It is the most metal poor star ever discovered and thought to be the oldest ever found. To further observe the star's composition, researchers interpreted the star's absorption lines using a telescope located at an Australian observatory. The star's precise age can't be determined without revealing its radioactive elements, however studying it's composition may provide insight on how this star, and stars of it's generation, were formed.

GLOBAL WARMING THREATENING COASTAL CITIES
Raymond Mora
Research shows flood exposure is increasing in coastal cities. The change in climate known as global warming has resulted in average global flood losses in 2005 – at the level of around six billion dollars per year. Two researcher, Stanley Schleifer and Nazrul Khandaker describe the climate change and how it causes flooding due to the rise in sea levels. The rise in sea levels is caused by anthropogenic change, which is damage being done to nature due to human practices. One study author, Stephanie Hallegatte described the flood exposure to Alexandria, Egypt and other locations. Various scientists say it’s a world-wide issue, stating if the glaciers and icebergs keep melting, they see the water levels rising – hitting coastal cities the worst. The data and explanations from these scientists lay out the possible future of coastal cites. This news story analyzing sea levels rising is in the form of a radio, web-based audio report.

RECYCLING AT YORK COLLEGE AND IN NEW YORK CITY
Rosanna Singh
This article covers the prospects and particulars of recycling. It entails a general overview of recycling while taking a look at what York College is doing on this front. It reviews how reducing waste materials and recycling some of it benefits the environment. The recycling movement has been influenced by many organizations that make it their mission to collect materials and recycle them to reduce the amount of waste being generated. The College says it has great expectations form its students, faculty and staff to take on the mission of recycling. By placing recycling bins on its campus, York is trying to reduce the waste of potentially useful materials and to reduce the consumption of raw materials. The recycling process
reduces the use of virgin raw materials tied to manufacturing. It also reduces energy usage, cuts air and water pollution, and lowers greenhouse gas emissions, all according to the EPA. Experts also point out recycling can reduce waste by feeding it back into the economy as useful materials. Mostly, this article examines the ways in which recycling can make a difference in our society with interviews and a look at recycling data.

ADVANCES IN BLOOD TRANSFUSIONS

Bryan White
Blood transfusions save many lives but at the same time they have adverse effects on patients. The Food Drug Administration (FDA) has approved a Platelet Additive Solution (PAS3). Research led to a technique called “Indio-radioactive” which was created by using a high content of concentrated sugar along with acetate to separate plasma from red blood cells. By removing the plasma from the red blood cells before blood transfusion, it decreased the reactions in patients receiving the blood. Removing the plasma fools the body into believing the blood it is getting is the owner's blood and not from another person. This is a news story with interviews with the pioneering scientist involved and other research materials.

Movement Science (BS)

MEN AND DIETING

Shelly Mc Eachrane-Mondesir
Satisfaction or dissatisfaction with one’s body image is related to the individual perception of self, as well as to societal influences on what is considered to be ideal. Each culture has a different view of what is considered an acceptable body type. Body image, its perception and acceptance, is influenced by the culture of the society. In our society, the emphasis placed on being thinner has usually targeted women; however, in recent years, that emphasis has slowly begun extending towards men. Dieting is socially constructed to be a feminine behavior, but lately, more men have begun using dieting as a method of weight loss, contradicting the old beliefs of dieting. Purpose: To investigate society’s role in gender stereotyping and evaluate its influence on the selection of dieting by men as a weight-loss method. Methods: Ten males age 26.75 +/- 3.14 and BMI 29.85 +/- 5.94 will be divided into two groups (A and B) for a 3-month intervention period. Group A will meet twice per month for a 30-minute educational video on dieting and healthy lifestyle, along with a 1-on-1 30-minute consultation with a nutritionist. Group B will receive no intervention. Pre- and post-intervention evaluations of weight, height, BMI, and a 14-question survey will be used to assess the effectiveness of each intervention program on male perception, beliefs, and practices pertaining to dieting. An independent T-test will be used to demonstrate significant difference between the groups.
Music (BA)

THE BLACK AMERICAN HERITAGE FOUNDATION: ITS LEGACY AND IMPACT ON YORK COLLEGE AND THE GREATER JAMAICA COMMUNITY

Amina Alexander, Alyssa Cayetano, Ney Francois, Yi Luo, Krystal McClaren, Melanie Pierre, Tiffany Salmon, Oumma Shiwbaran, Yashoda Shiwbaran, Joycelyn Heywood, & Fernanda Vilella

This semester, as part of our course study, the York College Gospel Chorus is researching the history and societal contributions of the Black American Heritage Foundation. This organization, under the leadership of Mr. Clarence Irving, is also responsible for the launching of the Black Heritage Stamp Series with the United States Postal Service. Part of the collection of the BAHF is currently housed in the York College Library, but there are numerous other recordings, transcripts, instruments and other artifacts that are part of the larger collection. Mr. Irving had hoped that the BAHF and York College would be the center of a commemorative display of musical legacy of the greater Jamaica area. Our goal is to present a qualitative study on the contributions and impact the Black American Heritage Foundation has had on the campus and greater Jamaica community.

