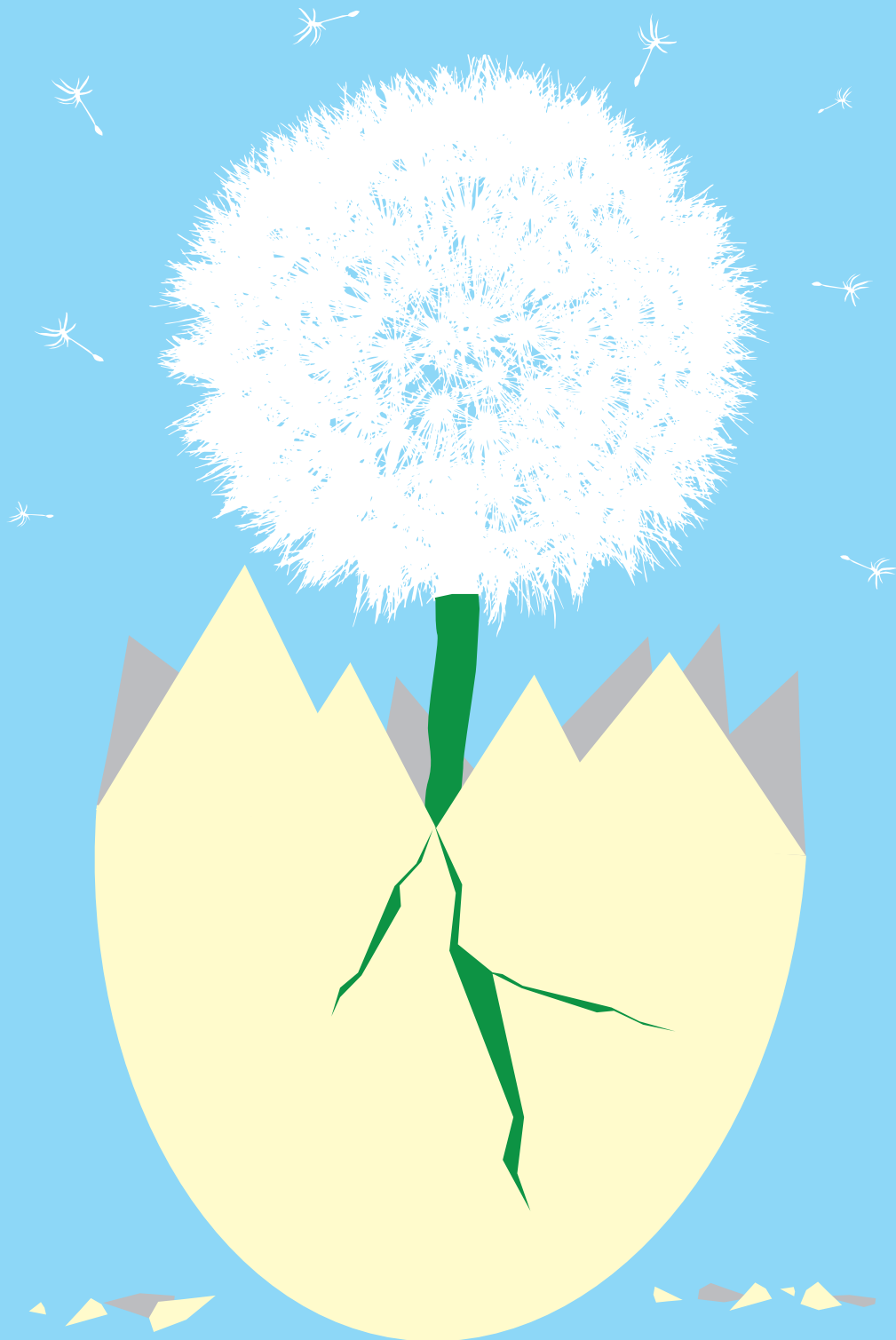


WILLIAM PATERSON UNIVERSITY



RESEARCH & SCHOLARSHIP DAY

CREATING & SHARING OF NEW KNOWLEDGE AND CULTURE

THURSDAY, APRIL 3, 2014 ▶ UNIVERSITY COMMONS

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Council would like to acknowledge and thank

Tom Uhlein, Art Department

for creating this year's poster

The Faculty Senate Research and Scholarship
Council would like to acknowledge and thank

Robin Schwartz, Art Department

for organizing and supervising the
student photographers

University Research and Scholarship Day 2014

Thursday, April 3

Schedule of Activities and Presentation Abstracts

Schedule at a Glance

11:00 to 12:15	Individual and Group Presentations University Commons, 168A, 168B, 171A, 171B, Ballrooms A and B
12:30 to 1:45	College of Education University Commons, Ballroom A
	College of Science and Health / Center for Research University Commons, Ballroom B
	Poster Presentations University Commons, Ballroom C
	Cotsakos College of Business University Commons, Room 168A
	Cross –Cultural Arts Festival: South Asia University Commons, Room 168B
	College of Arts and Communication University Commons, Room 171B
	College of Humanities and Social Sciences Atrium, Faculty Lounge, Room 126 (Lunch provided, 12:00)
2:00 to 3:30	Individual and Group Presentations University Commons, 168A, 168B, 171A, 171B, Ballrooms A and B
3:30 to 5:00	David and Lorraine Cheng Authors Recognition Reception Office of Sponsored Programs Recognition of Awards Recipients University Commons, Ballroom C

Morning Sessions

Individual and Group Presentations

11:00 to 12:15

Ballroom A

College of Education and
Institutional Advancement

Teaching Students with Attention Deficit Hyperactive Disorder in General Physical Education Classrooms
Christopher F. Mulrine, Special Education and Counseling, Ismael Flores-Marti, Kinesiology

How Middle School Math Teachers Dealt with Situations in which They 'Didn't Know How to Respond' to a Student's Idea
Lisa Warner, Elementary and Early Childhood Education

The Process of Moving Your Proposal Forward
Michelle Dramé, Institutional Advancement

Writing for the World, Learning for Yourself: Using technology to promote language arts competencies of at-risk, ELL students from a high-needs urban high school who want to become teachers
Lories Slockbower, Educational Leadership and Professional Studies

Ballroom B

Session Sponsored by the
College of Science and Health

Uncovering the Mysteries of Toxin Production in the Florida Red Tide Dinoflagellate, Karenia brevis
Emily A. Monroe, Biology

Attention Control in Children With and Without Language Impairment: Visual, Auditory, and Dual-Modality Performance
Kristen Victorino, Communication Disorders and Sciences

Examining the Interaction of an Important Regulator of Neurotransmission (NCS-1) and Neuronal Nitric Oxide Synthase: Implications for Autism
Jamie L Weiss, Jasmine Wood, Walter Barr, Biology

Windows to past climate change: reconstructing hydrologic variability in tropical Australasia over the last 2,000 years using cave stalagmites
Michael Griffiths, Environmental Science

Inorganic composites for wastewater management
Mihaela Jitianu and Monika Baraniak, Chemistry, Naphtali O'Connor, Ravnit Kaur-Bhatia, and Andrei Jitianu, Lehman College, CUNY

Neurophysiological Indices of Mandarin Lexical Tone Processing: The Role of Language Experience and Memory Trace Decay
Yan Yu, Communication Sciences and Disorders

An Introduction to Non-Euclidean Geometry

Brian Foulds, Mathematics

Energy Expenditure During Gait Using the Rewalk™ Exoskeletal-Assisted Walking System For Persons With Paraplegia

Steven Knezevic, Exercise Physiology

Facial Processing in Young Adults with Autism Spectrum Disorder

Justine Martinelli, Honors College and Department of Psychology

Crisis Management For Small Business: Advice For Before During and after a Crisis

Stephen C. Betts, Marketing and Management Sciences

The Nursing as an Additional Language and Culture Program (NALC)

Daria Napierkowski, Nursing

The Influence of Quiet Time on Exclusive Breastfeeding Rates at Discharge

Karen F. Phillips, Nursing

Medicine and Manslaughter: Morison's Pills and the Trial of Robert Salmon, 1836

Judith Broome, English

The Examination of Skill Acquisition of Novice Nurse Faculty Competencies

Kem Louie, Nursing

Musicking in a "Third Place": Reflections after visiting a Palestinian Community Conservatory

Carol Frierson-Campbell, Music

A Cultural Transformation of a Small Urban Community: A Community Study

Ronald Verdicchio, Eman Al-Jayeh, Kelly Ginart, Bria Barnes, Paige Rainville, Megan Perry, Amani Kattaya, Sara Johnson, Philip Gorokhovsky, and Rita Vander Stad, UG Prospect Park Community Study Group

"So What?": Finding meaning in the changes (from musician/teacher to graduate student/researcher and back again)

Carol Frierson-Campbell, Nathan Webb, Abelita Mateus, and Artemisz Polonyi, Music

Common Hour Programs

Posters and Sponsored Sessions

12:30 to 1:45

Atrium

Session Sponsored by the
College of Humanities and Social Sciences

Identities in Construction, Identities in Conflict

Kara Rabbitt, Dean's Office, Humanities and Social Sciences, Sherle Boone, Psychology, Mark Ellis, Sociology, Terry Finnegan, History, Elena Sabogal, Women's and Gender Studies, Latin American and Latino Studies

Ballroom A

Session Sponsored by the
College of Education

Emerging Technologies in Teacher Education

David Fuentes and Heejung An, Elementary and Secondary Education, Carrie Hong and Sandra Alon, Educational Leadership and Professional Studies, David Ferrier, Leaders and Learners Project

Ballroom B

Session Sponsored by the
Center for Research, College of Science and Health

Cellular Systems to Access the Toxicology of Air Pollutants and Introduction to Alternative Careers in Toxicology

Jaime Mirowsky, Ph.D., Center for Environmental Medicine, Asthma and Lung Biology, Environmental Protection Agency, Human Studies Facility, University of North Carolina, Chapel Hill

Ballroom C

Posters

Musical Memory: Visual and Affective Influences on Melody Retention

Alendro Ataucusi, Michael S. Gordon, Psychology

Edward Johnston and Contemporary Calligraphers

Jane Bambrick, Cheng Library

Young Adults Leaving the Nest: When is the Right Time?

Irene Bang, Sociology

Colon Cancer Screening in an Urban, Minority Population: Lessons Learned and Future Directions

Corey Basch, Public Health

Services and Resources of the Office of Sponsored Programs

Lourdes Bastas and Shawn Carroll, Office of Sponsored Programs

Plesiosaurian Remains from the Arkadelphia Formation—“Midway Group Contact (Maastrichtian—Paleocene) Hot Spring County, near Malvern, Arkansas, U.S.A.

Marty Becker, Environmental Science

An Analysis of Advertisements and Articles Related to Skin Cancer Prevention in Popular Women’s Health and Fitness Magazines:

Alyssa Berdnik and Corey Hannah Basch, Public Health

Sub-surface Analysis of Fire Impacted Chloritic Soil

Jennifer Callanan, Kevin Johnson and Luisa Toro, Environmental Science

Effect of High Light Intensity on the Growth of the Florida Red Tide Dinoflagellate, Karenia brevis

Unnati Chauhan and Emily Monroe, Biology

The Role of the Adrenal Gland in Mediating the Pain Response of ASD children as Modeled in BTBR T+tf/J Mice

Erin Connor, Rebecca Atencio, Christina Carosella, JW Lee, Biology, Robert Benno, and Norman Schanz, Biology

Student-Led Development of Earth Science Curriculum for Paterson Schools Grades 4, 7, and 8: A collaboration between William Paterson University, the Paterson Great Falls National Historic Park and the Paterson Museum.

Nicole Davi, Christine Thompson, Evan Gerry, Danielle Nichols, Mathew Heye, Ralph S Scimeca, and Michael Griffiths, Environmental Sciences, Ilyse Goldman, Paterson Great Falls National Historic Park, Bruce Balistreri

Expeditions into Tree-ring Research: Developing a Photo Archive for Public Outreach and Education

Nicole Davi, Rose Oelkers and Jennifer Crapella, Environmental Science, and Dr. Rosanne D'Arrigo, Biology and Paleoenvironmental Division, Lamont-Doherty Earth Observatory

Musical Experience and Mathematics Achievement

Stacey Delos Santos, Natalie Obrecht, Psychology

Stress Levels, GPA, and Physical Activity of the College Student

Colleen DeVoti and Amy Learmonth, Psychology

Phosphate Decrement Between Sexes in Repeated Sprint Ability

Valarie DiMartino, Kinesiology

Falling Stars: Acoustic Influences on Meteor Detection

Darlene Edewaard, Michael S. Gordon, Psychology

Antioxidant Activity during Metamorphosis of tadpoles Xenopus laevis

Raphael Ezuduemoih and Jaishri Menon, Biology

When the Levees Broke: An Important Teaching Tool
Rosaura Garcia, Corey Basch, Public Health

Gaba Stem Cell Therapy for Treating Inflammatory Peripheral Neuropathy
Traci-Linn Goddin, Shefkate Bakiu, and Jeung Woon Lee, Biology

Seasonal variations in drought severity in the western United States during the 20th Century
Bryan Gonzalez and Michael Griffiths, Environmental Science

Framing Effects in Two Groups of Adolescents
Torri Jaime, and Amy Learmonth, Cognitive Science Honors Program, Psychology

Alleviating neuropathic pain by transplantation of islet of Langerhans cells into STZ-induced diabetic mice
Neal Joshi and Jeung Woon Lee, Biology

The Effect of Plasma Exposure on Tail Regeneration of Tadpoles Xenopus Laevis
Joyce June, Physics, Adonis Rivie, Raphael Ezuduemoih, and Jaishri Menon, Biology, and Kevin Martus, Physics

Associative memory in early childhood: A pilot study
Amy Learmonth, Psychology

Sprre and accuracy of location choices: Does the type of information matter?
Amy Learmonth, Nicole Caltabellotta, Alejandra Jimenez, Katelyn Luax, Princess Padilla, and Shruti Raycha, Psychology

The Role of Stress in Determining Regulatory Focus and the Effect on Goal Perception
Ashley Lemoncelli, Psychology

Explicit and Implicit Attitudes: How They Operate and Change Over Time
Nicole Lofaro, Haines, Psychology

Homicidal Ideations: Two Failed Replications in Pilot Tests
Nicole Lofaro, Ryan Ayers and Tom Heinzen, Psychology

Use of assisted reproduction technology, related risk factors, and incidence of autism spectrum disorders
Nicole Magaldi, Betty Kollia, Communication Disorders and Sciences, Meg Shakibai, Marymount Manhattan College

How the Media Encourages the Stigma and Negative Public Opinion of Abortion, Causing Politicians to Enact Harmful Policies Against Women
Rebecca Mahabir, Sociology

Vigorous and High Intensity Training with an Anti-Gravity Treadmill
Ezequiel Munoz, Michael A. Figueroa, and James Manning, Kinesiology

Isokinetic Testing to Determine Muscle Fiber Type Distribution
Neeraja Nannapaneni, Gordon Schmidt, Michael Cox, and Robert Boutote, Kinesiology

An examination of the logical intuition model of cognition

Natalie Obrecht and Stacey Delos Santos, Psychology, Dana Chesney, Psychology at The Ohio State University

The Spirit Catches You and You Fall Down: An Important Teaching Tool

Lindsay Prewitt, Corey Basch, Public Health

More students are becoming independent and seeking employment- but will that job ultimately affect their GPA?

Breana Reiman, Sociology

YouTube Study on Colonoscopy Preparation

Rachel Reeves and Dr. Corey Basch, Public Health

*The Effect of Cold Atmospheric Pressure Plasma on Tail Regeneration of Tadpoles *Xenopus Laevis**

Adonis T. Rivie and Jaishri Menon, Biology

Ventilatory Threshold Responses at Different Percentages of Body Weight on the Alter-G Anti-Gravity Treadmill: A Pilot Study

Natalie Santillo, Michael A. Figueroa, Toni LaSala, and James Manning, Kinesiology

*Genetic Structure of Native and Restored Populations of American Beachgrass (*Ammophila breviligulata* Fern) Along the New Jersey Coast*

David H. Slaymaker, Michael S. Peek, Joanna Wresilo, Danielle C. Zeltner, and Yasmeen F. Saleh, Biology

Speech Perception Abilities with and without Amplification Devices in Elderly Population

Sara Spoelstra, Stephanie Polito and Vishwa Bhat, Communication Disorders and Sciences

Skull Music: Influences of Head Resonant Frequencies on Musical Preferences

Jitwipar Suwangbutra, Michael S. Gordon, Psychology

*Using DNA Extraction for the Detection of Autoclaved *Pseudogymnoascus destructans*, the cause of White-Nose Syndrome in Bats*

Lisa S Swarn, Kendall Martin, Biology

Gender Stereotypes: Past and Present Comparison

Kristin Urena, Catie Hoolihan, Karl Schroeder, and Elizabeth Haines, Psychology

*Growth Differences Between Toxic (GB Wilson) and Non-toxic (NTB Wilson) Sub-strains of *Karenia brevis*, the Florida Red Tide Dinoflagellate*

Denisse Velez and Emily A. Monroe, Biology

Bacteria on Fomites: survival, growth and transfer from fomite to fomite

Miryam Z. Wahrman, Henry Raab, Raahi Upadhyay, Jigna Patel, and Melanie Colon, Biology

Commuting to School and Academic Performance among College Students

Amanda Yglesias, Sociology

168A

Session Sponsored by the
Cotsakos College of Business

Sustainable Energy, US Based Manufacturing and Student Learning: A Pedagogic Case at Stevens Institute of Technology

Sam N. Basu, Economics, Finance and Global Business, and Soumitra Basu, Stevens Institute of Technology

A Cross-Cultural Comparison of Micro-Blogging Sites: Sina Weibo vs. Twitter

Bela Florenthal and Mike Chen-Ho Chao, Marketing and Management Sciences

Managerial Skills, Mindsets, and Roles: Advancing Taxonomy to Relevancy and Practicality in Management Education

Jorge A. Arevalo and Robert Laud, Marketing and Management Sciences

Buying To Catch Up: Assessing Destinations in Emerging Market Multinationals' Ownership Strategy

Mike Chen-Ho Chao, Marketing and Management Sciences

168B

Session Sponsored by the
Cross-Cultural Arts Festival: South Asia

Multinational Corporations and Global Capital: Lessons From India

Raza Mir, Marketing and Management Sciences

The Negotiation of the Public-Private and Political Participation of Women in India

Sreevidya Kalaramadam, Women's and Gender Studies

Factories, Flames and Fabrics: labor in Bangla Desh

Laura Fattal, Elementary and Early Childhood Education

A Plea for Redress to Benjamin Franklin: The "Pre-history" of South Asians in America

Rajender Kaur, English

171B

Session Sponsored by the
College of Arts and Communication

Drawings and paintings done in and/or inspired by artist residency in Italy, summer 2013.

