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THURSDAY, APRIL 5 • 2012

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**Cross Cultural Arts Festival: Latin America
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The Faculty Senate Research and Scholarship
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Tom Uhlein, Art Department

for creating this year's poster

University Research and Scholarship Day 2012

Schedule of Activities and Presentation Abstracts

Schedule at a Glance

Wednesday, April 4

3:30 to 5:00 David and Lorraine Cheng Authors Recognition Reception
Office of Sponsored Programs Recognition of Awards Recipients
Cheng Library, Friends Room

Thursday, April 5

11:00 to 12:15 Concurrent Individual and Group Presentations
University Commons, 168A, 168B, Ballrooms A, B and C

12:30 to 1:45 College of Science and Health / Center for Research
University Commons, Ballroom A

Cotsakos College of Business
University Commons, Ballroom B

College of Arts and Communication
University Commons, Ballroom C

American Democracy Project
University Commons, 168A

College of Humanities and Social Sciences
Atrium Auditorium

12:30 to 2:00 Poster Presentations
University Commons Hallway

2:00 to 3:15 Concurrent Individual and Group Presentations
University Commons, 168A, 168B, Ballrooms A, B and C

Schedule

Morning Sessions

Individual and Group Oral Presentations, 11:00 to 12:15

University Commons, Room 168A

Assessing the Quality of Primary Care Provided to an Indigent Population
Nadine Aktan, Nursing

"Gracias Señora" Nursing Students Fulfill WPU Mission in Participating in the Medical Mission Trip to Dominican Republic
Yjie Eboras, Victoria Collins, Faculty Sponsor: Kem Louie, Nursing

Evaluation of the Logic Model in the Design of the NJ Nursing Education Collaborative to Increase Nurse Faculty
Kem Louie, Nursing

University Commons, Room 168B

Characteristics and Behaviors of Effective Elementary Mathematics and Reading Teachers: A Cross-Cultural Perspective
Rochelle Goldberg Kaplan, Geraldine Mongillo, Dorothy Feola, College of Education

Understanding Student Engagement with Mathematics
Lisa Warner, Elementary and Early Childhood Education

Raising Awareness of the Cultural, Language Education and Social Awareness Issues Related to Endangered Critical Arabic and Chinese Languages
Nora Hu DeMasi, Taysir Jbara, Languages and Cultures

An Examination of the Ways in Which K-12 Schools Use iPads
Sandra Alon, Heejung An, Educational Leadership and Professional Studies

University Commons, Ballroom A

Immunological Responses to Poly I:C in the BTBR T+ tf/J Mouse: Potential Relevance to Autism
Robert Benno, Daniel McKim, Tomiko Rendon, Norman Schanz, Evros Vassiliou, Lauren Pettit, Biology

Physiological Responses to the AlterG AntiGravity Treadmill
Michael A. Figueroa, James Manning, Kinesiology

Microbial Contamination and Decontamination of Textiles
Miryam Z. Wahrman, Karina Kuruvilla, Shamil Javed, Peter Rogers, Biology Department

University Commons, Ballroom B

Attitudes of Recovering Addicts Regarding Self-Esteem and Recovery Program Effectiveness
Kamilah Bayete, Faculty Sponsors: Emily Mahon and Gennifer Furst, Sociology

The Effects of The OTC Availability Of Plan B On Teens Contraceptive Decision Making Process, With Race And Sex Considerations
Erika Mann, Faculty Sponsor: Keumjae Park, Sociology

Gender and Emerging Multiculturalism in South Korea
Keumjae Park, Sociology

Campus Violence Prevention Program: A Presentation of the Grant Project and Activities
Sheetal Ranjan, Sociology, Librada Sanchez, Women's Center

Cross Cultural Arts Festival: Latin America

University Commons, Ballroom C

Crossing North and South: Educational Research Spanning the Americas

Hilary Wilder, Educational Leadership & Professional Studies, Carlene Anderson, School #12, Paterson School District, Salika Lawrence, Educational Leadership & Professional Studies Dept, Laura Fattal, Elementary & Early Childhood Education Dept, Julie Rosenthal, Elementary & Early Childhood Education Dept, Maika Bonafe, School #11, Passaic School District

Common Hour Programs, 12:30 to 1:45

American Democracy Project

University Commons, Room 168A

American Dissent Thought?: Students and Faculty Investigate a Repressed Political Tradition A Capstone Experience

Christine Kelly, Richard Kearney, Librarian, Adjunct Faculty, Paul Kenny, Marvin Bell, Peter Basil, Tiffany Luke, Political Science

College of Science and Health, Center for Research

University Commons, Ballroom A

Hematopoietic Stem Cell Proliferation Under the Influence of Hematopoietic Inducing Agent and Chemotherapy Treatment

Eliana Antoniou, Christina Mouser, Department of Mathematics,

Autism and High Tolerance to Pain: Understanding the Biological Mechanism Using an Animal Model

Jeung Woon Lee, Diane Asmar, Annabelle Beltran, Jennifer Fiorelli, Robert Benno, Norman Schanz, Biology

Cannabinoid Receptor Variations in Neuropsychiatric Disorders

Emmanuel S. Onaivi, Biology

Molecular Phylogenetics of Ponerine Trap-jaw Ants

Joseph C. Spagna, Robert Sutherland, Christopher Satch, Edgar Valdivia, Biology

Examining Calcium Signaling Pathways Implicated in Neurological Disorders

Jamie L. Weiss, Ama Berko, Biology

Cotsakos College of Business

University Commons, Ballroom B

Sustainability: A New Business Imperative

Rajiv Kashyap (Moderator), Jorge Arevalo, Sam Basu, Robert Laud, Cotsakos College of Business

College of Arts and Communication

University Commons, Ballroom C

The Search for Musical Identity: Actively Developing Individuality in Undergraduate Performance Students at the Vienna Conservatory of Music

Karen Demsey, Music

Visiting the 54th Venice Biennale
Ming Fay, Art

The Chinese Urban Foodscapes: A Photo Essay
Casey Lum, Communication

Alternative Digital Printmaking Techniques
Leslie Nobler, Art

"Office Frenemies"
Lauren Razzore, Art

Icons of Irishness from the Middle Ages to the Modern World
Margaret Williams, Art

College of Humanities and Social Sciences

Atrium Auditorium

Working Between Worlds: Scholarship and Translation
Kara Rabbitt (Moderator), Edward Burns, Marie Friquegnon, Vincent Parrillo, Michael Thompson,
College of Humanities and Social Sciences

Poster Presentations, 12:30 to 2:30

University Commons Hallway

Listed Alphabetically by lead presenter.

Schoharie Formation (Lower Devonian) Glacial Erratics From The Preakness Formation (Lower Jurassic) Of High Mountain, Passaic County, New Jersey

Martin Becker, Environmental Science, Alex Bartholomew, Geology, SUNY New Paltz, John D. Cutuli, Geology, SUNY New Paltz, Amber S. Koney, Environmental Science, Andrew J. O'Brien, Environmental Science

(In)direct Bullying: Causes and Consequences of Victimization and Cyberbullying
Chris Bores, Faculty Sponsor: Luis F. Nuno, Sociology

The Search for a Cause of Soil Chlorite Weathering Under Post-Fire Conditions
Jennifer Callanan, John Dorval, Alexandra Lucas, Environmental Science

Is Morality Universal? A Cross-Cultural Examination of Moral Intuitions
Stephanie DeLaOsa, Faculty Sponsor: Amy Learmonth, Psychology

Perceived Stress and Sleep Quality in Healthcare Workers
Alexandra DeMasi, Jeffrey Lao, Timothy Yoo, Kathy-Lee Afflick, Faculty Sponsor: Ruth Harrison, Nursing

Insensitivity to Pain in BTBR T+ tf/J may be Associated with High Neural Activity in the Arcuate nucleus
Jennifer Fiorelli, Jeung Woon Lee, Biology

The Effects of the Eating Attitudes Among Female College Athletes and Non-Athletes
Carolina Forero, Mera Belle Dumatag, Dennis Luchkin, Faculty Sponsor: Ruth Harrison, Nursing

- Effect of Wood Ash on Chlorite Weathering*
Stephanie Frank, Faculty Sponsor: Jennifer Callanan, Environmental Science
- The Effects of Television Commercials on Children's Food Preferences*
Aura-Maria Garcia, Faculty Sponsor: Amy Learmonth, Psychology
- Does the Waggle-Dance Scent Enhance the Recruitment of Forager Bees to Food Sources?*
David C. Gilley, Brian Smith, Biology Department
- Influences on Corporal Punishment*
Carina Jaquez, Faculty Sponsor: Luis F. Nuno, Sociology
- Novel Outlook on Topotactic Decomposition Mechanism of Layered Double Hydroxides as Anion-Exchangers*
Mihaela Jitianu, Roman Gavenko, Chemistry
- The Impact of Parental Socialization Methods on Emerging Adult Males & Females Substance Use*
Samantha Kopp, Faculty Sponsor: Luis F. Nuno, Sociology
- Suppression of Acute Inflammatory Pain Using Mechanosensitive Ion Channel Blocker.*
Michael Lang, Jeung Woon Lee, Christina Demirjian, Biology
- First Language Awareness: Word Associations In Second Language Acquisition in Post-Pubescent Learners*
Kristal Langford, Faculty Sponsors: Amy Learmonth and Justina Ekeocha, Psychology
- The Dimensions of Spatial Navigation*
Amy E. Learmonth, Michael Larena, Michelle Palmieri, Ashley Smith, Dale Conklin, Christina Cumberbatch, Psychology
- Relationship Between Violent Video Game Exposure and Aggression in College Students*
Mark Liaban, Ilijana Urukalo, Cynthia Shanahan, Catherine Alzamora, Faculty Sponsor: Ruth Harrison, College of Science and Health
- Relationship Between BMI and Marijuana Usage in Young Adults*
Erika Marasigan, Arielle Fisher, Marianne Cavanaugh, Elizabeth Shek, Faculty Sponsor: Ruth Harrison, College of Science and Health
- Bacterial LHPCR Analysis of Disinfested Soil Communities*
Kendall Martin, Kiran Herapara, Biology
- The Impact of Exercise on the Degree of Pain Endured Among Middle-Aged Adults with Rheumatoid Arthritis*
Michelle Martinho, Elmedina Halilovik, Steve De Los Rios, Faculty Sponsor: Ruth Harrison, College of Science and Health
- Understanding the Effects of Open Homosexuality on Personal Relationships*
Natalie Mooney, Faculty Sponsor: Luis F. Nuno, Sociology
- Structure, Process and Outcomes of Care in a Telehealth Program for Patients with Type 2 Diabetes*
Jill Nocella, Nursing
- An Examination of the Influence of Binomial Variability on Lay Inferences*
Natalie A. Obrecht, E. Taddese, Psychology, Dana L. Chesney, University of Notre Dame

How Socioeconomic Differences In Low-Income Families Leads To Child Maltreatment

Kelly P. Padilla, Faculty Sponsor: Luis F. Nuno, Sociology

Autism and the Video Deficit: A Study Proposal

Michelle Palmieri, Christina Cumberbatch, Ashley Smith, Michael Larena, Dale Conklin, Faculty Sponsor: Amy Learmonth, Psychology

Health Promoting Lifestyle and Quality of Life in Elderly

Stephanie Payne, Stacey Strover, Brianna Whitlock, Vanessa Lopes, Lissette Ramirez, Faculty Sponsor: Ruth Harrison, College of Science and Health

Death Denying Society

Jazmin Romero, Faculty Sponsor: Luis F. Nuno, Sociology

The Doors are Locked

Caitlin Signorello, Faculty Sponsor: Luis F. Nuno, Sociology

Genotypic Diversity in Native New Jersey Populations of American Beachgrass

David Slaymaker, Biology

Navigation in Grey Scale

Ashley Smith, Michelle Palmieri, Dale Conklin, Mike Larena, Christina Cumberbatch, Faculty Sponsor: Amy Learmonth, Psychology

Identification of a Peptide Binding Determinant in the PhoQ Receptor Protein of Escherichia coli

Carey Waldburger, Jennifer Fiorelli, Brandon Schwartz, Biology

Characterization Of A Mutation In A Regulator Of Neurotransmission-Neuronal Calcium Sensor-1 That Is Implicated In Autism

Jamie L. Weiss, Biology, Michael Gonzalez, Nursing, David Fleischmann, Biotechnology, Dongjin Oh, Biology, Ama Berko, Biology, Sedar Sadir, MD

Physical Exercise as a Predictor of Optimism among College Students

Deidre Williams, Kathleen Hortelano, Kelly Rottino, Faculty Sponsor: Ruth Harrison, College of Science and Health

Afternoon Sessions

Individual and Group Oral Presentations

2:00 to 3:15

University Commons, Room 168A

Intangible Asset Creation and Enhanced Economic Returns: The UN Global Compact, A Citizenship Activity In Spain
Jorge A. Arevalo, Marketing & Management Sciences

In The Shadow of Empire: Mapping Anti-Imperialist Traditions in Management Theory

Raza Mir, Ali Mir, Marketing and Management Sciences

Counseling in a Technical World: Student Counselors' Technical Skills, Motivation, and Self-Efficacy

Lynne Orr, Career Development and Advisement

University Commons, Room 168B

Building a More Complete Understanding of Fraction to Solve Verbal Word Problems: Evidence and Analysis of a Classroom Case Study.