THE EVOLUTION OF THE "TARGET" VIDEO GAME GENRE

Alex Corrado

An examination of the evolution of the so-called "target" video game genre. This involves a clear explanation of what "genre" entails in the context of a video games, and how it differs from film and literature. I will chart the evolution of the genre, through Shoot 'Em Ups (STGs) to light gun games to rail shooters and Diablo-style actions games and modern Multiplayer Online Battle Arena (MOBA) games like Defense of the Ancient. The mechanics of these genres will be compared. The meaning and purpose of major mechanics in the genre's history will be explained and summarized.

TREATING DEPRESSION WITH VIDEO GAMES

Abraham Lopez

Depression is a major issue around the world that is treated by numerous experts using various treatments for various conditions. From adolescence to adulthood, individuals are susceptible to many forms of depression. Video games have recently been incorporated in the treatment of depression. In 2011, the video game SPARX (Smart, Positive, Active, Realistic, X-Factor) was created in New Zealand as an alternative form of therapy for adolescents of the ages 12-15. The study yielded mostly positive results in the battle against depression and will most likely be the first of many video game treatments for depression.
CURRENT GOOD MANUFACTURING PRACTICES FOR PHARMACEUTICALS: REPACKING AND RELABELING

Iqbal Ahmed, Mohammad Z. Islam, & Deb N. Chakravarti*

Drug repacking and relabeling are considered manufacturing processes which must be conducted in accordance with applicable current Good Manufacturing Practice (cGMP) requirements. Drug repacking and relabeling operations are related to the provisions of the cGMP regulations in the US Code of Federal Regulations (CFR): 21 CFR 210 and 211. Under cGMP, controls of the repacking and relabeling of drugs have been a long standing problem for the US Food and Drug Administration (FDA). Product mix-up, loss of product identity, contamination and cross-contamination, lack of stability data to support expiration dates and the lack of adequate control systems have often been reported. FDA believes that a repacker should establish control over incoming drug products for repacking and relabeling as it is required by the cGMP regulations. The repacker and relabeler should perform the operations as the manufacturer would package and label the product into consumer-sized containers. In practice, however, the repacking and relabeling operations are little different from the operations of the manufacturer who has drug products in bulk storage, and packages and labels it in the final market container. This project attempts to present the differences between repacking and relabeling operations and the operations followed by the drug manufacturer. Additional focus will be on the FDA’s expectation on repacking and relabeling operations of the drug products.

PRECLINICAL STUDIES ON THE USE OF TRANSDERMAL PATCHES FOR DELIVERY OF FLU VACCINE

Shawwal Akbar, Shanique Champagnie, & Deb N. Chakravarti*

During the twentieth century there have been influenza pandemics leading to large number of deaths. With annual outbreaks involving new flu virus strains, vaccination is the most important preventive measure to reduce seasonal episodes of flu outbreaks. In the event of a pandemic it is very important that adequate supply of flu vaccine is available. However, there is a need for improved vaccine delivery technologies that will provide faster immunization with flu vaccine. Therefore, pharmaceutical researchers are pursuing novel ways of delivering vaccines using nasal sprays and patches instead of the needle prick. This commonly used method of delivery of vaccines using syringe and needle brings about a scare in many individuals. The alternative delivery methods can render influenza vaccination easier and more acceptable by the public. The effective use of first- and second- generation transdermal delivery systems has increased the chances for development of a potential third-generation delivery system. This could be used as an alternative to oral delivery and hypodermic injections. Third-generation delivery systems target their effects to skin’s barrier layer of stratum
corneum using microneedles for transfer of macromolecules and vaccines. Application of such microneedles for vaccine delivery is currently progressing through preclinical studies. If deemed successful, this innovative way of delivering vaccines to the skin will significantly contribute to public health.

CURRENT GOOD MANUFACTURING PRACTICES FOR PHARMACEUTICALS: BUILDINGS AND FACILITIES

Shanique Champagnie, Anessia Nagesar, & Deb N. Chakravarti*

The United States Code of Federal Regulations (CFR) contains a series of current regulations for all federal agencies. The CFR is published in the federal register by executive departments and agencies of the federal government. Title 21 part 211 that covers US Food and Drug Administration (US FDA) discusses requirements needed for buildings and facilities for manufacturing of pharmaceuticals under current Good Manufacturing Practice (cGMP). Buildings and facilities are very important in the manufacturing practice because of the sterility needed for production of pharmaceuticals. If the building and facilities used are not within the standards set in the cGMP, then there is a great possibility for contamination, damage, and infestation of products produced. Title 21 part 211 gives suggestions on the size, infrastructure, and layout of a pharmaceutical manufacturing establishment. It also provides requirements for the facility, such as, temperature, aseptic processing, lighting, ventilation, air flow, plumbing procedures, washing and toilet facilities, etc., necessary to meet the standards in assuring the quality of the manufactured pharmaceutical products.