Lily Prince, Art

Between the Steppe and Tarim - Scythian Art Motif in the Ancient Textiles in Northwest China

He Zhang, Art

The Cross-border Adaptation and Transformation of Hong Kong-style cafes in China

Casey Lum, Communication

3-D Milling of Foam Armature for Sculpture

Elaine Lorenz, Art

Creature Feature: 60 Years of the Gill-Man, The Director's Cut

Matt Crick, Communication

Afternoon Sessions

Individual and Group Presentations

2:00 to 3:30

Ballroom B

Session Sponsored by the
College of Science and Health

Quantitation of the Honeybee Waggle-dance Pheromone
David Gilley, Biology

Molecular Phylogenetics North American Grass-spiders, including new species from Baja, Mexico
Joseph Spagna and Adonis Rivie, Biology

The SONG
Brenda Marshall, Nursing

Biomass Quantification for Coniferous Fine Roots, by Species, in Mixed and Milled Size-classes of Roots Obtained from Soil Cores
Kendall Martin, Biology

168A

Cotsakos College of Business

The Need for Tax Reform: Schedule K-1 Document Matching Program and Effective Revenue Collection.
Valeriya Avdeev, Accounting and Law

Human Capital between Generalists and Specialists: How Does It Impact Innovation?
Kwangjoo(KJ) Koo, Accounting and Law

Pitchers' Height and Performance: Evidence from Recent Major League Baseball Data
Martin Gritsch and Tricia Snyder; Economics, Finance, and Global Business; Faculty

A Review and Examination of B2B Dyadic Operationalization
Bahar Ashnai, Professional Sales

Managerial Skills, Mindsets and Roles: Advancing Taxonomy to Relevancy and Practicality in Management Education
Jorge A. Arevalo and Robert Laud, Marketing and Management Sciences

168B

College of Science and Health

Performance Study of Multi-Core System
Daniel Molczyk, Jared Van Dyk, and Bogong Su, Computer Science

Instruction level Loop De-optimization -- Loop Rerolling and Software De-pipelining
Bogong Su and Erh-Wen Hu, Computer Science

The Multi-Dimensional Unified Process for Collaborative Software Development

Cyril S. Ku, Computer Science

Puzzles for Non-standard Number Systems

David Nacin, Mathematics

171A

**College of Humanities and Social Sciences, and
College of Arts and Communication**

Defining Powerhouse Fruit and Vegetables: A Nutrient Density Approach

Jennifer Di Noia, Sociology

Age, Marital Status, and Risk of Sexual Victimization: Similarities and differences across victim-offender relationships

Julie Siddique, Sociology

Alan Dawson: A Life in Jazz

Ryan McBride and Timothy Newman, Music

Examining the Link between Dollars and Decisions: A Multi-State Study of Campaign Contributions and Judicial Decision Making

Ryan J. Rebe, Political Science

***Cheng Library New Author's Reception
and
Office of Sponsored Programs Award Recipient Recognition***

Ballroom C

3:30



Abstracts¹

Jorge A. Arevalo, Marketing and Management Sciences Department

Robert Laud, Marketing and Management Sciences

Managerial Skills, Mindsets, and Roles: Advancing Taxonomy to Relevancy and Practicality in Management Education

Management research has been challenged by the quickly shifting realities of organization life, job roles, and individual motivations that have long guided traditional theoretical thinking. Consequently, business schools are also increasingly being held accountable to provide practical management education supportive of both career-minded students and the complex needs of the business community. This article offers empirical evidence suggesting that large numbers of executives have found means to achieve hierarchical success without engaging in managerial tasks as described in the traditional role taxonomies still widely disseminated at business schools. Our study analyzes the utilization of managerial skills, mindsets, and roles as perceived by 259 executives representing nine industries and approximately 200 organizations. The results reveal that the interpretation and successful execution of managerial roles are primarily influenced by the individual's intentions rather than adherence to the current theoretical taxonomy as taught by B-schools. These findings illuminate the gap between the vast amount of effort researchers and educators have expended on taxonomic precision and its questionable relationship to organization effectiveness. Limitations, future research and practical recommendations to extend taxonomic relevancy are discussed.

Assigned Released Time for Research (ART)

Bahar Ashnai, Professional Sales Department

A Review and Examination of B2B Dyadic Operationalization

This research addresses the challenge of bridging two seemingly contrasting research traditions of business management investigating business relationships. One approach taken is related to qualitative and rich descriptive interaction approaches, and the other is the managerial or firm-centered perspective adopting quantitative approaches with the purpose of deriving generalizable results. Our paper tries to find ways of cross-fertilization between these two research approaches. We introduce five different operationalizations used in the existing quantitative literature: monadic, antagonistic perceived monadic, internal dyadic, perceived dyadic, and true dyadic. The paper provides an overview of alternative analytical approaches, examining the different ways of capturing the characteristics of the relationship partners and their (inter)dependencies and contingencies on each other. It also exemplifies a dyadic operationalization by showing some initial data from a nomological model, using empirical data, testing a monadic versus a dyadic data-model and comparing the outcomes. The contribution of such research resides in the identification of ways to introduce more meaningful quantitative analytics to the field of interaction theory, as well as enriching the often limited focal company perspective of much existing neo-positivistic research on business relationships.

Alendro Ataucusi, Psychology Department

Michael S. Gordon, Psychology

Musical Memory: Visual and Affective Influences on Melody Retention

In both anecdotal and experimental contexts, listeners have demonstrated an impressive ability to retain memories of melodies with even limited exposure. While the use of melody has been established to influence memory, the mechanisms that support this ability have not yet been established. To investigate this issue we have tested memory for melodies that vary in their emotional valence and intensity to determine how these variables might support/inhibit retention. Specifically participants viewed a series of emotionally and musically expressive audiovisual samples and were asked to categorize the emotional content. Following the exposure phase they were tested on whether or not a set of melodies (audio-only) had occurred in exposure phase. Results indicate that emotional valence relates to melody recognition in this task. Follow-up studies are planned to further address how melodies are encoded to memory.

Valeriya Avdeev, Accounting and Law Department

The Need for Tax Reform: Schedule K-1 Document Matching Program and Effective Revenue Collection.

Today, America arguably has the world's most complex tax code. The federal code plus its regulations are about 70,000 pages long. The Internal Revenue Code alone is 16,000 pages. Yet, most studies suggest that federal government losses several hundred billion dollars a year to tax fraud. The aggressive tax avoidance by Apple and other multinational companies has focused Congress's attention on an effort to rewrite the tax code. The Joint Committee on Taxation has recently published a 568-page report on various tax reform options, including a draft on revising subchapters S and K that address flow-through entities. However, whatever the reform might be, it has to center around effective revenue collection, cost savings and effective voluntary compliance.

Jane Bambrick, Cheng Library Department

Edward Johnston and Contemporary Calligraphers

Edward Johnston played a vital role in the Arts and Crafts Movement at the turn of the Century. He has become known as the father of modern calligraphy. As a student at the University of Sunderland in England, I was enrolled in Calligraphy Foundations at Kensington Palace. The well respected British calligrapher, Cherrell Avery, introduced us to the work of Edward Johnston and his role with the broad nib pen. In order to fully understand letters, one must understand size, proportion and spacing. Using Roman capitals as an example, we analyzed the letters in groups and how they form the foundation for alphabets. Johnston studied manuscripts at the British Museum and studied the pen angle of the letters. As a result he developed the "foundational hand" and published *Writing and Illuminating and Lettering*, required reading for all calligraphers.

Irene Bang, Sociology Department

Young Adults Leaving the Nest: When is the Right Time?

In previous research it has been reported that leaving home as a young adult has been delayed to later years in adulthood due to an increase in the necessity of education as well as the financial inability to support oneself without the help of a parent. This research aims to elaborate further on these findings, particularly the variables that play a role in when a young adult moves out of the parents' home. With a random sample of 80 participants gathered in Wayne, NJ between the ages of 18 and 25, the determining factors such as sex, race, educational level, current employment, income, family income, and family structure were analyzed. A questionnaire was constructed to determine variables with a possible relationship to moving out, and data collected was subsequently coded and entered into SPSS for analysis. From this research it can be concluded that there was a significant relationship between moving out of the parents' home and the educational level, current employment, as well as the family structure of the participant. Participants with higher educational levels were less likely to move out of the parents' home than those with lower educational levels. Those who were employed full-time were more likely to move out than those working part-time or those who did not work at all. Lastly those who grew up in a two-parent household were less likely to move out than those who grew up in a single-parent household. However, there was no relationship between moving out at the ages of 18 to 25 years and sex, race, and family income. In doing further research, a larger sample as well as other sources of participants would be helpful in gathering a more extensive understanding in what determines when a young adult moves out of the parents' home.

I presented this poster at Eastern Sociological Conference in February, 2014.

Corey Basch, Public Health Department

Colon Cancer Screening in an Urban, Minority Population: Lessons Learned and Future Directions

Colorectal cancer (CRC) is the second leading cause of cancer related deaths in cancers impacting both men and women. According to the American Cancer Society, in 2013, there were an estimated 142,820 cases of CRC, and of these, 50,830 will result in mortality. Screening for CRC can save lives. Therefore, CRC screening tests are recommended for both women and men over age 50. The U.S. Preventive Services Task

Force (USPSTF) recommends three screening tests. The USPSTF recommends three CRC screening tests: high-sensitivity fecal occult blood test (FOBT), flexible sigmoidoscopy, and colonoscopy (USPSTF). Ethnic minorities and individuals with lower income and educational levels have substantially higher rates of CRC incidence and mortality, yet are less likely to be screened, more likely to be diagnosed at later stages of disease, and less likely to participate in intervention research. Early detection and treatment of CRC among low-income, low-education, minority populations is, therefore, an ideal topic for translation research.

The purpose of this presentation will be to review findings from over 10 years of colon cancer screening research in an urban, minority population. The findings are based on 2 large, randomized trials, The Healthy Colon Project I (funded by the National Cancer Institute) and The Healthy Colon Project II (funded by the American Cancer Society). The Healthy Colon Project I involved testing a tailored telephone intervention to assess its value for improving rates of medically documented CRC screening. Telephone education took place over a 6-month period. From this study, four papers related to barriers and facilitators of CRC screening will be discussed. From The Healthy Colon Project II, papers related to distinguishing factors of asymptomatic colonoscopy receipt, motivating factors that influence receipt of asymptomatic colonoscopy screening, and screening colonoscopy bowel preparation experiences will be discussed.

Assigned Released Time for Research (ART)

Sam N. Basu, Economics, Finance and Global Business Department

Soumitra Basu, Stevens Institute of Technology

Sustainable Energy, US Based Manufacturing and Student Learning: A Pedagogic Case at Stevens Institute of Technology

“Sustainable energy use” is a multi-faceted problem, with dimensions such as cost, design, manufacturing and environmental impact. Some of the answers to the cost and manufacturing dimensions lie in understanding and applying the right manufacturing techniques to produce energy recovery devices at low cost. Stirling engines provide a means of recovering waste heat where the temperature differences are low, and are a valuable tool in the search for sustainable use of energy resources. This paper looks at case studies where the manufacturing cost of an existing design for Stirling engine based energy recovery devices are estimated in a classroom setting, considering variables such as manufacturing process parameters and capital costs. The cost analysis exercise can provide a starting point to address the critical “cost” dimension associated with the sustainable use of energy resources.

Marty Becker, Environmental Science Department

Plesiosaurian Remains from the Arkadelphia Formation-Midway Group Contact (Maastrichtian-Paleocene) Hot Spring County, near Malvern, Arkansas, U.S.A.

The Arkadelphia Formation-Midway Group contact (Maastrichtian-Paleocene) near Malvern, Arkansas preserves one of the youngest plesiosaurian fossil assemblages yet reported from the Gulf Coastal Plain of the United States. The fossil assemblage consists of four vertebrae and two teeth recovered by scuba diving an outcrop along a meander bend of the Ouachita River. These plesiosaurian fossils are preserved in mollusc, coral and ammonoid coquina and derive from at least one animal having a total overall length of more than ten meters. Taphonomic conditions under which this coquina was deposited indicate that plesiosaurians may have inhabited a shallow, biohermal patch reef environment in southwestern Arkansas where they lived contemporaneously with ammonoids, osteichthyans and chondrichthyans such as *Placentoceras* sp., *Enchodus* sp. and *Serratolamna serrata* (Agassiz, 1843). The Arkadelphia Formation-Midway Group fossils extend the known geographic range of plesiosaurians in North America and indicate that these apex marine reptiles were living at, or near, the Cretaceous-Paleogene mass extinction boundary in the region.

Assigned Released Time for Research (ART) and the Center for Research, College of Science and Health

Alyssa Berdnik, Public Health Department

An Analysis of Advertisements and Articles Related to Skin Cancer Prevention in Popular Women's Health and Fitness Magazines:

The most common form of cancer among Americans is skin cancer. Sun exposure and indoor tanning practices are major risk factors for skin cancer given the exposure to ultraviolet (UV) light. The desire to be tan is a phenomenon that public health researchers have investigated. Media messages in women's magazines have been shown to contribute to this problem. Much less is known about the prevalence of skin cancer prevention messages in these magazines. This study's aim was to identify the number and type of articles and advertised products devoted to skin health (sun protection and skin cancer prevention in particular) within five popular women's health and fitness magazines. We analyzed articles and advertisements over seven months of issues of the following popular women's health and fitness magazines: *Fitness*, *Health*, *Self*, *Shape*, and *Women's Health*, March 2013 through September 2013. Overall, 31 issues of the five magazines with a total of 780 articles and 1,986 advertisements were analyzed. Of the 780 articles, a mere 2.9% (n=23) were devoted to skin. Of the 258 skin product advertisements, less than 20% of the products contained sun protection factor (SPF). These findings suggest that women's health and fitness magazines can improve their efforts in informing women of skin cancer risks and preventive measures to minimize these risks. The role of these magazines in building health literacy among their readers is also discussed.

Student Worker Fund, College of Science and Health

Stephen C. Betts, Marketing and Management Sciences Department

Crisis Management For Small Business: Advice For Before During and after a Crisis

Crisis management is important for organizations. The three general phases of pre-crisis planning, management and recovery during and immediately after the crisis and learning and adjustment recovery after the crisis are common to organizations of all types and sizes. Small businesses and entrepreneurial concerns, however, differ from larger, more established businesses in the specific types of crises they may face, the mechanisms for avoidance and/or reacting to crises, and the disproportionate effect crises has on them. In this presentation, the author will explore the phases of crisis management through a small business/ entrepreneurial lens to provide insight and advice those owners/managers of small businesses can apply before, during and after a crisis.

Assigned Released Time for Research (ART) and the Research and Travel Incentive Program, and the Cotsakos College of Business

Judith Broome, English Department

Medicine and Manslaughter: Morison's Pills and the Trial of Robert Salmon, 1836

In 1836, the trial of Robert Salmon for the killing of John M'Kenzie began at the Old Bailey, London's Central Criminal Court. Salmon was no ordinary murderer, however: he was a vendor of "Morison's Pills," a highly popular proprietary medicine. Lacking any medical credentials, he would call on his customers and prescribe specific dosages of the pills, usually in increasing quantities. In this case, the huge dosages recommended by Salmon, against the advice of physicians, resulted in M'Kenzie's death. The ensuing trial, which included testimonies of physicians and chemists for the prosecution and no fewer than 26 witnesses—all satisfied customers—for the defense, resulted in a conviction for manslaughter, with a recommendation for mercy, as Salmon did not compound the pills, but merely sold them. He was fined 200 pounds.

Salmon's trial represented a significant moment in the history of medicine as well as in British social history. The growing use of proprietary medicines such as Morison's Pills by the middle- and lower-classes had economic ramifications, making millionaires of many producers of "secret remedies," and adding millions of pounds of tax revenues to the Exchequer each year. Despite an attempt to control irregular practitioners by the Medical Act of 1848, neither the Pharmacy Act of 1868 nor the Sales of Food and Drugs Act of 1876 addressed the sale of patent medicines, and it would not be until well into the 20th century that advertising of mainly useless but also potentially dangerous "remedies" would be prohibited, although the products themselves remained available for purchase.