Sandra Alon, Educational Leadership and Professional Studies

Which Doll Do You Want to Play With?: Revisiting the Doll Study to Explore Young Children's Notions About Skin Color

Janis Strasser, Elementary & Early Childhood

Teacher Empowerment: The Disconnect Between Supervisory Beliefs and Behaviors

Kevin J Walsh, Educational Leadership and Professional Studies

University Commons, Ballroom A

Collaborative Software Engineering Models

Cyril S. Ku, Computer Science

Analysis of Optical Emissions from a Corona Discharge

Thomas Markey, Faculty Sponsor: Kevin Martus, Physics

Coupons for Student Success: A Marketing Incentive in Academic Support

Donna R. Potacco, Science Enrichment Center, Peter Chen, Mathematics, Danielle Desroches, Biology, Sandra De Young, College of Science and Health, Daniel Chisholm, Chemistry

University Commons, Ballroom B

"Our Most Important Neighbor to the North": Canada in the US Imagination

Judith Broome, English

A New Measure of Social Support for Fruit and Vegetable Consumption Among Economically Disadvantaged African American Adolescents

Jennifer Di Noia, Sociology

The Sporting Life: Hobbies and Leisure in the Comedia

Ellen C. Frye, Languages and Cultures

Exploring Actor and Partner Correlates of Relationship Quality and Stability: Comparing Married and Cohabiting Couples

Deniz Yucel, Sociology

University Research and Scholarship Day 2011

Abstracts

Nadine Aktan, Department of Nursing

Assessing the Quality of Primary Care Provided to an Indigent Population

The purpose of this study is to evaluate the quality of services provided to an indigent population seeking primary care at a free clinic. The methods are to extract data directly from the medical record in combination with the findings ascertained directly from the clients served using a self-report instrument. The leading health indicators of Healthy People 2020 have been selected as desirable health care outcomes to be evaluated. Longitudinal data were collected. Results on body mass index, blood pressure, point-of-care glycohemoglobin, and patient reported satisfaction with the quality of care received are currently being analyzed. Findings may suggest that these modifiable risk factors can be affected by the provision of quality health care services provided at free medical clinics and that clients are, in fact, satisfied with care.

This research was sponsored by the following programs: Assigned Released Time for Research (ART)

Sandra Alon, Department of Educational Leadership and Professional Studies

Co-Presenters: Heejung An, Elementary & Early Childhood Education

An Examination of the Ways in Which K-12 Schools Use iPads

Due to recent innovations in digital technology, thousands of K-12 students now have the opportunity to use a wide range of tools, ranging from smart phones to touch pads in the classroom, at home or in other public places. In recent years, various K-12 public schools have incorporated these devices into their curricula. In many learning environments, students are now using iPads during daily classroom learning as well as for formative assessments, to improve student performance, motivation, and engagement. What's clear is that these tools tend to keep students occupied, especially when they are equipped with applications, otherwise known as "apps." However, there is not a great deal of research investigating the curriculum models being adopted in the K-12 schools and the impacts of these devices on children's learning, motivation, and engagement. This study will first explore the ways in which iPads are currently being used by K-12 school districts in New Jersey. For our presentation, we would like to share the data collected from the Wayne Middle school, Passaic High School, and Ridgewood school district. After this exploratory study, we then intend to provide customized professional development workshops for each school and examine the effects of iPads on learning outcomes at the participating schools.

Sandra Alon, Department of Educational Leadership and Professional Studies

Building A More Complete Understanding of Fraction to Solve Verbal Word Problems: Evidence and Analysis of a Classroom Case Study.

To examine the effects on pre – service teachers' ability to solve verbal fraction word problems as a result of empowering them with an instructional model that develops conceptual understanding of fractions.

Eliana Antoniou, Department of Mathematics

Co-Presenters: Christina Mouser, Assistant Professor, Department of Mathematics

Hematopoietic Stem Cell Proliferation Under the Influence of Hematopoietic Inducing Agent and Chemotherapy Treatment

The process by which Hematopoietic Stem Cells (HSC) residing in the bone marrow differentiate into blood cells is known as hematopoiesis. Hematopoietic Inducing Agents (HIAs), such as the cytokine erythropoietin (EPO) and granulocyte-colony stimulating factor (G-CSF) play a vital role in hematopoiesis and are capable of inducing the proliferation of stem cells. In previous work, we incorporated the effect of HIA in a mathematical

model consisting of a set of differential delay equations. The aim of the current work is two-fold. First, the effect of HIA will be altered to become time-dependent, in order to make it more representative of what is physiologically observed. Second, the effect of chemotherapy treatment will be added into the model. Patients receiving chemotherapy to eliminate cancer cells, experience a significant loss of HSC. They are consequently treated with injections of HIA to restore leukocyte counts to normal levels. Our goal is to determine the dynamic equilibrium of chemotherapy drugs and HIA during hematopoiesis.

This research was sponsored by the following programs: College of Science and Health's Center for Research

Jorge A. Arevalo, Department of Marketing & Management Sciences

Intangible Asset Creation and Enhanced Economic Returns: The UN Global Compact, A Citizenship Activity In Spain

In this paper, we examine corporate citizenship by reporting the motivations for joining a global voluntary CSR initiative and the benefits achieved as a result of participating in the initiative. The study addresses why organizations adopt the Global Compact (GC) as a citizenship activity and examine how motivations vary for local and global as well as high-performing and low-performing firms operating in one distinct national setting - Spain. By drawing from institutional theory and the resource based view of the firm, we emphasize the importance of external and internal factors that influenced companies to adopt this particular program. Our findings based on 213 Spanish Global Compact participants show that despite the differences among participants, a common theme in their motivation was the importance of attaining legitimacy while contributing to the economic and image efforts of these firms. The results also support the suggestions posited by the resource based-view of the firm as well as strategic differentiation in that the GC, if appropriately implemented, may contribute to a virtuous cycle of intangible asset development and enhanced competitive advantage that further fuels such intangible investments. We discuss these implications for managers developing their citizenship activities in both domestic and foreign contexts.

Kamilah Bayete, Department of Sociology

Faculty Sponsor: Emily Mahon and Gennifer Furst, Department of Sociology
Attitudes of Recovering Addicts Regarding Self-Esteem and Recovery Program Effectiveness

What is "success" in drug and alcohol recovery? Is it simply, not abusing illegal drugs, alcohol, or prescription medication? What triggers a relapse? Does "not using" equal good health, happiness, and/or self-esteem? Why do some recovery programs encourage smoking cessation, but not physical exercise and proper nutrition? How important is a college education in recovery success? I hope to find explanations for these questions, while raising new ones.

Martin Becker, Department of Environmental Science

Co-Presenters: Alex Bartholomew, Geology, SUNY New Paltz; John D. Cutuli, Geology, SUNY New Paltz; Amber S. Koney, Undergraduate Student, Environmental Science; Andrew J. O'Brien, Undergraduate Student, Environmental Science
Schoharie Formation (Lower Devonian) Glacial Erratics From The Preakness Formation (Lower Jurassic) Of High Mountain, Passaic County, New Jersey

Large fossiliferous glacial erratics occur scattered across the basalt of the Preakness Formation (Lower Jurassic) on High Mountain, Passaic County, New Jersey. These erratics are comprised of light tan to yellow, sandy limestone and contain fossiliferous beds with casts and molds of invertebrates. Analysis of these fossils including: rostroconchs, brachiopods, pelecypods, corals, bryozoans, nautiloid cephalopods and trilobites as well as the distinct lithology indicate that these erratics belong to the Lower Devonian Tristates Group and Schoharie Formation. The outcrop belt of the Schoharie Formation occurs throughout the Lower Hudson Valley Region of New York and due north of the High Mountain recovery location. Reconstruction of the glacial history across the Lower Hudson Valley and New Jersey Piedmont indicates that the Schoharie Formation erratics have been transported tens of kilometers from their original source region during the Wisconsinian

glaciations. The Schoharie Formation erratics provide a unique opportunity to reconstruct the complex surficial geology of the New Jersey Piedmont and High Mountain. Palynology of glacial kettle ponds adjacent to High Mountain indicate that the final deposition of the Schoharie Formation erratics occurred 12, 000 to 11,000 YBP.

This research was sponsored by the following programs: College of Science and Health's Center for Research

Robert Benno, Department of Biology

Co-Presenters: Daniel McKim, undergraduate student, Tomiko Rendon, undergraduate student, Norman Schanz, Principal Technician; Evros Vassiliou, Faculty, Kean University, Lauren Pettit, Graduate Student - Kean University

Immunological Responses to Poly I:C in the BTBR T+ tf/J Mouse: Potential Relevance to Autism

BTBR T+ tf/J mice (BTBR) reportedly exhibit abnormal social and stereotyped behaviors that are analogous to those observed in the autism spectrum disorders (ASD). Aberrant immune activity may be implicated in the development of behavioral abnormalities in both humans with ASD and in the BTBR strain of mice. This study attempts to assess immune reactivity in BTBR relative to control strains. The concentration of certain pro- and anti-inflammatory cytokines (i.e., TNF_{-alpha}, IL-6, and IL-10) and the immunomodulatory enzyme, Indoleamine 2,3-Dioxygenase (IDO), were measured in serum and brain before and after immune stimulation via administration of Poly I:C (viral mimic and TLR3 agonist) in the BTBR, the 129S1/SvImJ (129S) and C57BL/6J (C57) mouse strains. Although basal levels were similar in each strain, a vastly disproportionate increase in both cytokine and IDO concentration was observed in BTBR cortex following immune stimulation. All three strains were similar in their peripheral immune response. The authors suggest that this aberrant immune activity may be involved in the development of the BTBR "autistic-like" phenotype.

This research was sponsored by the following programs: Assigned Released Time for Research (ART)

Chris Bores, Department of Sociology

Faculty Sponsor: Luis F. Nuno, Department of Sociology

(In)direct Bullying: Causes and Consequences of Victimization and Cyberbullying

Bullying has been an ongoing problem for administrators, teachers, and students for quite some time. It has recently gained more attention due to current laws and regulations by states and school systems across the United States. This study is meant to examine and analyze how outside factors such as family values, society, the media, religious beliefs, gender, age, and class, have an impact on the shaping of children into bullies. This investigation not only explored differences between indirect and direct forms of bullying, but examined the differentiation involving "playground" and cyber-bullying. Criminology and victimization patterns were studied in relation to the bullying and victimization cycle. The aim of the research is determine the root causes of bullying in order to devise prevention methods to deter future bullying instances in schools today.

Judith Broome, Department of English

"Our Most Important Neighbor To The North": Canada in the US Imagination

Last year, I attended two conferences in Canada, one in St. Johns, Newfoundland, the other in Vancouver. Both times, I checked the weather prior to departure, and both times, the US weather map showed: a huge blank area to the north and south. I'm sure people living on the Canadian (or Mexican) border may receive more information about, at least, the weather in neighboring countries, but for the rest of the US, what we know about Canada most likely comes from South Park.

Even former president George W. Bush, in a brief interview with Rick Mercer of Canada's satirical news program, 22 Minutes, graciously acknowledged Canadian Prime Minister "Jean Poutine's" endorsement of his presidential candidacy, noting that Canada is "our most important neighbor to the north," but blissfully unaware that Canada's then-Prime Minister was named Jean Chrétien, and that Canadian policy precludes endorsing world leaders.

What do we know about Canada in the United States, and how do we know it? Is it the pristine and innocent countryside of Anne of Green Gables? A land of ski resorts and hockey rinks? A vast snow-covered plain where police patrol on horseback, like Sergeant Preston of the Yukon, accompanied by his mascot, Yukon King? In this presentation, I propose to examine US ideas - or lack thereof - about Canada, and the popular culture that informs those ideas.

This research was sponsored by the following programs: College of Humanities and Social Sciences and the Department of English supported travel to present this paper at the Northeast Popular Culture Association 2011 conference.

Edward Burns, Department of English

Working Between Worlds: Scholarship and Translation

Insights on translation gained while preparing an edition of the letters of Hugh Kenner and Guy Davenport, influential critics and intimates of William Carlos Williams, T. S. Eliot, Marianne Moore, Louis Zukofsky, and Ezra Pound, among others. Many of these modernist writers turned their gaze on the literature of classical Greece or Rome, Renaissance Italy, and Nineteenth-Century France, and their works speak to the relation of this past to the present. In their letters, Kenner and Davenport, both of whom were educated in the classics, strive to make connections, to discover qualities, and to disinter the essentials of classical poets which heightened their importance to modern poets. This talk will focus on the importance of classical literature for modernist writers and discuss the challenges faced by a contemporary critic of modernism in pursuing a path of intelligent inspection.

Jennifer Callanan, Department of Environmental Science

Co-Presenters: John Dorval, Undergraduate Student, Environmental Science; Alexandra Lucas, Undergraduate Student, Environmental Science

The Search for a Cause of Soil Chlorite Weathering Under Post-Fire Conditions

Chlorite is the dominant mineral in the soils of Double N Farm in Warren County, New Jersey, an area where prescribed burning is utilized in forest management. Soil collected 3 months following the burning of a brush pile indicated weathering of chlorite in soils located directly under the burn pile. X-ray diffraction data showed decreasing relative intensity in the 004 chlorite peak in soil at depths of 30+cm from the surface, just above a lithic restrictive layer. It was hypothesized that this result was due to ash influenced rain water pooling at the restrictive layer, thereby increasing the weathering rate of chlorite. In order to validate this hypothesis a laboratory model was designed to observe pure chlorite weathering when influenced by post-fire factors, particularly ash addition. Chlorite was exposed to solutions of rain water and rain water filtered through soil (from the field location), ash (of similar vegetation as the field site), and soil + ash for periods of 1 week, and 1, 2, and 3 months. Preliminary data for samples collected after 1 week's treatment do not show significant variation in 004 relative peak intensity. We expect to observe significant decreases in chlorite 004 relative peak intensity as treatments approach 3 months time.

This research was sponsored by the following programs: Assigned Released Time for Research (ART), and the College of Science and Health's Center for Research

Stephanie DeLaOsa, Department of Psychology

Faculty Sponsor: Amy Learmonth, Department of Psychology

Is Morality Universal? A Cross-Cultural Examination of Moral Intuitions

In moral psychology one of the big questions is about the cross cultural validity of conceptions of morality. Are the elements of morality part of the human condition and therefore broadly similar across cultures, or are the elements themselves different in different cultures? A cross-cultural comparison between India and the United States shows the similarities that hint towards a universal morality. The Moral Foundation Theory (MFT) is the avenue that allows for the examination of morality across cultures and posits that morality is, at a basic level, universal. MFT attempts to pinpoint the origin, development and cultural variations of morality. MFT expands

on previous moral thought, attempting to present a broader, more systematic theory. It highlights five categories of moral thinking and behavior, which, together, create the foundation for the theoretical construct. According to MFT, there are five universal moral intuitions: Harm/Care, Fairness/Reciprocity, Ingroup/Loyalty, Authority/Respect, and Purity/Sanctity (Haidt & Graham, 2007). And "even if all moral systems are social constructions, they are constructed by people whose minds are not at all like blank slates" (Graham, et al, 2011). MFT posits that there is an intuitive and deliberate process for moral judgments. The Moral Foundations Questionnaire (MFQ) is the tool used to measure the level of endorsement between each of the five foundational categories. The hypothesis of this research is that the presence of the five categories is seen cross-culturally, but there will be differences in the extent to which each country endorses each of the five categories that depend on culture.