DETERMINATION OF THE AMOUNT OF IRON IN A SUPPLEMENT TABLET USING SPECTROPHOTOMETRIC ANALYSIS AND REDOX TITRATION.

Thierry Comeau, Sametha Petit-Frere, Abbas Nazir, & Audrey Wu

Through analytical chemistry, basic techniques can be applied to identify, verify, and analyze many products by determining the concentration and the amount of active or inactive ingredients in a given sample. In this experiment, quantitative analysis is performed to determine the amount of iron in a commercially available iron pill through spectrophotometric analysis and redox titration. The latter is a quick, simple, safe, and effective procedure in which potassium permanganate (KMnO4) standardized with sodium oxalate, is used as a titrant and a self-indicator to monitor the reaction. Additionally, the absorbance of the solution is taken throughout the analysis in order to construct a calibration curve which will be used to find the equivalence volume. Similarly, spectrophotometric analysis is used to find the amount of iron in the pill using 1,10–phenanthroline as a primary reagent. The benefits of the latter are that it creates stable iron (II) complex and emits in the visible light region which makes absorption of light possible; the calculations of the concentration is also easier by using Beer’s law. With these methods, the amount will be determined and compared to the claimed dosage of the pharmaceutical company.
ZOHYDROER (HYDROCODONE BITARTRATE EXTENDED RELEASE CAPSULES): CONTROVERSIAL FDA APPROVED DRUG
Ludma Delva, Avinash Chatoo, Thierry Comeau, Ludma Delva, & Deb N. Chakravarti*

Zohydro is an opioid agonist, extended-release, oral formulation of hydrocodone bitartrate administered for the management of pain severe enough to require daily, around-the-clock, long-term opioid treatment and for which alternative treatment options are inadequate. This drug is similar to the well-known drug Oxycontin. However, Zohydro comes in significantly higher doses and is ten times more powerful. Zohydro is prescribed only under certain circumstances by authorized healthcare professionals who are knowledgeable in the effective use of opioids for the control of chronic pain in patients. This project aims to examine Zohydro’s dosage, side effects, addictive properties, precautionary measures and importance to patients suffering from chronic pain. In addition, this project will discuss the drug’s interactions with the body and other substances such as alcohol. The controversy with regard to US Food and Drug Administration’s approval of the drug stems from overdose deaths and addiction rates from prescription painkillers similar to Zohydro.

METFORMIN AS A FIRST LINE OF TREATMENT FOR TYPE 2 DIABETES
Zulec Dominguez, Anne Valerie Dorsainvil, Christian Franco, & Deb. N. Chakravarti*

According to the Centers for Disease Control and Prevention (CDC), as of 2011, 25.8 million people representing 8.3% of the population of the United States are affected by diabetes. There are three types of diabetes: type 1, type 2 and gestational diabetes. The pancreas of type 1 diabetics does not produce insulin at all, whereas type 2 people do not produce enough insulin or has cells that do not respond properly to the insulin produced by the pancreas. Metformin is the first line of treatment for type 2 diabetics. This project involves the drug Metformin and its actions on type 2 diabetes patients. Our goal is to discuss several aspects of Metformin treatment, such as contraindications, side effects, mechanism of action, pharmacology, interactions with other drugs as well as pharmacogenomics. Metformin is an oral medication that controls the level of blood glucose in type 2 diabetics. It works primarily by suppressing glucose production by the liver. Like many other drugs, Metformin has its advantages and disadvantages. This project will focus on all the advantages and benefits that Metformin brings to the life of diabetes patients as well as the adverse effects that it causes.

CURRENT GOOD MANUFACTURING PRACTICES FOR PHARMACEUTICALS: ENFORCEMENT ALTERNATIVES IN THE UNITED STATES - RECALLS, WARNING LETTERS, SEIZURES AND INJUNCTIONS
Ibrahim Halilu, Roger Brooks, & Deb N. Chakravarti*

The United States has established Code of Federal Regulations. These are permanent rules published in the Federal Registrar. Title 21 is mostly reserved for
the US Food and Drug Administration (FDA). The FDA is in charge of enforcing current Good Manufacturing Practices (cGMPs). Compliance with cGMPs assures the identity, strength and purity of drug products manufactured. The FDA presumably has no direct authority to order a firm to recall a violative product without the aid of the court system, due to the Federal Food Drug and Cosmetic Act. Enforcement alternatives are used against those who do not comply with cGMP guidelines. These alternatives include warning letters, seizures and injunctions. These are the focus of this project.

