# source

## SYMPOSIUM OF UNIVERSITY RESEARCH AND CREATIVE EXPRESSION

## FRIDAY, APRIL 17, 2015: 10 A.M. - 4 P.M.

## PROGRAM 2015

### EVENT LOCATIONS

CONFERENCE REGISTRATION,
EXHIBITION HALL &
PANEL DISCUSSION
NYIT AUDITORIUM ON BROADWAY
1871 BROADWAY
BETWEEN 61ST AND 62ND STREETS

AFTERNOON BREAKOUT SESSIONS
16 W. 61ST ST.

NYIT

NYIT.EDU/SOURCE

# Symposium on University Research and Creative Expression (SOURCE) 2015

## New York Institute of Technology

Dear NYIT Faculty, Staff, Students, and Friends:

Welcome to the Twelfth Annual SOURCE of NYIT!

Creative expression and research with faculty members have become integral parts of a student's educational experience at New York Institute of Technology. The SOURCE is intended to provide a unique opportunity for students to present their research and creative scholarly work in collaboration with their faculty members and mentors. The SOURCE also generates a common ground for interdepartmental, interschool, and interdisciplinary communication.

I am very pleased to inform you that 46 abstracts were accepted for presentation and more than 128 undergraduate and graduate students of NYIT, representing all campuses, schools and colleges, have authored or co-authored these abstracts. The depth and breadth of the projects are strong indications of the quality of our teaching and learning at NYIT. I would like to take this opportunity to congratulate all the students for their academic excellence at NYIT.

Many individuals in the NYIT community have worked on the event diligently to make it a success. I would like to extend a very special thank you to all the students, faculty, administrators and volunteers who assisted with the preparation, management, and operation of SOURCE.

Sincerely,

Dr. Roger Yu, Chair
SOURCE Committee

| *Symposium on University Research and Creative Expression 2015*<br>*Program* | |
|---|---|
| **10 a.m. - 10:20 a.m.** | **REGISTRATION and BREAKFAST**<br>**NYIT Auditorium on Broadway, 1871 Broadway, New York, NY 10023** |
| **10:30 a.m. - 11:30 a.m.** | **EXHIBITION HALL**<br>**NYIT Auditorium on Broadway** |
| **11:30 a.m. - 11:45 a.m.** | **PRESIDENT'S REMARKS AND GROUP PHOTO**<br>**NYIT Auditorium on Broadway** |
| **12 noon - 1 p.m.** | **PANEL DISCUSSION**<br>***"Are Arts and Sciences Really That Far Apart?"***<br>**PANELISTS: Zenos Frudakis, Sculptor, Keynote Panelist, "*Beauty and Truth*."**<br>**Spencer Turkel, Professor, Life Sciences, NYIT**<br>**Moderator: Roger Yu, Dean, College of Arts and Sciences, NYIT**<br>**NYIT Auditorium on Broadway** |
| **1 p.m. - 1:30 p.m.** | **LUNCH**<br>**NYIT Auditorium on Broadway** |
| **1:30 p.m. - 2:45 p.m.** | **BREAKOUT SESSIONS**<br>**NYIT 16 W. 61st Street, New York, NY 10023** |
| **3 p.m. - 3:30 p.m.** | **CERTIFICATE PRESENTATION**<br>**Dean Roger Yu, College of Arts and Sciences**<br>**NYIT 16 W. 61st Street** |

| **Breakout Sessions**<br><br>**1:30 p.m.-2:45 p.m.** | **8th Floor<br>Room 821<br>Moderator:<br>Dina Karafantis** | **8th Floor<br>Room 822<br>Moderator:<br>Blair Hoplight** | **10th Floor<br>Room 1026<br>Moderator:<br>Ana Petrovic** | **11th Floor<br>Auditorium<br>Moderator:<br>Michael Banks** | **11th Floor<br>Conference Room 1119<br>Moderator:<br>Carol Dahir** |
|---|---|---|---|---|---|
| **1:30 p.m.** | "Public Relations Affects the Brain" | "Facilitating University Interdisciplinary Research" | "Solar Bike with Regenerative Braking" | "*Until the End*" | "*Alu Aliya*" |
| | Shanice Branch | Niket Patel | Kunal Kataria,<br>Vivek Ramani | Melanie Benyadi,<br>George Montana,<br>Simone Smith,<br>Igor Urbano,<br>Vanessa Cordoba | Nicole Pereira |
| **1:45 p.m.** | "Are Police Officers Reticent to Show Force When Their Precinct is Under Media Scrutiny" | "The Effects of Empathy on Gender Roles" | "Eradicating Ebola" | "*2014 Year In Fire*" | "Taobao Village E-commerce Models in China" |
| | Ramesh Ramdass | LaMar Thompson-Hightower,<br>Rebecca Syers,<br>Edward Torriero,<br>Michael Iglesias | Pai Zhu,<br>Xiaoyue Che,<br>Tiffany Montoya | Christopher Maslanka | Qian Kong |
| **2:00 p.m.** | "The Impact of the Second Presidential Town Hall Debate in 2012: How Candidates' Answers to Questions from the Audience Affected Viewers" | "Does Video Game Activity Effect Creativity?" | "Protein Kinase C-2 Regulation of PRDX-2 in Stress, Aging and Thermotaxis in Caenorhabditis Elegans" | "Starbuck's Coffee Commercial" | "Enterprise Cloud Security Challenges in China" |
| | Laura Dumitrescu | Richard Madia,<br>Jennifer Cirillo,<br>Syeda Mujahid,<br>Andrew Schweigert | Geet Amin,<br>Kirtan Patel,<br>Swetha Alluri,<br>Magdalene Economou,<br>Michael Gaspari,<br>Karolina Zektser,<br>Christi Oommen | Jonathan Mui,<br>Ingrid Johnson,<br>Jing Wang,<br>Hua Yumin,<br>Meng Fan | Zheng Jiang,<br>Peng Junyi,<br>Wu Can,<br>Ni Tianyi |

| **Breakout Sessions 1:30 p.m.- 2:45 p.m.** | **8th Floor Room 821 Moderator: Dina Karafantis** | **8th Floor Room 822 Moderator: Blair Hoplight** | **10th Floor Room 1026 Moderator: Ana Petrovic** | **11th Floor Auditorium Moderator: Michael Banks** | **11th Floor Conference Room 1119 Moderator: Carol Dahir** |
|---|---|---|---|---|---|
| **2:15 p.m.** | "An Examination of the Acceptance of Aggression in College Athletes vs. Non-Athletes" | "Androgyny Vs. Gender Roles" | "Wave Solutions to Complex Swift-Hohenberg Equation" | "Rio" | "Biogas as a Sustainable Alternative for Energy Supply and Waste Management" |
| | Shawn Murphy, Luke Miller, Malissa Horan, Jennifer Lisojo | Judy James, Alexis Carter, Eva Elibert, Andrea Barbera | Jonathan Furniss, Joseph Balicki, Andrew Reed | Olga Krasnova | Tagba Djato-Bougonou |
| **2:30 p.m.** | "Police Response in an Emergency Compared to Media Response" | "How Does a Cell Phone/Mobile Phone Distract You From Your Task?" | "Absolute Configuration of Thia-Bridged Triarylamine Heterohelicenes via Theoretical and Experimental Investigations" | "*Two Bad*" | |
| | Adam Crowe, Zalpa Mandalaywala, Kareen Husaini, Marlon Quijije | Dianne Reitberger, Blythe Gabayan, Lesley John, Gabriella Ramirez | Bettina Gliemann | Lauren Agostini, Marion Helluy, Andrea Truyols Chavarria, Abdulmohsen Al Kanawy, Christopher Maslanka | |
| **2:45 p.m.** | | "A Pilot Study Examining the Relationship between Impulsivity and Novelty-seeking Behavior in Onset of Addiction" | | "Thoughts" | |
| | | Adriana Antoci | | Sara Algain | |

| Exhibition Hall<br>NYIT Auditorium on Broadway | |
|---|---|
| “Chemistry of DNA-Substrate Surface (Glass-DNA Microarray quality): Enhancement of Nucleic Acid Immobilization” | Ashley Varkey, Farhana Tamanna, Mary Chagin |
| “United We Stand: New York State Nurses Association Lobby Day Albany, NY Safe Staffing for Quality Care Act Bill A06571/S03691-A” | Catherine Citarrella, Keziah Alummoottil, Aziza Rosario, Lauren Hughes, Christina Kewal |
| “United We Stand: New York State Nurses Association Lobby Day Albany, NY Safe Staffing for Quality Care Act Bill A06571/S03691-A” | Brittany Ross, Obil Thomas, Djimmitry Jean-Louis, Abimbola Otufale, Ewa Chaberek, Kevin Jacob |
| “United We Stand: New York State Nurses Association Lobby Day Albany, NY Safe Staffing for Quality Care Act Bill A06571/S03691-A” | Kamil Ahmed, Janette Paiva, Kristen Simmons, Remina Thomas, Liliana Zavala, Ziting Zhao |
| “The Effect of Sphingosine 1 Phosphate on Dentate Gyrus Neuron Differentiation” | Werda Alam, Ada Wong, Stephan Owens |
| “El Contorno” | Christopher Cetola, Jorge Villao, Gregory Preus, Kevin Kawiecki |
| “Living Large in Little Homes” | Brian Johnson |
| “Identification of Important Residues in the N-domain of the ClpX Unfoldase for Substrate Recognition in E. coli” | Favour Akinjiyan |
| “Anatomical Studies in the Roman Sculpture Court at the Metropolitan Museum of Art” | Brian Blum |
| “Visual Effects” | Spandana Aliminati |
| “Pirate” | Xin Feng, Rundong Jiang, Jun Wang, Anqi Wang, Xiangnan Liu, Jindan Qi |
| “The Effects of Synthetic versus Natural Testosterone on the Human Body” | Sharif Zaher, Diane Moya, Pratik Kapadia |
| “Lenscape” | Marwan Elayouby, Nadine Nassim, Pepa Cummins, Victoria Nikolaeva |