Alexandra DeMasi, Department of Nursing

Co-Presenters: Jeffrey Lao, Undergraduate Student, Nursing; Timothy Yoo, Undergraduate Student, Nursing; Kathy-Lee Afflick, Undergraduate Student, Nursing

Faculty Sponsor: Ruth Harrison, Department of Nursing

Perceived Stress and Sleep Quality in Healthcare Workers

The purpose of our study was to investigate the relationship between levels of perceived stress and sleep quality in healthcare workers. We hypothesized that perception of stress would be directly proportional to poor sleep quality. The Pittsburgh Sleep Quality Index, the Perceived Stress Scale, and our own demographics questionnaire were distributed to all 80 participants in the sample. From these instruments, we scored each of the individuals based on the indicators of demographic characteristics, psychological status, and lifestyle for our perceived stress variable and the indicators of duration of sleep, sleep disturbance, sleep latency, day dysfunction due to sleepiness, sleep efficiency, and use of sleep medication for our sleep quality variable. Using SPSS with an n of 62, our results were $r = .500$, $p = .000$. This supports our hypothesis and shows a strong correlation between our independent variable of perceived stress and our dependent variable of sleep quality.

Karen Demsey, Department of Music

The Search for Musical Identity: Actively Developing Individuality in Undergraduate Performance Students at the Vienna Conservatory of Music

Based on my observations in Vienna last November, I will present examples of innovative teaching at the Vienna Conservatory, including the Conservatory's unique interdisciplinary approach to the arts designed to develop creativity, original thinking, and cross-disciplinary connections in their undergraduate performance students. I will begin with a brief overview of the research project that led to my observations at the Conservatory.

This research was sponsored by the following programs: College of Arts and Communication, Center for Creative Activity and Research

Jennifer Di Noia, Department of Sociology

A New Measure of Social Support for Fruit and Vegetable Consumption Among Economically Disadvantaged African American Adolescents

Objectives: To identify sources of support for fruit and vegetable (FV) consumption among economically disadvantaged African American adolescents; develop a measure of emotional, instrumental, informational and appraisal support among the identified sources; and examine the performance of the measure.

Design: Focus groups and pilot testing procedures with samples of 30 and 17 youths, respectively, were used to develop and pretest the measure. Reliability and validity were examined in a cross-sectional design with a separate sample of 93 youths.

Setting: Summer camp programs serving low-income youths and their families.

Measures: Sources of support for FV consumption, servings of FVs estimated via the Block FV Screener, diet-specific social support among adolescents (DSSA) and a 14-item version of the Children's Social Desirability Scale.

Analysis: Frequency distributions (sources of support); internal consistency reliability analysis (reliability testing); spearman correlations and independent samples t tests (differences in support by sex and age); and partial correlations between scores on the measure, DSSA scores and FV consumption (construct and criterion validity testing).

Results: Nuclear and extended kin were primary sources of support. Subscale and composite measures of support demonstrated internal consistency reliability (Cronbach alphas = .72-.93). All four types of support differed by sex, with females reporting greater support than males. Controlling for sex, subscale and composite scores were significantly associated with DSSA scores (partial correlation range = .32-.58) and FV consumption (partial correlation range = .20-.36).

Conclusion: The measure is a promising instrument for assessing family support for FV consumption in this population.

This research was sponsored by the following programs: College of Humanities and Social Sciences' Research Center Summer Stipend

Yjie Eboras, Department of Nursing

Co-Presenter: Victoria Collins, Undergraduate Student, Nursing

Faculty Sponsor: Kem Louie, Department of Nursing

"Gracias Señora" Nursing Students Fulfill WPU Mission in Participating in the Medical Mission Trip to Dominican Republic

The purpose of this presentation is to discuss WPU nursing students' participation in the medical mission to the Dominican Republic and how these experiences meet the Mission of William Paterson University. Our recent week long medical mission trip to the Dominican Republic with Honor Society nursing students and the Foundation for Peace promoted each of the participant's leadership, multiculturalism and humility in accordance to with the William Paterson University Mission. The medical mission trip volunteers were made up of alumni who are Nurse Practitioners, Advanced Practice Nurses, Registered Nurses, nursing students and a high-school student volunteer. From January 8, 2012- January 14, 2012 we submersed ourselves in another culture. We left behind all our preconceived notions about their culture and worked together to build a solitary relationship between the volunteers and the members of the host community. Community outreach paved the way for lifelong learning not only by enhancing our learned nursing skills in the classroom but also the ability to adapt to environments outside of our norm. As volunteers, it was invigorating and fulfilling to assist and touch the lives of families and children living in a world completely different from what we are accustomed to. Minimal knowledge of the Spanish language was efficient enough to understand Gracias Señora, or Thank you, and those heart-felt moments served as bait to lure us back to the "bateyes" or squatters area from day 1 to day 5. Through team work, respect and open mindedness, this trip served as preparation for personal growth in our careers and increased awareness of our global economy and community.

Ming Fay, Department of College of Arts and Communication

Visiting the 54th Venice Biennale

I was invited to attend the opening of the Venice Biennale from a former student of mine who was representing Hong Kong this year. I wrote a catalog essay for him to celebrate the occasion. As a professional exhibiting artist, this was my first opportunity to attend such major international exhibitions, as the 54th Venice Biennale. Seeing these exhibitions firsthand was an eye opener, they expanded my perspective on contemporary global issues and the role of art in today's society. It was also an energizing and intellectual stimulus to meet with Kwok Mang-ho (my former student) and saw his exhibition in this context. This experience enhanced insights for both my artwork and teaching concepts. I will be presenting a short version of the experience and some images of the exhibitions.

This research was sponsored by the following programs: College of Arts and Communication, Center for Creative Activity and Research

Michael A. Figueroa, Department of Kinesiology

Co-Presenters: James Manning, Professor; Patricia Escamilla, Undergraduate Student, Kinesiology
Physiological Responses to the AlterG AntiGravity Treadmill

Purpose: To determine whether there would be any significant differences in metabolic work when jogging to maximal aerobic capacity on an anti-gravity treadmill, using differential air pressure, at different percentages of body weight (100%, 90% and 80% BW). Methods: Metabolic data were collected on 10 subjects (5 males, 5 females) on three separate days, which were separated by two weeks. The order in which body weight was manipulated was randomized on each day of testing. Maximal oxygen consumption was assessed using the Bruce Protocol and a metabolic cart. Results: Absolute VO₂max values (L/min) were significantly different between, but not within genders, at each percent of body weight (100%BW: males = 3.4 \bar{x} ± 1.1 vs. females = 2.4 \bar{x} ± 0.25; 90%BW: males = 3.3 \bar{x} ± 1.1 vs. females = 2.4 \bar{x} ± 0.4; 80%BW: males = 3.4 \bar{x} ± 0.9 vs. females = 2.3 \bar{x} ± 0.3, $p < 0.05$). Relative VO₂max (ml/kg/min) was not found to be significantly different at 100%, 90% or 80% BW (42 \bar{x} ± 8 vs. 43 \bar{x} ± 9 vs. 42 \bar{x} ± 7, $p = 0.99$). Respiratory Exchange Ratio values and substrate utilization were also not found to be significantly different between body weight percentages during any stage of testing. Conclusion: Removal of up to 20% bodyweight did not alter metabolic responses (VO₂, HR, RER, substrate utilization) during jogging to maximal aerobic capacity. Prescribed cardiovascular training intensities can be achieved with a reduction in ground reaction forces. This weight-assisted device may be an effective alternative during rehabilitation or recovery after an event in order to maintain cardiovascular fitness.

Jennifer Fiorelli, Department of Biology

Co-Presenter and Faculty Sponsor: Jeung Woon Lee, Biology
Insensitivity to pain in BTBR T+ tf/J may be associated with high neural activity in the arcuate nucleus

The BTBR T+ tf/J mice display very high tolerance to pain. Recently this strain has been reported as a possible animal model for autism spectrum disorder. Clinical studies and comments from personal care providers also report autistic children having minimal discomfort to pain and/or engaging self-injurious activities with minimal complaints. One recent clinical study reported autistic children have significantly higher level of plasma b-endorphin compared to age-matched control. The endogenous opioid cells are primarily found in the arcuate nucleus (ARC) of brain and express NPY Y1 receptor. We examined whether the BTBRs would have high b-endorphin activity in the ARC.

Male BTBR or C57BL/6J mice were injected with intraplantar formalin solution. Nociceptive behaviors were followed for 60min, and animals were perfused. Brains were cut at 30um, and stained for FOS, b-endorphin, and NPY immunoreactivity. Seven to 8 brain sections containing the ARC were selected from each animal, and the total number of FOS, b-endorphin, and NPY-IR cells was counted. The BTBRs had significantly fewer number of paw flinch behaviors compared to control. This reduction was observed only in phase II of the formalin test. In ARC, BTBRs had significantly higher number of FOS+ cells than control. The FOS cells colocalized with NPY neurons. There was no difference in number of b-endorphin neurons in ARC between the groups.

Our data suggest high tolerance to pain observed in BTBRs and possibly in autistic children may be related with activation of b-endorphin neurons in the ARC via the activation of NPY cells.

This research was sponsored by the following programs: Assigned Released Time for Research (ART), and the Student Undergraduate Research Program (SURP)

Carolina Forero, Department of Nursing

Co-Presenters: Mera Belle Dumalag, Undergraduate Student, Nursing; Dennis Luchkin, Undergraduate Student, Nursing

Faculty Sponsor: Ruth Harrison, Department of Nursing
The effects of the eating attitudes among female college athletes and non-athletes

Our goal is to show that the female college athletes have a poorer eating attitude than the female college non-athletes. We hypothesize that female college athletes have higher eating attitude scores compared to non-athletes based on the EAT-26 scores, since the higher the score the poorer the eating attitude is. The survey we used is one of the most widely used tools for the assessment of eating disorder risk (Rutt & Coleman, 2001). Although not diagnostic the EAT-26 is commonly used as a screening tool to identify early characteristics and behaviors indicating the potential presence of an eating disorder (Torres-McGhee et al, 2009). The EAT-26 scale (Eating Attitudes Test), is a questionnaire consisting of 26 items with options including Always (3), Usually (2), Often (2), Sometimes (0), Rarely (0), and Never (0). An EAT-26 score of more than 20 identifies an individual at risk of eating disorder characteristics and behaviors. An EAT-26 score of less than 20 categorize the individual as not at risk for eating disorder characteristics and behaviors (Torres-McGhee et al). We computed the average survey scores of the two groups and we found that the 30 athletes had an average score of 10.83 on the survey and the 30 non-athletes had an average score of 8.07, which demonstrated that the athletes had poorer eating attitudes compared to the non-athletes. We analyzed our data using the SPSS's independent samples t-test and it showed that the p-value for a 1-tail significance was $p=0.0245$ which means that the female college athletes had a significantly larger average score than the female college non-athletes. The standard deviation for the athletes was 5.515 and for the non-athletes it was 5.132.

Stephanie Frank, Department of Environmental Science

Faculty Sponsor: Jennifer Callanan, Department of Environmental Science
Effect of Wood Ash on Chlorite Weathering

An experiment was performed to study the effects of wood ash on the weathering of chlorite in soil. Finely powdered chlorite was reacted with solutions of Rain and DI H₂O and filtered through soil, ash, and soil and ash. Chlorite was extracted by vacuum filtration after 1 week, 1 month, 2 months and 3 months. The filtrate was examined for Mg and Fe concentrations using an Atomic Absorption Spectrophotometer (AAS). Preliminary data suggests the presence of ash does not increase the concentration of Fe in the samples, but does indicate that the concentration of Mg was higher in the samples from all time frames that contained ash than those that did not. We suggest the Mg is dissociating from the chlorite in the weathering process at an increased rate following exposure to ash. Final data is expected to support these trends.

Marie Friquegnon, Department of Philosophy and Asian Studies

Working Between Worlds: Scholarship and Translation

My work for the last five years on a study of the significance of the 8th-century Indian philosopher Shantarakshita on Buddhist thought that entails significant and original translation from Tibetan to English. This talk will address the ways in which a scholar/translator finds that a text may have many layers, like a Russian doll. Sometimes it is the context that gives the clue to the meaning, sometimes the philosophical point that is being made, and sometimes it is finding a native speaker who understands an idiomatic use of the language. Nevertheless, unlike the Russian doll, one can never be certain that the innermost core has been discovered.

Ellen C. Frye, Department of Languages and Cultures

The Sporting Life: Hobbies and Leisure in the Comedia

My paper is an in-depth analysis of the appearance, use, and symbolism of hobbies, pastimes, sports, and other leisure activities in the comedia (a play from 17th century Spain). The first leisure activity I examine is gambling and card games, in both Mira de Amescua's *La casa del tahur* and Alarcón's *La verdad sospechosa*. Of course, the most ambitious gambler of all comedias is *Don Juan Tenorio* in *El burlador de Sevilla*, and he is not playing for money, but rather salvation, as Erika Fischer-Lichte posits in her study of European drama. After examining gambling in *El burlador*, I analyze to fishing, which I dissect under another metaphor, that of Don Juan fishing for women. Next I proceed to hunting (again, hobby or sport, which I question briefly). Here, I begin with *Fuenteovejuna* for its hunting scenes and quasi-love triangles, and then I examine *El castigo sin venganza*. In this section, I consult the following studies: *El 'A caza va el caballero de Lope de Vega*, by David Quinn; and *Imágenes de*

la caza, cazadores y cazados en la obra calderoniana by Margaret Greer. I conclude with the perfect comedia, Calderón's *Las manos blancas no ofenden*, in which a woman cross-dressed as a man is the hunter, which underscores the baroque nature of all comedias. In the end, 17th century Spain is similar to most societies: we all have sports, pastimes and leisure activities, which we readily enjoy, in part because they can serve on several metaphorical levels, too.