DRUG SHORTAGES AND ITS IMPACT
Tahidul Hossain, Komi Govina, Shaquille Griffiths, Tahidul Hossain, & Deb N. Chakravarti*

Drug shortages are critical threats for the healthcare system and may cause serious problems for public health. Drug shortages are commonly caused by delays at the manufacturers end, shortages of raw materials, quality and manufacturing problems that may lead to interruptions of supply of drugs, as well as discontinuations. Recently, this problem has become more frequent due to increase in demand for medicines, such as sterile injectable drugs and cancer drugs. This issue has become a prime concern for the United States. The US Food and Drug Administration (FDA) take a lot of efforts within its legal authority to prevent this problem. In order to resolve the issue and prevent drug shortages, the FDA has set up alternative options, such as determining manufacturers who produce the same medicine and work with them to increase their production levels. The FDA facilitates the manufacturer to find out the root cause of the crisis and provide them with the support to ensure restoration of availability. The FDA also increases their inspection process of existing manufacturing plants to warrant that quality is maintained. FDA obtains most of the drug shortage information from the manufacturers. Drug shortages adversely affect patient care by causing replacement of safe and effective therapies with alternative treatments that may be less effective.

COMBATING COUNTERFEIT AND SUBSTANDARD DRUGS
Misfa Khanam, Sharmini Khalikaprasad, Misfa Khanam, Linda Kontoh, & Deb N. Chakravarti*

Counterfeit drugs are known as fake medicine. These drugs are believed to be legitimate by patients, but they are fraudulently produced or mislabeled. These drugs are usually contaminated and improperly stored and transported according to the US Food and Drug Administration. Some of the drugs commonly available as counterfeits include: Phentermine, Vicodin, Lipitor, Avastin, Viagra and weight loss medications. Among other side effects for patients, such drugs may cause treatment failure, organ damage, toxicity, death, economic loss, and allergic reactions. The sale of these drugs causes patients to lose confidence in the healthcare system. Counterfeit drugs are commonly sold through online pharmacies. Ways to prevent the sale of counterfeit drugs include implementation of strong legislation, enforcement of stricter punishments, innovation of technology to counter fake
medications produced by drug companies, and inform the public about the danger of counterfeit drugs. To prevent purchasing of counterfeit drugs, patients should buy drugs from a trusted retailer and avoid non-regulated online pharmacies. The fight against counterfeit drugs is multifaceted and requires a long term effort. It requires all stakeholders to contribute actively in order to achieve success. The project is designed to examine the influence of certain factors on consumer behavior regarding counterfeit drugs and what the government agencies are doing to keep them off the market.

CURRENT GOOD MANUFACTURING PRACTICES FOR PHARMACEUTICALS: DRUG PRODUCT CONTAINERS AND CLOSURES

Fatema Khaton, Nara Min, & Deb N. Chakravarti*

This presentation is intended to provide information on standard procedures and general principles following which pharmaceutical drugs are packaged and labeled. In the US Code of Federal Regulations, the Food and Drug Administration specifies current and good manufacturing practices for finished pharmaceuticals (PART 211 SUBPART E). One of these aspects includes the control of components and drug container closure systems. Recently, validation techniques following current Good Manufacturing Practice (cGMP) have been developed to increase the level of quality assurance. This has extended to suppliers and is known as vendor qualification or certification. Vendor qualification system shows that a supplier’s product is manufactured under controlled settings and conditions following cGMP requirements which ensure consistent quality and safety of the product. This system is focused primarily around prevention of defects. This premise significantly reduces the need for consumer inspection. When there is enough evidence stating that they have the ability to consistently produce quality work, vendors are deemed as “qualified.” We will focus on the requirements of quality expectations for container closure systems in relation to cGMP.

CURRENT GOOD MANUFACTURING PRACTICES FOR PHARMACEUTICALS: BUILDINGS AND FACILITIES

Anessia Nagesar & Shanique Champagnie

The United States Code of Federal Regulations (CFR) contains a series of current regulations for all federal agencies. The CFR is published in the federal register by executive departments and agencies of the federal government. Title 21 part 211 that covers US Food and Drug Administration (US FDA) discusses requirements needed for buildings and facilities for manufacturing of pharmaceuticals under current Good Manufacturing Practice (cGMP). Buildings and facilities are very important in the manufacturing practice because of the sterility needed for production of pharmaceuticals. If the building and facilities used are not within the standards set in the cGMP, then there is a great possibility for contamination, damage, and infestation of products produced. Title 21 part 211 gives suggestions on the size, infrastructure, and layout of a pharmaceutical manufacturing establishment. It also provides requirements for the facility, such as, temperature,
aseptic processing, lighting, ventilation, air flow, plumbing procedures, washing and toilet facilities, etc., necessary to meet the standards in assuring the quality of the manufactured pharmaceutical products.

FLUMIST QUADRIVALENT: PAINLESS NASAL DELIVERY INFLUENZA VACCINE
Arifa Parveen, Nara Min, Arifa Parveen, Ridhish Patel, & Deb N. Chakravarti*
FluMist is the brand name of the flu vaccine that does not involve painful injections, such as in the case of the commonly given flu shots. It is given as a nasal spray in which the vaccine is applied to the person’s nostrils with a small needleless syringe. Unlike the traditional flu shots that contain inactivated flu viruses, FluMist contains live attenuated or weakened viruses that reproduce inside the person’s nose and produce viruses that the immune system learns to attack. FluMist was approved by the US Food and Drug Administration in 2012. It is the first quadrivalent flu vaccine containing four strains, to protect against two influenza A and two influenza B strains. The most common side effects of FluMist Quadrivalent are runny or stuffy nose, sore throat and fever. FluMist is approved for use in children, adolescents, and adults ages 2 through 49. FluMist is made by MedImmune and is marketed mainly for use in children. This project will focus on the advantages, disadvantages and important safety information of this vaccine with a novel delivery system.