| Exhibition Hall<br>NYIT Auditorium on Broadway | |
|---|---|
| “A Crisis of Global Proportions” | Alanna Flowers |
| “Distribution and DNA Content of Nucleic Acids in Acral Lentiginous Melanoma” | Alexia Skiadas, Michael Gaspari, Isabella Portugal |
| “AMP-Activated Protein Kinase Regulates Mitophagy in H9c2 and NRVC Cells” | Amanda Kaminaris |
| “Molecular Modeling of Chiroptical Properties towards Structural Elucidation of Chiral Medicinal Natural Products” | Misael Pena, Thallys Goncalves |
| “Nitroaspirin Induces Apoptosis and Expresses Stress Proteins in Cancer Cells” | Fatin Nabil |
| “Stop Bad Breath PSA” | Rosemarie Sparacio, Nicole Pereira, Dan Demeco, Thomas Gilmore |
| “Music and Neural Function” | Khusbu Patel, Mohammad Bilal Khan, Asad Sheikh, Roua Araim |

# Exhibition Hall

## NYIT Auditorium on Broadway

- "Chemistry of DNA-Substrate Surface (Glass-DNA Microarray quality): Enhancement of Nucleic Acid Immobilization"
  By: Ashley Varkey, Farhana Tamanna, Mary Chagin

- "United We Stand: New York State Nurses Association Lobby Day Albany, NY Safe Staffing for Quality Care Act Bill A06571/S03691-A"
  By: Catherine Citarrella, Keziah Alummoottil, Aziza Rosario, Lauren Hughes, Christina Kewal

- "United We Stand: New York State Nurses Association Lobby Day Albany, NY Safe Staffing for Quality Care Act Bill A06571/S03691-A"
  By: Brittany Ross, Obil Thomas, Djimmitry Jean-Louis, Abimbola Otufale, Ewa Chaberek, Kevin Jacob

- "United We Stand: New York State Nurses Association Lobby Day Albany, NY Safe Staffing for Quality Care Act Bill A06571/S03691-A"
  By: Kamil Ahmed, Janette Paiva, Kristen Simmons, Remina Thomas, Liliana Zavala, Ziting Zhao

- "The Effect of Sphingosine 1 Phosphate on Dentate Gyrus Neuron Differentiation"
  By: Werda Alam, Ada Wong, Stephan Owens

- "El Contorno"
  By: Christopher Cetola, Jorge Villao, Gregory Preus, Kevin Kawiecki

- "Living Large in Little Homes"
  By: Brian Johnson

- "Identification of Important Residues in the N-domain of the ClpX Unfoldase for Substrate Recognition in E. coli"
  By: Favour Akinjiyan

- "Anatomical Studies in the Roman Sculpture Court at the Metropolitan Museum of Art"
  By: Brian Blum

# Exhibition Hall

## NYIT Auditorium on Broadway

- "Visual Effects"
  By: Spandana Aliminati

- "Pirate"
  By: Xin Feng, Rundong Jiang, Jun Wang, Anqi Wang, Xiangnan Liu, Jindan Qi

- "The Effects of Synthetic versus Natural Testosterone on the Human Body"
  By: Sharif Zaher, Diane Moya, Pratik Kapadia

- "Lenscape"
  By: Marwan Elayouby, Nadine Nassim, Pepa Cummins, Victoria Nikolaeva

- "A Crisis of Global Proportions"
  By: Alanna Flowers

- "Distribution and DNA Content of Nucleic Acids in Acral Lentiginous Melanoma"
  By: Alexia Skiadas, Michael Gaspari, Isabella Portugal

- "AMP-Activated Protein Kinase Regulates Mitophagy in H9c2 and NRVC Cells"
  By: Amanda Kaminaris

- "Molecular Modeling of Chiroptical Properties Towards Structural Elucidation of Chiral Medicinal Natural Products"
  By: Misael Pena, Thallys Goncalves

- "Nitroaspirin Induces Apoptosis and Expresses Stress Proteins in Cancer Cells"
  By: Fatin Nabil

- "Stop Bad Breath PSA"
  By: Rosemarie Sparacio, Nicole Pereira, Dan Demeco, Thomas Gilmore

- "Music and Neural Function"
  By: Khusbu Patel, Mohammad Bilal Khan, Asad Sheikh, Roua Araim

# Chemistry of DNA-Substrate Surface (Glass-DNA Microarray quality): Enhancement of Nucleic Acid Immobilization


Student Names: Ashley Varkey, Farhana Tamanna, Mary Chagin
Faculty Mentor: Claude Gagna
Department: Life Sciences, College of Arts and Sciences


The purpose of this research project was for NYIT students to help Dr. Gagna in better understanding the chemistry between intact, unaltered double-stranded and multi-stranded DNA molecules being attached to a substrate surface (i.e. solid support). Usually the surface of DNA microarrays is functionalized by using a specific chemical that will bind to the modified DNA. We are attempting to develop DNA microarrays that can immobilize intact DNA directly to the glass surface of the microarray without functionalizing the glass and modifying the DNA. This would result in lower costs for DNA microarrays and less background noise which would translate into more precise data.

# United We Stand: New York State Nurses Association Lobby Day Albany, NY Safe Staffing for Quality Care Act Bill A06571/S03691-A


| | |
|---|---|
| Student Names: | Catherine Citarrella, Keziah Alummoottil, Aziza Rosario, Lauren Hughes, Christina Kewal |
| Faculty Mentor: | Cheryl Zauderer |
| Department: | Nursing, School of Health Professions |


On April 21, 2015, New York nursing schools will participate in the New York State Nurses Association's Lobby Day to promote safe staffing ratios for RNs and their patients. As emerging Registered Nurses (RNs) it is our hope to maintain a high quality of patient care. One vitally important issue is to advocate for ourselves and our patients, a safe patient environment, along with providing the best possible quality of nursing care. As future RNs we plan to support previous nurses who have done so in the past and provided a path for us. We need to continue on that path in order to progress. Working with a weak staffing ratio poses a threat to our patient's health and wellness, as well as to the wellbeing of our nurses. Inadequate staffing poses a threat to patient safety, which is the highest priority of any healthcare professional. By providing safe staffing ratios we may be able to limit the number of hospital related mistakes and limit the number of patient readmissions into health care facilities. In addition, we may be able to decrease the amount of medication errors, promoting improved patient outcomes, and patient and family satisfaction. There is solid evidence to demonstrate that poor nurse-patient ratios are linked to poorer patient outcomes in acute settings, such as hospitals. One reason for this can be due to a lack of adequate time to care for our patients. Research indicates that poor nurse-patient ratios are linked to increased length of stay, nurse turnover, increased medication errors, increased patient mortality, and decreased patient education. Errors that take place as a result of poor nurse-patient ratios not only result in increased financial costs but also decrease the patient's trust in the health care team. "To err is Human." 98,000 people die each year as a result of medical errors which can be prevented. As student nurses our goal is to initiate safer staff ratios to decrease incidences of medical errors. Evidenced based practice research supports safe staffing as evidenced by the state of California. Safe staffing laws were implemented and as a result patient outcomes were improved. The state noted an increase in patient safety, shorter hospital stays, and an improvement in quality care. The goal of nursing is patient centered care. In order to properly practice this, we must first set forth safe practices.