This research was sponsored by the following programs: Assigned Released Time for Research (ART)

Aura-Maria Garcia, Department of Psychology

Faculty Sponsor: Amy Learmonth, Department of Psychology
The Effects of Television Commercials on Children's Food Preferences

Obesity in the United States has risen dramatically over the past 30 years. Previous research hints at a relationship between eating habits and media. In this study 5th and 8th grade students watched healthy or unhealthy commercials or did not watch anything. Immediately, participants were surveyed about food preferences. The main finding of this study was that the type of commercial interacted with the gender to significantly affect food choices.

David C. Gilley, Department of Biology

Co-Presenters: Brian Smith, former Undergraduate Student, Biology
Does the Waggle-Dance Scent Enhance the Recruitment of Forager Bees to Food Sources?

The waggle dance of honey bee (*Apis mellifera* L.) foragers is a message that conveys to nest mates the location of a profitable food source. Waggle dancers produce a pheromone within the nest which stimulates the colony's foraging effort. We tested the hypothesis that the waggle-dance pheromone increases foraging activity by enhancing recruitment success of naïve foragers by waggle dancers. We tested this by training bees from an observation hive to a feeder station, marking all experienced foragers at the feeder station, and then video-recording the recruitment behavior of experienced foragers within the hive following introduction of the pheromone (or the solvent, as a control) into the hive. We observed no consistent differences in recruitment behavior (dance duration, waggle-run frequency, followers per waggle run, number of dances) between solvent control and dance compound treatments. There was one exception. These results suggest that the waggle-dance pheromone functions by means other than increasing the recruitment success of waggle dancers (e.g. by reactivating experienced foragers to previously known food sources).

This research was sponsored by the following programs: College of Science and Health's Center for Research

Nora Hu DeMasi, Department of Languages and Cultures

Co-Presenters: Taysir Jbara, Language and Cultures, Adjunct Faculty
Raising Awareness of the Cultural, Language Education and Social Awareness Issues Related to Endangered Critical Arabic and Chinese Languages

This presentation is to raise awareness of society and decision makers in the areas of higher education, public education, ESL, world language and English teachers, and students of two of the most endangered language dialects within Chinese and Arabic and their unique cultures and societies as well as the need to teach more than just standard dialects. There are many key and important issues that educators should be aware of before beginning instruction. Dr. Jbara will address issues and problems related with Arabic community, culture and language learning, and Ms. Nora Hu DeMasi will address the importance and major issues from language, social, economical and development perspectives to educate the public and address related issues towards culture and language learning.

Carina Jaquez, Department of Sociology

Faculty Sponsor: Luis F. Nuno, Department of Sociology
Influences on Corporal Punishment

My research discusses the use of corporal punishment as a way of disciplining children. What influences a parent to use spanking as a form of discipline? I propose that a person's ethnicity contributes to the parenting technique they choose to use with their child. People of different backgrounds have their own ways of parenting their children and the amount of physical punishment that they use may vary. Some ethnicities are more susceptible to difficult living conditions and are more influenced by their religion than others; this in turn makes them more likely to use corporal punishment. The things most commonly linked to the use of corporal punishment are religion, low economic status, demographics, culture, and whether the parent experienced corporal punishment as a child. Conducting a survey among 50 parents at a local elementary school will test this hypothesis. The findings will be analyzed to show what backgrounds are more inclined to spank their children.

Mihaela Jitianu, Department of Chemistry

Co-Presenters: Roman Gavenko, Undergraduate Student, Chemistry

Novel Outlook on Topotactic Decomposition Mechanism of Layered Double Hydroxides as Anion-Exchangers

Layered double hydroxides - LDHs - are a class of layered materials with wide applications, such as catalysis, drug delivery support, sensors. The novelty of this research project was the use of rheology in assessing very accurately the temperatures when the slightest structural changes occur while LDHs are heated. LDHs with formulas $Mg^{2+}_4Al^{3+}_2(OH)_{12}(CO_3^{2-}) \cdot mH_2O$ and $Mg^{2+}_4Cr^{3+}_2(OH)_{12}(CO_3^{2-}) \cdot mH_2O$ were synthesized by coprecipitation. Two distinctive decomposition steps characteristic to the LDH structure have been identified by rheological measurements and confirmed by thermal analysis. The transition from the characteristic interactions between platy clay particles to the collapse of the structure when an oxide tridimensional network formed by temperature increase, was indicated by the evolution of the interplanar spacing. The significant rearrangement of the octahedral brucite-type layer was monitored by rheological measurements in terms of elastic (G') and viscous (G'') moduli. Heating samples collapsed the well-ordered layers, resulting in a random array. Different trivalent cation led to obtaining of different particle size for the hydrotalcite structures. Thus, rheological measurements showed that smaller particles obtained for Mg-Al-HT allowed layers to compact more. Particle arrangement was changing with temperature, as observed by field emission scanning electron microscopy (FESEM). The research performed led to rheology-interfacial chemistry correlations that advanced our understanding of the particle interactions and network structure prevalent in solid LDHs and their decomposition products.

This research was sponsored by the following programs: College of Science and Health's Center for Research

Rochelle Goldberg Kaplan, Department of Educational Leadership and Professional Studies

Co-Presenters: Geraldine Mongillo, Educational Leadership and Professional Studies; Dorothy Feola, Associate Dean, College of Education

Characteristics and Behaviors of Effective Elementary Mathematics and Reading Teachers: A Cross-Cultural Perspective

This qualitative study seeks to determine if effective elementary teachers use the same or different instructional strategies and student communicative interaction patterns during reading/language arts and mathematics lessons. Our study is focused on four teachers in New Jersey, two in an urban school district and two in a suburban school district. In addition, we are working with partners in Israel who are collecting similar data in their regional schools with teachers of Arab-Israeli students. Through a series of classroom observations and interviews, we are documenting the kinds of strategies the teachers use and finding out if teachers in different cultural and language settings use the same or different strategies. The presentation will share our research design and report on some preliminary findings that have emerged from our work in New Jersey."

This research was sponsored by the following programs: The College of Education

Rajiv Kashyap, Cotsakos College of Business

Co-Presenters: Jorge Arevalo, Department of Marketing and Management; Sam Basu, Department of Economics, Finance, and Global Business; Robert Laud, Department of Marketing and Management
Sustainability: A New Business Imperative

The session will consist of five brief presentations on sustainability topics in business followed by a Q&A with the audience. All presenters seek to emphasize the recent paradigm shift in the role of sustainability in business. Professor Kothandaraman (PK) will discuss differences in consumer price perceptions between completely green and partially green products. Professor Kashyap will identify drivers of socially responsible investing decisions and discuss implications of firms' CSR disclosures on financial markets. Professor Arevalo will discuss voluntary CSR initiatives and their overall contribution towards sustainable development in Spain. Professor Basu will highlight the importance of capital budgeting and accounting analyses for the sustainability discourse. Professor Laud will introduce the concept of integrated solutions that involve sustainable innovations with special emphasis on entrepreneurial involvement.

Green Product Pricing, Prabakar Kothandaraman (PK), Professional Sales

Socially Responsible Investing, Rajiv Kashyap, Marketing and Management

The Global Compact: Analysis of Characteristics and Outcomes of Spanish Local Network Membership, Jorge Arevalo, Marketing and Management

Sustainability in Numbers, Sam Basu, Economics, Finance, and Global Business

Sustainable Business: Reacting to a World in Crisis, Robert Laud, Marketing and Management

Christine Kelly, Department of Political Science

Co-Presenters: Richard Kearney, Librarian, Adjunct Faculty, History; Paul Kenny, Undergraduate Student, Political Science; Marvin Bell, Undergraduate Student, Political Science; Peter Basil, Undergraduate Student, Political Science; Tiffany Luke, Undergraduate Student, Political Science
American Dissident Thought?: Students & Faculty Excavate a Political Tradition" (A Capstone Experience)

In this session, students will present their capstone research treating the seminar's original claim that a tradition of "dissident" thought can be excavated from the subterranean layers of U.S. political development. While approaches to American Political Thought traditionally emphasize 'consensus' the seminar's core research claim is that dissent, accompanied by repression, underpins the narrowness of the U.S. political thought and ideology. Professor Christine Kelly and Richard Kearney have teamed up to create a unique research agenda with accompanying research methods to aid students in testing the core claims to case studies. The central claim-- that U.S history, political thought and practice evidences a distinct though largely ignored tradition of dissent-- forces students to engage in critical evaluation of not only traditional concepts and idea, but engage in creative research methods aimed at uncovering patterns not readily apparent in main stream scholarship. Student work will explore and evaluate the conditions under which dissent has both flourished and withered, and explore the role that dissent has played in shaping American political institutions and thought,. Each student research project will evaluate whether the long historical record of dissent adds-up to a distinct political theoretical tradition of any contemporary value to national, transnational and/or global movements seeking democratic reform and social justice. By applying the Cold War understanding of the term 'dissident' as any person who (or group which) suffers state-sanctioned reprisals for their expression of dissent, student scholars will explore the limits and strengths of constitutionally guaranteed U.S. liberties such as free speech, press, association, travel, due process, association, privacy and others. The entire undertaking speaks to the collaborative process of student-faculty work at the capstone level where all parties are enriched by the intellectual experience of group learning.

From Dissent to Treason: The Wobblies as U.S. Dissidents, Paul Kenny

Policing Dissent: The Case of Occupy Oakland, Marvin Bell

Techniques of Political Repression: The Palmer Raids as Matrix and Legacy, Peter Basil

The Price of a Ticket: African-Americans and 'Occupy', Tiffany Luke

This research was sponsored by the following programs: Assigned Released Time for Research (ART)

Samantha Kopp, Department of Sociology

Faculty Sponsor: Luis F. Nuno, Department of Sociology

The Impact of Parental Socialization Methods on Emerging Adult Males & Females Substance Use

The purpose of this study was to assess the relationship between the parental socialization methods, closeness and knowledge, and emerging adults' substance use patterns. The current study adds to prior research through assessing the impact of gender and residency status on the relationship between parenting and substance use. Participants included 120 William Paterson University undergraduate students between the ages of 18-25, the period of emerging adulthood. Fifty-two men and sixty-seven women were surveyed through random and convenience sampling. Results reveal that only maternal knowledge has an impact on alcohol and marijuana use, and has a stronger impact on females than males. Paternal knowledge, when combined with maternal knowledge, has a statistically significant association with marijuana use. Maternal closeness is suggested to have an impact on illicit drug use. Living with or without one's parents was shown to have a differing impact on the relationship between socialization methods and substance use. The research provides insight as to the continuing importance of the relationships with parents during emerging adulthood.

Cyril S. Ku, Department of Computer Science

Collaborative Software Engineering Models

Software development process has become more collaborative due to advances in telecommunication, the internet, and wireless technology; and also by economic factors such as outsourcing and off-shoring. Large software projects are intrinsically cooperative and with the above technologies and factors, collaborative software engineering is very popular at many levels. Recently, many research efforts are being conducted on the many aspects of collaborative software development such as policy issues, business management, technical support, and artifact and process issues. I will present the investigation of the business and technical processes on collaborative software development and how these processes can be built into the different software engineering models such as the Unified Process. New model will also be explored to incorporate collaboration.

This research was sponsored by the following programs: Assigned Released Time for Research (ART)

Michael Lang, Department of Biology

Co-Presenters: Jeung Woon Lee, Biology; Christina Demirjian, Undergraduate Student, Biology

Faculty Sponsor: Jeung Woon Lee, Department of Biology

Suppression of Acute Inflammatory Pain Using Mechanosensitive Ion Channel Blocker.

Mechanosensitive ion channels at the periphery play an important role on the initiation and subsequent transduction of mechanical nociceptive information by the DRG neurons to the CNS. Stretch-activated cation channel blocker, GsMTx-4, has been reported to dose-dependently reverse chronic inflammatory and neuropathic pain in rodents. Subdermal injections of GsMTx-4 reversed approximately 30-45% of carrageenan/PGE2-induced inflammatory pain. The present study examined the effect of GsMTx-4 in both the incisional pain model and the formalin pain model.

Male Sprague Dawley rats (180g) received unilateral plantar incision injury. Mechanical nociceptive thresholds were measured using a 2g and 10g von Frey filaments (10 applications on hindpaw plantar surface) at pre-injury and 24hr post-lesion. Animals displaying nociceptive responses were injected with GsMTx-4 (250 ug/kg; IP), and tested 40 min later for changes in mechanical threshold. Controls received saline injection. Three or 48 hr after toxin injection, animals received formalin injection (5%, 50ul; dorsal surface) in ipsilateral paw, and the number of paw lick/flinches was counted.

Baseline vF responses were 0.0 and 0.29±0.1 for 2g and 10g filaments, respectively. With 10g filament, the nociceptive response increased to 9.81±0.1 at 1D post-lesion, and was significantly reduced to 5.71±0.5 with GsMTx-4. With 2g filament, the nociceptive response increased to 4.71±0.7 at 1D post-lesion, and was significantly reduced to 1.29±0.6 with GsMTx-4. The phase 2 responses in formalin test were significantly

reduced with GsMTx-4. Controls had 208±4.6 flinches, GsMTx-4 injected rats (3hr-post) had 58.5±2.1 flinches. When animals were tested 48hr post toxin injection, their formalin flinch response was 173.5±3.5, not significantly different from controls.

In summary, the stretch-activated channel receptor blocker, GsMTx-4, significantly reduced mechanical allodynia/hyperalgesia in animals with incision pain. Selective blockade of nociceptive DRG neurons with GsMTx-4 may improve the efficacy of the toxin in blocking peripheral nociceptive signal.