CURRENT GOOD MANUFACTURING PRACTICES FOR PHARMACEUTICALS: CONTRACTING AND OUTSOURCING
Ridhish Patel, Marcus Taylor, Ridhish Patel, & Deb N. Chakravarti*
Over the last twenty years, larger pharmaceutical companies have undergone many mergers and seen a number of major acquisitions. This has resulted in increased costs and demands for manufacturing more products by these companies. Because of this, the pharmaceutical contracting and outsourcing industry has grown exponentially. This increased use of contractors also possesses potential problems for pharmaceutical companies when the contractors do not follow current Good Manufacturing Practices (cGMPs). If any part of the development, testing, packaging, or distribution process is not compliant with cGMPs, then that specific product is considered adulterated by law. Adulterated products cannot be legally sold on the market. In this project, we will discuss the pharmaceutical processes that are usually contracted out, responsibilities and obligations of the client and the contractors, as well as ways for selection and maintenance of contractors. Therefore it is very important that the outsourced contractors be chosen with utmost caution.
CURRENT GOOD MANUFACTURING PRACTICES FOR PHARMACEUTICALS: EQUIPMENT

Mostafizur Rahaman, Kakoli Paul Chowdhury, Tahidul Hossain, & Deb N. Chakravarti*

cGMP refers to the Current Good Manufacturing Practice regulations enforced by the US Food and Drug Administration (FDA). This presentation will focus on manufacturing equipment, which play a vital role in the pharmaceutical manufacturing process. The design of equipment, its size and location is critical for success. Construction of equipment is very important as well. The surface of the equipment should be inert and not react with any component of the pharmaceutical product being manufactured. Clean in place (CIP) and clean out of place (COP) procedures for cleaning and maintenance of equipment should be validated and comply with standard operating procedures (SOP). Preventive maintenance procedures for the equipment should be established and carried out on time as directed and the procedure documented. Manufacturing instruments are usually classified as GMP critical and GMP non-critical. Automatic, mechanical or electronic equipment, including computers and related systems should be routinely inspected and calibrated. Validation of complete computer systems that play a very important role in the manufacturing process involves both equipment qualification and software validation. Appropriate FDA guidance documents offer a structured approach for the process. Design, validation, cleaning and maintenance of equipment along with computer or related systems is highly critical for pharmaceutical manufacturing.

2013 NOBEL PRIZE IN CHEMISTRY

Andriele Silva, Anne Valerie Dorsainvil, Andriele Silva, Avinash Chatoo, Misfa Kahnam, and Yolanda A. Small*

The Nobel Prize 2013 in Chemistry was awarded to Martin Karplus of the University of Strasbourg in France and Harvard University, Michael Levitt of Stanford University School of Medicine and Arieh Warshel of the University of Southern California. These scientists have been acknowledged “for the development of multiscale models for complex chemical systems.” They began 40 years ago, where they helped to develop computational techniques for modelling processes such as chemical reactions and protein folding. In addition, they combined quantum mechanics and molecular mechanics into a technique called QM/MM which is now a state-of-the-art approach for simulating processes in biomolecular systems. This project aims to examine the formulation of the QM/MM theory (A.Silva) which is used to explain large complex chemical systems and reactions. The project will demonstrate the link between the theory and several relevant applications, for instance, protein folding (A. Dorsainvil). Furthermore, this theory has facilitated the understanding of various chemical processes such as, the purification of exhaust fumes (M. Khanam) and photosynthesis in green leaves (A. Chatoo).
DETERMINATION OF IRON IN A SUPPLEMENT PILL
Andriele Silva, Anne Valerie Dorsainvil, Ibrahim Halilu, Ludma Delva, and Emmanuel Chang*

The main focus of this experiment is to determine the amount of iron in a supplement pill. Is the amount contained in a pill the same as it is advertised on the bottle label? Well, to find that out two different methods will be used. The first one is redox-titration, which is a type of titration based on a redox reaction between what is being analyzed and the titrant, in addition it is inexpensive and readily available. However, since KMnO₄ is being used in our experiment there is a difficulty in storing the solution without decomposition or alteration in concentration due to its high reactivity. The second method is called Gravimetric analysis and it uses the total mass collected at the end of the experiment to exactly determine the mass of a product sample. It is a very accurate and precise method when modern analytical balances are used, nevertheless the process is extremely time-consuming.