The Research and Travel Incentive Program and the Dean's Office, College of Humanities and Social Sciences, and the Department of English

Jennifer Callanan, Environmental Science Department

Kevin Johnson, Environmental Science, Undergraduate Student; Luisa Toro, Environmental Science, Undergraduate Student

Sub-surface Analysis of Fire Impacted Chloritic Soil

It has been suggested that fire indirectly impacts the soil sub-surface (20cm+) due to ash input. In order to better understand this, chlorite-rich soil was analyzed before and after a 2012 prescribed fire. Soil was sampled just above a lithic restrictive layer (25-40cm) pre-fire, 1, 2, 3, & 6 months after the fire. Weathering of chlorite was determined by X-ray diffraction, buffer capacity by titration with NaOH, water and organic content by loss on ignition. Soil pH and estimated porosity were also determined. Chlorite was shown to weather under fire-impacted soil by a decrease in the relative intensity of the d002 and d004 peaks. Water content and porosity were greater in fire impacted soil. Organic content showed a greater increase in fire-impacted soil, likely due to ash and partially combusted material which was translocated downward. Soil pH increased in both control and fire-impacted soil with the greatest increase at 6 months, due to ash input and increased organic material in spring months. Buffer capacity showed a decrease at 6 months which is inversely corollary to the increase in pH. These results suggest that over time, the input of basic ions from the ash has a direct effect on the soil pH as the buffering capacity is diminished. Fire-impacted soil of the sub-surface has a greater ability to hold soil water with an increased pH, accelerating the weathering of chlorite.

Assigned Released Time for Research (ART), the Center for Research and the Student Worker Fund, College of Science and Health, and The Garden State Louise Stokes Alliance for Minority Participation in the Sciences (funded by the National Science Foundation)

Mike Chen-Ho Chao, Marketing and Management Sciences Department

Buying To Catch Up: Assessing Destinations in Emerging Market Multinationals' Ownership Strategy

Researchers suggest that due to the limited opportunities to acquire strategic assets in their home market, emerging market multinational corporations (EMNCs) utilize a series of cross-border mergers and acquisitions (M&As) to accelerate their internationalization process. Less is known about EMNCs' international strategy, particularly how target market status and institutional distances influence EMNCs' ownership strategy in their cross-border M&As. The current study focuses on EMNCs originating from nine major emerging economies and examines their choices between full and partial ownership in cross-border M&As. We find that driven by their strategic asset seeking motives, EMNCs tend to take on full ownership when the target markets are developed economies. Further, formal institutional distance, which may indicate learning opportunities, is positively related to the likelihood of EMNCs' full ownership position, whereas informal institutional distance is not significantly related to EMNCs' ownership strategy.

Unnati Chauhan, Biology Department

Effect of High Light Intensity on the Growth of the Florida Red Tide Dinoflagellate, Karenia brevis

The Florida red tide dinoflagellate, *Karenia brevis* is a marine microorganism that produces a suite of neurotoxins, the brevetoxins. Brevetoxins are responsible for mass marine mammal mortalities and causes Neurotoxic Shellfish Poisoning and respiratory illness in humans. Despite these detrimental effects, little is known about factors that influence toxin production, but previous studies have suggested a link between toxicity and photosynthetic processes. To test the hypothesis that light intensity will affect growth and toxicity of *K. brevis*, triplicate cultures of two sub-strains of *K. brevis*, GB Wilson (toxic) and NTB Wilson (non-toxic), were grown to mid-log phase in control light intensities (~55 $\mu\text{mol photons m}^{-2}\text{s}^{-1}$) and then exposed to high-light (HL) intensities (~100 $\mu\text{mol photons m}^{-2}\text{s}^{-1}$) for several days. Samples for cell counts were collected every two days, fixed in 2% glutaraldehyde, and counted using a Palmer counting chamber. The growth curves show that NTB Wilson has a higher growth rate of 0.86 div/day (control) and 0.80 div/day (HL) compared to GB Wilson, whose rates were 0.52 div/day (control) and 0.58 div/day (HL). Furthermore, NTB Wilson stayed in stationary phase longer when treated with HL compared to the cultures grown in control light while GB Wilson were not affected by the HL treatment. These data suggest

differences in physiological responses to light in the non-toxic sub-strain, which may be related to toxicity. Additional analysis will provide further insight into the effect of light on toxicity and underlying molecular mechanisms involved in toxicity of this harmful algal species.

Center for Research, College of Science and Health

Erin Connor, Biology Department

Rebecca Atencio, Biology, Undergraduate Student; Christina Carosella, Biology, Undergraduate Student; Jueng Woon Lee, Biology; Robert Benno, Biology; Norman Schanz, Biology;

The Role of the Adrenal Gland in Mediating the Pain Response of ASD children as Modeled in BTBR T+tf/J Mice

Formalin testing is widely used to examine inflammatory pain responses. It is characterized by an increased number of paw licks and shakes during formalin phase I and II. The novel mice strain, BTBR T+tf/J, is known to display autism spectrum disorder-like behaviors such as repetitive behaviors, abnormal social interaction and insensitivity to pain (ASD; Moy SS. et al, 2007). Therefore, it was used as our model to assess pain behavior. The adrenal glands secrete adrenaline/NE, which helps to mediate pain and stress, and may play a role in the reduced pain response seen in ASD children. Thus, we hypothesized that adrenalectomized (ADX) BTBRs would display higher formalin pain responses.

Four groups of mice were tested for formalin behavior (subQ, 5% w.v., 30ul): a) C57BL/6J-naïve (n=21), b) BTBR-naïve (n=15), c) C57BL/6J-ADX, and d) BTBR-ADX (n=14). The formalin solution was injected into the left hindpaw and the number of paw licks/shakes was counted in five minute intervals for an hour. Blood plasma and brains were collected to be examined for plasma corticosterone and FOS-IR. C57BL6/J-naive displayed classic biphasic flinch behaviors (phase I=97.19+5.54; phase II=93.43+7.99), while the BTBR-naive displayed a reduced behavior in phase II (phase I=91.33+6.74; phase II=22.93+2.27). The BTBR-ADX showed a regular phase I pattern (105.7+7.0) but had an increased phase II response (32.64+8.45) compared to the BTBR-naives.

ASD children express reduced pain responses similar to BTBR-naïve mice. Since the adrenalectomy increased formalin pain behavior in BTBR-naives, the reduced pain responses observed in ASD children may be related with hyperactive adrenal glands (excess plasma adrenaline; Tordjman S. et al, 2009).

Assigned Released Time for Research (ART), Student Undergraduate Research Program, the Biology Department, and the Dean's Office, College of Science and Health

Matt Crick, Communication Department

Creature Feature: 60 Years of the Gill-Man, The Director's Cut

The social commentary feature documentary project, "Creature Feature: 60 Years of the Gill-Man: The Director's Cut," presents new research and interviews on this timeless "B" movie classic from Universal Studios. This remastered and re-imagined film provides new images, sound and fan interviews which illustrate the widespread fascination with the "man in the green suit" which spawned contemporary film monsters like Alien and Predator. Creature Feature raises questions about the root of fandom for the film and explores the contributions of its unsung heroes, like designer Milicent Patrick. From the swamps of Florida to the Hollywood hills, the documentary offers new insight into how all three "Creature" films were created, how the films reflected the cultural norms of the day and captures the spirit and innocence some would argue has been lost in the contemporary horror film genre.

Assigned Released Time for Research (ART)

Nicole Davi, Environmental Science Department

Rose Oelkers, Environmental Science, Undergraduate Student; Jennifer Crapella, Environmental Science, Undergraduate Student; Dr. Rosanne D'Arrigo, Biology and Paleoenvironmental Division, Lamont-Doherty Earth Observatory

Dendrochronology has effectively helped scientists explain patterns in climate change over hundreds-to-thousands of years through the analysis of annual tree growth records. Tree-ring data gives scientists the opportunity to evaluate climatic extremes and trends throughout the Common Era and subsequently assists in preparations for a sustainable future. Over the past three decades, scientists at Lamont-Doherty Earth Observatory's Tree Ring Laboratory have traveled across the northern latitudes to sample long-lived, climate sensitive trees. Tree-ring records from old growth forests are crucial for explaining variability of Earth's climate. As science and technology evolve, effective means of educating the public on climate science changes as well. In order to promote public interest in scientific expeditions, the value of tree-ring data, and the climate sciences, we are cataloging these remarkable expeditions through a series of compelling images in an online searchable photo archive. Modern technology provides a gateway for scientists to present their work and satisfy the innate hunger to learn, especially in such a relatable subject as trees. Uniting scientists and the public in a visual field trip of paleoclimate expeditions exemplifies an innovative approach to scientific education. This interactive and accessible photo archive emphasizes the importance of fieldwork and dendrochronology, and promotes a connection between scientists and the public. By showcasing decades of work conducted by scientists, this project utilizes powerful imagery from their paleoclimate expeditions to change public perspective on climate change science, and what it means to be a scientist.

Funding for this project comes from NSF OPUS. This was awarded to Drs. D'Arrigo, Davi and Jacoby at Lamont-Doherty Earth Observatory (LDEO) of Columbia University.

Nicole Davi, Environmental Science Department

Christine Thompson, Evan Gerry, Danielle Nichols, Mathew Heye, and Ralph S Scimeca, Environmental Sciences, Undergraduate Students; Michael Griffiths, Environmental Sciences; Ilyse Goldman, Supervisory Park Ranger, Paterson Great Falls National Historic Park; Bruce Balistreri, Paterson Museum, Museum Curator

Student-Led Development of Earth Science Curriculum for Paterson Schools Grades 4, 7, and 8: A collaboration between William Paterson University, the Paterson Great Falls National Historic Park and the Paterson Museum.

Made possible by a grant from The Landsberger Foundation and a partnership with the Paterson Great Falls National Historical Park and Paterson Museum, five William Paterson Environmental Science students are currently developing science-based public educational materials for use within the Park and curriculum based unit plans for the Paterson k-12 community. Students from 4th to 8th grade will be exposed to topics corresponding to grade level science standards in education. Incorporating an inquiry-based approach along with cross-content applications, lesson plans will be provided to engage students into the general foundation of science. Following NJCCC Curriculum Standards, three lessons have been developed.

The lesson plans being created for Grade 4 students will include plants, ecosystems, and basic physical principles in science. They will also explore ecosystem components. These topics and concepts are fundamental to understanding science.

Grade 7 students will learn about the different types of weathering and the effects of erosion on Earth's landscapes. The lab activities will supplement their understanding of weathering and soil development, and provide them with an interactive experience of seeing these processes up close.

Grade 8 students will use problem-solving skills to understand the evidence used for theorizing continental drift, processes crucial to the rock cycle, and how geologic processes relate to the development of the Paterson area.

Educational materials will be made through the National Historical Park and we plan to develop a National Park Service "traveling-trunk" program where all materials would be made available to teachers from across the US.

Funding for this project provided by the Landsberger Foundation

Stacey Delos Santos, Psychology Department

Musical Experience and Mathematics Achievement

Mathematics requires creative thinking, the ability to manipulate numbers, and is conceptualized as a system. Music is another domain that requires the same routes of thinking. The main purpose of this study is to observe the relationship between musical experience and mathematical achievement.

Previous studies have found mixed results on whether or not musical training facilitates mathematical achievement. For the current study, a total of 167 undergraduate level college students answered a survey regarding musical training, GPA and SAT scores. Of these students, 122 were female, 43 were male, and one preferred not to say. Participants ranged in ages 17 to 31. Of these participants, 63 were non-musicians and 104 were musicians. A modified version of the Emmanuel College Music Background Questionnaire was used with permission from the authors (Zhao, Mauer, & Doyle-Smith, 2012). This modified survey included questions regarding length of musical training, age the participant started learning, of instruments, a rating of their abilities, and included questions regarding GPA, SAT scores, total SAT score, age, and gender.

Initial analyses compared students who played instruments (104) with those who did not (63). A t-test found a significant difference in SAT math scores; musicians had a higher SAT math score mean. Analyses also compared those who played piano for at least a year (23) with those who have not (144). A t-test found a significant difference in GPA; those who played piano had a higher mean GPA (3.435). More fine-grained analyses are currently in progress.

Colleen DeVoti, Psychology Department

Amy Learmonth, Psychology

Stress Levels, GPA, and Physical Activity of the College Student

The duration and intensity of physical activity (PA) in persons has been shown to decrease with age and especially in college students. College students have also been shown to experience unique stressors which can have a negative effect on their learning ability. However, regular PA is known to have positive effects on health and shows improvements in other areas such as cognitive functioning. So, there could be an association between college students' GPA and their PA and physical health.

This study's purpose was to examine the effects of PA and stress levels on the college students' GPA and satisfaction with life. Participants were 159 undergraduate students aged 19-22 enrolled in a psychology course. Participants completed an online survey consisting of four parts; general information, the 14 item Perceived Stress Scale, an adapted version of the International Physical Activity Long Format Questionnaire, and the Satisfaction With Life Scale. The researchers hypothesized that the more physical activity a student participates in, the lower stress levels they will have and the higher the GPA and SWL score.

An independent sample t-test indicated that there was no difference in GPA between high and low PA. Further analysis using the 10% of the sample with the highest and 10% of the lowest physical activity scores were compared and this too indicated there was no significant difference in GPA between the two groups. Researchers did find stress and satisfaction with life scales have shown higher GPA scores to be associated with lower stress and higher SWL.

Jennifer Di Noia, Sociology Department

Defining Powerhouse Fruit and Vegetables: A Nutrient Density Approach

National nutrition guidelines emphasize consumption of powerhouse fruits and vegetables (PFV), foods most strongly associated with reduced chronic disease risk; yet, efforts to define PFV are lacking. This study developed and validated a classification scheme defining PFV as foods providing, on average, $\geq 10\%$ daily value/100 kilocalories of 17 qualifying nutrients. Of 47 foods studied, 41 satisfied the powerhouse criterion and were more nutrient-dense than were non-PFV, providing preliminary evidence of the validity of the classification scheme. The proposed classification scheme is offered as a tool for nutrition education and dietary guidance.

Assigned Released Time for Research (ART)

Valarie DiMartino, Kinesiology Department

Gordon Schmidt, T. Carpenter, G. Campo

Phosphate Decrement Between Sexes in Repeated Sprint Ability

Introduction: The purpose of this study was to analyze phosphate fatiguing and decrement (PD) patterns in university students completing a repeated sprint ability (RSA) test. Methods: Subjects were comprised of 7 women and 7 men (N=14) whose ages ranged from 23 to 41 years with a mean age of 25.7 ± 4.7 years. The average height of men was 1.79 ± 0.05 m and women was 1.59 ± 0.06 m. Average weight of men was 92.5 ± 14.7 kg, average weight of women was 59.0 ± 8.9 kg. Subjects ran 8 trials of 20 meters with 30 second rest periods. Results: Men had faster times (3.62 ± 0.16 sec) than women (4.71 ± 0.82 sec) with an overall average of 4.17 ± 0.18 sec. An Independent t-test revealed no significant difference between genders ($P > 0.05$). Average phosphate decrement (PD) was 7.49 ± 4.35 % for men and 3.57 ± 4.64 % for women. Discussion: All RSA times suggest a high demand on physiological adaptations. Being that the RSA replicated high intensity interval training (HIIT), the physiological responses were different for all the participants based on their current conditioning levels. PD was correlated with the exertion of each subject and the consistency of the times of each trial. Conclusion: This study concluded that the RSA showed a PD among all participants. A larger PD would indicate more reliability on the lactic anaerobic system for energy.

Research and Travel Incentive Award

Michelle Dramé, Institutional Advancement Department

The Process of Moving Your Proposal Forward

This workshop is for faculty and staff interested in securing funds from corporations and foundations. When submitting a grant proposal, following the required process is essential to its success. Michelle Drame, Executive Director of Development at William Paterson, explains the process of submitting your proposal and role of the Principal Investigator in relation to her department.

Darlene Edewaard, Psychology Department

Michael S. Gordon, Psychology

Falling Stars: Acoustic Influences on Meteor Detection

As particles enter the earth's atmosphere they produce a burst of electromagnetic energy, including visible and radio-wave emissions. Consequently, just as meteors can be detected visually in the night sky they can also be "heard" using radio telescopes. The current project investigated the potential influence of these audio signals on meteor detection. In related research, it has been found that auditory signals can enhance or even alter visual perception of objects. The current project examined the specific effects of accompanying auditory signals on the detection of meteors. Meteors present an interesting case of audiovisual integration in that detection paradigms often entail extended vigilance and extremely brief, yet brilliant astronomical events. The experiment specifically investigated how auditory signals, that varied in spectra, influenced changes in visual magnitude judgments and the time reporting of meteors. Results are described in terms of audiovisual integration and the relationships of perceptual mechanisms to meteor detection.