This research was sponsored by the following programs: Assigned Released Time for Research (ART), and the Student Undergraduate Research Program (SURP)

Kristal Langford, Department of Psychology/Cognitive Science

Faculty Sponsors: Amy Learmonth and Justina Ekeocha, Department of Psychology

First Language Awareness: Word Associations In Second Language Acquisition in Post-Pubescent Learners

The word association model suggests that bilinguals' access words through translation into their first language. This study measures individual response time and accuracy over three word presentations, a color word in English, a pseudoword that do not sound like a color word and a pseudoword that is phonetically similar to color words in English. The hypothesis is pubescent and post pubescent participants will employ prior knowledge while the prepubescent group will not. Evidence from the research supports the theory. A one way ANOVA found on accuracy for phonetically similar words was significant (where accuracy is defined as choosing the color with the phonetically similar name) from adults, but were no differences between the teens and children and teens and adults.

Amy E. Learmonth, Department of Psychology

Co-Presenters: Michael Larena, Undergraduate Student, Psychology; Michelle Palmieri, Undergraduate Student, Psychology; Ashley Smith, Undergraduate Student, Psychology; Dale Conklin, Undergraduate Student, Psychology; Christina Cumberbatch, Undergraduate Student, Psychology

The Dimensions of Spatial Navigation

Examining human navigation through space has several methodological issues. One of the issues is the complete control required to make causal conclusions about the importance of different features of a space to human navigation makes using real world spaces difficult. Labs are not big enough to build artificial spaces big enough to engage true navigation (big enough to be lost in) and outside of the laboratory the researcher does not have the necessary control (a plane flying overhead could provide an unaccounted for cue). This poster demonstrates some of the possible alternative computer generated spaces in both two and three dimensions. The three dimensional part of the study presented is in the first stages. In the two dimensional space the human performance is surprisingly bad in one of the conditions (PL) while remaining quite good in the other (DL). The two dimensional presentation of the space allows for a configurational solution that does not require the use of the spatial cues in the DL condition, but not the PL condition. The three dimensional space required the use of spatial cues in both conditions and a comparison of the two configurations could provide information about the solutions used in the two dimensional configuration.

This research was sponsored by the following programs: Assigned Released Time for Research (ART)

Jeung Woon Lee, Department of Biology

Co-Presenters: Diane Asmar, Undergraduate Student, Biology; Annabelle Beltran, Undergraduate Student, Biology; Jennifer Fiorelli, Undergraduate Student, Biology; Robert Benno, Professor, Biology; Norman Schanz, Principal Technician, Biology

Autism and High Tolerance to Pain: Understanding the Biological Mechanism Using an Animal Model

BTBRs are a novel strain of mice that display autism spectrum disorder-like behaviors such as the repetitive motions, social anxiety/stress behaviors. My lab has reported BTBRs have extremely high tolerance to pain compared to control mice C57BL/6J. Absence of pain behavior was not mediated by abnormal spinal

mechanisms, but possibly by a supraspinal pain-suppressing system (e.g. endogenous opioids). Our recent behavioral and neuroanatomical data showed BTBRs also have much higher body weights than age-matched C57/6Js, and high neuronal activity in the hypothalamic arcuate nucleus. The arcuate nucleus contains NPY neurons that mediate feeding behavior and b-endorphin neurons that participate in control of pain information. Our data show that upon application of painful stimuli, the BTBRs have much higher number of FOS+ neurons in the ARC compared to C57/6Js. These neurons were localized within the region where NPY cells are concentrated. One of the subtypes of NPY receptor, NPY Y1, is found on b-endorphin cells in the ARC. Intracerebral injection of opioid receptor blocker or NPY antisera blocked insensitivity to pain in BTBRs.

Findings from my lab indicate the insensitivity to pain observed in BTBRs and autistic children may be related with the interplay between NPY and b-endorphin neurons in the ARC.

This research was sponsored by the following programs: Assigned Released Time for Research (ART), and the Student Undergraduate Research Program (SURP), and the College of Science and Health's Center for Research

Mark Liaban, Department of College of Science and Health

Co-Presenters: Ilijana Urukalo, Undergraduate Student, College of Science and Health; Cynthia Shanahan, Undergraduate Student, College of Science and Health; Catherine Alzamora, Undergraduate Student, College of Science and Health

Faculty Sponsor: Ruth Harrison, Department of College of Science and Health

Relationship Between Violent Video Game Exposure and Aggression in College Students

There has been a societal demand for research to be conducted regarding the relationship between violent video game exposure and aggression. Prior research and studies support the notion that violent video games cause an increase in aggressive behavior. However, as the cultural prevalence of video game violence increases, more research must be conducted with respect to this phenomenon. The purpose of this study is to examine the effects of violent video games on college students' aggression, heart rate, and blood pressure. Our hypothesis is that increased video game violence will lead to increased aggression, heart rate, and blood pressure. This study was conducted using a quasi-experimental design. First, subjects were asked questions regarding their medical history. Subjects then underwent a predetermined pretest-posttest protocol in which they played a calm video game as well as the highly controversial video game, Call of Duty. Bio-physiological measurements were taken at set intervals between each phase of the protocol. The study concluded with the subjects completing a questionnaire regarding aggression. The data gathered was compiled and analyzed using SPSS Statistics 19 software, and the results showed a marked increase in blood pressure and heart rate while playing both games, with greater increases while playing Call of Duty. This indicates that there may be a correlation between violence in video games and the level of arousal and aggression in an individual, supporting our initial hypothesis.

Kem Louie, Department of Nursing

Evaluation of the Logic Model in the Design of the NJ Nursing Education Collaborative to Increase Nurse Faculty

The goal of the presentation is to discuss the evaluation of the RWJF funded four year grant (2008-2012), NJ Nursing Initiative Faculty Preparation Program to increase nurse faculty in New Jersey. The grant's goal is to cultivate a cadre of masters-prepared nurses who are prepared to teach in New Jersey based nursing programs and are committed to pursue a career in New Jersey nursing education.

The lead organization, WPUNJ is part of a four state college/university collaborative in partnership with the graduate nursing programs at Kean University, Richard Stockton College and The College of New Jersey. Currently, nationwide and in NJ, there is a nurse faculty shortage as a result of several reasons: retirement of "baby boomer" nurse faculty, salary disparities between nurse faculty and other disciplines and less desire for nurses to consider nurse faculty as a career option. Currently, 8 of the 14 RWJF Nurse Faculty Scholars have graduated in 2011 and 6 nurse faculty scholars will graduate 2012 from the program. The use of the logic model

provided process, program and outcome evaluation of the project. The evaluation results along with nurse faculty scholars' characteristics and contextual variables will be discussed.

This research was sponsored by the following programs: Robert Wood Johnson Foundation Nursing Initiative Faculty Preparation Program: So a Nurse will be there for you (2008-2012)

Casey Lum, Department of Communication

The Chinese Urban Foodscapes: A Photo Essay

The proposed photo essay is in part a result from an investigative photographic research project. The project was supported in part by a Summer 2011 College of Arts & Communication Center for Creative Activity & Research grant. It is a photographic case study of the change and continuity in urban food cultures as forms of human communication in the Chinese diaspora. This presentation will illustrate and reflect upon the transnational differences and similarities in how food is re/presented, acquired, and consumed in (and among) Hong Kong, New York City, and Shanghai with a particular focus on Chinese wet markets and street food venues.

This research was sponsored by the following programs: College of Arts and Communication, Center for Creative Activity and Research

Erika Mann, Department of Sociology

Faculty Sponsor: Keumjae Park, Department of Sociology

The Effects of The OTC Availability Of Plan B On Teens Contraceptive Decision Making Process, With Race And Sex Considerations

With approximately 800,000 teen pregnancies on any given year, the United States possesses the highest teenage pregnancy rate of all the industrialized nations. Plan B is a form of emergency contraception for preventing a pregnancy when other birth control methods failed. Over-the-counter (OTC) availability of Plan B has drawn critics and advocates into a culture war over its perceived risks and benefits. Based on a survey on a sample of teens and young adults, this paper examines the impact of OTC availability of the Plan B pill on teens and young adults' contraception decision making, with an emphasis on race and class as intervening variables. A variety of factors help respondents from high SES families access Plan B more readily than their low SES counterparts. The paper finds that race and SES shape people's use of, and knowledge about Plan B.

Erika Marasigan, Department of College of Science and Health

Co-Presenters: Arielle Fisher, Undergraduate Student, College of Science and Health; Marianne Cavanaugh, Undergraduate Student, College of Science and Health; Elizabeth Shek, Undergraduate Student, College of Science and Health

Faculty Sponsor: Ruth Harrison, College of Science and Health

Relationship Between BMI and Marijuana Usage in Young Adults

There has been research done in the past that produced conflicting results regarding body mass index in relation to marijuana usage. Some studies show that marijuana usage increases body mass index (BMI) while others showed it decreases body mass index. The purpose of this study is to identify the relationship between body mass index and the use of marijuana. It is hypothesized that the use of marijuana decreases BMI. Data was collected by distributing a questionnaire to 250 students of William Paterson University between the ages of 18-25 years old concerning their use of marijuana, gender, height, weight, education level, dietary and alcohol intake, tobacco and other illicit drug usage. The data gathered was analyzed using IBM SPSS Statistics 19 software. A t-test group statistics regarding current estimated BMI showed = 23.56 (3.61) for marijuana users and = 24.73 (4.59) for those that do not use marijuana. The findings demonstrated that marijuana users had a BMI that was significantly lower than non-users. In an independent samples t-test with equal variances not assumed, $t = -2.13$, $df = 169.71$, $p = .035$. After analyzing the data, the results do, in fact, support the group's hypothesis that marijuana use will decrease body mass index.

Thomas Markey, Department of Physics

Co-Presenter and Faculty Sponsor: Kevin Martus, Department of Physics

Analysis of Optical Emissions from a Corona Discharge

One of the most widely used applications of plasmas is the production of light from the visible region of the electromagnetic spectrum to the ultraviolet (UV wavelengths between 200-400nm) and the vacuum ultraviolet (VUV wavelengths less than 200nm). Since UV photons have sufficient energy to break chemical bonds the UV light sources have a variety of technological applications, such as, photolithography, surface cleaning, curing, materials processing, printing, and industrial coatings industries; and biological, such as UV sterilization of contaminated air, water and surfaces, ozone production, skin treatment, both clinical and cosmetic (tanning), germicidal, and fluorescent lighting. Presented herein is the analysis of the optical emissions from a Corona discharge with Nitrogen. The emission intensities from neutral nitrogen molecules, as well as, molecular nitrogen ions as a function of pressure have been analyzed and will be related to the basic processes occurring in the discharge. A high-resolution spectrograph has been used to determine a number of thermodynamic properties of the non-equilibrium plasmas. Specifically, the rotational and vibrational temperatures of the molecules have been determined from the so-called "Second Positive System" and the "First Negative System" band structures as a function of pressure. In addition, the electronic temperature of the Corona discharge will be determined for the system working with Neon and Xenon gases.

This research was sponsored by the following programs: Assigned Released Time for Research (ART), National Science Foundation Major Research Instrumentation (MRI) grant (1040108) and College of Science and Health Student Worker Program. Any opinions, findings, conclusions, or recommendations are the authors

Kendall Martin, Department of Biology

Co-Presenters: Kiran Herapara, Biology, undergraduate; Jennifer Parente, Biology, undergraduate

Bacterial LHPCR Analysis of Disinfested Soil Communities

The longer-term goal of this work is to perform bacterial community analyses evaluating a trial of a methyl bromide replacement compound. This work is part of an effort to find alternatives to pre-plant soil fumigation with methyl bromide to decrease the load of pathogens. In our initial phase of quality control, we attempted to track down source of contamination in our PCR amplifications. We detect contamination by running negative controls with each analysis and we have been detecting PCR product in the negative controls that had no template DNA to amplify. This product was found, by agarose gel electrophoresis, to be similar in size to the ribosomal target sequence we amplified from our positive controls, *Clostridium perfringens*, *Escherichia coli* and *Micrococcus luteus*. To help determine the source, we performed restriction analysis of the PCR product to fingerprint the DNA sequences. We found that the restriction pattern matched that of the *E. coli* positive control. Careful step by step replacement of the less expensive reagents left only the Stratagene Paq5000 Hot-Start Polymerase as the unconfirmed source of contamination. Technicians at that company stated that they did use transgenic *E. coli* to produce the enzyme and that they tested for DNA contamination only with a simple 30-cycle PCR. Our protocol is much more sensitive and may be the reason that we see amplification of DNA from the polymerase product that they do not.

This research was sponsored by the following programs: Assigned Released Time for Research (ART), and Research & Travel Incentive Award, Office of the Provost

Michelle Martinho, College of Science and Health

Co-Presenters: Elmedina Halilovik, Undergraduate Student, College of Science and Health; Steve De Los Rios, Undergraduate Student, College of Science and Health; Welma Geronimo, Undergraduate Student, College of Science and Health

Faculty Sponsor: Ruth Harrison, College of Science and Health

The Impact of Exercise on the Degree of Pain Endured Among Middle-Aged Adults with Rheumatoid Arthritis

The intent of the study is to evaluate the impact of exercise, in relation to the level of intensity, on the degree of pain endured among middle-aged adults suffering from rheumatoid arthritis. We hypothesize middle-aged adults with rheumatoid arthritis who participate in strenuous/moderate exercise within moderation to their endurance, will experience a greater amount of reduced or sustained degree of pain, in comparison to those who participate in mild exercise.

The research study took place in a doctor's office. All patients with rheumatoid arthritis were given the choice to fill out the questionnaire as they await their scheduled appointment. The questionnaires were targeted to collect data based on the intensity of exercise performed by the patient, as well as the difference of pain endured by the patient before and after they have exercised. The intensity of exercise was categorized into 2 groups including, strenuous/moderate and mild. The Numerical Rating Pain Scale was used to measure the degree of pain before exercising and then again 2 days after exercising to evaluate how the degree of pain endured was affected by exercise, which is based on a scale of 0 to 10.