TIVORBEX: A LOWER DOSAGE OF INDOMETHACIN CAPSULES FOR THE TREATMENT OF PAIN
Andriele Silva, Samentha Petit-Frere, Eric Sasu, & Deb N. Chakravarti*

Iroko Pharmaceuticals recently obtained approval from the US Food and Drug Administration for Tivorbex (Indomethacin) capsules, a non-steroidal anti-inflammatory drug (NSAID), at 20 mg and 40 mg doses for the management of mild to moderate acute pain in adults. The approved dosage strengths are 20% lower than the 25 mg and 50 mg indomethacin products currently available. Tivorbex contains Indomethacin as submicron particles that are approximately 20 times smaller than their original size. It is the second NSAID to be approved by Iroko’s lower dose NSAID pipeline that uses proprietary SoluMatrix Fine Particle Technology. Reduced particle size provides increased surface area that leads to faster dissolution of the drug. It works by inhibiting cyclooxygenase enzymes (COX-1 and COX-2) which cause pain, fever, and inflammation. Indomethacin is used to relieve moderate to severe pain, swelling, tenderness, and stiffness caused by rheumatoid arthritis, ankylosing spondylitis and osteoarthritis. It is also used to relieve pain in the shoulder caused by bursitis and tendinitis. Although Indomethacin has potent anti-inflammatory and analgesic properties, but like other NSAIDS, it can lead to dose-related serious adverse side effects. Tivorbex will allow physicians to prescribe a lower dose formulation for this well-known NSAID.

CURRENT GOOD MANUFACTURING PRACTICES FOR PHARMACEUTICALS: HOLDING AND DISTRIBUTION
Andres Yepez, Nabila Mohamed, Andres Yepez, & Deb N. Chakravarti*

Holding and distribution of pharmaceuticals are vital parts for ensuring high quality pharmaceutical products. Warehousing procedures determine conditions in which the product will be stored following specifications in the United States Pharmacopeia (USP). These specifications include temperatures and labels to
separate products, so that they can be stored under conditions that will keep the product stable. Physical separations and storage conditions are essential to deliver a high quality product. Distribution procedures establish control over how and where products are delivered. How products are delivered ensure certain level of quality of the product. Records of places where products are delivered facilitate recalls of defective products. All these procedures must be followed by the personnel involved in holding and distribution. Distribution and storage procedures are continually monitored. These procedures are constantly evolving and adapting to implementation of new technologies.

**WEIGHT LOSS DRUGS**

*Ye Qin Zhang, Xiangying Wu, Abebe Zenebe, Ye Qin Zhang, & Deb N. Chakravarti*

Obesity is a serious health issue in the world, because it can trigger other fatal diseases including heart disease and cancer. Currently, two kinds of drugs with different mechanism of action are being used to prevent and treat obesity. One type of such drugs is “appetite suppressants”, which stimulate the release of chemical signals such as serotonin, epinephrine and norepinephrine to reduce patient’s hunger. These appetite suppressant drugs can cause various side effects, such as increased heartbeat, increased blood pressure, and insomnia. Examples of this type of drugs are phentermine, topiramate and Belviq. Phentermine itself is a prescription drug for short term use, while the drug combination of phentermine and topiramate is for long term use. The US Food and Drug Administration has also approved the appetite suppressant drug Belviq for long-term use in treating obesity. Besides this, the other type of weight loss drugs belongs to “inhibitor of absorption of fat” class, which reduce caloric intake by preventing the digestion and absorption of fat. These drugs have side effects including diarrhea and abdominal discomfort. Example of this type of drug is Orlistat. Orlistat has both prescription version called Xenical and over-the-counter (OTC) version called Alli. In spite of the availability of these drugs, it is expected that obese patients would combine the use of these drugs with exercise and a healthy diet.

**AMBIEN: DOWNSIDES OF A BLOCKBUSTER MEDICATION**

*Cornelius C Iwu, Md Kamruzzaman, Kavita Khadar, & Deb N. Chakravarti*

Zolpidem is a widely prescribed nonbenzodiazepine sedative and also a hypnotic medication available in the United States since 1992. This blockbuster drug is sold under the trade name Ambien by Sanofi-Aventis. It affects chemicals in the brain that may become unbalanced to cause sleep problems. In the recent past, attention has been drawn to the drug’s potential to cause automatism and sleep related complex behaviors, such as, sleep walking, sleep driving, as well as sleep sex in rare cases. These complex behaviors have led to a series of legal claims - “the pill made me do it”. Some people involved in the legal battle have successfully used the “involuntary intoxication defense” to get their charges reduced. However many more have not been successful in doing so. This presentation explores how the legal system has handled claims surrounding sleep related complex behaviors.
allegedly caused by Zolpidem. These cases have led to recommendations for forensic psychiatrists to prove whether or not Zolpidem led to the aberrant behaviors exhibited. The expertise of toxicologists can enhance the credibility of such analyses. Finally, the U.S. Food and Drug Administration have recently notified the general public on this widely prescribed insomnia drug with the recommendation that the nighttime dose be lowered.