Assigned Released Time for Research (ART) and the Research and Travel Incentive Program

Raphael Ezuduemoih, Biology Department

*Antioxidant Activity during Metamorphosis of tadpoles *Xenopus laevis**

The amphibian organs undergo extensive changes when they transform from larval to adult form during a short period of metamorphosis. Cell death of larval organs occurs massively in balance with proliferation of adult organs/tissues. Reactive oxygen species (ROS) like O₂⁻ and H₂O₂ and nitric oxide (NO) act as intracellular signaling molecules. They also play an important role in morphogenetic events such as cell death, proliferation and differentiation. Every cell is equipped with antioxidant enzymes which can remove free radicals. In the present study we have investigated antioxidant activity in liver, intestine and tail during different stages of metamorphosis in tadpoles, *Xenopus laevis* MTT [3-(4,5-dimethylthiazole-2-yl) -2,5-

diphenyltetrazolium bromide] antioxidant assay. The tissue samples were homogenized in DMSO (4mg/ml) and antioxidant assay was carried out

Our results showed increased antioxidant activity in tail, intestine and liver during critical period of metamorphosis which suggest that cellular environment in these organs must be progressively more oxidizing and antioxidant defenses help protecting larva- to- adult cells from oxidative assault. In conclusion, antioxidant enzymes play a regulatory role in remodeling of organs in these tadpoles.

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Laura Fattal, Elementary and Early Childhood Education Department

Factories, Flames and Fabrics: labor in Bangla Desh

The interdisciplinary visual art and social studies project is an exploration through research of the factory fires and human tragedy of the working conditions and manufacturing industry in Bangla Desh. High school students have developed research questions stemming from the tragic fires over the last several years. Art students have created a relief sculpture with mannequins, fabrics, labels, newspaper clippings and other objects a visualization of the global fashion trade based in Bangla Desh and its impact on the workers in the factories. Pre-service teachers and the entire WPU student body will gain insights into the complexities of the world of global fashion.

Funded by a Rutgers University Teaching the World Fellowship grant

Bela Florenthal, Marketing and Management Sciences Department

Mike Chen-Ho Chao, Marketing and Management Sciences

A Cross-Cultural Comparison of Micro-Blogging Sites: Sina Weibo vs. Twitter

Micro-blogging platforms are emerging as marketing tools that multinational companies increasingly utilize to establish and promote their brands. The question is whether they use these platforms strategically, localizing the content and the structure for their target population. This study uses case study content analysis to begin answering this question. Social media updates posted by Starbucks over a one-month period on Twitter in the U.S. and on Sina Weibo in China were analyzed using three existing validated frameworks. The results indicate that Starbucks somewhat localizes its posts to its Chinese consumers, in terms of content, symbols, values, and offerings. However, it underutilizes its Sina Weibo page compared to its Twitter page. This paper goes on to suggest micro-blogging strategies for multinational companies in the Managerial Implications section and concludes with a discussion on the direction of future research for scholars in this field.

Brian Foulds, Mathematics Department

An Introduction to Non-Euclidean Geometry

This presentation is designed to introduce listeners to non-Euclidean geometries. First, we define what Euclidean geometry is and how other geometries are defined through changes to or removal of the basic Euclidean axioms. The main focus will be on spherical geometry, or the study of shapes and the properties of shapes on the surface of a sphere. The results of this form of mathematics have been known since people first began studying the stars and navigating the oceans, but this presentation seeks to show that they follow strict mathematical laws. Lastly, some observations on hyperbolic geometry and elliptic geometry will be presented. Although it is not required, a prior understanding of Euclidean geometry is recommended.

Mathematics Department

Carol Frierson-Campbell, Music Department

Musicking in a "Third Place": Reflections after visiting a Palestinian Community Conservatory

On a warm evening in the early spring, I stand outside a small amphitheater beside a local music school, talking with community arts leaders about the success of a week-long jazz camp led by my university colleagues, the results of which we had just seen in performance. Local concerts like this one occur around the world in any given year, symbolizing the desire of families and community members for a safe place where their children can learn musical practices that symbolize their community and thereby locate them within the larger society.

I have not thought of music learning and teaching in this way before. As a music educator from the U.S., I have written about social justice in music education, but my focus has been on access to skills and knowledge, curricula and materials. Here I see a different purpose: the community conservatory as a third place (Oldenburg, 1996-97) where music education as cultural practice (Gaztambide-Fernandez, 2011), provides a mechanism for exploring, affirming, and celebrating (Small, 1998) individual and collective identity. I am in Ramallah, Occupied Palestinian Territories, and the students, families, board members and many of the teachers are Palestinians who attend or work in the Edward Said National School of Music.

In this essay I suggest that by working “both with and against” (Gaztambide-Fernandez, 2011) the prevailing understanding of Palestinian culture, the Conservatory has developed an approach to musicking that acknowledges the material, challenges the imaginary, and enacts musical practice (p. 17) as conceptualized by the community.

Assigned Released Time for Research (ART)

Carol Frierson-Campbell, Music Department

Nathan Webb, Music Education, Graduate Student; Abelita Mateus, Jazz Studies, Graduate Student; Artemisz Polonyi, Jazz Studies, Fulbright Student

“So What?”: Finding meaning in the changes (from musician/teacher to graduate student/researcher and back again)

While research is included in the curriculum for Master of Music programs around the world, the purpose for these courses at the master’s level is relatively unexamined. Research has a clear place in the lives of students who plan to continue with doctoral study, but what is its meaning for those whose plans do not involve a career in the academy?

We—graduate student jazz musicians along with a professor—find Miles Davis’ popular tune “So What?” an interesting frame for exploring this question. Hinting at the title, a two-note motive, moving between instruments and frequent key changes, both interrupts and is integral to the flow of the music. Our data were gathered ethnographically, during a series of meetings and rehearsals specifically for this study as well as through each participant’s personal reflections. Decisions about thematic analysis as well as musical and narrative interpretations for the final paper/performance were made collaboratively by consensus.

Initially viewed as a “horrible” interruption, a “graduation requirement,” or simply “something you have to do for school,” research evolved into “tools” to explore “what bugs you.” Weaving musical improvisation into ethnographic representations of our own “changes” allows us to re-present the meaning of research as we experienced it: as an interruption that through negotiation became integral to our growth as musicians and educators.

Assigned Released Time for Research (ART), and Artemisz Polonyi is a Fulbright student from Hungary

David Fuentes, Elementary and Early Childhood Education Department

Heejung An, Elementary and Secondary Education; Carrie Hong, Educational Leadership and Professional Studies; Sandra Alon, Educational Leadership and Professional Studies; David Ferrier, Coordinator, Leaders and Learners Project, Educational Leadership and Professional Studies

Emerging Technologies in Teacher Education

The presentations offer the snapshots of how the College Of Education faculty and staff member have employed emergent technologies, such as iPads and videos in K-12 classrooms. They will share their research results, as well as the promises and pitfalls encountered when using the emergent technologies.

Assigned Released Time for Research (ART) and the Leaders As Learners Project which is funded by the US Department of Education

Rosaura Garcia, Public Health Department

When the Levees Broke: An Important Teaching Tool

On the morning of August 29th, 2005 Hurricane Katrina, a natural disaster that caused an estimated 100 billion dollars in damage, affected the United States' Gulf Coast. Residents from Alabama, Mississippi and Louisiana were displaced from their damaged homes as levees broke and caused immense flooding. Many of these individuals were now left homeless and afraid. These individuals were relocated to various areas such as Texas, Tennessee, Arizona and even New York, where they were found temporary housing to live in. Unfortunately, the relocation of these residents took several days, as relief did not arrive for victims of Hurricane Katrina for days after the disaster occurred. When individuals were relocated, there were individuals that were left homeless as a result of not being able to return home, and payment temporary housing was discontinued in some cases. There was outrage over the fact that displaced victims of Hurricane Katrina were being referred to as refugees as they were truly placed at a disadvantage. This event was riddled with disparities ranging from inequality to betrayal.

In 2007, in collaboration between Teachers College, Columbia University and The Rockefeller Center, Teaching the Leaves, a guide to use in the classroom was produced. The purpose of this presentation is to present the results of a project that explores the specific aspects of the events surrounding Hurricane Katrina as chronicled in *When the Levees Broke* that focus on health disparities. Student's first-hand reactions and common themes will be identified and explored. The first overarching area of focus will be the chapter on Race, Class, and Katrina from the Teaching the Levees Guide. This section focuses on governmental and individual responsibility. The second, entitled What does it mean to be a citizen? Draws from aspects of the film to initiate discussion on civics and government. Segregation is a main area of focus in this area. The third area from the teaching guide is Third World Conditions in a First World Country. This focuses on the use of economics to understand events before and after the levees broke. Immigration and equality are some of the main focal points here. The final area drawn upon from the teaching guide is A Sense of Place, a Sense of Home. Geography, space, and place are main themes with a focus on displacement and betrayal.

Being that eliminating health disparities is a goal of Healthy People 2020, it is essential that students in undergraduate health programs have an understanding of the issues at hand and can take steps toward cultural competence. The more frequent and varied the assignments and teaching tools that can be used to the discussion, the more benefit students will derive. A first-hand account of students' reaction to this teaching tool will be provided along with suggestions for incorporating this into curricula for others interested in this initiative.

David Gilley, Biology Department

Quantitation of the Honeybee Waggle-dance Pheromone

The honeybee waggle dance is a signal that conveys to nest mates the location of a profitable food source, and is a paradigm for understanding communication and language among social invertebrates. Waggle-dancing bees produce and release into the air a blend of four chemicals which stimulates colony foraging and may thus be considered a pheromone. One key issue regarding the chemistry and distribution of the waggle-dance pheromone is the amounts of each component of the pheromone produced within a honey bee hive. This study attempts to determine these amounts by constructing standard curves using known amounts of each pure compound, performing field sampling of the air from active bee hives, and then using the standard curves to determine the quantities of each dance compound in the field samples. Determining natural levels of production is an important first step in any work on chemical signaling in animals because such knowledge is required to understand the dispersion of the compounds, perform manipulative experiments to discover the message and meaning of the compounds, and to set the stage for applied research involving preparation of synthetic formulations of the pheromone. Foraging stimulants such as the waggle-dance pheromone may have applications in pollinated-crop agriculture, a multi-billion dollar industry, lending significance to the findings of this project beyond their importance to basic science.

Assigned Released Time for Research (ART) and the Center for Research, College of Science and Health

Traci-Linn Goddin, Biology Department

Shefkate Bakiu, Biology, Undergraduate Student; Jeung Woon Lee, Biology

Gaba Stem Cell Therapy for Treating Inflammatory Peripheral Neuropathy

Formation of chronic nerve pain is common in patients suffering from peripheral nerve injury. Previous research studying neuropathic pain has shown GABA cell death in the spinal cord level associated with the injury. It is believed that excess pain stimulation is caused by loss of function from inhibitory GABA resulting in greater perception of pain. Current medical treatment increasing GABA signaling is not widely successful in patients and cause adverse side affects. GABA stem cells offer an alternative cell-based therapy by replacing GABAergic neurons. Subdural transplantation is an experimental surgical method causing fewer traumas. We hypothesize transplantation of embryonic GABA stem cells will decrease pain behavior in animals with CFA inflammatory nerve injury. GABA stem cells were harvested from the lateral geniculate nuclei of E14 Sprague Dawley rats and grown in tissue culture for five days. Naive male Sprague Dawley rats were transplanted intraspinally with GABAergic precursor cells in the lumbar dorsal horn (n=16). Another treatment group of animals received subdural transplantation of precursor GABA cells. Control animals received an intraspinal injection of growth media only (n=12). Five days after transplantation both control and treatment animals were injected with 25uL of CFA on the plantar surface of the left hind paw. Animals were tested for pressure point pain behavior with a 10 gram Von Frey monofilament on days 11,12,14,16 [(10 stimuli x 4 seconds) x 3 sets]. Results indicate reversal of pain on days 11 and 14 in transplant groups D11 p<0.001, D14 p<0.001. There was no significant difference between control and transplanted animals. By performing immunohistochemistry technique, it is possible to isolate transplanted cells. GABA, NeuN, MAP-2, and β -Tublin antibodies will be used for double staining to isolate matured transplanted GABA neurons at the site of transplantation. By quantifying the number of successfully transplanted GABA cells in each animal, behavioral data will be correlated with the number of cells necessary for reversal of pain behavior. In future testing, use of Randall Selitto, tail flick, or thermal test may provide improved results. Current results demonstrate stem cell transplantation may be beneficial for treating peripheral nerve injury and an alternative behavioral model may show behavioral efficacy.

Assigned Released Time for Research (ART), the Student Undergraduate Research Program, the Biology Department, and the Dean's Office, College of Science and Health

Bryan Gonzalez, Environmental Science Department

Seasonal variations in drought severity in the western United States during the 20th Century

Since the industrial revolution, concentrations of greenhouse gases such as carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) have risen in the atmosphere. The burning of fossil fuels such as coal, oil and gas has increased the concentration of atmospheric carbon dioxide to almost 400 parts per million in the last century. These greenhouse gases have increased the greenhouse effect causing Earth's surface temperature to rise. Globally, precipitation is projected to increase due to the increased amount of water vapor that can be held in a warmer atmosphere. There is some uncertainty to this however, because some regions such as the southwest US are projected to get drier. The southwest is a region that is characterized by a climate that is already drier than other regions of the US (this is illustrated by the fact that the southern portion of the region is almost completely desertified) and as a result, water allocations in the region have become increasingly difficult to meet. This research attempts to reduce this uncertainty by identifying changes in summer vs. winter droughts over the 20th century. To explore the regional patterns of drought variability, I have employed the KNMI Climate Explorer program, which is a web application to analyze climate data statistically, to analyze historical precipitation and PDSI (Palmer Drought Severity Index) trends in three sub-regions (geographically divided based on climatology) of the western US: The Cascades/Sierra Nevada, The Great Basin, and The Great Plains.

The Garden State Louise Stokes Alliance for Minority Participation in the Sciences (funded by the National Science Foundation through a subcontract from Rutgers University)

Michael Griffiths, Environmental Science Department

Windows to past climate change: reconstructing hydrologic variability in tropical Australasia over the last 2,000 years using cave stalagmites

Indonesia and tropical Australia's present-day climate is characterized by extremes in rainfall and temperature, and is thus one of the most variable in the world. This often manifests as severe droughts and floods, which can have major impacts on the livelihoods and economy of large fractions of the population. Whilst the projected effects of global warming on Australia's climate remains uncertain, recent research has suggested that a warmer tropical atmosphere will exacerbate the El Nino/Southern Oscillation, which is the dominant mode of ocean/atmospheric circulation in the region and has far-reaching implications for global weather patterns, including those in the northeast US. To better predict the future projections of tropical Australasian climate, we need records of past rainfall variability so that we can improve the predictive capabilities of climate models, which are used to project future outcomes for the region. To address this need for more records, we have generated a complete record of east Indonesian rainfall variability over the past 2,000 years, using oxygen isotopes ($^{18}\text{O}/^{16}\text{O}$) in cave stalagmites as a proxy for the intensity of the Australasian summer monsoon. Results show that the monsoon circulation was weaker than modern between ~950 - 1350 C.E. and between 250-600 C.E, but stronger between ~1350 - 1700 C.E. These multicentury patterns over the Indo-Pacific, which are consistent with other paleoclimate records from the region, are anti-phased with records of Indian and East Asian summer monsoon variability, supporting the paradigm Northern Hemisphere temperature variations control the latitudinal position of the intertropical convergence zone.

Research and Travel Incentive Program, Center for Research, College of Science and Health, and a NOAA/UCAR Climate and Global Change Postdoctoral Fellowship from the Australian Research Council

Martin Gritsch, Economics, Finance and Global Business Department

Tricia Snyder; Economics, Finance, and Global Business; Faculty

Pitchers' Height and Performance: Evidence from Recent Major League Baseball Data

It is a widely held belief in baseball that a pitcher should be tall. However, there is scant formal evidence that a pitcher's height actually does have an impact on performance. We use data on pitcher's characteristics and their performance in the recently completed 2013 regular Major League Baseball season to examine whether the belief that being tall promotes pitching performance is supported by actual data. We find little evidence that a pitcher's height contributes to positive outcomes. In fact, some of our results suggest that being taller is a drawback for pitchers and leads to poorer pitching outcomes. However, the main result in our research is that most estimates are not statistically significant with such high p-values that the estimates, for practical purposes, can be interpreted in a way that height does not have an impact on pitching performance. The most likely explanation is probably that Major League Baseball pitchers do not constitute a random sample. Only players with proven pitching records make it to this highest level of baseball, whether it is because of or in spite of their height. Ideally, one would carry out a similar analysis for baseball pitchers of high school age, but even at that level (or even before that), a self-selection process may be at work because of the belief that baseball pitchers should be tall.

Assigned Released Time for Research (ART)

Torri Jaime, Cognitive Science Honors Program Department

Framing Effects in Two Groups of Adolescents

People's ability to make decisions can predict their success in a large number of life functions. This is especially true during the period of adolescence where bad decisions can lead to life-long consequences. A significant part of decision making is the ability to make consistent decisions even when the information available comes in different forms. A task used to study this is the resistance to framing. The task was originally used in a study by Tversky & Kahneman (1981), and has since been adapted to be more relevant to real life decisions. The framing effect is when a decision is different for a decision making problem when

it is framed differently. Resistance to framing is considered to be advanced decision making, and is seen in consistent choices across frames. The present study investigates the difference between high school sophomore and seniors on a framing task.