An independent samples t-test compared the difference in pain before and after for those who did strenuous/moderate exercise vs. those who did mild. The results supported our hypothesis that strenuous/moderate exercise is more beneficial than mild. The mean pain level difference for those doing strenuous/moderate was -1.21, and .58 for those doing mild exercise, ($t=-4.853$, $df=24$, $p .001$).

Raza Mir, Department of Marketing and Management Science

Co-Presenters: Ali Mir, Marketing and Management Sciences

In The Shadow of Empire: Mapping Anti-Imperialist Traditions in Management Theory

It is perhaps a truism that management theory has tended to objectify the colonized nations, and the subjects of imperialism. Not that the colonized are very exceptional in this regard; management theory has been similarly unkind to a variety of subject groups; women, workers, the poor. But perhaps the absence of the subjects of imperialism has been more marked in the traditions of management theory than other subjectivities. Even the critical traditions in management tended to be mired in Eurocentric assumptions.

In the 1990s, some management theorists focusing on workers and subjects from the poorer South began expressly "theorizing back"; i.e. writing eloquently on how they could restore their own agency in the realm of theory. In this presentation, we will discuss some of those traditions. They include "subaltern studies" (a quasi-Gramscian approach to Third World concerns), "transnationalism", the emerging studies on "political society" (as opposed to "civil society"), recent theoretical responses to the "accumulation by dispossession" ideas of Marx within the third world space, and such.

This research was sponsored by the following programs: Research and Travel Incentive Award, Office of the Provost

Natalie Mooney, Department of Sociology

Faculty Sponsor: Luis F. Nuno, Department of Sociology

Understanding the Effects of Open Homosexuality on Personal Relationships

In our society, homosexuals are a minority group that has been the subject of much attention and controversy throughout the years. Homosexuals are a group that has fought to be recognized, and continues to fight for their equality. My research looks closely at the process of coming out and the effects this may have on personal relationships. Previous studies have shown coming out to one's family is a pivotal point in time and has often lead to feelings of rejection and separation from one's family leaving the individuals in an extremely vulnerable position, open to the criticism of others. Many homosexuals take this leap of faith once they have entered into serious relationships in order to better the quality of the bond being shared. However, it has also been shown that coming out to one's family often leads to higher levels of stress, and verbal and physical abuse. Studies show that the more support a homosexual individual receives the less stressful their environment will be. The parents reaction to the disclosure of sexual identity can be crucial and can range anywhere from blatant disapproval to acceptance. Research has shown that reactions of parents are handled very differently between gay men and lesbian woman. While gay men often seek independence, lesbian women seek to maintain

harmonious intergenerational relationships. These coping mechanisms can then in turn play a role within intimate partner relationships. The following qualitative research was conducted by using in-depth interviews with four openly homosexual individuals, two males and two females. Two respondents in my study are college seniors, one man and one woman. The other two respondents in my study are older, one man in his forties and a woman in her thirties. Some of the key questions used in these interviews were asking the individuals to describe in detail what coming out to their parents was like, how have others reacted and what significant changes have occurred in their lives since coming out. My research shows the coming out process to be something described as unforgettable. Parental reactions played a huge role in their confidence and ability to be open about their sexuality. Gender differences were observed within these findings, however an overall desire for acceptance and preservation of familial relationships was found.

Leslie Nobler, Department of Art

Alternative Digital Printmaking Techniques

I aim to advance alternative digital printmaking techniques. I use hybrid forms of digital collage and printmaking to explore ethnic heritage and religion and its role in artists' books, striving to simulate artisanal techniques using today's technology. The project proposes using metal foils, pigments, and patinas within the printing process to create historically influenced digital artwork -creating books and unique wrappings and slipcases, all based on ritual artifacts.

This research was sponsored by the following programs: College of Arts and Communication, Center for Creative Activity and Research

Jill Nocella, Department of Nursing

Structure, Process and Outcomes of Care in a Telehealth Program for Patients with Type 2 Diabetes

Despite the advances that have been made in understanding the importance of self-management of individuals with type 2 diabetes (T2D), further work remains in understanding the structure and processes of care in relation to improved clinical and utilization outcomes. In light of the current state of the science of diabetes self-management and the shift from provider-centered care to patient-centered care, the need for research that may contribute to improved clinical and utilization outcomes in individuals with T2D within the home telehealth environment is warranted.

Using Donabedian's Structure-Process-Outcomes framework for evaluating health care, this study will examine the structure of a telehealth program, the processes of care inclusive of nurse-patient telephonic interactions, and the patients' clinical and utilization outcomes related to management of T2D. This descriptive exploratory study is a secondary data analysis using baseline data collected as part of a managed care telehealth program, House Calls, through the Health and Hospitals Corporation and MetroPlus Health Plan in New York City. This study will seek to examine the role that health care providers, specifically nurses, play in contributing to clinical and utilization outcomes in a population of Medicaid patients with T2D in a telehealth environment.

This research was sponsored by the following programs: Assigned Released Time for Research (ART)

Natalie A. Obrecht, Department of Psychology

Co-Presenters: Dana L. Chesney, Post-Doctoral Researcher, Department of Psychology, University of Notre Dame; E. Taddese, Undergraduate Student, Department of Psychology

An Examination of the Influence of Binomial Variability on Lay Inferences

Assume that a restaurant is recommended by 32% of all people. How surprising would it be if 40% of 100 sampled people recommended the restaurant? If instead the restaurant is recommended by 2% of the population, how surprising would it be if 10% of 100 people recommend it? The distance between the actual probability of a recommendation and the sample percentage is identical in these scenarios (i.e. $32-40 = 2-10 = -8$), as is the sample size (i.e. $N=100$). However, in a binomial distribution with two possible outcomes (e.g. recommending vs. not recommending), variability is a function of probability, $\sigma^2=np(1-p)$. Holding sample size

constant, variability is highest when $p=50\%$ and decreases as p becomes more extreme towards 0 or 100%. This means that the variability of the sampling distribution for $p=2\%$ is much less than when $p=32\%$. Normatively, this should make the 8% difference between the population and sample probabilities much more surprising given that $p=2\%$, compared to $p=32\%$. In our experiment we test whether participants' judgments reflect this property of the binomial distribution. Participants compared samples percentages (e.g. 10%) to two different populations with known percentage values (e.g. 8% and 18%). Their task was to conclude from which population the sample was more likely to have been drawn from. If judgments reflect binomial variability, then participants should tend to select the populations with percentage values that are closer to 50%. We also examine whether numerical ability relates to how people make these inferences.

This research was sponsored by the following programs: Assigned Released Time for Research (ART)

Emmanuel S. Onaivi, Department of Biology

Cannabinoid Receptor Variations in Neuropsychiatric Disorders

The ubiquitous cannabinoid receptors (CB-Rs) - probably the most abundant binding sites in the CNS - are known to be involved in a number of neuropsychiatric disturbances. CB-Rs are coded in human chromosomes 1 and 6 and activated by endocannabinoids, phytocannabinoids and marijuana use (medical/recreational use). The components of the endocannabinoid system (ECS) include genes encoding these CB-Rs (CB1-Rs and CB2-Rs), endocannabinoids (eCBs), and their synthesizing and degradation enzymes are major targets of investigation for their impact in neuropsychiatry. Hence we have continued to study the influence of CB-R variants in neuropsychiatric disorders. Many studies have shown that CNR1 and FAAH SNPs may contribute to drug addiction, depression, eating disorders, schizophrenia, and multiple sclerosis. But little attention had been paid to the neuronal and functional expression of CB2-Rs in the brain and their role in neuropsychiatric disorders has been much less well characterized. Indeed our studies provided the first evidence for neuronal CNS effects of CB2-Rs and its possible role in drug addiction, eating disorders, psychosis, depression and autism spectrum disorders (ASDs). Our previous pre-clinical studies using the mouse model indicate differential strain and gender differences in the expression of CNS CB2-Rs but not CB1-Rs, when mice were subjected to chronic mild stress model of depression. In the current studies many features of CB-R gene structures, regulation and the impact of CB-R gene variants in neuropsychiatry and where possible in rodent models were assessed. Association studies were also performed between polymorphisms in CB2-R gene and schizophrenia, eating disorders, depression, and alcoholics in two independent case-control populations. We also report on the identification of novel human and rodent CB2-R isoforms, their differential tissue expression patterns and regulation by CB-R ligands. There is association between polymorphisms of CB2-R gene and the neuropsychiatric disorders investigated. Our findings also indicate increased risk of schizophrenia, depression, drug abuse, and eating and autism spectrum disorders in low CB2-R function. Further studies illustrate the consequences of cannabinoid system disruption in a mouse model of autism spectrum disorders. Thus, understanding CB-R variants and other components of the ECS may provide novel targets for the effects of cannabinoids in neuropsychiatry. Support WPUNJ and NIDA-National Institute of Health

This research was sponsored by the following programs: Assigned Released Time for Research (ART), and the College of Science and Health's Center for Research

Lynne Orr, Career Development and Advisement

Counseling in a Technical World: Student Counselors' Technical Skills, Motivation, and Self-Efficacy

Incorporating technology into a counselor's practice has continued to grow. The research supports that it would be advantageous for counseling students to learn the 12 technical competencies suggested by the interest group of the Association for Counselor Education and Supervision (ACES). This study investigated the computer attitudes (perceived ease of use, perceived usefulness) of enrolled students in a master's-level professional counseling program. A positive correlation at the $p < .001$ significance level was found for both frequency of use with perceived usefulness and frequency of use with perceived ease of use. Motivation, attitudes, and technical self-efficacy were addressed relating the importance of student counselors achieving the 12 technical competencies recommended by the ACES interest group.

This research was sponsored by the following programs: Dissertation research

Kelly P. Padilla, Department of Sociology

Faculty Sponsor: Luis F. Nuno, Department of Sociology

How Socioeconomic Differences In Low-Income Families Leads To Child Maltreatment

My research investigates how socioeconomic differences in low-income families leads to child maltreatment. Child maltreatment has been a topic of research for many years. Researchers have sought to find preventable measures, especially for those in the child protective services. Past research supports the hypothesis that there exists a relationship between poverty and abuse. Families that are poor face daily stressors which affect their parenting skills because of limited access to crucial resources. My project builds upon past research by analyzing the long-term effects of physical abuse and how socioeconomic differences can lead to abuse in families. I propose to interview 25 single-parent mothers who are first time Temporary Assistance for Needy Families (TANF) recipients, as well as 25 single-parent mothers who have been TANF recipients for at least 12 months. My research will be based in the Bergen County Social Services agency in order to collect data records for new and current recipients. I plan to compare the mean educational attainment level, median income, race/ethnic identity, and level of violence in each family. My research tests the hypothesis that lower-income families are at greater risk for physically abusing their children as a result of their financial burdens when compared to those with higher incomes.

Michelle Palmieri, Department of Psychology

Co-Presenters: Christina Cumberbatch, Ashley Smith, Michael Larena, and Dale Conklin, Undergraduate Students, Psychology; Amy Learmonth, Psychology

Faculty Sponsor: Amy Learmonth, Department of Psychology

Autism and the video deficit: A study proposal

Young children learn a great deal of information about how to behave and how to do things through imitation. Infants over 6 months and toddlers readily imitate an adult model (Learmonth, Lamberth & Rovee-Collier, 2003). Barr (2003) demonstrated these young imitators suffer from a "video deficit" in which their imitation from a demonstration on video is significantly worse than their imitation from a live model until about 36 months. Children with Autism have been shown to have difficulty imitating at all. However, there is significant research using very small sample sizes, that children with Autism can use a video model. One explanation for this finding is that videos take away much of the stimuli that children with Autism have difficulty processing. The lack of social stimulation a video model provides may decrease the child's level of distractibility or discomfort. A second possible explanation is children with autism, characteristically preoccupied with movie lines, have better attention to a video. Our proposed study is aimed at systematically examining imitation from video as compared to imitation from a live model in a sample of children with Autism. We will use a task that has been normed with typically developing children as having a video deficit until 48 months. Our hypothesis is that although children with Autism's overall imitation will be lower than the typically developing children, they will do better in the video group than in the live model group, the opposite of the finding with typically developing children.

Keumjae Park, Department of Sociology

Gender and Emerging Multiculturalism in South Korea

This paper examines the characteristics of recent immigration influx into South Korea and the emerging discourse of multiculturalism in the country. The presentation includes analysis of the attitudes on immigrants in Korean society represented in media and policy discourses. Perspectives on social integration, assumption of citizenships, and gender implications are highlighted in two major multicultural policies.

This research was sponsored by the following programs: Assigned Released Time for Research (ART)

Vincent Parrillo, Department of Sociology

Working Between Worlds: Scholarship and Translation

As author of an historical novel about turn-of-the-century immigration at Ellis Island, Dr. Parrillo will speak to the challenges of including foreign-language dialogue in fiction, exploring the need for translational distinctions between the formal language of the classroom and the informal language of conversation.

Stephanie Payne, Department of College of Science and Health

Co-Presenters: Stacey Stover, Undergraduate Student, College of Science and Health; Brianna Whitlock, Undergraduate Student, College of Science and Health; Vannessa Lopes, Undergraduate Student, College of Science and Health; Lissette Ramirez, Undergraduate Student, College of Science and Health

Faculty Sponsor: Ruth Harrison, Department of College of Science and Health

Health Promoting Lifestyle and Quality of Life in Elderly

The purpose of this research study is to measure the relationship between health promoting lifestyles and quality of life in the elderly of assisted living. The hypothesis is the more a person engages in a health promoting lifestyle, the higher their quality of life is predicted to be. The research design used is a non-experimental, cross sectional design. The study was conducted using three instruments: 1. Demographic Scale, 2. Quality of Life Scale and 3. Health Promoting Lifestyle Scale (lifestyle profile II). The Demographic Scale includes questions that ask about the participant's general background. The Quality of Life Scale includes ratings of satisfaction towards their health, functioning, and many other areas of their lives. The health promoting lifestyle scale was used to measure their spiritual growth, physical activity, interpersonal relations, and nutrition as well as their health responsibility. All of this information was gathered at the Cedar Crest Assisted Living Facility in Pompton Plains New Jersey. All participants answered the questionnaires by choice. The surveys were collected and analyzed using the statistics SPSS 19 program. The result of this study was that there was not a significant correlation between health promoting lifestyles and quality of life in the elderly of the assisted living ($p=0.684$, R -square= 0.009).