# United We Stand: New York State Nurses Association Lobby Day Albany, NY Safe Staffing for Quality Care Act Bill A06571/S03691-A


| | |
|---|---|
| Student Names: | Brittany Ross, Obil Thomas, Djimmitry Jean-Louis, Abimbola Otufale, Ewa Chaberek, Kevin Jacob |
| Faculty Mentor: | Cheryl Zauderer |
| Department: | Nursing, School of Health Professions |


The Florence Nightingale pledge expects us, as Registered Nurses (RNs), to devote ourselves to the safety and well-being of those committed to our care. We stand united in order to protect the patients we care for. According to New York State Nurses Association (NYSNA) fact sheet, "Safe staffing saves lives, the number of patients assigned to a nurse has a direct impact on our ability to appropriately assess, care for, and safely discharge our patients." (NYSNA fact sheet #2). On April 21, 2015, the student RNs of the New York Institute of Technology will allow our voices to be heard, and lobby for what is right for our patients, their families, and all the New York State RNs. According to the Code of Ethics, 3.5, when acting on questionable practice; action needs to be taken. Evidence based practice included in Quality Management in Health Care 2010 (NYSNA, fact sheet #2), maintains that increasing staff by 5% decreases adverse patient outcomes by 15.8%. This statistic is quite alarming. In Bill A06571, RNs are advocating for a safe staffing law as it is essential to providing quality care to our patients. Hospitals put our patients at risk when they compel RNs to take on too many patients at once. Evidenced based practice studies demonstrate that safe staffing laws reduce medical errors, hospital injuries and deaths. The state of California passed a safe staffing law, and patient outcomes improved dramatically. Florence Nightingale once stated, "I think one's feelings waste themselves in words; they ought all to be distilled into actions which bring results." (Nightingale, Fuller, Cook, 2015). The New York Institute of Technology student RNs are not keeping silent. We are taking action, in high hopes to yield satisfying results.

# United We Stand: New York State Nurses Association Lobby Day Albany, NY Safe Staffing for Quality Care Act Bill A06571/S03691-A


| | |
|---|---|
| Student Names: | Kamil Ahmed, Janette Paiva, Kristen Simmons, Remina Thomas, Liliana Zavala, Ziting Zhao |
| Faculty Mentor: | Cheryl Zauderer |
| Department: | Nursing, School of Health Professions |


As we begin our journey as professional registered nurses (RN), the graduating nursing class at NYIT is becoming aware of the responsibility for all RNs to voice their concerns regarding issues and challenges that RNs today may face. Advocating for both our patients and ourselves, and voicing our concerns at the national level, will help the nursing profession to implement changes in public policy and help us continue to flourish. On April 21, 2015, the senior nursing class of New York Institute of Technology will participate in the annual New York State Nurses Associations Lobby day where we will have the opportunity to discuss with government officials the staffing crisis that is affecting nurses all across New York State. Our NYIT graduating class of 2015 will address the fact that in order to have optimal patient outcomes, it is essential for RNs to have optimal staffing. We will present evidenced based practice research regarding the improvement of the nurse patient ratios and how it will create a safer environment for patients and staff by decreasing mortality rates, improving patient satisfaction, reducing RN burnout and fatigue, and increase RN retention and job satisfaction. By becoming politically involved, we can contribute to the collaborative effort in finding a solution to the staffing crisis, while helping to strengthen nursing practice and patient care.

# The Effect of Sphingosine 1 Phosphate on Dentate Gyrus Neuron Differentiation

Student Names: Werda Alam, Ada Wong, Stephan Owens
Faculty Mentor: Bhuall Nandkumar
Department: Life Sciences, College of Arts and Sciences

Sphingosine 1 phosphate is a bioactive lipid mediator. Using mice, the effect of sphingosine 1 phosphate on dentate gyrus neuron differentiation was studied. When a neuron is born from a progenitor cell in the subgranular zone, it moves into the granular cell layer. As it moves it turns from horizontal to vertical with its dendrites pointing towards the CA3 region. This distance of migration and the angle of rotation is used to measure how much the neuron has matured. Sphingosine 1 phosphate receptor expression knockdown was used to decrease the effect of sphingosine 1 phosphate expression in mouse hippocampus neurogenesis. Young mice were transfected with prepared viruses that contained RNA which decreased the expression of S1PR1. After being left to develop, mice of different ages were sacrificed and their brains were studied using immunohistochemistry. They were prepped, sliced, and stained. Using Imaris software, the neuron paths were traced and 3D structures were recreated in a virtual setting. By analyzing the distances traveled and angles of rotation of the developing neurons at varying ages, the impact of S1P in memory formation was studied. Although the study is in progress, the implications include elucidation of S1P action in Alzheimer's disease and identification of potential therapeutic targets.

# El Contorno


| | |
|---|---|
| Student Names: | Christopher Cetola, Kevin Kawiecki, Jorge Villao, Gregory Preus |
| Faculty Mentor: | Farzana Gandhi |
| Department: | Architecture, School of Architecture and Design |



Social Impact Design is a subset of the design profession that is increasingly gaining relevance in both academia and practice. Such public interest design is especially powerful when modestly funded, community based projects in public space operate on a small scale to result in changes of large social significance. This work is often driven by community input and participation-each project tells a story, which is as much about process as it is about end product. A Social Impact Design-Build Collaboration between the New York Institute of Technology and the University of Puerto Rico made this project possible. Several weeks were dedicated to pre-design and design-development workshops and meetings through videoconferencing. Students immersed themselves in the collaborative design processes typical of Social Impact Design to design an intervention specific to the local needs, climate, and culture. Students from both schools participated in building the project on the University of Puerto Rico grounds in San Juan, Puerto Rico. This was a tremendously rewarding experience offering pro-bono community service, while also learning through building and engaging hands-on was invaluable for all involved.

# Living Large in Little Homes

Student Name: Brian Johnson
Faculty Mentor: Heather Korb
Department: Architecture, School of Architecture and Design

Home ownership has always been an integral part of "The American Dream." However, due to the rising costs of living, many are finding this dream to be out of reach. Living Large in Little Homes is an attempt to bring about a solution to the ever increasing costs of home ownership. Micro-Homes, houses that are typically less than 500 square feet in size, are inexpensive to construct and maintain, yet offer an array of creative living possibilities. The Micro-Homes will be built in Pocket Communities, which consist of several homes clustered together with a communal recreation area at its center. The small nature of these houses makes outdoor living necessary. All homes made will have porches facing towards the center of the community. This promotes social, face-to-face interaction, something that has disappeared in what has become our isolated world. These Pocket Communities will be vernacular, slightly changing upon location. If a particular region offers resources such as geothermal or wind power, the communities will adjust to exploit these potential power sources. The communities will be self-sufficient, self-contained entities, thus allowing Pocket Community to be placed practically anywhere. Where streets would ordinarily be in a neighborhood, pedestrian walkways will take their place. Cars will be parked on the outskirts of the neighborhood, and community members will walk to their place of dwelling. By removing cars from the community, noise and air pollution are lessened and a healthy environment begins to flourish. All the homes will be run on renewable energy resources, such as solar panels, to eliminate both pollution and home ownership energy costs. The panels will be placed on the roofs of the homes, and energy collected will be stored for communal use. This sharing of power will give each resident a sense of responsibility for the community. Rainwater will be collected as well by each resident to be exploited for the communal gardens located in the central gathering area which will grow fruits and vegetables to supplement the food consumed by the residents. Located on the outskirts of the community will be Micro-Shops, stores that are tiny in nature but offer necessary goods for living. The stores will be equipped with solar panels and rainwater barrels to assist the community in keeping living costs down. The Micro-Home Pocket Communities will allow for low-cost housing, social interaction, interconnected, self-sufficient, and close web communities, and make the dream of home ownership achievable once again.

# Identification of Important Residues in the N-domain of the ClpX Unfoldase for Substrate Recognition in E. coli

Student Name: Favour Akinjiyan
Faculty Mentor: Niharika Nath
Department: Life Sciences, College of Arts and Sciences

Proteolysis is the process by which proteins are degraded into smaller units, including short peptides of amino acids. This process is important for regulation of gene expression and proteostasis as well as protein quality control in all organisms. Proteolysis is performed by AAA+ proteases, enzymes that use energy from ATP hydrolysis for protein degradation. Protease complexes are composed of an unfoldase component and a peptidase component. The unfoldase is responsible for the recognition, binding and unfolding of a substrate protein. The subsequent translocation of the unfolded substrate into the proteolytic cavity of the peptidase results in degradation. A typical AAA+ protease is ClpXP that consists of ClpX, an unfoldase, in complex with ClpP, a peptidase, for protein degradation. Because of the irreversible nature of protein degradation, it is important that the protease complex recognizes the substrates specifically. This is a crucial step because improper substrate recognition by a protease could lead to loss of essential proteins and mishap in cell function. Recognition occurs via small peptidic sequences on the substrate protein called degrons or tags that interact with the central pore of ClpX. Additional recognition sites located on the the N-domain of ClpX have been identified in the case of certain substrates such as MuA and FNR, a global transcription factor of E.coli. Previous work in the Baker Lab has indicated that specific residues on the N-domain of ClpX may be involved in the interaction with FNR, including the glutamate residue at position 39. We hypothesize that this residue is crucial for substrate recognition and processing of FNR. My own project involves the expression, purification and biochemical characterization of ClpX E39A, a variant of ClpX in which an alanine replaces the glutamate at position 39. Methods used to characterize E39A include: ATPase assay, protein degradation assays, and fluorescence anisotropy assays. Results from ClpX E39A characterization show that it is a functional enzyme that can degrade ssrA-tagged substrates but it is deficient in FNR degradation. ClpX E39A binds well to Sspb XB peptide but binds weakly to FNRwt peptide. Based on our results, we conclude that the glutamate at residue 39 of ClpX is important for processing of FNR. This secondary interaction between ClpX and FNR serves as a model system for non-pore interactions between enzymes and substrates

# Anatomical Studies in the Roman Sculpture Court at the Metropolitan Museum of Art


Student Name: Brian Blum
Faculty Mentor: Sarah Curtis
Department: Osteopathic Manipulative Medicine, College of Osteopathic Medicine


As an osteopathic medical student, much of my current practice involves learning about the subcutaneous structures that dictate our human form and function. For this creative project, I have spent time drawing the sculptures of the human form at the Greek and Roman Sculpture Gallery in the Metropolitan Museum of Art. These ancient marble sculptures are able to convey the tone of a muscle or the torsion of the spine beneath the skin. Informed by my anatomic and osteopathic knowledge, I have depicted what muscles and bones are at work within these sculptures in order to illuminate what lies beneath.