From the literature we predicted that we would find differences between sophomores and seniors in their ability to resist the framing effect. We also predicted that there would be a positive relationship between students' GPAs and their consistency scores. The participants were 100 senior and 100 sophomore high school students. Participants were administered 6 pairs of framing questions (YDMC, Parker & Fischhoff, 2005). The preliminary results indicate that although the seniors and sophomores were not different in their overall consistency, the senior's ability to make consistent decisions was related to their high school GPA, while the sophomores were not. Further analyses will be presented.

Mihaela Jitianu, Chemistry Department

Monika Baraniak, undergraduate student; Naphtali O'Connor, Lehman College, CUNY; Ravnit Kaur-Bhatia, Lehman College, CUNY; Andrei Jitianu, Lehman College, CUNY

Inorganic composites for wastewater management

TiO₂ is an n-type semiconductor and the reactive species in photocatalysis is the hole cogenerated with an electron upon absorption of a photon. Many organic compounds in wastewater can be decomposed in aqueous solution under irradiation with near ultraviolet light into carbon dioxide and water on the surface of TiO₂ particles. When TiO₂ absorbs ultraviolet radiation from sunlight or is illuminated by a light source, it will produce pairs of electrons and holes. To keep the photooxidation process going, it is necessary to avoid accumulation of the electrons on particles and to avoid their recombination with the holes. Nitrogen doping and also Layered double hydroxides, LDHs, that have a particular structure, are both hypothesized to eliminate the rapid recombination of excited electrons/holes during the photoreaction. Both nitrogen doping and LDH synthesis employed urea as Nitrogen source and precipitation agent, respectively. The source of TiO₂ employed in this study was commercially available Aeroxide P25. The photocatalytic test reaction was performed under visible light (575 nm), using vanillin as a phenol-model compound. The results confirmed a successful preparation of nitrogen doped and undoped TiO₂ - MgAl-LDH composite materials that showed a high conversion rate of vanillin into carbon dioxide and water. It was concluded that the synergic effect between N-doping of TiO₂ and MgAl-LDH contributes to the overall photocatalytic activity of the composite materials.

Assigned Released Time for Research (ART) and the Center for Research, College of Science and Health

Neal Joshi, Biology Department

Jeung Woon Lee, Biology

Alleviating neuropathic pain by transplantation of islet of Langerhans cells into STZ-induced diabetic mice

Type 1 diabetes mellitus (T1DM) is an autoimmune disease mainly characterized by elevated blood glucose levels (hyperglycemia) and diabetic neuropathy (DN) associated with pain. The only treatments available for T1DM include subcutaneous injections of synthetic insulin and the use of an insulin pump. Harmful drawbacks are seen if either of these treatments are used incorrectly. If hyperglycemia is not controlled, the development of DN is seen and often the pain is treated with addictive opiates. This study examined a) xenotransplantation of islets from rat to mouse to reverse hyperglycemia and b) measured formalin-induced pain behavior in diabetic BTBR T+^{tf/J} mice. In experiment 1, adult male C57BL/6J (n=18) were injected with streptozotocin (STZ) to induce T1DM (≥ 350 mg/dl); mice were transplanted with islet cells (STZ-Cell) or received media-only (STZ-control). An immunosuppressant (cyclosporine A) was injected daily in all C57 mice and body weights were recorded (daily). In experiment 2, naïve-BTBR and STZ-BTBR (n=10) were used to measure diabetic neuropathy with paw-licking durations (formalin-test, 5% w.v., 30 μ l) for 60 minutes in 5 minute intervals. For STZ-Cell mice, the glucose levels were 544.25 \pm 13.96 mg/dl (1wk post-transplantation) and 542.83 \pm 26.98 mg/dl (2wk post-transplantation); whereas STZ-control was 564.33 \pm 33.90 mg/dl (1wk) and 563.50 \pm 26.14 mg/dl (2wk). The STZ-BTBRs displayed shorter paw-lick duration at phase II (12.0 \pm 9.71sec) compared to naïve-BTBRs (83.5 \pm 36.85sec; p<0.02). Data suggest hyperglycemia in STZ-Islet mice may be

related to the number of surviving islet cells. The diabetic BTBR mice displayed insensitivity to inflammatory pain. Transplantation of islets may be a viable method to alleviate DN pain.

Assigned Released Time for Research (ART), the Student Undergraduate Research Program, the Biology Department, and the Dean's Office, College of Science and Health

Joyce June, Physics Department

Adonis Rivie, Biology, Undergraduate; Raphael Ezuduemoih, Biology, Undergraduate; Jaishri Menon, Biology; Kevin Martus, Physics

The Effect of Plasma Exposure on Tail Regeneration of Tadpoles Xenopus Laevis

Wound healing requires a balanced combination of nutrients and growth factors for healing and tissue regeneration. The effect of plasma exposure on tail regeneration of tadpoles, *Xenopus laevis* is investigated. The exposure of the wound to the helium plasma immediately followed the amputation of 40% of the tail. Amputation of the tail initiates regeneration of spinal cord, muscle, notochord, skin and connective tissues. By 24 h, the wound was covered by wound epithelium and blastema was formed by day 5. There was increased angiogenesis in plasma exposed tail regenerate compared to the control following 5 d post amputation. Observed was an increase in NO production in the regenerate of plasma exposed tadpoles that was derived from increased activity of nNOS and iNOS. Western blot analysis for vascular endothelial growth factor showed stronger bands for the protein in amputated tadpoles of both the groups. Analysis of the composition and characteristics of the plasma using optical emission spectroscopy indicates excited state species consisting of N₂, N₂⁺, and OH is present in the plasma.

Assigned Released Time for Research (ART) and the Student Worker Fund, College of Science and Health, and the Provost's Office

Sreevidya Kalaramadam, Women's and Gender Studies Department

The Negotiation of the Public-Private and Political Participation of Women in India

The "private-public" divide has been theorized as critical for the production of gendered subjectivities and citizenship. This paper looks at political participation by elected women representatives (EWRs) in local governance structures that seeks to recast this divide, negotiate civil society and articulate a gendered notion of group interests.

Rajender Kaur, English Department

A Plea for Redress to Benjamin Franklin: The "Pre-history" of South Asians in America

My paper traces South Asian presence to colonial America when they accompanied English settlers as servants as early as the 1620s and, as lascars working the on ships that formed part of the lucrative Yankee clipper trade from the 1780s to 1850s. New research on the colonial period facilitated by the digitization of archival materials such as newspapers, parish records, court records of petitions and rulings, and papers of the Continental Congress, among others, reveals an American landscape sprinkled quite significantly with people of South Asian origin. Careful research reveals an astonishing archive of advertisements for runaway "East Indians" slaves and servants. Even more remarkable is the existence of several petitions for freedom filed by these East Indian servants and slaves protesting their illegal and unjust enslavement dating back as early as 1705 and 1706. In this presentation I perform a symptomatic reading of some of these advertisements and petitions to uncover the disjunctive discourses of race, empire, and resistance that came to define the formative contours of early South Asian America.

Steven Knezevic, Exercise Physiology Department

Energy Expenditure During Gait Using the Rewalk™ Exoskeletal-Assisted Walking System For Persons With Paraplegia

The purpose of this study was to evaluate energy expenditure (EE) during powered exoskeleton-assisted walking in persons with paraplegia. Five male participants with paraplegia, aged 37-61 years, were recruited for this study. Able-bodied (AB) subjects were matched for height (± 12.7 cm) weight (± 6.8 kgs) and age (± 5 yrs) were recruited to serve as a control group. EE measurements were obtained for 6 minutes

while: seated, standing, walking, and seated recovery for three trials (Pre, Mid, Post) over 60 sessions. A portable metabolic cart was used to obtain all metabolic measurements. The results from this study suggest that over the course of 60 sessions, powered exoskeletal-assisted walking can: significantly improve an individual's oxygen consumption ($p=0.04$), significantly decrease RPE ($p<0.001$), and significantly increase the distance traveled per 6MWT ($p=0.02$). These improvements may potentially further enhance the quality of life of persons with paraplegia.

This research was supported by the Veteran Affairs Rehabilitation Research and Development Service (#B4162C) and the James J. Peters VA Medical Center.

Kwangjoo(KJ) Koo, Accounting and Law Department

Human Capital between Generalists and Specialists: How Does It Impact Innovation?

While human capital theory and upper echelon theory predicts that a firm should innovate better when its CEO possess more human capital, this relationship has been difficult to measure empirically. As a result, little is known about the part that individual CEO plays in explaining innovation performance. In this paper, using a unique dataset on S&P 500 CEO human capital between 1996 and 2003, I examine whether the CEO specific human capital having a critical firm expertise or science expertise affects firm innovation. This paper aims to empirically explore the effects of science specific human capital and firm specific human capital on innovation efficiency. My findings support the idea that CEOs that gather more specific human capital promote better innovation for the firm. I also find that science-specialists CEOs promote innovation performance than firm-specialists CEOs and generalists CEO. My analyses indicate that both types of human capital do matter in the context of innovation. I offer an alternative view of how intangible special human capital promotes firm outcomes by comparative advantages.

Assigned Released Time for Research (ART)

Cyril S. Ku, Computer Science Department

The Multi-Dimensional Unified Process for Collaborative Software Development

Software development process is collaborative in nature, especially for large, complex, and innovative systems. From requirements acquisition, analysis and specification, software design, to deployment and maintenance; many teams with diverse expertise are involved in the process. Lately, the collaborative process has shifted from intra-organizational to become more inter-organizational and often inter-cultural and international. Traditionally, the Unified Process is a two-dimensional model that captures the iterative and incremental nature of software development. In order to incorporate the modern collaborative software development process, this research attempts to explore the extension of the Unified Process from the classical two-dimensional model to a multi-dimensional process which includes the inter-organizational aspect of software development and management.

Assigned Released Time for Research (ART)

Amy Learmonth, Psychology Department

Nicole Caltabellotta, Psychology, Undergraduate Student; Alejandra Jimenez, Psychology, Undergraduate Student; Katelyn Luax, Psychology, Undergraduate Student; Princess Padilla, Psychology, Undergraduate Student; Shruti Raycha, Psychology, Undergraduate Student

Sprre and accuracy of location choices: Does the type of information matter?

Animal research indicates geometric and landmark information are processed separately by rats (Wall et, al. 2004). If humans indicate that landmark and geometric processing are separate, it could be part of the answer as to why young children do not use landmarks in some situations (see Cheng and Newcombe, 2008). The current study is an attempt to examine the relationship between the use of landmark and geometric information in adults. The task in this study was presented on a computer screen. Participants saw a slide with one marked target (out of four possible target locations) in one of four possible configurations (with each configuration offering a different amount of landmark and/or geometric information) followed by a five second delay and a test slide that was a rotated version of the first slide. The

results indicate that it takes longer to make a choice when either geometry alone was available than when both sources of information are available. These results show that geometry and landmark information are combined seamlessly, indicating a configurational solution to the problem. A second study addressed a methodological issue. The results were substantially the same.

Another follow up study addressed the question of does the geometric information have to be useful? For this study we added a square condition, which has walls and angles, but adds no information to differentiate the possible target locations. Again the results were substantially similar to the other two experiments.

Amy Learmonth, Psychology Department

Associative memory in early childhood: A pilot study

The ability to distinguish people, places, events and other items that have been previously encountered is called recognition memory. Much of what we recognize are complex composites of multiple features that we combine to form associative recognition memory. This study focuses on the associative memories of young children and the mechanisms by which items in memory become associated. Two possible ways of accomplishing associative memory are memory binding and unitization. Binding contains not just the items to be remembered but also includes the relationships among them in a moment of time; unitization fuses items together and they may later be recognized as a single item. Both unitization and binding result in successful associative recognition memory, but through fundamentally different processes. Memory binding connects the items and their relationships to form an associative whole in which constituent parts can be separated from the whole and recognized independently, while unitization fuses the items together such that separating out constituent parts becomes difficult. Ample research has been conducted associative recognition memory with adult populations. However, comparable studies to the adult literature do not begin until school age. The present research pilots a paradigm suitable for children aged 3 and up that is comparable to that in the adult memory literature and will permit the understanding of the early development of associative recognition memory. Issues related to finding successful ways to create versions of adult memory paradigms, which rely heavily on word knowledge and reading, that work with young children will be presented.

Assigned Released Time for Research (ART)

Ashley Lemoncelli, Psychology Department

The Role of Stress in Determining Regulatory Focus and the Effect on Goal Perception

The current study looked at the role of stressful situations in determining participants' regulatory focus, and the further effects on participants' goal perception. Participants were randomly assigned to either a stress or relaxation condition, then completed the Regulatory Focus Questionnaire, and then further completed 40 questions on how they perceived both close and distant goals presented. It was predicted that stressful situations would elicit a prevention focus, and participants would then view the close goals as more attainable. It was further predicted that the relaxation condition would elicit a promotion focus, and participants would then view the distant goals as more attainable. Results showed no significant differences in participants perceptions of goals based on the condition and their regulatory focus.

Nicole Lofaro, Psychology Department

Explicit and Implicit Attitudes: How They Operate and Change Over Time

Research has shown that implicit and explicit attitudes may be different or similar to one another and implicit attitudes take a longer time to change. In this study, approximately 60 participants will be asked to make judgments about their birthday and St. Patrick's Day. After judgments are assessed, participants are redirected to an Implicit Association Task that will measure their unconscious attitudes towards their birthday and St. Patrick's Day. It is expected that people's associative and declarative knowledge will (a) change (get stronger) as they get closer to an event in time and (b) sometimes be at odds (implicit and explicit evaluations may differ). In other words, we would like to better understand the differences within explicit and implicit attitudes and also how they may operate separately or parallel with one another as an individual moves toward a specific holiday.

Nicole Lofaro, Psychology Department

Ryan Ayers, Psychology, Undergraduate Student; Maha Nassar, Psychology, Undergraduate Student

Homicidal Ideations: Two Failed Replications in Pilot Tests

Buss (2005, p. 8) reported that, "91% of men and 84% of women have had at least one of such vivid fantasy about killing someone." He explained this finding as an evolutionary adaptation. As a class exercise we asked the same question that Buss asked and our results were opposite. Only a small percentage of our participants reported having a homicidal fantasy. For future direction, we will design pseudo focus groups and making it easier to elicit positive responses. As of now, we have two failed replications and results of focus groups display closer answers to Buss' findings.

Elaine Lorenz, Art Department

3-D Milling of Foam Armature for Sculpture

Since the University has graduate students trained in the 3-D scanning and milling process, I used my Summer 2013 grant from COAC to have a small sculpture enlarged and carved in styrofoam. It is an armature for a large sculpture, which I am in the process of applying fiber reinforced Cement for an outdoor work.

Center for Creative Activity and Research, College of Arts and Communication

Kem Louie, Nursing Department

The Examination of Skill Acquisition of Novice Nurse Faculty Competencies

Abstract: The purpose of the descriptive study was to examine skill acquisition of novice nurse educators and experienced nurse educators. There is little known about the skills and knowledge acquisition of nurses in the educator role (Ramsburg (2012).

Questions: What is the novice nurse faculty skill acquisition competencies in their first, second and third year as faculty teaching in prelicensure nursing programs?

What factors contribute to novice faculty skill acquisition of nurse educator competencies?

Methods: A comparison group of nurse faculty were surveyed (n= 276). Specifically, faculty skill acquisition or competencies were correlated with 1) teaching experience, 2) nurse educator courses, and 3) whether they earned the Certified Nurse Educator credential. Tools included a demographic survey and the Ramsburg (2012) Nursing Education Skill Acquisition Tool which measured the eight National League for Nursing (NLN) Nurse Educator competencies (2012).

Results: Demographic data were analyzed in relation to years of experience as a faculty, age, nurse educator certifications obtained, etc. with the nurse faculty competencies. The results of the ANOVA showed significant differences ($p < .05$) in the years of faculty experience, whether nursing faculty had further education and those who were attained the Certified Nurse Educator certification. Implications will be discussed.

Assigned Released Time for Research (ART)

Casey Lum, Communication Department

The Cross-border Adaptation and Transformation of Hong Kong-style cafes in China

This is a study of how Hong Kong-style cafes as an urban foodway and lifestyle has been adapted and transformed in large cities in China (e.g., Shanghai) and an urban lifestyle in the global Chinese diaspora. It will address three main questions: How and why did chachaanteng originate in colonial Hong Kong as a major urban center during the twentieth century? How has the unique culinary style of chachaanteng manifest itself in its menu (vis-à-vis its "signature dishes") and why? How has chachaanteng as a culinary genre, an urban lifestyle, and a business model been introduced, transformed, and received outside of Hong Kong and why? The proposal seeks to secure funding to offset research-related travels.

Summer Creative Activity and Research Grant, College of Arts and Communication

Nicole Magaldi, Communication Disorders and Sciences Department

Betty Kollia, Communication Disorders and Sciences; Meg Shakibai, Communication Disorders, Marymount Manhattan College

Use of assisted reproduction technology, related risk factors, and incidence of autism spectrum disorders

This is a continuing study of the incidence of communication and autism spectrum disorders (CODS, ASD) in children conceived using Assisted Reproduction Technology compared to those conceived without ART. A number of recent studies have examined factors possibly increasing the risk for appearance of autism spectrum disorder from genetic ones (e.g., Giza et al. 2010) to parental age, socioeconomic status, and causes of infertility (e.g., Shimada et al. 2012; Leslie, 2004). The Autism and Developmental Disabilities Monitoring Network of the CDC estimates that currently anywhere from 1 in every 47 to 1 in every 210 children is diagnosed with ASD. Further, the incidence of live births resulting from use of assisted reproduction technology, has also increased. Since the CDC started collecting data in 1995, there has been a steady and significant increase in the number of clinics that provide ART services and the number of infants born as a result of ART. The CDC (2010) estimates that over 1% of all children born in the US were conceived through ART. The incidence of birth defects in children conceived via certain types of ART (ART+) is higher than that noted in the rest of the population (e.g., Center for Disease Control, 2009; Davies et al. 2012). We explore combinations of factors that may increase the risk of a child being diagnosed with ASD.