**Political Science (BA)**

VIDEO GAME VIOLENCE AND ITS IMPACT ON THE REAL WORLD

_Swatanter Polce_

Is there a relationship between violent sound effects and images in video games and the amount of violence in real life? Do violent sound effects and images in video games increase violent behavior? A survey of students and others has been conducted in order to determine if there is a relationship.

JAPANESE POLITICAL CULTURE AND ITS STANDING IN THE WORLD

_Brandi Stanbury_

This paper explores the ways in which Japan’s political culture impacts its standing in the world. It examines the fundamental factors that help facilitate Japan’s political culture and how the Japanese political culture model is used to achieve successful economic and socioeconomic outcomes. I want to test my hypothesis that Japanese political culture is a contributing agent in its standing in the world as well as its significance as a competing power in the global world economy.

**Psychology (BA)**

THE RELATIONSHIP BETWEEN ONLINE AND OFFLINE FRIENDSHIPS

_Lucky Colter & Kristin Davies*

Recent research has investigated the roles of self-esteem and self-consciousness in the development of social media friendships (Lee, Moore, Park & Park, 2012). The results suggested that those with low self-esteem who are high in public self-consciousness were driven to make greater number of online friendships than those with higher self-esteem. However, less is known about the relationship between “real world” friendships and whether the number of such friendships relates to the amount of friendships accumulated via social media accounts. An online survey will be administered to 100 students from a four-year institution, and will inquire about both online and offline friendships. We expect that the results of a regression analysis will reveal that greater numbers of online friendships will significantly predict having fewer interactions with friends in the real world. This finding would imply that although people report having many friends online, they may not actually have many active real world relationships.
MINDFULNESS-BASED STRESS REDUCTION HELPS IMPROVE CHRONIC INFLAMMATORY CONDITIONS AND SYMPTOMS IN ADOLESCENTS; PLUS PROMOTES A BETTER OVERALL QUALITY OF LIFE

Raisa Hasan

Evidence suggests that psychological stress is a provocative factor of symptoms in chronic inflammatory conditions such as Inflammatory Bowel Disease (IBD), like Ulcerative Colitis (UC); which frequently starts in adolescence. Although medication is often used for symptom management, it has numerous adverse side-effects, thus remission can be difficult to reach. Studies indicate that therapeutic Mind–body complementary and alternative medicines like Mindfulness-based-stress-reduction (MBSR) significantly improve symptom management and overall quality of life for such individuals. This proposal investigates the effectiveness of MBSR in reducing symptoms of UC and anxiety amongst adolescents (ages 15-22). Participants will be randomly assigned to MBSR group or an attention only control group. Appropriate measures of anxiety and stress will be taken before, during, and after the 8-week intervention alongside self-reported UC symptoms. Follow up health-related quality of life (HRQOL) will be assessed at 3 months and 6 months. It is predicted that participants in the MBSR group will exhibit significantly fewer UC symptoms, anxiety, stress, and better quality of life compared to the control group. Results of this research design can help set a foundation to implement future in-depth studies of how MBSR or a mind-body therapy approach can aid in better management of chronic inflammatory symptoms in adolescents with IBD, in the hopes of reaching earlier remission.

Sociology (BA)

ASSESSING THE ATTITUDES OF YOUNG ADULTS TO THE UNITED STATES PRISON SYSTEM

Dina Amer

My research will examine young men and women ages 18-29 attitudes toward the present day prison system as well as laws and legislative actions that regulate the system of incarceration. I will conduct ten interviews with young men and women, to assess the attitudes of young adults toward the United States prison system. Participants will work in law enforcement, or have experience with the prison system as well as individuals who have no experience with the prison system. I will be interested in seeing the way these young adults view our prison system and see it as fair and providing rehabilitation as well as whether it treats people equally regarding race. They will be asked what terms like mass incarceration, “stop and frisk”, delinquency, crime and rehabilitation mean to them. I will analyze interview data for themes and patterns in attitudes toward the prison system. I plan on introducing statistics from The SentencingProject.Org as well as research from the National Council on Crime and Delinquency. I will be gathering information from sources in the York College Library Database as well as information, quotes and
statistics from Michelle Alexander’s book The New Jim Crow. My research will target New York more specifically, this is an important issue because the United States currently has a population of 2.2 million individuals who are incarcerated, with more than 60% of the population being racial and ethnic minorities (TheSentencingProject.Org).

STORYTELLING AS A FEMINIST ACT

Dina Amer
Storytelling is in many ways a combination of fact and fiction. It gives the narrator a way to tell a part of their story how they want to and how they see fit. This form of self-expression is interchangeable with the power to tell the story itself. I believe what it is more empowering is the feminist perspective of storytelling. Storytelling can be a feminist act in itself because it allows authors like Dorothy Allison and Marjane Satrapi, who I will discuss to take control of traumatic events and make connections to a bigger picture; a mediation between subconscious and reality. This bigger picture for Allison was to not be the victim of an abusive past and for Satrapi this bigger picture was to be a strong independent and informed woman, who was not a product of oppression and social inequality.