# Visual Effects

Student Name: Spandana Aliminati
Faculty Mentor: Donna Betancourt
Department: Communication Arts, College of Arts and Sciences

My piece of art work would be on collection of visual effects. Visual Effects is primarily executed in the post-production stage. My interest in visual effects led me to participate in this presentation. I would like to show some physical destruction works. Guidance from my professor helped me a lot to do my work. The software I used for this is 3D Maya software and for compositing Adobe Premiere and After Effects were the other software. With my special interest in this work I have done few works in real flow which is very interesting software for me to play with liquid effects.

# Pirate


| | |
|---|---|
| Student Names: | Xin Feng, Rundong Jiang, Jun Wang, Anqi Wang, Xiangnan Liu, Jindan Qi |
| Faculty Mentor: | Thomas Madrigal |
| Department: | Communication Arts, College of Arts and Sciences |


My group uses lighting and special effects technology to do the project. First we set up the background, then light the characters, and go shooting. After shooting, we do editing by Adobe AE. In the scene there are several characters, but we only shoot one character one time, we put all characters together by special effects.

# The Effects of Synthetic versus Natural Testosterone On the Human Body


Student Names: Sharif Zaher, Diane Moya, Pratik Kapadia
Faculty Mentor: Gavin McStay
Department: Life Sciences, College of Arts and Sciences


Testosterone is a hormone produced in the testicles in men and the adrenal glands in both men and women. Synthetic testosterone is a slightly modified version of natural testosterone, pharmaceutical companies produce synthetic testosterone so they can patent it and call it a drug. Our aim is to compare the effects of natural testosterone to different variations of synthetic testosterone. By comparing the symptomatic and physiological effects, we will be able to determine which is more efficient in both the clinical and athletic field.

# Lenscape


| | |
|---|---|
| Student Names: | Marwan Elayouby, Nadine Nassim, Pepa Cummins, Victoria Nikolaeva |
| Faculty Mentor: | Donna Betancourt |
| Department: | Communication Arts, College of Arts and Sciences |



Lenscape is a groundbreaking augmented reality glass technology which allows users to connect to a world far beyond imagination. Lenscape allows you to interact with the world around you on another spectrum of lifestyle. Use physical gestures to control your apps, movies, books and explore a new way of life with voice communication technology.

# “A Crisis of Global Proportions”

Student Name: Alanna Flowers
Faculty Mentor: Rozina Vavetsi
Department: Fine Arts, College of Arts and Sciences

“A Crisis of Global Proportions" is an infographic that explores the paradox surrounding the consequences of overconsumption and hunger. The infographic starts with an introduction to the key challenges that we as a world face with millions being both overweight and malnourished. Lack of access to clean water also plays its part as it contributes to the disease and poor crop yields in developing nations. Although these issues may appear to be exclusive of one another, they can all be traced back to our broken food system. The middle portion of the infographic addresses some of the issues within the food system that greatly contribute to the hardships that farmers face on a daily basis. Money isn’t being invested into sustaining small agricultural communities or growing fruits and vegetables. Lack of market access to bring nutritious food to communities leads to growing waistlines as well as starving communities. Our farmers are the key to providing the world with food, and despite their obvious contributions, a large majority of them are unable to feed their communities or themselves due to these systemic issues. If we can fix the food system, we can feed our farmers and our world in a balanced and nutritious way. Finally, the infographic concludes with solutions to these issues. We as a globe can solve this paradox by improving infrastructures, and by making the necessary investments in female farmers and healthier crops. If we make improving the food systems a priority in nations across the globe, millions of people will be given the opportunity to live healthy lives.

# Distribution and DNA Content of Nucleic Acids In Acral Lentiginous Melanoma

Student Names: Alexia Skiadas, Michael Gaspari, Isabella Portugal
Faculty Mentor: Claude Gagna
Department: Life Sciences, College of Arts and Sciences

Acral lentiginous melanoma is a malignant tumor of melanocytes. It occurs on non-hair bearing surfaces of the human body. Melanoma has continued to increase considerably over the past few decades. New classes of pharmaceuticals need to be produced that can be used to treat and cure acral lentiginous melanoma. We have previously examined the epidermis of normal human skin for the presence of intact, non-denatured right-handed double-stranded (ds-) B-DNA. We are now comparing that data with the anti-ds-B-DNA antibody staining, Feulgen reaction (i.e., DNA content), and H&E staining of acral lentiginous melanoma. Additionally, we used two markers [i.e., MelanA (Anti-MelanA antibody [A103] (ab785) | Abcam), and HMB-45 monoclonal antibodies (HMB45 Antibody (HMB-45) | Pierce Antibodies)] to verify the existence of melanoma in our paraffin-embedded tissue sections (i.e., 2.5 microns thick tissue sections.) Our data reveals that as the junctional nests (i.e., containing nest cells), which contain melanoma cancer cells, are being exported from the epidermis to the dermis, ds-B-DNA immunoreactivity seems to be greater in the portion of the junctional nests (i.e., containing nest cells) facing downward towards the dermis and hypodermis (i.e., active area of growth). This research is helping us better understand the molecular biology of horizontal and vertical growth patterns of melanoma. Being able to locate abnormal amounts of ds-B-DNA (i.e., specific sequences) in epidermal genes will allow for additional target sites to produce new classes of drugs for melanoma (DNA-based drugs). Tissue sections were purchased commercially. This research project was supported in part by a NYIT ISRC grant.

# AMP-Activated Protein Kinase Regulates Mitophagy in H9c2 and NRVC Cells

Student Name: Amanda Kaminaris
Faculty Mentor: Qiangrong Llang
Department: Biomedical Sciences, College of Osteopathic Medicine

AMP-activated protein kinase (AMPK) is an energy sensor that detects and reacts to fluctuations in intracellular ATP levels. AMPK has been shown to protect the heart under several conditions. However, the underlying mechanism remains poorly understood. This project is to investigate whether AMPK affects mitophagy in H9C2 cardiac myoblast cells and neonatal rat ventricular cardiomyocytes (NRVC). Mitochondrial morphology is determined by the balance between fusion and fission. Mitophagy is a process in which damaged mitochondria are degraded by lysosomes. These processes are important for mitochondrial quality control and cardiomyocyte survival. To determine if AMPK regulates mitophagy, we used genetic gain and loss of function approaches to manipulate AMPK activity and quantified mitophagy with a novel dual fluorescent mitophagy reporter. We found that increasing AMPK activity by adenovirus-mediated overexpression of constitutively active AMPK Î±2 subunit did not significantly alter mitophagy activity. Surprisingly, however, siRNA-mediated knockdown of AMPK alpha subunits led to an increase in mitophagy activity. These results suggest that AMPK may negatively regulate mitophagy in cardiomyocytes, contrary to current belief. Further studies are warranted to investigate if AMPK has a similar effect on mitophagy in heart in vivo.

# Molecular Modeling of Chiroptical Properties towards Structural Elucidation of Chiral Medicinal Natural Products


Student Names: Misael Pena, Thallys Goncalves
Faculty Mentor: Ana Petrovic
Department: Life Sciences, College of Arts and Sciences



In the last two decades, there has been a notable shift in the composition of life-improving and life-saving therapeutic agents that have been brought by the pharmaceutical industry to the marketplace. Nearly two thirds of currently FDA approved drugs are Chiral drugs (exhibiting molecular handedness) with only single handed-molecule being considered as effective and safe for administration. This presentation reflects an effort towards structural elucidation of chiral molecules which represent natural products isolated from fungi and which display promising bioactivity as leads for drug design in the pharmaceutical industry. The selected natural products are endowed with multiple chiral centers and with notable molecular flexibility. Determination of the Absolute Configuration (molecular handedness and conformational stability) is essential in furthering the utility of this medicinal target with minimal adverse consequences on human health. The Absolute Configuration is determined by using a combination of three chiroptical spectroscopies (VCD, ECD and ORD) in tandem with quantum mechanical calculations of the same chiroptical properties. Such a combined approach based on the experimentally measured and theoretically simulated chiroptical properties allows for an overall reliable prediction of the AC via comparison of the measured and calculate data. Each method has its own scopes of applicability as chiral probes. As such, the advantage of using simultaneously more than one chiroptical method will be demonstrated.