Assigned Released Time for Research (ART) and the Research and Travel Incentive Program

Rebecca Mahabir, Sociology Department

How the Media Encourages the Stigma and Negative Public Opinion of Abortion, Causing Politicians to Enact Harmful Policies Against Women

It is no secret that the media is often used and manipulated by groups to convey messages and control behavior. Often times, the media is geared against women. Basing this observation heavily upon the research of social scientists Anuradha Kumar, Leila Hessini and Ellen M.H. Mitchell in their 2009 article "Conceptualizing Abortion Stigma" for "Culture, Health, and Sexuality," I theorize that because abortion interferes with gender scripts of femininity, the media is the catalyst for a harmful chain of events. Firstly, it publicly shames and belittles women and the clinics that offer these types of medical services. The media portrays women seeking abortions as murderers, or soulless beings instead of the reality—women seeking a medical procedure for the betterment of themselves and the lifestyles they ascribe to. The reaction to the media's shaming is negative public opinion towards abortions and those women who seek them. Politicians in turn utilize public opinions to their advantage, winning over groups by using abortion as a platform for their campaigns. I theorize that this in turn harms women in the long run. Those in power and access to creating legislation will seek to protect their incumbency. If negative opinions continue to circulate surrounding this medical procedure, the stigma of abortion will continue to exist, and continue to be a talking point for the media and politicians. Perhaps even more hazardous, states will enact policies and laws that prevent women from terminating their unwanted pregnancies.

Brenda Marshall, Nursing Department

The SONG

Background: The shortage of nurses in the United States is anticipated to have long-term effects on American health care delivery systems. Currently, nursing employs traditional marketing venues of print and audience specific commercials rather than engaging today's youth through their preferred modes of social connection.

Objective: Produce, promote and evaluate a 30-45 minute pilot video of The Song. Develop and maintain a SONG website, a twitter page, Facebook page and a blog to evaluate the impact of utilizing this multi-media social network platform to increase the awareness of nursing and the nursing programs at WPUNJ .

Methodology: This longitudinal, mixed method, non-experimental descriptive design collected statistics on publically shared demographics of participants who join the Facebook and twitter pages after the release of

the pilot video of the SONG.

Results: Fifteen participants attended the forum (six non-nursing, nine nurses), providing informal reflections (e-mails and conversations after the event) – Recurring Themes identified: “ inspirational, interesting, moving, important. A must see”. The Online traffic reflected 24 followers between the ages of 20 and 45 from New Jersey from August to December. There were 17 likes on the Facebook page with seven likes of the video itself. Only one visitor to the site wrote a comment.

Limitations: This study had serious marketing limitations that impeded the circulation of the video, which ultimately impacted the evaluation of its impact. The small number of participants negate any generalization of the outcomes.

Discussion: The concept of edutainment for nursing was well received, however active collaboration between nursing, communication, marketing and social research is imperative for production, distribution and evaluation of its impact.

This study was supported by a CfR grant - summer 2013

Kendall Martin, Biology Department

Biomass Quantification for Coniferous Fine Roots, by Species, in Mixed and Milled Size-classes of Roots Obtained from Soil Cores

In this study we are developing a method to map the roots, below ground, for a large-scale project in an old-growth forest site in the Oregon Cascades. This site has been intensively studied as part of an effort to produce a high-resolution model of forest structure and function that could be used to predict changes in processes such carbon removal from the atmosphere. The roots are collected by sieving them from soil cores and separating them into size-classes for different soil depths. We can easily weigh the roots, but the goal is to determine the portions of the roots belonging to the different species of conifers that dominate the forest, Douglas-fir, Pacific silver fir and western hemlock. We have done a root-by-root DNA-analysis to identify the tree species, but that is too inefficient to get through the large number of soil cores needed for a meaningful mapping effort. We are working on a new method where we create a single DNA extract from the mixture of pieces in a size-class of roots and then use that mixed DNA to determine the ratios of the tree species. Summer 2013, we successfully developed primers that could amplify DNA sequences from the conifers but not from other plants. Multiple sequences within ribulose biphosphate carboxylase oxygenase (RuBisCO) were identified as potential sites for primers and probes and test showed successful PCR amplification. These will now serve as the basis for developing quantitative PCR assays that should give us ratios for the mixed-root DNA samples.

This work was supported through \$6,000 of in-kind supplies-funding from US-EPA and a CfR Faculty summer stipend of \$2,000 for Dr. Martin

Justine Martinelli, Honors College Department

Facial Processing in Young Adults with Autism Spectrum Disorder

Research on face processing in those with Autism Spectrum Disorder (ASD) has focused much on children and adolescents; it has been found that there is little to no improvement through adolescence in recognizing and remembering faces. Also, the inversion and composite effects have been shown to occur, but there are mixed results. In the present study, face recognition and memory as well as both the inversion and composite effects will be tested in young adults with ASD and compared to a control group of the same age range. The purpose of this is to determine if the face processing abilities of young adults with ASD is better compared to results from adolescents with ASD as well as to determine if young adults with ASD experience an inversion and composite effect. It is expected that while the control group will have more correct answers, the group with autism will experience an inversion effect and a composite effect for the mouth area, since it has been found that they do not concentrate on the upper half of the face as well.

Ryan McBride, Music Department

Alan Dawson: A Life in Jazz

Jazz drummer Alan Dawson embodied the performer-pedagogue model often found in modern collegiate jazz programs, yet his innovations as a performer are often overshadowed in relation to his teaching career, both privately and at Berklee College of Music from 1957-1975. This presentation examines how Dawson demonstrated the groundbreaking concepts he developed as a teacher in his overall drumming style. Using musical analysis of selected transcriptions taken from Dawson's recorded output, as well as excerpts of interviews with his former students and colleagues, this presentation will provide insight into Dawson's contributions as a drummer and into the relationship between his pedagogy and performing.

Research and Travel Incentive Award, the Graduate Student Research and Scholarship Program and the Department of Music

Raza Mir, Marketing and Management Sciences Department

Multinational Corporations and Global Capital: Lessons From India

In this talk, I will analyze how multinational corporations gain by exploiting differences between the markets in which they operate. I will also discuss the theoretical and political implications of these MNC strategies across multiple institutional fields, based on data from my field-based research in India.

Operating as they do in multiple national environments characterized by divergent levels of development, multinationals succeed in extracting advantages because of two simultaneous phenomena: the still relatively weak institutions of global governance and the inability of individual nation states to control companies whose reach extends beyond national boundaries.

I argue that theories of the multinational in organizational studies need to expand to take into account their dynamic structures, spatial spreads, and ability to exploit economic, cultural, governance-based and geopolitical differences to their advantage.

Jaime Mirowsky, Ph.D., Center for Environmental Medicine, Asthma and Lung Biology, Environmental Protection Agency, Human Studies Facility, University of North Carolina, Chapel Hill Department

Cellular Systems to Assess the Toxicology of Air Pollutants and Introduction to Alternative Careers in Toxicology

Toxicology is the study of the adverse effects of chemical, physical, or biological agents on living organisms (i.e. humans, animals) and the ecosystem (i.e. plants, water and air quality). In studying toxicology, scientists work to classify, prevent, and ameliorate such adverse effects. The broad scope of toxicology, from the study of fundamental mechanisms to the measurement of exposure, requires an extensively interdisciplinary approach. This approach utilizes the principles and methods of a variety of disciplines, including molecular biology, chemistry, physiology, medicine, computer science, and informatics. While very few undergraduate institutions offer toxicology as a degree, graduate programs in toxicology or toxicology-related disciplines are numerous throughout the world and growing. Thus, this presentation is put together to help educate undergraduates about toxicology and discuss opportunities and careers in this field. Specifically, in this talk I will go into further detail about what toxicology is, what toxicologists do, careers available in toxicology, and concepts in toxicology. Furthermore, I will also discuss ongoing work using cellular systems to assess the toxicity of air pollutants (i.e. nitrogen dioxide, ozone, and air particulates) and previous work using human test subjects to assess changes in physiology after the subjects inhale air pollution from various sources.

Daniel Molczyk, Computer Science Department

Jared Van Dyk, Computer Science, Undergraduate Student

Performance Study of Multi-Core System

Multi-core architectures have become the main stream in general-purpose computers and digital signal processors. Various multi-core programming approaches have been developed. How to measure and compare performance among different multi-core platforms is an important issue. We adopted PHY 4G

LTE, the newest benchmark, rewrote it for different multi-core programming approaches, tested them on different multi-core platforms, and compared their performance. The experiment results and data analysis will be presented.

Student Worker Fund, College of Science and Health

Emily A. Monroe, Biology Department

Uncovering the Mysteries of Toxin Production in the Florida Red Tide Dinoflagellate, Karenia brevis

Karenia brevis is the Florida red tide algae that causes negative environmental and human health impacts through the production of a suite of potent neurotoxins, the brevetoxins. However, the molecular mechanisms and environmental factors that influence *K. brevis* toxicity remain poorly understood. To gain insight into the molecular mechanisms involved in toxicity, we are currently studying the physiological and molecular differences between non-toxic and toxic sub-strains of the *K. brevis* Wilson isolate. Under standard growth conditions, the non-toxic sub-strain has a higher growth rate than the toxic strains, 0.86 div/day and 0.52 div/day, respectively. The non-toxic strain also enters stationary phase earlier than the toxic strain and does not maintain stationary phase as long as the toxic strain. Both of these growth differences suggest there are physiological differences between the sub-strains, which may contribute to observed differences in toxicity. Based on previous data that suggests a link between chloroplast metabolism and toxicity, we also examined the effects of high light intensity, twice the normal light intensity, on growth, toxicity, and gene expression of both sub-strains. High light intensity appears to extend stationary phase in the non-toxic sub-strain while there is no observed difference in growth in the toxic strain suggesting a difference in physiological response to high light between the sub-strains. Toxin and gene expression analyses will provide additional insight into the effects of high light on the non-toxic sub-strain and shed light on the underlying molecular mechanisms involved in toxicity of this harmful algal bloom species.

Assigned Released Time for Research (ART) and the Center for Research, College of Science and Health

Christopher F. Mulrine, Special Education and Counseling Department

Ismael Flores-Marti, Kinesiology

Teaching Students with Attention Deficit Hyperactive Disorder in General Physical Education Classrooms

Physical education is important for all students, especially those diagnosed with ADHD. It is a challenge for teachers to know their pedagogical content knowledge and managerial knowledge and apply them to classrooms with students with ADHD. In this presentation strategies will be provided for teachers to include students with disabilities within their units and lessons. When the general physical education teacher has an understanding of the behavioral and academic challenges faced by these students and an understanding of their educational considerations, they will increase their confidence and help these students reach their full potential.

Assigned Released Time for Research (ART)

Ezequiel Munoz, Kinesiology Department

Michael A. Figueroa, Kinesiology; James Manning, Kinesiology

Vigorous and High Intensity Training with an Anti-Gravity Treadmill

Purpose: The purpose of this study was to compare two different training intensities on and anti-gravity treadmill and to determine whether or not one elicited changes that were more favorable. **Methods:** Pre and post measures of oxygen consumption (VO₂peak), body fat (BF)% and body mass index (BMI) were collected on twelve subjects, which were divided into 2 groups. Group 1 trained at 80% body weight (BW) 3 x / week, for 8 weeks, at 70% heart rate reserve (HRR) for 30 minutes. Group 2 trained at 90% BW, 2 x / week, for 6 weeks, using an interval protocol of high intensity. This protocol consisted of a 30 second sprint, followed by a 1.5 minute walk, which was repeated for a total of 8 sets. **Results:** No significant differences were found between groups prior to or after training. Weight, absolute VO₂ (L min⁻¹), BF% and BMI were significantly different after training within group 1, but not group 2.

Group Pre Post P

Weight 1 77.9 ± 18.0 76.0 ± 17.6 0.001 (kg) 2 77.9 ± 12.8 77.5 ± 12.6 NS

Peak VO₂ 1 2.9 ± 0.6 3.2 ± 0.7 0.048 (L/min-1) 2 3.7 ± 0.8 3.8 ± 0.8 NS

Peak VO₂ 1 38.2 ± 9.4 41.8 ± 10.8 NS (ml/kg/min) 2 46.5 ± 2.8 48.7 ± 3.0 NS

%BF 1 19.6 ± 5.5 19.0 ± 5.7 0.027

2 17.3 ± 2.7 15.3 ± 3.6 NS

BMI 1 27.2 ± 4.8 26.6 ± 4.7 0.006

2 25.9 ± 2.1 25.7 ± 2.0 NS

Conclusion: Training on an anti-gravity device was able to maintain and/or improve weight, aerobic capacity and body composition values using a lower percentage of BW. This is favorable for individuals who are either injured or require lower impact training.

Kinesiology Department, College of Science and Health, and the Provost's Office

David Nacin, Mathematics Department

Puzzles for Non-standard Number Systems

The popular logic puzzle commonly known as KenKen was invented to teach people about numbers and basic mathematical operations. There is no reason that these puzzles cannot also be created over less familiar associative mathematical structures. We discuss a particular way this can be done and the conditions required for a solution to be unique.

Assigned Released Time for Research (ART)

Neeraja Nannapaneni, Exercise Science Department

Gordon Schmidt, Graduate Coordinator, Exercise and Sports Studies.; Michael Cox, Graduate Student, Exercise and Sports Science; Robert Boutote, Graduate Student, Exercise and Sports Science

Isokinetic Testing to Determine Muscle Fiber Type Distribution

Introduction: The purpose of this study was to examine if the isokinetic dynamometer is capable of distinguishing muscle fiber between men and women. Subjects: Fourteen participants (7 men and 7 women) of various fitness levels and a general background in exercise and performance testing volunteered for this study. Procedures: Proper calibration and set-up procedures of the BIODEX System 3 were conducted prior to testing. Each participant completed a 5-minute warm-up on a stationary bike before testing. The test of Maximal Power consisted of 1 maximal voluntary contraction repetition at 60°/sec. The muscular fatigue test consisted of 1 set of 50 maximal voluntary contraction repetitions at 180°/sec. Results: There were significant differences between men and women for Power and Peak Torque. When comparing the fatigue test results, men show a greater decrease in peak torque and at a faster time to fatigue compared to women from their first 25 repetitions to their final 25 repetitions. Discussion: The results of this study demonstrated that men fatigue faster and at an increased rate compared to women. These tests were inconclusive regarding fiber typing.

Research and Travel Incentive Program

Daria Napierkowski, Nursing Department

The Nursing as an Additional Language and Culture Program (NALC)

Purpose: NALC is an educational intervention designed to enhance retention by minimizing barriers to success in an accelerated baccalaureate nursing program (ABSN).

Methods: The NALC program is pre ABSN program consisting of activities that introduce the nursing student to the language and culture of nursing. Preprogram TEAS testing is administered to provide insight as to students' abilities in the areas of reading, math, English and science.

Results: Prior to adjusting for TEAS scores, the risk ratio for attrition was 0.59 for Whites, 0.96 for non-Whites, and 1.03 among those with unknown race/ethnicity. After controlling for TEAS scores and race/ethnicity, the overall risk of being withdrawn from the program did not differ by NALC participation (RR=0.73, P=0.52). Exploratory analysis found that among those who were withdrawn, there was no difference by NALC participation in whether withdrawal occurred. (46.2%vs. 42.9% $\chi^2(1) = .02, P=0.88$).

Conclusion: In an analysis of five cohorts, the mixed-methods research study yielded positive results. When measured at the end of the fourth semester, attrition was equal between NALC and non-NALC students, and between Caucasian and minority students. Given that TEAS scores were lower, on average, among the NALC participants, an attrition rate equal to students with higher TEAS scores indicates that the NALC program was successful in its goal of reducing attrition for the minority nursing student. NALC students also reported a high level of comfort with the faculty and fellow students and rated program quality excellent.

Timothy U. Newman, Music Department

And...the band: the Thad Jones-Mel Lewis Orchestra as remembered by selected former members

The historical and musical importance of the Thad Jones-Mel Lewis Orchestra is well established. The band combined the complexity, excitement, and power of cutting-edge jazz big band writing and playing with the intimacy, nuance, fluidity, spontaneous improvisation, and interaction normally found in small group jazz. My paper presents in-depth accounts of the band from the perspectives of selected musicians who were members at some point under Jones' direction, between 1965-1978. These accounts provide a window into the musical and social elements integral to the success of the ensemble. The paper is the product of the most recent phase of the Thad Jones-Mel Lewis Orchestra Oral History Project at William Paterson University, which involved collecting, transcribing, formatting, and editing interview data. The paper presents topics and themes of the participants' remembered experiences, including: the music of the band, the players' love and respect for this music, the leaders, and their peers; Jones' musical genius as a player and writer, his mentorship, conducting, and personality; Lewis' musical role in the band; joining the band; playing Monday nights at the Village Vanguard; and the music scene in New York in the 1960s and '70s. The research participants are: Cecil Bridgewater, Garnett Brown, Richard Davis, Jerry Dodgion, Billy Harper, Hank Jones, John Mosca, George Mraz, Rufus Reid and. Edward Xiques. The interviews are housed at William Paterson University (where Jones was the first director of jazz studies) in its Living Jazz Archives.