GENDER ROLES AND DIVISION OF LABOR IN RELATIONSHIPS

Melissa Medina
Gender roles and division of labor in relationships have changed throughout time. It is seen that many more women are in the paid work field. However, who is doing the work at home? The purpose of the research is to find demographics and how people feel about their role and division of labor in relationships. Factors are age, income, and culture. 10 people in heterosexual relationships were asked questions through an unstructured, open ended, qualitative interview.

Spanish (BA)

DETRAS DE LA HISTORIA DE DON QUIJITE DE MANCHA

Ruﬁno A Abreu
Se estar presentación orar se estará explorando la novela de caballería de una perceptiva diferente donde estará exponiendo el personaje de don quijote de la macha.

THE CONSTRUCTION OF A GENUINE LATIN AMERICAN IDENTITY IN JOSÉ MARTÍ’S ESSAY, ‘OUR AMERICA’: A CALL FOR UNITY AND IMMEDIATE ACTION

Piedad Hoyos, Brenda Ordeuña, Karina Tapia, & Yesenia Neddall
José Martí, a Cuban freedom fighter, poet, essayist, journalist, political theorist and revolutionary, is one of the most outstanding figures of the letters of our continent. He lived in the United States for more than a decade where he studied the North
American literature and culture, and organized and conducted an independence movement to liberate Cuba from the colonial power. In 1891, his enlightening and visionary essay, Nuestra América/Our America, was published in New York. In this project we will discuss, analyze, and present the central themes of Martí’s essay: a) defining and constructing a collective identity; b) the imperial threat against Latin America, c) a call for unity and action to defend our land, its history and culture. Furthermore, we will analyze and introduce the main topics that in Martí’s views are crucial in the process of defining and constructing individual and collective identities: a) education, b) government, and c) race. Finally, we will emphasize the validity of José Martí’s ideas in the current economical, political, and social Latin America situation.


Dilelmi A Martinez, Danesa Manon, Martha Paredes, Erica Rivera, & Tania Tepale
This Education 351 classroom project is designed for native Spanish speaking students who are in the 2nd grade. Our project proposes the teaching and learning of the Spanish language through a holistic program which integrates literature, culture and pedagogy. In this program, grammar will be contextualized in a culturally relevant manner, considering the linguistic competence and valuable cultural history of the students. The program will equally emphasize the four components of language: Listening, Reading, Speaking, and Writing through a multiple array of learning activities, including exposing students to Latin American writers. Additionally, it will encourage the creation of personal narratives, short stories, poetry and literary murals. The program is inspired by the philosophical and educational views of Paulo Freire and Bell Hooks whose ideas instill emancipation, liberation and empowerment of the student; with the ultimate goal that the students would lend themselves to the transformation of society as cultural producers.

THE IMPORTANCE OF TEACHING AND LEARNING SPANISH THROUGH A HOLISTIC PROGRAM WHICH PROMOTES THE PRESERVATION AND DEVELOPMENT OF THE LANGUAGE AND CULTURE OF THE SPEAKER.

Susana Rebaza, Evelyn Minaya, Yesenia Ned dall, Susana Rebaza, & Jeffri Rubin
This Education 371 classroom project is designed for native Spanish speaking students who are in the 8th grade. Our project proposes the teaching and learning of the Spanish language through a holistic program that integrates literature, culture and pedagogy. In this program, grammar will be contextualized in a culturally relevant manner, considering the linguistic competence and valuable cultural history of the students. The program will equally emphasize the four components of language: Listening, Reading, Speaking, and Writing through a multiple array of learning activities, including exposing students to Latin American writers. Additionally, it will encourage the creation of personal narratives, short stories, poetry and literary murals. The program is inspired by the philosophical and educational views of Paulo Freire and Bell Hooks whose ideas instill emancipation, liberation and empowerment of the student; with the ultimate goal that the students would lend themselves to the transformation of society as cultural producers.
poetry and literary murals. The program is inspired by the philosophical and educational views of Paulo Freire and bell hooks whose ideas instill emancipation, liberation and empowerment of the student; with the ultimate goal that the students would lend themselves to the transformation of society as cultural producers.

Undeclared

The Role of Music in Video Games

Enrique Villatoro

The role of music in video games varies. Whenever it is setting the theme or ambiance of an environment or just the use of pop music to better incorporate games into the mainstream media. The different aspects of composed works contribute to its different uses. This also applies to what makes up pieces of works or genres. Different aspects can be different instrumentation, scales, modes.
### General Statistics

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2. Performing Arts Center
   94-45 Guy R. Brewer Boulevard
3. Health and Physical Education Building
   160-02 Liberty Avenue
4. Science Building
5. Classroom Building
6. Athletic Field
7. FDA Building
8. East Parking Lot
9. Site for Future Development
10. Child Care Center
    94-20 160th Street

PUBLIC TRANSPORTATION
A. Jamaica Center Subway Station
B. Jamaica Center Bus Terminal
C. Jamaica LIRR Station
   (8 blocks West at Sutphin Boulevard)
Acknowledgements

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