# Nitroaspirin Induces Apoptosis and Expresses Stress Proteins in Cancer Cells

Student Name: Fatin Nabil
Faculty Mentor: Niharika Nath
Department: Life Sciences, College of Arts and Sciences

Nitric oxide donating aspirin (p-NO-ASA, NCX4040) is a compound that releases nitric oxide and inhibits the growth of various cancer cell lines. We hypothesized that the mechanisms of action of p-NO-ASA may involve apoptosis and changes in stress-related proteins. Cell viability estimation of cancer cell lines with the compound was performed by MTT and specific protein detection for cell stress and for apoptosis was done by western blotting. p-NO-ASA strongly inhibited cell growth. Leukemia cells and HT29 Colorectal cancer cells entered apoptosis in a concentration dependent manner as observed by the appearance of cleaved caspases bands. In addition, stress protein HSP 70 was induced. These results allow understanding of the molecular mechanism of p-NO-ASA and reduced cancer cell growth.

# *Stop Bad Breath PSA*


| | |
|---|---|
| Student Names: | Rosemarie Sparacio, Nicole Pereira, Dan Demeco, Thomas Gilmore |
| Faculty Mentor: | Youjeong Kim |
| Department: | Communication Arts, College of Arts and Sciences |


This presentation will focus on showcasing a public service announcement (PSA) that we produced in our Fundamentals of Television Production Course here at NYIT. The PSA aims to show viewers the importance of personal hygiene and uses humor to highlight how bad breath can negatively affect everyday lives. The entire PSA spans 45 seconds and begins with a narrator stepping into the light and somberly introducing the topic. Then, with Sarah McLachlan's "In the Arms of an Angel" playing in the background, the viewers are taken through different scenarios in which bad breath ruins a day.

# Music and Neural Function


| | |
|---|---|
| Student Names: | Khusbu Patel, Mohammad Bilal Khan, Asad Sheikh, Roua Araim |
| Faculty Mentor: | Bhuall Nandkumar |
| Department: | Life Sciences, College of Arts and Sciences |


The human brain perceives music in a variety of ways that can benefit a person both psychologically and physically. Music's effects on the brain trace back to the 19th century where post mortem examinations on renowned composers showed anomalies that are assumed to be an underlying cause for their musical talent. In addition, music can have an effect on the brain's structure and function, as well as the cognition and behavior of a test subject. One of the brain's unique abilities that attributes to these effects is music's ability to induce neuroplasticity, in which the brain's capacity can change in response to different types of music. Those who learn and play an instrument for several years have increased brain plasticity and a decreased rate of dementia over those of the same age who do not play an instrument. In the study done comparing those who play an instrument and those who do not, adult musicians had enhanced their performance in memory, verbal fluency and cognitive flexibilities; in addition, children also showed similar signs of the profound effect music had on their cognitive and intellectual abilities. This further proved that the earlier an individual trained musically, the more enhanced their brain functioned neurologically; even something as simple as listening to calming music showed links to the retainment of short-term memory. Music is also embedded into certain memories, which is seen in patients suffering mild to intermediate dementia; when listening to music from their past, patients were able to resurface memories, therefore, proving that music is linked to memory.

**Breakout Session Presentations**

**8th Floor**

**Room 821**

**Moderator Dina Karafantis**

**1:30 p.m. - 2:45 p.m.**

- "Public Relations Affects the Brain"
  By: Shanice Branch

- "Are Police Officers Reticent to Show Force When Their Precinct Is Under Media Scrutiny?"
  By: Ramesh Ramdass

- "The Impact of the Second Presidential Town Hall Debate in 2012: How Candidates' Answers to Questions from the Audience Affected Viewers"
  By: Laura Dumitrescu

- "An Examination of the Acceptance of Aggression in College Athletes vs. Non-Athletes"
  By: Shawn Murphy, Luke Miller, Malissa Horan, Jennifer Lisojo

- "Police Response in an Emergency Compared to Media Response"
  By: Adam Crowe, Zalpa Mandalaywala, Kareen Husaini, Marlon Quijije

# Public Relations Affects the Brain

Student Name: Shanice Branch
Faculty Mentor: James Fauvell
Department: Communication Arts, College of Arts and Sciences

Humans have a tendency to remember certain things but forget others. Similarly, public relations specialists are capable of erasing memories and creating new ones, especially for crisis management. My paper will discuss and examine the following on memory loss: 1. Explain how humans use their brain and why humans remember and forget certain things, 2. Discuss selective memory and how it can be related to public relations, 3. Examine the possibility for public relation specialists to curb consumers likeness, 4. Strategies to go about crisis management and to cope with/sway the population's recollection.

# Are Police Officers Reticent to Show Force When Their Precinct Is Under Media Scrutiny?

Student Name: Ramesh Ramdass
Faculty Mentor: Beth Adubato
Department: Behavioral Sciences, College of Arts and Sciences

In the United States, there is high visibility of law enforcement practice, yet low public knowledge on this same topic. This has the potential to distort public views on police, which has strong implications for perceptions of criminal justice legitimacy (Tyler, 2006). “Police brutality” is the label immediately assigned to a case in which a police officer uses deadly force against a citizen. In this day and age of immediate social media, police activities are often characterized as police brutality before the facts are known and well before an investigation is conducted. Does this “trial by media” have an effect on the other police officers in that district? This study examines whether police officers in that district or precinct change their arrest behaviors in the short time period when their district is in the limelight. Examining arrest rates (aggravated assault and homicide) for the same week the previous year and comparing these rates to the week following the well-publicized event may show a pattern of “backing off” while the eyes of the nation are on the particular department.

# The Impact of the Second Presidential Town Hall Debate in 2012: How Candidates' Answers to Questions from the Audience Affected Viewers

Student Name: Laura Dumitrescu
Faculty Mentor: Mandy Zhang
Department: Communication Arts, College of Arts and Sciences

This study intended to examine how the second presidential town hall debate in 2012 affected college students' knowledge and opinions about the debated issues, their attitude toward the candidates, their intention to follow political news and engage in political activities. The second presidential debate between President Obama and Republican nominee Romney, which was held at Hofstra University on October 16, 2012, took the form of a town meeting, in which undecided voters asked questions. The two candidates each had as much as two minutes to respond to a common question, and an additional two-minute follow-up for the moderator to facilitate a discussion. CNN's anchor Candy Crowley was the moderator. The debate drew about 65.6 million viewers from the four main broadcast networks and top cable news outlets. Some studies that analyzed the effects of the town hall debate format on the perceptions of viewers concluded that they failed to challenge voter's pre-existing opinions about the candidates and influence their voting decisions (Jarman, 2010; Gutsche, Kapteyn, Meijer & Weerman, 2014). However, prior research also showed that the televised debates improved viewer's knowledge (Jarman, 2010). These are notable positive effects and educational benefits. According to a content analysis (Gottfried, Hardy, Winneg & Jamieson, 2014), uncontested information in presidential debates was easier to gain. The information delivered by Obama and Romney was probably less contested in the question-and-answer (Q&A) parts when they tried to answer questions from audience members. In such conditions in which viewers learn about the issue stands of the candidates it can influence their preference for one of them (Jarman, 2010). However, there has been limited research about the impact of the Q&A parts of the presidential town hall debate on the viewers. This study intended to fill the gap. The study intended to conduct a survey among college students. Students will be asked to watch the Q&A parts of the second presidential town-hall debate on a computer screen. Then they will be asked to complete a questionnaire with questions measuring the extent to which the video would affect their knowledge and opinions about the debated issues, their attitude toward the candidates, and their intention to follow political news and engage in political activities. It is predicted that exposure to the Q&A parts of the debate will positively affect the above mentioned dependent variables. Control variables include whether they have watched the debate or not and how contested they perceive the information is.

# An Examination of the Acceptance of Aggression in College Athletes vs. Non-Athletes


| | |
|---|---|
| Student Names: | Shawn Murphy, Luke Miller, Malissa Horan, Jennifer Lisojo |
| Faculty Mentor: | Dina Karafantis |
| Department: | Behavioral Sciences, College of Arts and Sciences |



The present investigation examined the perception of aggression and aggressive acts for athletes versus non-athletes. In addition given that research has shown that high levels of aggression are related to low levels of empathy, we also examined whether athletes and non-athletes differ in level of empathy. We hypothesized that athletes would be more accepting of aggression and aggressive acts versus non-athletes and that they will also have lower levels of empathy versus non-athletes, regardless of gender. The study participants consisted of undergraduate students from New York Institute of Technology on the Old Westbury campus. Data collection is currently in process and study participants are being drawn from different classes in the behavioral science department during the 2015 spring semester.

# Police Response in an Emergency Compared to Media Response


Student Names: Adam Crowe, Zalpa Mandalaywala, Kareem Husaini, Marlon Quijije

Faculty Mentor: Beth Adubato

Department: Behavioral Sciences, College of Arts and Sciences



Media and law enforcement both play an important role in a time of crisis. It is commonly believed that these two groups perceive crisis situations in a different manner based on their agendas. We hypothesized that this disparity between the police and media could lead to a more dangerous situation for the public. The focus of this study was the perspective of law enforcement. We distributed surveys to police precincts on Long Island and New York, which contained a scenario related to an emergency situation. Results gathered told us whether or not police and media communication during a time of crisis is done in an efficient manner.