Research and Travel Incentive Program

Natalie Obrecht, Psychology Department

Dana Chesney, Psychology at The Ohio State University, Post-Doctoral Fellow; Stacey Delos Santos, Cognitive Science, Undergraduate Student

An examination of the logical intuition model of cognition.

According to the logical intuition model of cognition (De Ney & Glumicic, 2008) humans have an intuitive logical mode that runs in parallel with a heuristic processing mode. If the outputs of these two quick processes conflict, one is cued to engage in full analytic deliberation. However, many studies have shown that even when people are aware of conflicting data, they still do not engage in processing that results in them giving a logical answer to a problem. Does this mean people unaware of the information or do they just fail to engage in the analytic processing that should be initiated by the conflict detected between the heuristic and logical systems? We examine this question and also whether people differ in their sensitivity to heuristic and logical conflicts.

Assigned Released Time for Research (ART)

Karen F. Phillips, Nursing Department

The Influence of Quiet Time on Exclusive Breastfeeding Rates at Discharge

Background: Thirteen percent of women are exclusively breastfeeding at 6 months. Quiet Time, a designated rest period for breastfeeding mothers, may help reduce hospital interruptions, postpartum fatigue, and enhance breastfeeding success.

Purpose: The purpose of this study was to investigate the influence of Quiet Time on perception of effective breastfeeding and exclusive breastfeeding rates at discharge.

Study Design and Methods: This was a quantitative correlational study. Two tools were utilized, a demographic with questions about breastfeeding and Quiet Time and the Beginning Breastfeeding Survey. The population was 160 breastfeeding mothers, ages 18-40, who expressed intent to breastfeed prior to delivery. Inclusion criteria were English-speaking mothers who planned to breastfeed exclusively, who delivered infants of at least 37 weeks gestation that required normal newborn care. Data was collected on day of discharge.

Results: Although not statistically significant, the findings showed a higher percentage of exclusive breastfeeding rates among mothers who participated in quiet time (52.5% to 47.5%). However, the relationship between quiet time and the perception of effective breastfeeding proved to have statistically significant results, ($t(178)=.166$, $p<0.05$), which indicated that mothers who participated in quiet time, ($m=123.58$, $sd=13.560$), perceived their breastfeeding experience more effective than mothers who did not, ($m=119.58$, $sd=16.644$).

Clinical Implications: Quiet time, when implemented consistently, could be considered a strategy for future use in studies focused on improving exclusive breastfeeding rates. Increasing breastfeeding rates could lead to improved future health outcomes.

Assigned Released Time for Research (ART)

Lindsay Prewitt, Public Health Department

The Spirit Catches You and You Fall Down: An Important Teaching Tool

According to the Centers for Disease Control, health disparities are, “preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations.” Research has indicated that immigrant populations are often disadvantaged due to a variety of factors including lack of health care coverage, less access to care, difficulty navigating the healthcare system, and related factors.

Cultural competence is the ability to treat people of different backgrounds and cultures the same while keeping their traditions and practices in mind. It is a major advantage for future public health majors to strive for cultural competence for many reasons such as aiding people of different cultures when navigating the Western medical system. One goal of Healthy People 2020, is to eliminate disparities, and improve the health of all groups. As such, learning about health disparities and cultural competence should be essential components of undergraduate public health programs. *The Spirit Catches You and You Fall Down* is one teaching tool that could serve as a way to integrate this into the curriculum. The purpose of this presentation is to present the specific ways this book can be incorporated in class and reactions it elicits.

Lily Prince, Art Department

Drawings and paintings done in and/or inspired by artist residency in Italy, summer 2013.

I will project and discuss drawings and paintings done in and/or inspired by artist residency in Italy, summer 2013.

Research and Travel Incentive Program and the Artist residency in Otranto, Italy, summer 2013 funded in part by The BAU Institute

Kara Rabbitt, Dean's Office, Humanities and Social Sciences Department

Sherle Boone, Psychology; Mark Ellis, Sociology; Terry Finnegan, History; Elena Sabogal, Women's and Gender Studies, Latin American and Latino Studies

Identities in Construction, Identities in Conflict

Ryan J. Rebe, Political Science Department

Examining the Link between Dollars and Decisions:

A Multi-State Study of Campaign Contributions and Judicial Decision Making

Attorneys are one of the largest sources of campaign contributions to elected judges. This article examines the causal connection between attorney contributions and judicial decisions and the efficacy of electoral reforms intended to curb the influence of money in elective states. The results show that contributions are a significant predictor of appellant success in state supreme courts when the judges receive contributions from the attorneys for the appellant. However, in this sample of 400 cases from 16 state supreme courts, the impact depends on the competitiveness of the judicial seat, ballot type, and contribution limits. The analysis shows that judges who received a low percentage of the vote in the previous election are more likely to favor contributors than judges who received a high percentage. This evidence bolsters the argument that contributions directly affect voting when judges feel electoral pressure. Moreover, the relationship between contributions and votes is stronger in states with partisan ballots and high contribution limits.

Rachel Reeves, Public Health Department

Corey Basch, Public Health

YouTube Study on Colonoscopy Preparation

YouTube has become an increasingly influential tool for the average consumer in recent years, comprised of everything from professional accounts to deceptive consumer reviews that have the power to skew the minds of the general public. This research study aims to assess the percentage of reliable and unreliable information gathered on YouTube related to the colonoscopy preparation procedure and determine how this information may affect the viewer's decision to be screened for colon cancer. YouTube videos pertaining to colon cancer preparation were identified and sorted according to the number of views. Videos were categorized into consumer focused or professional focus. One hundred videos produced by consumers (general public) and one hundred videos produced by professionals were analyzed by content. The following categories were enumerated: providing information was the intent of the video, importance of completing the preparation, several different types of preparation medication were addressed, palpability of the preparation was addressed, the video was based on experience, painful, timely, disgusting, embarrassing, addressed sleep deprivation, hunger, difficulty, and fear. This poster presentation will highlight the results of the study.

Breana Reiman, Sociology Department

More students are becoming independent and seeking employment- but will that job ultimately affect their GPA?

In this study, I test the relationship between employment outside school and academic performance. The idea of my research is to determine if having a job affects a student's GPA. Ultimately, does having a job affect a student's academic performance? The sample contains 152 college students at William Paterson University in New Jersey. I use a quota sampling which assures the same characteristics of the population. I hypothesize that being employed has a negative effect on a student's GPA and therefore, employed students will have a lower GPA than students who are unemployed. All analyses are conducted using SPSS. I run the comparison of means to test my hypothesis. According to my results, I find that the average GPA of employed students is slightly worse than the average GPA of those students who are unemployed. Yet, the difference is not significantly different. Overall, my hypothesis is not supported.

Adonis T. Rivie, Biology Department

Kevin Martus, Physics Department, Jaishri Menon, Biology Department

The Effect of Cold Atmospheric Pressure Plasma on Tail Regeneration of Tadpoles Xenopus Laevis

In the present study we have investigated the effect of plasma on wound healing and the tail regeneration in tadpoles, *Xenopus laevis*. Amputated tail was immediately exposed to helium plasma for trials of 40 and 60 seconds. The plasma was generated inside a quartz tube with a single electrode powered by an AC voltage

(15kHz) having peak-to-peak voltages of 18kV. The feedstock gas was Helium flowing at 50 sccm that ultimately produced optically emitting species in the discharge region that included Helium, Nitrogen and OH radicals. In situ staining for NO and immunohistochemistry for nitric oxide synthases, neuronal (nNOS) as well as inducible (iNOS) and VEGF was carried out 24 h and 5 days post amputation.

Our results show that the closure of the wound, re-epithelization, as well as rate of growth of the regenerating tail was faster in plasma treated tadpoles. In situ staining for NO indicated its increased production which might be responsible for increased VEGF production. Increased number of nNOS and iNOS positive cells in regenerate of experimental tadpoles might be attributable to role of NO in cell communication, stress and angiogenesis.

This material is based in part upon work supported by the National Science Foundation under Grant Number 1040108.

Natalie Santillo, Kinesiology Department

Michael A. Figueroa, Kinesiology; Toni LaSala, Kinesiology; James Manning, Kinesiology

Ventilatory Threshold Responses at Different Percentages of Body Weight on the Alter-G Anti-Gravity Treadmill: A Pilot Study

Purpose: The purpose of this study was to determine if changes occurred in the ventilatory threshold (VT) upon manipulation of body weight (BW) when comparing 80% to 100% of BW in healthy college aged individuals on the Alter-G® anti-gravity treadmill. **Methods:** A modified Bruce Protocol was used to measure oxygen consumption (VO₂peak) on 10 subjects (5 males, 5 females) at 100%, and 80% of BW. Testing protocols were randomized with two weeks in between each test. VT was determined by the software algorithm in the MedGraphics Ultima Series (St. Paul, MN) open exchange spirometer.

Results: Gender did not significantly affect relative VO₂peak or VT at either percentage of BW. No significant differences were found with regards to

VO₂peak (ml/kg/min) or VT at 100%BW or 80% BW ml/kg/min %

VO₂peak at VT VO₂peak 80% 42.2 ± 6.5 VT 80% 57.7 ± 18.7 ,

VO₂peak 100% 43.0 ± 8.7 VT 100% 54.0 ± 14.1

Conclusion: Upon the unweighting of a subject on the Alter-G® anti-gravity treadmill, individuals are able to train at similar intensities at 80% and 100% of BW. Since the unweighting produced similar metabolic responses, one could suggest that those with orthopedic limitations, who are not fully weight bearing, can maintain their cardiovascular conditioning. This type of training may also be advantageous for athletes who wish to reduce musculoskeletal strain within their training.

Kinesiology Department, College of Science and Health, and the Provost's Office

Julie Siddique, Sociology Department

Age, Marital Status, and Risk of Sexual Victimization:

Similarities and differences across victim-offender relationships

By now, age and marital status are well-established correlates of criminal victimization, including sexual victimization. For adult women, numerous studies have found that younger women and single women experience higher risk of sexual victimization as compared to older women and married women. Few studies, however, have examined the relationship between these demographic characteristics and risk of victimization across different situational contexts of sexual victimization. The current study uses a case-control sampling methodology and data from the National Crime Victimization Survey (NCVS) to examine whether the relationship between these demographic characteristics and risk of sexual victimization varies across three victim-offender relationships: stranger, acquaintance, and intimate partner. The findings indicate both similarities and differences in the relationship between age, marital status, and risk of victimization across the three victim-offender relationships. As expected, age was a significant predictor of

victimization in all models; however, younger women's increased risk of victimization was more pronounced for acquaintance and intimate partner victimization experiences as compared to stranger experiences. Similarly, as expected, single women were at higher risk of victimization in all models; however, separated women were at highest risk of both intimate partner and acquaintance victimization experiences as compared to never married or divorced women. Implications for theories of sexual violence and victimization are discussed.

David H. Slaymaker, Biology Department

Michael S. Peek, Biology; Joanna Wresilo, Biology, Undergraduate Student; Danielle C. Zeltner, Biology, Undergraduate Student; Yasmeen F. Saleh, Biology, Undergraduate Student

Genetic Structure of Native and Restored Populations of American Beachgrass (Ammophila breviligulata Fern.) Along the New Jersey Coast

Ammophila breviligulata Fern. (American Beachgrass) is planted extensively along the Atlantic coast of North America and in the Great Lakes region to stabilize damaged and constructed coastal dunes. Most *A. breviligulata* restorations are planted with a single cultivar for rapid dune stabilization. Restoration practice, however, is increasingly focused on maintaining native genetic diversity and restoring ecological services and function. We used inter-simple sequence repeat (ISSR) markers to characterize the genetic structure of four native and four restored *A. breviligulata* populations along the coast of New Jersey on the northeastern Atlantic coast of the United States. Native populations had high levels of genotypic diversity for a clonal species, whereas restored populations on constructed dunes had low diversity or were monotypic. Commercial varieties used in dune restoration were not found in native populations. Native foredune populations were composed of many small to medium sized clones, while a rear-dune population was dominated by a single large clone. Genetic differentiation was low among native foredune populations. These results, discussed in the context of other clonal and coastal dune species, suggest that sexual recruitment plays an important role in determining the genetic structure of *A. breviligulata* populations, that gene flow has occurred among populations along the New Jersey coast, and that native New Jersey populations could provide genotypically diverse plant material for local restoration efforts.

Assigned Released Time for Research (ART) and the Center for Research, College of Science and Health

Lories Slockbower, Educational Leadership and Professional Studies Department

Writing for the World, Learning for Yourself: Using technology to promote language arts competencies of at-risk, ELL students from a high-needs urban high school who want to become teachers

How do you use technology to promote language arts competencies of at-risk, ELL students from a high-needs high school in Paterson, NJ- especially if those students are interested in a future in teaching but may be well below college and career-readiness proficiencies? Many of the students from Paterson struggle to meet basic academic requirements, with few resources and support from parents or the community. In this interactive presentation, I will discuss a project in which students in my Introduction to Children's Literature wrote storybooks for young children in Namibia. The books were shared with Grade 1 students at Moses van der Byl primary school, making the assignment authentic and purposeful. As part of the book-writing process, students explored concepts such as author's voice, storyline and thematic arc, and in the process of reading the stories, had to think about audience engagement, and English language fluency as well as their own speaking skills. The Namibian children were videotaped during the time that they were read the stories, and these were used as feedback for the students in my class. By participating in a writing assignment that was realistic and engaging, my students were able to think about the ways in which storybooks can be used to provide instruction as well as entertainment.

This project has been accepted for presentation at the International Society of Technology in Education (ISTE) annual conference.

Dean's Office, College of Education, and the Graduate Student Research and Scholarship Program

Joseph Spagna, Biology Department

Adonis Rivie, Biology, Undergraduate Student

Molecular Phylogenetics North American Grass-spiders, including new species from Baja, Mexico

The family Agelenidae C.L. Koch 1837 is large (42 genera, 490 described species) with a high level of endemism in the western North America, and California in particular. Spiders from this family have also been used as models for toxicological and behavioral research. Despite this, to date little phylogenetic work has been done on these taxa, thus there is little information on the evolutionary context for this research. In the Agelenidae, there have been eight genera (Hololena, Rualena, Calilena, Novalena, Agelenopsis, Barronopsis, Tortolena, and Melpomene) classified in the subfamily Ageleninae, tribe Agelenopsini, endemic to North and Central America. In the past year, an additional genus (Rothilena) has been described from Northern Mexico. Combined and individual phylogenetic analyses of molecular sequence data from mitochondrial (cytochrome oxidase 1 and 16S ribosomal DNA) and nuclear (28S rDNA) genes from 25 representative species support monophyly of a group confined to the Western North America (Calilena + Hololena + Novalena + Rualena + Rothilena), exclusive of other North American Agelenidae, including the more widespread Agelenid genera Agelenopsis, Barronopsis, and Tegenaria. This generally supports previous geographical and morphological hypotheses, but leaves a small number of taxa, including Tortolena, with unclear recent ancestry.

Assigned Released Time for Research (ART), Center for Research of the College of Science and Health, and the WPU Student Undergraduate Research Program

Sara Spoelstra, Communication Disorders and Sciences Department

Sara Spoelstra, Communication Disorders and Sciences, Graduate Student; Stephanie Polito, Communication Disorders and Sciences, Graduate Student; Vishwa Bhat, Communication Disorders and Sciences

Speech Perception Abilities with and without Amplification Devices in Elderly Population

The state-of-the-art amplification devices are designed to provide sound enhancement with greater clarity even in difficult to listen conditions. The purpose of the study was to determine what benefits the hearing aids provide in speech perception for elderly individuals with sloping mild-moderate sensorineural hearing loss in both ears when the background noise, distance from the speaker, and utterance length were manipulated. There are 12 individuals between 70 and 85 years old will participate in the study. Their responses for word and sentence list consisting of 15 items in each will be obtained with and without the hearing aids. In addition, the participant's responses will be measured at 3 and 15 feet away from the speaker as well as in a condition with a background speech babble presented at 10 dB below the intensities of words and sentences. We predict that the individuals will perform better with hearing aids. In addition, given the fact that the technological advances in hearing aids must enable hearing aid users comprehend speech in difficult to listen conditions such as background noise and distance from the speaker, we predict that our hearing impaired participants perform relatively well in comparison to optimal listening conditions. Finally, comprehension of words versus sentences will be assessed and we predict that comprehension of sentences will be better because of inherent benefit of contextual cues.

Bogong Su, Computer Science Department

Erh-Wen Hu, Computer Science

Instruction level Loop De-optimization -- Loop Rerolling and Software De-pipelining

Decompilation techniques have been applied to many areas in computer science such as porting legacy software written in assembly language to new architectures, re-optimizing assembly code, detecting bugs and malware. Instruction level loop optimization is a technique extensively used in modern compilers; therefore instruction level loop de-optimization is a critical issue in decompilation. In this presentation we introduce our methodology toward instruction level loop de-optimization consisting algorithms for loop

rerolling and software de-pipelining. We demonstrate our approach with results obtained from experiments carried out on modern digital signal processors.