Donna R. Potacco, Department of Science Enrichment Center

Co-Presenters: Peter Chen, Mathematics; Danielle Desroches, Biology; Sandra De Young, Dean, College of Science and Health; Daniel Chisholm, Chemistry

Coupons for Student Success: A Marketing Incentive in Academic Support

The controversy over the effects of using incentives to motivate learning has endured for many decades. Some academicians believe students should be self-motivated intrinsically to learn and caution against the use of extrinsic motivators. Others have demonstrated that extrinsic motivation can have a positive impact on student learning when used under certain conditions. This article discusses the use of a Coupon incentive program to motivate students to seek academic support in high-risk courses. Results from our study demonstrated that the Coupon incentive program was effective in motivating voluntary student attendance and improving student outcomes. An overview of the program and recommendations related to its implementation are discussed.

This research was sponsored by the following programs: College of Science and Health

Kara Rabbitt, Department of College of Humanities and Social Sciences

Working Between Worlds: Scholarship and Translation

Working Between Worlds: Scholarship and Translation: Bringing together senior scholars working in diverse fields of the humanities and social sciences, this panel addresses the challenges the scholar faces in exploring meaning across languages. The four panelists will briefly share the impact of translation on their current projects and discuss together how to "work between worlds." Presenters include: Edward Burns, English Department, Marie Friquegnon, Philosophy and Asian Studies, Vince Parrillo, Sociology, and Michael Thompson, Political Science.

Sheetal Ranjan, Department of Sociology

Co-Presenters: Librada Sanchez, Women's Center

Campus Violence Prevention Program: A Presentation of the Grant Project and Activities

The mission of William Paterson University's Campus Violence Prevention Program (CVPP) is to (1) Prevent domestic/dating violence, sexual violence, and stalking through a variety of educational programs, (2) Strengthen and develop an effective victim-centered response on the WPU campus. The CVPP has collaborated with numerous internal and external partners to conceive and implement prevention and educational programs for WPU students, enhance victim services and resources, and strengthen security and investigation strategies to prevent and respond to domestic/dating violence, sexual violence, and stalking. The CVPP is supported by a \$299,464 grant from the Department of Justice, Office on Violence Against Women. In this presentation we will describe how the grant was conceived at the proposal stage. Implementation of the grant program since it has been funded. Describe the various components of the grant program. How members of the university community can collaborate to make WPU a violence free campus. The successes and challenges in the implementation of the grant program. We will conclude by laying out a vision for the future of this program.

This research was sponsored by the following programs: US Department of Justice, Office of Violence Against Women

Lauren Razzore, Department of Art

"Office Frenemies"

This year with the funds I received from the 2011 Center for Creative Activity and Research Grant I was able participate in the FIGMENT NYC exhibition on Governor's Island New York for the second consecutive year. During the three-day exhibition, which garnered over 25 thousand visitors, I successfully presented a website and interactive photo project. The photo project and coordinating books were a part of an interactive art piece entitled "Office Frenemies", originally created for the 2011 Thing-A-Day online exhibition. The piece incorporates the original online photo story into book format and the exhibit then featured interactive elements for users to participate with the book through their own photography and its integration into the website project. Visitors/participants could interact with the story itself, taking cameras and characters from the story throughout the island and photographing them. Those photos were then be added to the project website and integrated into the character's ongoing story.

The website created as a result of the FIGMENT exhibition integrated new techniques in Adobe Flash image loading and management featuring the Actionscript 3.0 coding language which I have since integrated in Fall 2011 to the new Advanced Interactive Online Media class.

This project was also featured in the 2011 Art Department Faculty Show in the Ben Shahn Galleries. The presentation for Research and Scholarship day will feature the final book and website from the project.

This research was sponsored by the following programs: College of Arts and Communication, Center for Creative Activity and Research

Jazmin Romero, Department of Sociology

Faculty Sponsor: Luis F. Nuno, Department of Sociology

Death Denying Society

This paper is a research proposal that discusses the different ways societies deal with the topic of death. My research reviews the literature about how our own society's views toward death transitioned over time from death-accepting into death-denying. This historical process and the factors associated with it present an interesting intellectual puzzle. Why have we become a death denying society? What is it about death that pushes us to try to conceal its inevitability? Through a combination of interviews, observations, content analysis, case studies, and photo-voice methods correlations may arise addressing possible explanations to that research

question. This research proposal seeks to make sense of the relationship of the individual to society. Where does the individual will to survive end and the reproduction of social structures denying death begin?

Caitlin Signorello, Department of Sociology

Faculty Sponsor: Luis F. Nuno, Department of Sociology
The Doors are Locked

Released inmates face many obstacles upon their release from state prisons. Many struggle to stay out of prison. The recidivism rate in our country is disappointingly high. Past studies suggest that there are very specific variables that may increase the likelihood of being of an ex-convict being re-arrested, re-convicted, and re-imprisoned within two years after exiting the prison walls. The variables associated with recidivism are the environment where ex-convicts live after being released, as well as lack of meaningful employment to earn sufficient income so that one is able to escape his/her at-risk environment. My research asks ex-convicts which variables were most meaningful in their reintegration upon release. What is the most important factor helping ex-inmates desist? I analyze in great detail the role that peer pressure plays in drawing ex-convicts in and out of crime. Past researchers have looked at peer pressure as one among several variables affecting recidivism, but none discussed it as the most influential factor. I used the snowball sampling to conduct phone interviews with 6 released inmates in fall of 2011. These former inmates relayed narratives suggesting that their friends at the time release played in influential role in their life-course trajectory in the years following incarceration.

David Slaymaker, Department of Biology

Genotypic Diversity in Native New Jersey Populations of American Beachgrass

New Jersey's coastal dunes provide natural beauty and infrastructure protection for the state's coastal communities. Restoring New Jersey's coastal dunes involves single-genotype plantings of the 'Cape' variety of American Beachgrass (*Ammophila breviligulata*) for dune stabilization and development. However, it remains an important question whether single-genotype plantings provide sufficient long-term sustainability and function. To establish a benchmark of native diversity we used ISSR markers to measure genotypic diversity in three native New Jersey *A. breviligulata* populations. Our results show that moderate to high levels of genotypic diversity occur in all three populations. To compliment this work, we will use the same ISSR markers to assess genotypic diversity in three well established, restored *A. breviligulata* populations.

This research was sponsored by the following programs: Assigned Released Time for Research (ART), and the College of Science and Health's Center for Research

Ashley Smith, Department of Psychology

Co-Presenters: Michelle Palmieri, Undergraduate Student, Psychology; Dale Conklin, Undergraduate Student, Psychology; Mike Larena, Undergraduate Student, Psychology; Christina Cumberbatch, Undergraduate Student, Psychology; Amy Learmonth, Psychology
Faculty Sponsor: Amy Learmonth, Department of Psychology
Navigation in Grey Scale

Previous research indicates that geometric and landmark information are processed independently in rats (Wall, 2004). This study is a follow up to a previous study that explored the possibility of that independence in human children and adults. The current and previous studies are a computer-based training study where participants learn to respond relative to the location of a moving landmark on one trial type and the geometric properties of the figure on the other trial type. Test trials then put the two pieces of information in conflict to see which one has a stronger pull on behavior. In the initial study results showed that adults prefer the landmark almost unanimously, five-year-olds are not statistically different from adults, and four-year-olds and three-year-olds are different from both the five-year-olds and adults [$F(2,63)=6.86, p<.01$] with more responding to geometric information than older participants and more errors. The current study is similar to the initial study except that the available choices are all the same color. In the initial study, the color of the squares varied from trial to trial in an effort to make the task engaging. There is some evidence in the data that the youngest participants made

choices following a color rather than the rewarded location. In this study all the choices are grey, removing the colors that distracted the youngest participants.

This research was sponsored by the following programs: College of Humanities and Social Sciences' Research Center Summer Stipend

Joseph C. Spagna, Department of Biology

Co-Presenters: Robert Sutherland, Undergraduate Student, Biology; Christopher Satch, Undergraduate Student, Biology and Computer Science; Edgar Valdivia, former Undergraduate Student, Biology
Molecular Phylogenetics of Ponerine Trap-jaw Ants

Trap-jaw ants in the genus *Odontomachus* and *Anochetus* are known for their oversized jaws that can be cocked and rapidly released in the form of devastating strikes on prey or enemies. In some species, these strikes have been co-opted for locomotion; by striking their jaws against hard surfaces, the ants can launch themselves many body-lengths into the air. Though trap-jaw morphology is polyphyletic, the subfamily Ponerinae includes two trap-jaw genera: *Odontomachus* and *Anochetus*, covering a broad range of body size, morphological variation, and ecological variation. As a basis for comparative hypothesis-testing on these species, we developed a multi-gene molecular phylogeny for the ponerine ants. We sequenced the genes wingless, long-wavelength rhodopsin, histone H3, and 28S rDNA from a total of ~30 species (20 *Odontomachus*, 5 *Anochetus*, and 5 outgroup genera) to produce the matrix, which was analyzed using partitioned Bayesian analysis. Ultra-high speed videography (50,000-120,000 frames per second) was used to estimate maximum angular jaw velocities for a subset of these species, which was used to model maximum jaw momentum during a strike. Mapping kinematic capabilities onto the phylogeny and performing comparative analyses demonstrated that kinematic variation is tied primarily to jaw and body size, and controlling for phylogenetic effects has a small influence when modeling jaw strikes based on animal size within each genus.

This research was sponsored by the following programs: Assigned Released Time for Research (ART), and the College of Science and Health's Center for Research

Janis Strasser, Department of Elementary & Early Childhood

Which Doll Do You Want to Play With?: Revisiting the Doll Study to Explore Young Children's Notions About Skin Color

Preschool children were asked to choose 1 of 4 gender neutral dolls with which to play. The dolls varied only in skin color and facial features. The children were also asked which doll they wanted to be their friend, and which doll looked like them. This is a pilot for a larger study that will explore young children's conceptions about race. The pilot was conducted in a preschool in Paterson and at the WPU Child Development Center. Results of this early stage of the research will be shared. The study is based on the work of Drs. Kenneth & Mamie Clark, who conducted their doll study in the 1940's.

Michael Thompson, Department of Political Science

Working Between Worlds: Scholarship and Translation

As a political theorist whose work draws extensively from classical sources, Dr. Thompson will discuss the translation of ideas and traditions in ethical and political thought. His work explores the ways that 'translating' ideas from other cultures, languages, and times can help us rethink and gain critical distance from our own ingrained beliefs and ideas.

Miryam Z. Wahrman, Department of Biology Department

Co-Presenters: Karina Kuruvilla, Undergraduate Student, Biology Department; Shamil Javed, Undergraduate Student, Biology Department; Peter Rogers, Undergraduate Student, Biology Department
Microbial Contamination and Decontamination of Textiles

Medical practitioners wear neckties and other garments that may be contaminated with bacteria and other microorganisms. We exposed polyester, silk, cotton, wool, polyester/cotton blends, and microfiber fabrics to *E. coli*, *B. subtilis* and *S. epidermidis* to determine how bacteria interact with these textiles. After exposure of the fabrics to bacteria, methods for decontamination were tested. We discovered that some unexposed swatches harbored endogenous bacteria, which may have been introduced through handling during manufacturing, transport or sale of the material. Exposing the swatches to dry heat reduced the contamination. Hydrogen peroxide inhibited cell growth. Fabrics exposed to *E. coli*, followed by hydrogen peroxide, showed no microbial growth. Swatches exposed to *E. coli* and then dry heat showed mixed results; some samples had bacterial growth, and others were clean. Steam heat reduced, but did not eliminate, *E. coli*. *E. coli* survived treatment with dry cleaning fluid; in some samples it appeared to enhance or support bacterial growth. Commercial cleansers were tested on *Staphylococcus epidermidis* and *Bacillus subtilis*: Dawn detergent, Johnson & Johnson Baby Wash, Clean and Smooth, and ethanol reduced, but did not eliminate *S. epidermidis*. The cleansers did much better against *B. subtilis*, with 95 % reduction with Dawn, and no growth observed in the presence of J&J, Clean & Smooth and 65% ethanol.

We are continuing studies on other cleansers and antimicrobial treatments, as well as on the interaction of bacteria with individual threads of different fabrics. This research was supported by an ART award, and support for student research assistants from the College of Science and Health, as well as a Student Undergraduate Research Program grant from the Office of the Provost.

This research was sponsored by the following programs: Assigned Release Time for Research (ART), College of Science and Health Student Worker Program, and the Student Undergraduate Research Program

Carey Waldburger, Department of Biology

Co-Presenters: Jennifer Fiorelli, Undergraduate Student, Biology Department; Brandon Schwartz, Undergraduate Student, Biology Department
Identification of a Peptide Binding Determinant in the PhoQ Receptor Protein of Escherichia coli

PhoP-PhoQ is a two-component signaling system that controls many cellular activities and virulence in *Escherichia coli* and *Salmonella enterica*. PhoQ is a transmembrane sensor that monitors the environment for various signals and transmits this information to PhoP, a cytoplasmic transcriptional regulator that then modulates bacterial gene expression in response to the extracellular conditions. PhoQ has been shown to directly interact with and transmit information regarding extracellular signals that include divalent cation concentration and pH. Additionally, the system can be regulated by two small membrane peptides (B1500 and MgrB) that are encoded in the *E. coli* genome.