# Breakout Session Presentations

## 8th Floor
## Room 822
## Moderator Blair Hoplight
## 1:30 p.m. - 2:45 p.m.

- "Facilitating University Interdisciplinary Research"
  By: Niket Patel

- "The Effects of Empathy on Gender Roles"
  By: LaMar Thompson-Hightower, Rebecca Syers, Edward Torriero, Michael Iglesias

- "Does Video Game Activity Effect Creativity?"
  By: Richard Madia, Jennifer Cirillo, Syeda Mujahid, Andrew Schweigert

- "Androgny vs. Gender Roles"
  By: Judy James, Alexis Carter, Eva Elibert, Andrea Barbera

- "How Does a Cell Phone/Mobile Phone Distract You From a Task?"
  By: Dianne Reitberger, Blythe Gabayan, Lesley John, Gabriella Ramirez

- "A Pilot Study Examining the Relationship between Impulsivity and Novelty-seeking Behavior in Onset of Addiction"
  By: Adriana Antoci

# Facilitating University Interdisciplinary Research


| | |
|---|---|
| Student Name: | Niket Patel |
| Faculty Mentor: | Joanne Scillitoe |
| Department: | Center for Entrepreneurial Studies, School of Management |



Interdisciplinary research (IDR) offers various benefits in context of creating new knowledge, studies, research, inventions, and small scale entrepreneurs. In today's world universities are the biggest platform for IDR activities, especially in evolving interdisciplinary fields. In this paper a conceptual model is presented which shows how IDR activities can rise and be more successful through different perspective. Now, to study the association between IDR and creation of new knowledge; we build a survey and plan to take it among the faculties and professionals connected with university regarding IDR activity. The purpose of this survey is to get insights into the factors that help in generating inventive and pioneering ideas in the field of study; and also the fact that connects people having different educational background to work beyond the boundaries of their knowledge. We also wanted to study the outcomes of IDR work and their impact through social perspective. After developing the survey our goal is to collect data through the survey form based on this topic; we projected to administer this survey among the selective universities in New York where IDR activity is active enough to fulfill the purpose of study. This experiment will help elucidate underlying factors which contribute positively or negatively to relationships with IDR.

# The Effects of Empathy on Gender Roles


| | |
|---|---|
| Student Names: | Lamar Thompson-Hightower, Rebecca Syers, Edward Torriero, Michael Iglesias |
| Faculty Mentor: | Blair Hoplight |
| Department: | Behavioral Sciences, College of Arts and Sciences |



The purpose of this study was to survey people's opinions on empathy and gender roles. Gender can be a very grey area within society and can be viewed very subjectively depending on the person and how or where they were brought up. In this study that we conducted, we surveyed college students at New York Institute of Technology by giving them a few different scenarios. There were scenarios regarding three different types of gender roles, which were traditional, reverse, or socialization. Students were asked to rate the situation based on their opinion to the appropriateness of the scenario. These survey results showed us the opinion and attitudes college students had on gender roles. We hypothesized that we would find that there would be a large divide in the results based on sexual identification. The participants consisted of undergraduate students from NYIT, Old Westbury Campus. The data was collected from approximately 150 students from classes in the Behavioral Science department for the spring semester of 2015. The study included one random survey using a Likert scale design. The survey was titled "Gender Roles." Participants were given 15 minutes to answer 6 scenarios that expressed their feelings about gender roles. We also asked for demographic information. The survey only required one session. This research helps clarify the evolving nature of changing gender roles in society.

# Does Video Game Activity Effect Creativity?


| | |
|---|---|
| Student Names: | Richard Madia, Jennifer Cirillo, Syeda Mujahid, Andrew Schweigert |
| Faculty Mentor: | Blair Hoplight |
| Department: | Behavioral Sciences, College of Arts and Sciences |



As technology advances so will the use of videogames. Some people believe that playing too many videogames is an unproductive and mindless waste of time. However, others believe that videogames encourage creativity. The purpose of this study was to find the connection between videogame use and creativity in college students. Our research was done to find out what effects videogames have on a person's creativity. We conducted our research on the students of NYIT in the Behavioral Science department. Our research group made a written questionnaire asking people about their videogame usage. We used a Likert scale to measure our results with the options Yes, No, and Sometimes. The survey also included a section where the respondent was given three shapes and needed to make a drawing with each. The results from this survey helped us conclude how videogames effect a person's creativity. We hypothesized that videogames encourage creativity.

# Androgny vs. Gender Roles

Student Names: Judy James, Alexis Carter, Eva Elibert, Andrea Barbera
Faculty Mentor: Blair Hoplight
Department: Behavioral Sciences, College of Arts and Sciences

The purpose of this study was to conduct research comparing the correlation between androgyny and “traditional” gender roles in relationships. What most people in America think to be as the “traditional” way of doing things when it comes to dating, intimacy and relationships can be controversial, especially in the college setting. In this study, we gave students at New York Institute of Technology two different surveys; the BEM scale for psycho-sexual androgyny and a series of statements to collect opinions on gender roles based on dating, intimacy, and relationships. Our survey of statements were all based on opinions toward “traditional” views of gender roles. These surveys allowed us to compare expected gender roles for masculinity and femininity. The research experiment conducted allowed us to interpret how androgyny and gender roles are correlated. The study consisted of participants from the undergraduate Behavioral Science department at New York Institute of Technology, Old Westbury Campus during the spring 2015 semester. Students were given 15 minutes to complete both surveys. These surveys allowed us to correlate “traditional” and expected gender roles with androgyny. The information collected allowed for this research study to determine whether or not “traditional” gender roles correlate directly with masculinity/femininity or actual gender in the college setting.

# How Does a Cell Phone/Mobile Phone Distract You From Your Task?


Student Names: Dianne Reitberger, Blythe Gabayan, Lesley John, Gabriella Ramirez
Faculty Mentor: Blair Hoplight
Department: Behavioral Sciences, College of Arts and Sciences



Cell phones have become a major part of everyday life, but more than often they are considered to be more distracting then helpful. The purpose of this study was to show how a distracting notification signal from a phone could impact the attention of a student performing a task. We hypothesized that the students would be distracted by the signal. The study used 40 undergraduate students from the Old Westbury, New York Institute of Technology campus. In the beginning of the experiment, they were presented with a survey on cell phone use. Each student was randomly placed into two sets of groups; set A had no cell phone vibration during the completion of Stroop test and set B was presented a cell phone vibration. The Stroop test, is a computer based attention task which allows the subjects to identify the color of the words that were represented to them. We recorded the amount of colors each subject got correct in both sets of groups. The goal of this study was to help clarify the extent that a signal from a mobile device can be distracting.

# A Pilot Study Examining the Relationship between Impulsivity and Novelty-seeking Behavior in Onset of Addiction


Student Name: Adriana Antoci
Faculty Mentor: Blair Hoplight
Department: Behavioral Sciences, College of Arts and Sciences



Addictive behavior has historically linked to impulsivity and sensation seeking. One aspect of this behavior is the search for novelty. While many of these tests measure these behaviors broadly, there was few tests designed to examine novelty. The purpose of this study was to develop a tool which would study the relationship between novelty-seeking behavior and the onset of behaviors that can lead to addiction. Using Survey Monkey, an online data collection tool, we took samples from a diverse population using a "snowball sampling" technique. After data collection, the numbers were evaluated for reliability and validity.

**Breakout Session Presentations**

**10th Floor**
**Room 1026**
**Moderator Ana Petrovic**
**1:30 p.m. - 2:45 p.m.**

- "Solar Bike with Regenerative Braking"
  By: Kunal Kataria, Vivek Ramani

- "Eradicating Ebola"
  By: Pai Zhu, Xiaoyue Che, Tiffany Montoya

- "Protein Kinase C-2 Regulation of PRDX-2 in Stress, Aging and Thermotaxis in Caenorhabditis Elegans"
  By: Geet Amin, Kirtan Patel, Swetha Alluri, Magdalene Economou, Michael Gaspari, Karolina Zektser, Christi Oommen

- "Wave Solutions to Complex Swift-Hohenberg Equation"
  By: Jonathan Furniss, Joseph Balicki, Andrew Reed

- "Absolute Configuration of Thia-Bridged Triarylamine Heterohelicenes via Theoretical and Experimental Investigations"
  By: Bettina Gliemann

# Solar Bike with Regenerative Braking


| | |
|---|---|
| Student Names: | Kunal Kataria, Vivek Ramani |
| Faculty Mentor: | Steven Lu |
| Department: | Mechanical Engineering, School of Engineering and Computing Sciences |


The design goal for this project is to design and manufacture a bicycle that is capable of harvesting energy and using regenerative power. The bicycle is being specifically designed for an international multidisciplinary professional society dedicated to the advancement of field research and the ideal that it is vital to preserve the instinct to explore, called the Explorers Club. In an effort to promote and coincide with Solar Impulse's 2015 round-the-world flight the Explorers Club is embarking on their own flag expedition; a cross-country bike ride. The expedition will be featuring a battery-power assisted bicycle which uses no fossil fuels for the 44 day event from San Diego California to Northern Florida. The assist is meant to create an easier ride on uphill climbs, allowing the participants in the cross-country tour to be average people instead of trained cyclists. The Explorers Club contacted NYIT directly to design a bike for the May 2015 expedition. Their main focus for the design is that the bike uses renewable energy to charge the battery/batteries. The design needs to be an optimization of power assist and light weight for the 2,550 mile trip. Their initial thought was to cap the weight at 24 pounds for the entire bike, but after discussions between a representative of the Explorers Club and our design team, it was determined that the 24 pound weight limit be eliminated. The bike needs to be made as light as possible to offset the lengthy trip, the additional weight added to the bike needs to be justifiable to accommodate the entire trip, not only the uphill climbs.