Assigned Released Time for Research (ART)

Jitwipar Suwangbutra, Psychology Department

Michael S. Gordon, Psychology

Skull Music: Influences of Head Resonant Frequencies on Musical Preferences

The shape, size, and density of the human skull create a powerful resonating cavity around the cochlea (inner ear) that is relatively unique for each listener. Consequently, just as the external listening environment (e.g., concert hall) and shape of the pinnae (outer ear) can contribute to sound and music preferences, so might the skull itself. This research explores a novel method for capturing the resonant characteristics of the skull in a test of whether the skull affects musical preferences in a subjective rating task. In this study, musical selections were presented at varying musical keys and the fundamental frequencies of those keys were regressed against the resonating frequency of the skull. Findings from this research suggest the subtle influence of the skull in shaping our listening preferences.

Assigned Released Time for Research (ART) and the Research and Travel Incentive Program

Lisa S Swarn, Biology Department

Using DNA Extraction for the Detection of Autoclaved Pseudogymnoascus destructans, the cause of White-Nose Syndrome in Bats

Pseudogymnoascus destructans is a cold loving fungus that is responsible for White-Nose Syndrome, which has severely depleted the northern and southern eastern American bat populations. This fungus attacks bats while hibernating, causing a high mortality rate due to depleted fat reserves and the inability to find food during the winter. Detecting Pseudogymnoascus destructans has been problematic because it is a Biocontainment level 3 and the spreading of this contagious fungus is a real concern. We are working to overcome the limitations of the Biocontainment level 3 requirements for handling of this organism by autoclaving the collected samples first, then safely extracting DNA. We used a simple, Guanidine Isothiocyanate / Sodium Dodecyl Sulfate DNA extraction, which showed DNA for universal fungi but not for the specific Pseudogymnoascus destructans. Thus, a more aggressive DNA extraction using Cetyltrimethyl ammonium bromide from autoclaved samples is tested. By using these DNA extraction techniques, bat populations could be saved and researchers can safely detect Pseudogymnoascus destructans in areas without the risk of contamination to the lab and the local bat population.

Kristin Urena, Psychology Department

Catie Hoolihan, Psychology, Undergraduate Student; Karl Schroeder, Psychology, Undergraduate Student

Gender Stereotypes: Past and Present Comparison

Over 30 years ago Deaux and Lewis (1983) showed that gender stereotypes were not simply about traits but also included role behaviors, physical characteristics, and occupations. Our aim was to replicate and extend this research to (a) determine if the components to gender stereotypes remain strong (b) update knowledge on the component of gender stereotypes. Following Deaux and Lewis's procedure, a first study had participants generate associations to the category man, woman, masculine, feminine, female gender role, or male gender role. In a second study, the items generated from study 1 were grouped into five category groups: traits, role behaviors, occupations, physical characteristics and a new category "objects or places". Participants then rated the likelihood that the average person, average man, or average women had each of the items in the components. Preliminary results indicate that the components of gender stereotypes have remained consistently strong between 1983 and 2014.

Denisse Velez, Biology Department

Growth Differences Between Toxic (GB Wilson) and Non-toxic (NTB Wilson) Sub-strains of Karenia brevis, the Florida Red Tide Dinoflagellate

Karenia brevis is the Florida red tide dinoflagellate that forms near annual blooms causing negative environmental and human health impacts because of the production of brevetoxins. However, underlying molecular mechanisms and environmental factors that contribute to toxicity are poorly understood. Recent studies have shown that growth rate and physiological state influence *K. brevis* toxicity. The goal of this study was to examine growth differences between a toxic and non-toxic sub-strain of the *K. brevis* Wilson isolate. To establish optimal growth conditions, we first tested the growth of *K. brevis* in two commercially available seawater mixes, Instant Ocean and Coral Life. Growth curve analysis showed Coral Life was the better seawater mix for optimal growth conditions for both toxic and non-toxic strains. We then tested the hypothesis that there are differences in growth rate between the non-toxic sub-strain (NTB Wilson) and toxic sub-strain (GB Wilson). Triplicate cultures of both sub-strains were grown under standard growth conditions (seawater at 36 ppt with f/2 media, on a 16:8 light:dark cycle, and light intensity ~55 micromole photons s⁻¹m⁻²). Every two days, one milliliter samples were collected and fixed with 2% glutaraldehyde. Cell counts were performed using a Palmer counting chamber to determine cell concentrations, and growth curves of the two sub-strains were generated. Differences in growth rates observed between the two sub-strains will provide insight into the relationship between growth rate and toxicity in the non-toxic sub-strain and increase our understanding of toxin production in this toxic species.

College of Science and Health

Ronald Verdicchio, Elementary and Early Childhood Education Department

Eman Al-Jayeh, UG Prospect Park Community Study Group; Kelly Ginart, UG Prospect Park Community Study Group; Bria Barnes, UG Prospect Park Community Study Group; Paige Rainville, UG Prospect Park Community Study Group; Megan Perry, UG Prospect Park Community Study Group; Amani Kattaya UG Prospect Park Community Study Group; Sara Johnson, UG Prospect Park Community Study Group; Philip Gorokhovsky, UG Prospect Park Community Study Group; Rita Vander Stad, UG Prospect Park Community Study Group

A Cultural Transformation of a Small Urban Community: A Community Study

This community study shows how a small urban-suburban community has been transformed by immigration and migration patterns. The community under study was originally founded by Dutch immigrants in 1901 and has experienced an influx of newcomers with diverse cultural, religious, and political backgrounds. Our study aimed to address the following questions: How has the cultural make-up of the community changed overtime, how has the school apparatus adjusted to newcomers, how have the newcomers adjusted to the school experience, and what role does religion play in the community? To address these questions we employed ethnographic field methods of participant observation, oral history, archival research, and interviews that provide a holistic view of our findings. Our findings suggest a subtle divide between long-time and new residents stemming from a struggle to maintain traditional values. We have found that the community has remained remarkably intact given the dramatic cultural changes in the make-up of the community. In our presentation we will report on how the community maintained cultural traditions through public ritual; revelations uncovered about the community's role in the Paterson Silk Strike of 1913; and how religion and public institutions have tethered former residents to the community. We will briefly report on preliminary findings about the school community and our forthcoming publication: *Images of America: Prospect Park*.

Kristen Victorino, Communication Disorders and Sciences Department

Attention Control in Children With and Without Language Impairment: Visual, Auditory, and Dual-Modality Performance

Children with Specific Language Impairment (SLI) have exhibited slower processing and inefficient selective attention, as well as limitations on a range of tasks that require dual processing, working memory, and

executive function skills. In the current study, control of attention was examined in single modalities (auditory only, visual only) as well as in dual-modality (auditory and visual) conditions. Children were instructed to either focus on one side of the computer screen (visual condition), or to one ear through headphones (auditory condition). They were presented with simultaneous pairs of stimuli, followed by an individual target. Their task was to determine whether the target stimulus was the same as, or different from, the attended stimulus. In the dual modality condition, subjects are presented with auditory words, followed by a visual target. Levels of interference were increased by manipulating the distractor (to-be-ignored) stimulus. The target may have been unrelated to either initial stimulus, the same as the attended stimulus, or the same as the ignored stimulus. Results of a previous experiment showed that children with typical language development take longer to respond when the target matches the to-be-ignored stimulus; indicating higher cognitive load in that condition. Data to be presented will include reaction time and accuracy measures for a group of typically developing children, ages 8-12. Additionally, pilot data for children with language disorders, including those with SLI and autism spectrum disorders, will be presented.

Center for Research, College of Science and Health

Miryam Z. Wahrman, Biology Department Department

Henry Raab, Biology Department, Graduate Student; Raahi Upadhyay, Biology Department, Graduate Student; Jigna Patel, Biology Department, Graduate Student; Melanie Colon, Biology Department, Undergraduate Student

Bacteria on Fomites: survival, growth and transfer from fomite to fomite

In recent years medical facilities have been plagued by strains of antibiotic resistant bacteria, or so-called “superbugs,” that are increasingly difficult to treat in patients and eradicate from the environment. In light of these mounting challenges, it has become more important than ever to learn about the interaction of bacteria with environmental surfaces, or fomites, and how they are transferred from surface to surface. We studied the survival, growth and transfer of *E. coli*, *S. epidermidis*, and *B. subtilis* on various surfaces and tested environmental materials for the presence of contaminating bacteria. Endogenous bacteria are found on newspapers, fabrics and other common surfaces. We compared and developed methods for decontamination of fomites. Sterile surfaces were exposed to bacteria and incubated for varied periods; transfer of bacteria from fomite to fomite was investigated. Ultraviolet light, hypochlorite and hydrogen peroxide had varying effects on bacteria found on fabrics and other surfaces. Bacterial transfers from fabric to fabric, and to glass, paper and plastic were studied, showing that nylon and microfiber transfer bacteria at reduced levels. Bacteria survive for days on paper money and can readily transfer between paper currency and latex gloves. Transfer of bacteria was also demonstrated between wood and glass surfaces, and wood and stainless steel. Bacteria can survive for significant periods of time and fomites can readily transfer bacteria to other surfaces from hours to weeks after inoculation.

Assigned Released Time for Research (ART) and the Student Worker Fund, College of Science and Health

Lisa Warner, Elementary and Early Childhood Education Department

How Middle School Math Teachers Dealt with Situations in which They ‘Didn’t Know How to Respond’ to a Student’s Idea

In this presentation, I will report on the ways in which several middle school math teachers dealt with situations in which they did not understand the ideas that were being generated by their students. I will share their strategies and how this impacted the mathematical trajectory of the lessons. This paper is based upon research that took place over the course of a year-long professional development project (PD) in which researchers partnered with teachers in several school districts. A central aspect of this work involved regularly scheduled PD sessions with these teachers in which the teachers solved cognitively complex problems with an eye toward using them with their own students. The findings underscore the important relationship that exists between how the teachers understood and solved the problem, and the ideas that

they embraced in the classroom. Such an analysis has the potential to help researchers and teacher educators better understand how to help teachers as they deal with issues that may arise in their practice as students solve complex problems.

Assigned Released Time for Research (ART), and the "Math Next" Project (funded by the New Jersey Department of Education through a subcontract from Rutgers University)

Jamie L Weiss, Biology Department

Jasmine Wood, Biology, Undergraduate Student; Walter Barr, Biology, Undergraduate Student

Examining the Interaction of an Important Regulator of Neurotransmission (NCS-1) and Neuronal Nitric Oxide Synthase: Implications for Autism

Calcium (Ca²⁺) signaling is the main process that neurons use to undergo neurotransmission. Neuronal Ca²⁺ Sensor-1 (NCS-1) is Ca²⁺-sensing protein that is an important signaling regulator of neurotransmission. NCS-1 is implicated in synaptic plasticity as well as neurodegenerative and cognitive disorders. NCS-1 regulates Ca²⁺ channels but the exact mechanism is unclear. NCS-1 mediates dopamine signaling by regulating D2 dopamine receptor cell surface expression. Nitric Oxide (NO) is a gas essential for neuronal differentiation and functions as a retrograde neurotransmitter. However overproduction of NO is implicated in neuronal injury and neurodegeneration. High nitric oxide levels have also been linked to autism. NCS-1 has been reported to potentiate Nitric Oxide Synthase (NOS). We depolarized PC12 cells causing Ca²⁺ influx via voltage-gated Ca²⁺ channels and examined the effect on NO levels in cells transfected with NCS-1 mutants predicted to disrupt Ca²⁺ signaling pathways. We have confirmed that NCS-1 potentiates NOS in PC12 cells. Our data also suggest that over-expression of an autistic mutant of NCS-1 (NCS-1R102Q) may lead to increased NO production all round seemingly with no Ca²⁺ inducible NOS activity. Our hypothesis is this is via a direct effect of NCS-1 on the neuronal (nNOS) enzyme. We are conducting colocalization studies to examine possible interactions of NCS-1 and neuronal nNOS. We have preliminary data that show NCS-1 and nNOS colocalization. Our current working hypothesis is that NCS-1 aids in the subcellular translocation of nNOS.

Assigned Released Time for Research (ART), the Center for Research, College of Science and Health, and the Garden State Louise Stokes Alliance for Minority Participation in the Sciences (funded by the National Science Foundation through a subcontract from Rutgers University), and The Roche Foundation

Amanda Yglesias, Sociology Department

Commuting to School and Academic Performance among College Students

In this study, I test the relationship between commuting to school and academic performance. The idea of my research is to determine if commuting to school has an effect on students' GPA. Ultimately, does commuting to school affect student's academic performance? The sample contains 152 college students at William Paterson University in New Jersey. I use a quota sampling which assures the same characteristics as the population. I hypothesize that commuting to school has a negative effect on a student's GPA and therefore, those students who commute to school will have a lower GPA than students who live on campus. All analyses are conducted using SPSS. I run the comparison of means to test my hypothesis. According to my results, I find that the average GPA of those students who commute is slightly worse than the average GPA of those students who live on campus. Yet, the difference is not significantly different. Overall, my hypothesis is not supported.

Yan Yu, Communication Sciences and Disorders Department

Neurophysiological Indices of Mandarin Lexical Tone Processing: The Role of Language Experience and Memory Trace Decay

Language experience enhances discrimination of speech contrasts at both behavioral and brain level. The enhanced sensitivity could be the result of changes in acoustic resolution and/or long-term memory representations of the relevant information in auditory cortex. This study used a short (ca. 600 ms) versus

long (ca. 2600 ms) interstimulus interval (ISI) in a passive, oddball discrimination task to examine these possibilities. Brain measures using event-related potential (ERP) and behavioral discrimination responses were collected. The results revealed that reduced ERP responses in the English group under the short ISI conditions, especially for the hard sound contrasts. Lack of robust ERP to tone contrasts in English listeners under the long ISI condition suggests that that language experience modulates neural representation of lexical tones. They also suggest that the acoustic correlates of tone are fairly robust and easily discriminated at short ISIs regardless of language background. At longer ISIs beyond 2.5 s language-specific experience is necessary for robust discrimination.

Center for Research, College of Health and Science.

He Zhang, Art Department

Between the Steppe and Tarim - Scythian Art Motif in the Ancient Textiles in Northwest China

The study compares the iconography in the textiles dated between 4th century BCE and 2nd century CE found in two oasis towns in the Tarim Basin, northwest China, and the artifacts of earlier and same time found in Pazyryk culture sites in Russia, Kazakhstan, and Mongolia in the Great Steppes. The shared figurative motifs of deer, griffin, and other mythical creatures in both the Steppes and Tarim desert, demonstrate a close relationship between the nomadic Scythian-Sakas in the north and sedentary peoples in the south. Similar styles with distinctive variations in the two areas also demonstrate continuous traditions and new development and regional differences. The relationship indicates that the peoples in the Tarim oases might originally come from the Steppe, and that they still kept their cultural and artistic traditions once they moved to and settled in the Tarim.

Assigned Released Time for Research (ART) and the Summer Research Grant, College of Arts and Communication



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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 sponsors 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. Stephen W. Hahn, Associate Provost for Academic Affairs in the Office of the Provost and Senior Vice President for Academic Affairs.

Staff	OSP Publications	Databases and References
<p>Martin B. Williams, Director <i>WilliamsM@wpunj.edu, 973-720-3263</i></p> <p>Lourdes L. Bastas, Assistant Director for Pre-Award Services <i>BastasL@wpunj.edu, 973-720-3794</i></p> <p>Maureen Peters, Program Assistant <i>Batesb@wpunj.edu, 973-720-2852</i></p> <p>Open, Post-Award Coordinator</p> <p>Shawn Carroll, Graduate Assistant <i>grants@wpunj.edu, 973-720-2852</i></p>	<p><i>Dates, Updates and Insights (DUI)</i>, a weekly subject-based funding opportunity email</p> <p><i>The STAR Report</i>, a newsletter report on funding issues and WPU successes</p> <p><i>OSP Website</i></p>	<p>On-line Databases & Resources</p> <p><i>GrantSearch</i></p> <p><i>Pivot: Funding Connected</i></p> <p><i>Grants.Gov</i></p> <p>Grant Resource Center/AASCU</p> <p>Directories and guides on proposal development and project management.</p>

Dr. Stephen W Hahn,
 Associate Provost of Academic Affairs
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WPU Grant Approval Process

Proposals that will be submitted through the OSP 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 **Project Approval Sheet** at least five days before the deadline. Applicants working with the OSP generally require less review time. The Project Approval Sheet is available in several formats on the OSP webpage: www.wpunj.edu/osp

OSP Workshop Series		
March 25	Toolkit for Finding Grants: Elements for a Successful Grant Search	12:30 to 1:45 Science East, 3054D
March 27	Toolkit for Finding Grants: Elements for a Successful Grant Search	12:30 to 1:45 Science East, 3054D
April 8	Toolkit for Finding Grants: Elements for a Successful Grant Search	12:30 to 1:45 Atrium, 123A
April 10	Toolkit for Finding Grants: Elements for a Successful Grant Search	12:30 to 1:45 Atrium, 123A
April 15	Toolkit for Finding Grants: Elements for a Successful Grant Search	12:30 to 1:45 Valley Rd, 1020
April 17	Toolkit for Finding Grants: Elements for a Successful Grant Search	12:30 to 1:45 Valley Rd, 1020
For details regarding workshops: www.wpunj.edu/osp		

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. Support must be requested before registering.