In previous work, we described the isolation of two mutants of PhoQ that respond normally to extracellular Mg²⁺ but are defective in activation by B1500, indicating amino acids with specific roles in B1500-mediated signaling. One of these is a leucine to proline substitution at residue 87 (LP87), which lies in the extracellular sensor domain. The second is a leucine to proline substitution at residue 224 (LP224), which lies in the intracellular linker that connects the sensor domain and the intracellular transmitter domain (domain that transmits information to PhoP via a phosphorylation mechanism). The most likely roles for Leucine-87 and Leucine-224 are in peptide recognition and transduction of the signal, respectively. Here we will show that the LP87 mutation disrupts both the B1500-PhoQ and MgrB-PhoQ interactions, while the LP224 mutation does not, indicating that there is an overlap in the docking site used by these two peptides, and surprisingly, that the LP224 mutation causes MgrB to activate PhoQ-PhoP signaling rather than repress it.

This research was sponsored by the following programs: Assigned Released Time for Research (ART)

Kevin J Walsh, Department of Educational Leadership and Professional Studies

Teacher Empowerment: The Disconnect Between Supervisory Beliefs and Behaviors

This research project focused on school principal supervisory beliefs and behaviors. The two-year research project included: a) identification of current research related to philosophical beliefs and current best practices of teacher supervision, b) collecting survey information from approximately 90 school principals in the five surrounding counties proximate to William Paterson University c) the collection of data concerning the actual practice of these principals, and d) the completion of an analysis of the data exploring the degree of consistency that exists between beliefs and practice and the factors that affect this possible discrepancy.

The literature review was completed in the fall 2009 and served as the basis for selection of the Supervisory Behaviors Inventory (Glickman, 1981) as the project survey instrument. Walsh (2010) published an article reflecting the literature review summary. The selected survey instrument was piloted in the spring 2010 at the National Association of Secondary School Principals (NASSP) National Convention at which this researcher presented on the research topic. Electronic surveys were disseminated to principals in northern New Jersey in the five surrounding counties proximate to William Paterson University. The data collection was completed in the fall 2010 and a written analysis, summary and recommendations completed in the spring 2011. The findings of this research project were presented at the American Association of Colleges for Teacher Education (AACTE) at its national conference in February 2011.

This research was sponsored by the following programs: Assigned Released Time for Research (ART), and Research & Travel Incentive Award, Office of the Provost

Lisa Warner, Department of Elementary and Early Childhood Education

Understanding Student Engagement with Mathematics

This research focuses on several groups of middle school students in math class, in an attempt to understand when, how, and why students engage in conceptually challenging mathematics. Studies of the affective and cognitive interactions of students in urban middle school mathematics classrooms have led to the development of the concept of "engagement structures" (Goldin, Epstein, Schorr, Warner, 2011; Schorr, Epstein, Warner and Arias, 2010). An engagement structure is an idealization that helps account for and describe recurring, dynamical patterns of interaction around mathematics. It involves a characteristic motivating desire or goal, actions including social behaviors toward fulfilling the desire, supporting beliefs, "self-talk," sequences of emotional states, meta-affect, strategies, and possible outcome. Thus it is a kind of behavioral/affective/social constellation, situated in the person that becomes active in social contexts. Examples will be discussed: Get The Job Done, Look How Smart I Am, Don't Disrespect Me, Check This Out, I'm Really Into This, Let Me Teach You, Stay Out of Trouble, and Pseudo-Engagement.

This research was sponsored by the following programs: This research was partly supported by the US National Science Foundation (NSF), Grants 0138806, ESI-0333753, and REESE- 1008770. Any opinions, findings, conclusions, or recommendations are the authors and do not necessarily reflect the views of the NSF.

Jamie L. Weiss, Department of Biology

Co-Presenters: Michael Gonzalez, Undergraduate Student, Nursing; David Fleischmann, Graduate Student, Biotechnology; Dongjin Oh, Postbaccalaureate Premedical Program, Biology; Ama Berko, Undergraduate Student, Biology; Sedar Sadir, MD, visiting scholar from Turkey

Characterization Of A Mutation In A Regulator Of Neurotransmission-Neuronal Calcium Sensor-1 That Is Implicated In Autism

Calcium (Ca²⁺) signaling is the main process that neurons use to undergo synaptic transmission and is a vital mechanism underlying neural plasticity. Neuronal Ca²⁺ Sensor-1 (NCS-1) is an EF-hand high-affinity Ca²⁺-sensing protein that is an important signaling regulator of neurotransmission. NCS-1 is implicated in synaptic plasticity, schizophrenia, as well as both neurodegenerative and cognitive disorders. A missense mutation in

NCS-1, R102Q, has been found in one autistic patient. NCS-1 also mediates the neurotransmitter dopamine signaling by keeping D2 dopamine receptors on the cell surface. The D2 dopamine receptor is important in learning and memory and is implicated in both schizophrenia and Parkinson's disease. The autistic mutant NCS-1 (R102Q) has been shown to bind to the D2 dopamine receptor with 2 times greater affinity than wild-type NCS-1. This could have important implications for learning in autism. We have obtained plasmid DNA containing the NCS-1 (R102Q) cDNA in pmCherry vector so that cells will be colored hot pink where the protein is expressed. We are in the process of characterizing the NCS-1 (R102Q) mutant plasmid DNA so that we can express it in both human and neuronal cell lines in order to study its effect on Ca²⁺ signaling as well as neuronal outgrowth and differentiation mechanisms. This study will enable us to understand what kind of cellular mechanisms have changed in neuronal cells that express this autistic mutant as compared to "normal cells".

This research was sponsored by the following programs: Assigned Released Time for Research (ART), Roche Foundation, College of Science and Health's Center for Research, the Biology Department, Republic of Turkey for visiting scholar Dr. Serdar Sadir, and the National Science Foundation, Garden State Louis Stokes Alliance for Minority Participation (GS-LSAMP). Any opinions, findings, conclusions, or recommendations are the authors

Jamie L. Weiss, Department of Biology

Co-Presenters: Ama Berko, Undergraduate Student, Biology

Examining Calcium Signaling Pathways implicated in Neurological Disorders

Many cells utilize electrical currents to transmit information. Cell surface pores called ion channels regulate cell electrical properties. Because the activity of these channels underpin all nerve impulses, a detailed study of their regulation is critical in understanding brain function. Unsurprisingly, many neurological disorders exhibit electrical signaling defects. Neurons communicate via neurotransmitters that are released at synapses. Neurotransmitter-release is driven by the calcium (Ca²⁺) concentration inside neurons. Ion channels that allow Ca²⁺ into neurons, called voltage-gated Ca²⁺ channel (Cav)s, open in response to a voltage change. Cavs are located at synapses, and are important in controlling how much neurotransmitter gets released. In our lab we examine Cav regulation using electrophysiological techniques on neuronal cells. We also use other cell-based and functional assays to examine the effects of Cav activation on Ca²⁺ signaling in neuronal cells to observe how it affects neuronal outgrowth/survival and investigate how neurotransmitter receptors affect these signaling pathways. We study the role of an important Ca²⁺ sensor-signaling protein called Neuronal Calcium Sensor-1 (NCS-1). We have shown that NCS-1 regulates Cavs, however the exact mechanism is unclear. NCS-1 is a modulator of neurotransmission and mediates dopamine signaling by keeping D2 dopamine receptors on the cell surface. The D2 dopamine receptor and NCS-1 are implicated in both schizophrenia and Parkinson's disease. NCS-1 is also implicated in autism and Alzheimer's disease. We seek to understand NCS-1's role in neuronal Ca²⁺ signaling and neurotransmission as this has important implications for these neurological disorders.

This research was sponsored by the following programs: Assigned Released Time for Research (ART), the College of Science and Health's Center for Research, and the National Science Foundation, Garden State Louis Stokes Alliance for Minority Participation (GS-LSAMP). Garden State Louis Stokes Alliance for Minority Participation (GS-LSAMP). Any opinions, findings, conclusions, or recommendations are the authors

Hilary Wilder, Department of Educational Leadership & Professional Studies

Co-Presenters: Carlene Anderson, School #12, Paterson School District; Salika Lawrence, Educational Leadership & Professional Studies Department; Laura Fattal, Elementary & Early Childhood Education Department; Julie Rosenthal, Elementary & Early Childhood Education Department; Maika Bonafe, School #11, Passaic School District

Crossing North and South: Educational Research Spanning the Americas

This panel session will include presentations on issues in Latin/Caribbean-American education, trans-continental collaborations between students in Latin- America /the Caribbean and students in the US, and studies of Latin/Caribbean-American (diaspora) students in US schools.

Deidre Williams, Department of College of Science and Health

Co-Presenters: Kathleen Hortelano, Undergraduate Student, College of Science and Health; Kelly Rottino, Undergraduate Student, College of Science and Health

Faculty Sponsor: Ruth Harrison, Department of College of Science and Health

Physical Exercise as a Predictor of Optimism among College Students

The goal of our study is to show that exercise is related to optimism among college students. Our research hypothesis participating in sports and exercise programs on campus will increase levels of optimism in college students. This study uses a quantitative research design. The study was conducted by distributing surveys to students at William Paterson University for them to fill out. The information that was collected pertained to how much the participants exercise and their level of optimism. Optimism was measured by The Life Orientation Test- Revised and the frequency and length of Exercise was measured by our own instrument. Both surveys use a Likert-type scale to record the participants' answers. The answers to each question on each survey were analyzed using Pearson Correlation coefficient.

After analysis of the data, no statistical significance between exercise and optimism was shown. This may be due to confounding variables present in the study. Although there was no statistical significance between exercise and optimism in college students, this study demonstrates correlation between additional variables.

Margaret Williams, Department of Art

Icons of Irishness from the Middle Ages to the Modern World

From majestic “Celtic” crosses to elaborate knotwork designs, visual symbols of Irish identity abound in contemporary culture. In jewelry, souvenirs, tattoos, and even graphic novels and massive public murals, Irishness is depicted in its most medieval garb. Looking back to a mythical past, such images conjure up ancient realms of mystical druids, warrior Celts, and pious Christian monks. Icons of Irishness offers a commentary on the blending of pasts and presents that finds permanent visualization in these contemporary signs of Irish cultural identity. Williams considers both scholarly and popular perspectives, exploring the spaces where Irish modernity meets its “Celtic” past.

This research was sponsored by the following programs: College of Arts and Communication, Center for Creative Activity and Research

Deniz Yucel, Department of Sociology

Exploring Actor and Partner Correlates of Relationship Quality and Stability: Comparing Married and Cohabiting Couples

Despite prior research in relationship quality and stability, the research comparing cohabiting and married couples is not well-developed. Based on Married and Cohabiting Couples data (2010), this article compares the relationship quality and relationship stability between married and cohabiting couples. Using data from both spouses, I focus on four outcomes: relationship satisfaction, work-family conflict, fairness in the division of household labor, and relationship stability. First, this study extends prior research by using couple-level data and comparing the actor (i.e., individual characteristics) and partner effects (i.e., characteristics of the partner/

spouse) in determining relationship quality and stability. Second, the use of this relatively new data with rich indicators on relationship quality allows me to extend the measurement of relationship quality by focusing on these different dimensions. Lastly, this study specifically extends prior research by comparing these four groups: those who are currently married but did not cohabit with each other before; currently married and cohabited with each other prior to marriage, currently cohabiting with no future plans to get married, and currently cohabiting with plans to get married in the future. Findings suggest that the models that predict relationship quality and stability are significantly improved by adding partner/spouse characteristics to the model. In addition, out of these four outcomes, there is a consistent finding that there is almost no difference in reports between those who are currently married but did not cohabit with each other before and those who are married and also cohabited with each other before. The largest difference is between those who are currently married with no prior cohabitation experience and those who are currently cohabiting and no plans to get married. The latter group is found to report significantly lower reports of relationship quality and stability, and this effect is consistent for both males and females.

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<http://www.wpunj.edu/osp>

Mission and Core Activities

The OSP provides assistance and support to WPU faculty and staff who seek external grant or contract support for research, teaching, service, public programs, creative endeavors, conferences and other types of projects from government agencies, grantmaking public charities, and some private and corporate foundations. The OSP concentrates its activities in three broad areas:

- ★ **Pre-Award Services:** Activities leading up to the submission of a funding request, including idea development, funder identification, proposal writing, photocopying, mailing, and more. The OSP maintains extensive databases and reference resources on funding programs and agencies, distributes information to the WPU community, provides individualized assistance to applicants to develop high quality proposals, manages the proposal review process, and obtains required signatures among other activities.
- ★ **Post-Award Services:** Activities supported after funding has been received, including contract negotiation, preparing and submitting budget or program revisions as well as funding continuation requests, report submission, and problem-solving liaison to agency grants offices and WPU administrative departments. The OSP prepares reports for the University on funding.
- ★ **Compliance:** The OSP works to insure that State, Federal and University non-financial policies, regulations and procedures related to grant and contract funding are fulfilled. The OSP provides administrative support to the Institutional Review Board for Human Subject Research.

The OSP reports to Dr. Nina Jemmott, Associate Vice President and Dean for Graduate Studies and Research in the Office of the Provost and Senior Vice President for Academic Affairs.

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WPU Grant Approval Process

Proposals that will be submitted through the OSP, especially those to government agencies, require prior approval by the University. A nearly final narrative, final budget, and copy of the funding program's guidelines must be submitted to the OSP with a **Grant Approval Sheet** at least ten days before the deadline. Applicants working with the OSP generally require less review time. The Grant Approval Sheet is available in several formats on the OSP webpage: www.wpunj.edu/osp

OSP Publications

Dates, Updates and Insights (DUI), a weekly subject-based funding opportunity email
The STAR Report, a newsletter report on funding issues and WPU successes
OSP Website

Databases and References

On-line Databases & Resources
GrantSearch
COS Funding Opportunities
Grants.Gov
 Grant Resource Center/AASCU
 Directories and guides on proposal development and project management.

OSP Thursday Workshop Series, Spring 2012

April 12 Grant Search Tools
 April 19 Proposal Development

OSP Thursday Workshop Series, Summer 2012

Finding Funding, Proposal Development, IRB, Effort Reporting and other topics to be announced in April.

All sessions are during Common Hour. Contact the OSP for location.

*** Custom workshops and presentations on request. ***

Technical Assistance Travel

Travel support provided to attend a workshop or conference on a funding opportunity or agency, to meet with a grant program officer, or related grant-development activity.