# Eradicating Ebola


| | |
|---|---|
| Student Names: | Pai Zhu, Xiaoyue Che, Tiffany Montoya |
| Faculty Mentor: | Laihan Luo |
| Department: | Mathematics, College of Arts and Sciences |



Ebola is a contagious and deadly disease caused by infection with a strain of Ebola virus. Although it first appears in 1976, the Ebola epidemic reaches its peak in 2014 which raises attention of the world. The world medical association has announced that their new medicine (medicines work for infected people) could cure Ebola. There also are vaccines (vaccines work for potential but not infected people) could prevent people from infection. In this context, this paper builds a mathematical model discussing how to distribute and deliver medicines and vaccines which can help eradicate the Ebola effectively. This paper selects and analyzes the three most infected countries: Guinea, Liberia and Sierra Leone. Separate data from 2014 to January 31, 2015 of infected people and dead people are collected. Afterwards, case studies are set for each of three countries, and tendency of infection and tendency of death in each case study are predicted from exponential curve fitting. Furthermore, we take the budget factors into account, and propose a double-objective optimization model. We hope to save more people's lives and prevent more people from infection, but the cost could not be too high. The optimal quantity of total production of medicines and vaccines are calculated by combining the two objective functions. This paper also considers that the quantity of medicines and vaccines allocated to each country should be in accordance to the seriousness of each country. Therefore, we determine the quantity of medicines and vaccines for each afflicted country according to their corresponding infected people and corresponding predicted tendency. After the quantity of medicines and vaccines are determined, the geographical distribution center for three countries is set in order to deliver them efficiently. This paper considers that more serious country should procure more weight to be closer to the distribution center. Thus, the proposed location to distribute them is the weighted average of the longitude and latitudes of the three countries. By and large, this paper helps solve the production and allocation problems after medicines and vaccines are invented. Based on the data we collected, the result of allocation quantity for each country and the result of location of distribution center are given in the paper.

# Protein Kinase C-2 Regulation of PRDX-2 in Stress, Aging and Thermotaxis in Caenorhabditis Elegans

Student Names: Geet Amin, Kirtan Patel, Swetha Alluri, Magdalene Economou, Michael Gaspari, Karolina Zektser, Christi Oommen
Faculty Mentor: Marianne Land
Department: Life Sciences, College of Arts and Sciences

Activated classical (c) protein kinase Cs (PKCs) phosphorylate serine/threonine amino acids within their substrates, to regulate processes such as growth, differentiation and neuronal function. However, knowledge of in vivo cPKC substrates is limited. PKCs are mis-regulated in a number of diseases, such as cancer, Parkinson's, Alzheimer's, and in aging. In addition, PKC inhibitors are in clinical trials for the treatment of diabetic retinopathy. Most signal transduction pathways and genes that are found in mammals are present in the free living nematode, C. elegans. For example, the aging and cell death pathways were discovered in this worm. In mammals 3 genes encode cPKCs, whereas in C.elegans PKC-2 is the only cPKC. Studying PKC-2 in C.elegans may lead to a further understanding of cPKCs and the development of new therapeutic agents.

Wild type (WT) worms can detect, remember and migrate to the temperature at which they were cultivated with an ample food source. PKC-2 null worms have an athermotactic thermotaxis phenotype, in that they migrate randomly to temperatures other than their cultivation temperature, when placed on a thermal temperature gradient. PRDX-2, a peroxyredoxin, was identified as a differentially expressed protein with increased negative charge (indicating hyper-phosphorylation) in PKC-2 over expressing worms. Peroxyredoxins eliminate peroxides that are generated during metabolism and in the signaling cascades of growth factors and tumor necrosis factor-alpha. prdx-2 null worms have a thermotaxis defect that is similar to pkc-2 null worms and in addition, prdx-2 null worms suppress the thermotaxis phenotype of PKC-2 over expression. PRDX-2 is also an in vitro cPKC substrate (M. Land).

We have used site directed mutagenesis to convert specific serine amino acids to alanine in PRDX-2, which will prevent phosphorylation and mimic unphosphorylated PRDX-2. Conversion of serine to aspartate or glutamate will mimic phosphorylation, as aspartate or glutamate will be negatively charged at physiological pH. Transgenic worms that express WT or mutant forms of PRDX-2 in WT or prdx-2 null worms will be generated. The thermotaxis response, thermotolerance, longevity and sensitivity to peroxide of these transgenics will be tested. This will determine the ability of these mutant forms of PRDX-2 to rescue of the thermotaxis response, decreased longevity and sensitivity to peroxide of prdx-2 null worms.

# Wave Solutions to Complex Swift-Hohenberg Equation


| | |
|---|---|
| Student Names: | Jonathan Furniss, Joseph Balicki, Andrew Reed |
| Faculty Mentor: | Jungho Park |
| Department: | Mathematics, College of Arts and Sciences |



The complex Swift-Hohenberg equation is a model equation for various pattern formation phenomena in physics. These include the Rayleigh-Benard problem of convection in a horizontal fluid layer in the gravitational field, Taylor-Couette flow, some chemical reactions, and large-scale flows and spiral core instabilities. In this study, we will show that the wave type solutions exist. It is proved that two different types of wave solutions, which are constant and variable amplitude wave solutions, exist and what they look like.

# Absolute Configuration of Thia-Bridged Triarylamine Heterohelicenes via Theoretical and Experimental Investigations


Student Name: Bettina Gliemann
Faculty Mentor: Ana Petrovic
Department: Life Sciences, College of Arts and Sciences



Ortho-condensed polycyclic aromatic or heteroaromatic compounds are widely known as helicenes. The steric hindrance between these ortho-fused rings induces a chiral structure without a stereogenic center but an axis of chirality. Early work on ortho-bridged triarylamine heterohelicenes dates back to Hellwinkel and coworkers in the 70s, including twofold carbonyl- and dimethylmethylene bridged triarylamines. Inserting thia-bridges instead causes a C(sp2)-S bond elongation which results in a greater overlap of the fused rings and therefore higher steric repulsion between the ortho-protons resulting in higher racemization barriers. We present our work on the assignment of the absolute configuration of thia- and sulfone-bridged heterohelicenes. Oxidation of thia-bridged triarylamine heterohelicene rac-1 yields sulfone-bridged triarylamine rac-2. The racemic mixtures of 1 and 2 could be separated via enantioselective high performance liquid chromatography (HPLC) giving two enantiomers. In a joint project between New York Institute of Technology (NYIT) and Columbia University, using theoretical and experimental methods, the absolute configuration of both enantiomers of thia-bridged heterohelicene 1 and sulfone-bridged heterohelicene 2 has been assigned to either P or M helicity.

**<u>Breakout Session Presentations</u>**
**11th Floor**
**Auditorium**
**Moderator Michael Banks**
**1:30 p.m. - 2:45 p.m.**

- "*Until the End*"
  By: Melanie Benyadi, George Montana, Simone Smith, Igor Urbano, and Vanessa Cordoba

- "*2014 Year in Fire*"
  By: Christopher Maslanka

- "Starbuck's Coffee Commercial"
  By: Jonathan Mui, Ingrid Johnson, Jing Wang, Hua Yumin, Meng Fan

- "*Rio*"
  By: Olga Krasnova

- "*Two Bad*"
  By: Lauren Agostini, Marion Helluy, Andrea Truyols Chavarria, Abdulmohsen Al Kanawy, Christopher Maslanka

- "*Thoughts*"
  By: Sara Algain

# *Until the End*


| | |
|---|---|
| Student Names: | Melanie Benyadi, George Montana, Simone Smith, Igor Urbano, Vanessa Cordoba |
| Faculty Mentor: | Donald Fizzinoglia |
| Department: | Communication Arts, College of Arts and Sciences |



Three days before I began to write this script, I received a phone call from my father. He gave me the news that my uncle had passed away. Unfortunately, I couldn't go to France to say goodbye and pay my respects to him. All I am left with are my memories of him. This movie is a tribute to people who have lost a family member, friend, or someone who is important in their life. Through a love story, this movie reminds us just how important it is to enjoy all moments that we are given to spend with the people that we love; and that no one knows when it will be the last.

# *2014 Year in Fire*


| | |
|---|---|
| Student Names: | Christopher Maslanka |
| Faculty Mentor: | Michael Banks |
| Department: | Communication Arts, College of Arts and Sciences |


In this video, I show the activities of the 46 fire department in Montgomery, NJ.

A link to the video can be seen here: https://www.youtube.com/watch?v=XItStgplPHI

# Starbuck’s Coffee Commercial


Student Names: Jonathan Mui, Ingrid Johnson, Jing Wang, Hua Yumin, Meng Fan

Faculty Mentor: Youjeong Kim

Department: Communication Arts, College of Arts and Sciences



The project is about advertising Starbuck's coffee. The commercial is about a group of women talking about their favorite way of drinking coffee. We think at first, they are talking about men, but discover later that they are talking about coffee.

# *Rio*

Student Names: Olga Krasnova
Faculty Mentor: Dena Winokur
Department: Communication Arts, College of Arts and Sciences

A documentary, shot in different districts of Rio de Janeiro, showing people on the streets who find their way to do art. All types of art - dancing, drawing, singing etc. The log line of the film is “Art is everywhere. All around us and within.” In this film I wanted to express an amazing experience of being in this amazing city.

# *Two Bad*


| | |
|---|---|
| Student Names: | Lauren Agostini, Marion Helluy, Andrea Truyols Chavarria, Abdulmohsen Al Kanawy, Christopher Maslanka |
| Faculty Mentor: | Assia Lakhlif |
| Department: | Communication Arts, College of Arts and Sciences |



"Two Bad" is a short narrative film shot in New York City. Matt, a 20-year-old, young man who lives a casual life in New York City sees a girl, Jane, at the bus stop who attracts his attention. He meets her again at the supermarket. He wants to talk to her. He decides to tell his friend about this beautiful young lady. His friends encourage him to talk to her. The following day, Matt is in a coffee shop and sees Jane. Determined to share his feelings, he's finally going to approach her.

# *Thoughts*

Student Names: Sara Algain
Faculty Mentor: Assia Lakhlif
Department: Communication Arts, College of Arts and Sciences

A short film about a series of thoughts portraying an inescapable reality of a student, wife and person. Windows of space, moments and setting make up this poetic piece.

**Breakout Session Presentations**

**11th Floor**
**Conference Room 1119**
**Moderator Carol Dahir**
**1:30 p.m. - 2:45 p.m.**

- "Alu Aliya"
  By: Nicole Pereira

- "Taobao Village E-commerce Models in China"
  By: Qian Kong

- "Enterprise Cloud Security Challenges in China"
  By: Zheng Jiang, Peng Junyi, Wu Can, Ni Tianyi

- "Biogas as a Sustainable Alternative for Energy Supply and Waste Management"
  By: Tagba Djato-Bougonou

# Alu Aliya


| | |
|---|---|
| Student Name: | Nicole Pereira |
| Faculty Mentor: | Youjeong Kim |
| Department: | Communication Arts, College of Arts and Sciences |



This presentation will feature an online magazine that I am in the process of launching. Alu Aliya, which means "Grey Elephant" in Singhalese (the national language of Sri Lanka) is a social change magazine that brings together writers from different cultures and walks of life to debate and discuss problems and solutions to the issues we face today. My oral presentation will give the audience a taste of the magazine, show why a text like this is needed, and give them an opportunity to contribute to the magazine.

# Taobao Village E-commerce Models in China

Student Name: Qian Kong
Faculty Mentor: Amanda Min Chung Han
Department: Marketing, School of Management

This research project is a study of the e-commerce entrepreneur platform called the Taobao Village, where rural villagers in China can sell their products directly to customers without middlemen and distributors via the Taobao website provided by the e-commerce company named Alibaba Group. The traditional sales channels through middlemen limited farmer's production scale and abused their pricing abilities. However, as an alternative, e-commerce offers a way where farmers and sellers could transact with customers directly and can maximize their profit. Additionally, since products and sales channels are the two most important elements of the selling process, rural areas have a natural advantage of resources since they are the producers and manufacturers of the products. Furthermore, this method enables them to avoid costly middlemen and instead distribute the goods directly via the Taobao website. Also, the special social networks called "Acquaintance Societies" in Chinese rural areas has made it hard to keep business secrets, such as business concepts, new products, or promotion methods. The pattern has been for villagers to spread the news of e-business successes and share their experiences, thus making it easy for farmers to imitate and start their own Taobao business. The Taobao Village has experienced phenomenal growth among the rural villagers of China. The Dongfeng village, which was the first Taobao village in China, became famous for producing furniture. The Qingyanliu Village became famous for selling small commodities online. And, the Donggaozhuang Village became known for Internet-based selling of cashmere products. These Taobao villages had advantages based on the characteristics of local industries, regional resources of products, and transportation. However with the expansion of Taobao villages, and because of a lack of organized planning and standardized production, their products lost competitiveness due to homogenization, poor quality, and lack of brand name. Although Taobao villages became popular, the most significant issues they encountered were: 1) it is easily replicated making it an obstacle for future development and growth; and, 2) the lack of qualified and professionals in production, marketing and management, which made the Taobao village less organized and prone to a loss in reputation. If Taobao villages want to continue to grow and expand, they must improve and strengthen their infrastructure and weaken their replicability, thus making every village independent, unique and organized. The idea is to strengthen the advantages in their specific villages and regulate the Taobao village through a development model that combines resources, platforms and brands. In this context, this study provides three models for the development of modern Taobao villages. These three models focus on different aspects of the production and sales process and can lead to strengthening the whole village. Thus creating brands, integrating resources, and developing platforms under a modicum of professional management could make a gradual transition from a farmer-households organization to a company, so that the Taobao village can afford innovation and large-scale production, making them more efficient and adaptable to modern e-commerce. Such models can also be useful in the development of modern rural e-commerce in China.

# Enterprise Cloud Security Challenges in China


| | |
|---|---|
| Student Names: | Zheng Jiang, Peng Junyi, Wu Can, Ni Tianyi |
| Faculty Mentor: | Sonali Chandel |
| Department: | Electrical and Computer Engineering, Engineering and Computing Sciences |



Enterprise cloud technology and data storage services provide many benefits, including lower costs, easier maintenance and global availability. Since early 2000s, quite a few enterprises in the US were using the cloud technology to share their resources on-demand. It is only in the past few years that this technology has started gaining its popularity in the world especially in the developing countries. With easy access to the Internet and increased domain of resource sharing, there has been no looking back for the enterprises that provide the cloud technology services. It has been predicted that in 2015, the cloud will become a major reason of growth for both small businesses and large enterprises. However, enterprises that use the cloud technology still do not trust the cloud entirely for their sensitive data storage, mainly due to the lack of transparency in the security of data in the cloud. There are a lot of security risks involved that may compromise the data stored and shared over the cloud. As cloud computing extends the reach of its users, the concern becomes bigger. China, one of the top developing nations in the world has now become one of the biggest markets for the cloud based enterprises as more than 600 million Chinese people and thousands of local firms use the internet every day and store some form of data online. Although the total number of cloud users outnumbers the rest of the world, the common risk awareness among these users is the least. The country is always under the radar of international cyber security experts because of the alleged cyber threats and the lawmakers who are always seeking to detect any information that does not conform to their standards. These factors pose a lot of challenges to the enterprise cloud security domain, causing the researchers to work actively in finding some solution to overcome the related threats. Chinese enterprises in the electronic information domain are also striving to create and improve their cloud system. The first part of this research presents an overview of the core working principles of the top 5 enterprises that uses and provides cloud technology in China. The second part focuses on the analysis of the major cloud security challenges that these enterprises face here as the cloud grows. We will also try to find a possible solution to overcome these security issues and key challenges. We consider these security challenges to be the most demanding ones at present. There are additional issues that need further research while prior work on this topic is only particular to the analysis of cloud security challenges in general.

# Biogas as a Sustainable Alternative for Energy Supply and Waste Management

Student Name: Tagba Djato-Bougonou
Faculty Mentor: Robert Amundsen
Department: Energy Management, School of Engineering and Computing Sciences

Energy consumption in the big cities of the U.S has a direct impact on the national economy. Biogas technology seems promising to attain sustainable energy yields without damaging the environment. Waste management, manure disposal, public health and employment creation are the benefits of biogas systems. Use of biogas assures renewable energy supply without increasing greenhouse gases. The U.S. has been using biogas for a long time, but there is a need to improve the technology, applications and deployment strategies. Bioenergy centralization in urban areas and decentralization in rural areas can help government to minimize both the import of fuel derivatives and solid waste processing costs. The aim is to highlight the potential of the technology to bring social and economic sustainability to most cities in U.S. In this review, demand for energy sources, and drivers of bioenergy use, such as economic, social and environmental benefits of biogas, are described with an emphasis on biogas as an ideal sustainable energy source with a wide range of potential applications.