

# EXPLORATIONS

Research. Scholarship and Creative Expression

20<sup>th</sup> Anniversary

**APRIL 2 – MAY 2, 2019**

Events Campus-Wide



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UNIVERSITY

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**12th Annual Undergraduate Research  
Conference**

Bhanu P. S. Chauhan, Chemistry, Co-Chair  
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Poster and Cover Art  
Robert Brady, Undergraduate Student,  
Prof. Matt Finn, Art Department

# SCHEDULE AT-A-GLANCE



## April 2

**College of Arts and Communication**

11:00 to 12:15, Ballroom A

**Interdisciplinary Poster Session #1**

12:30 to 1:45, Ballroom B&C

**Cannabis Research Institute**

12:30 to 1:45, Ballroom A

## April 4

**Interdisciplinary Poster Session #2**

12:30 to 1:45, Science Hall Lounge

## April 6

**13th Annual Undergraduate Research Symposium**

UC Ballrooms, 8:00 to 5:30

## April 9

**Interdisciplinary Presentations #1**

11:00 to 12:15, UC 171B

**Interdisciplinary Presentations #2**

12:30 to 1:45, UC 171B

**Interdisciplinary Presentations #3**

2:00 to 3:15, UC 171B

**Technology Across the Curriculum**

2:00 to 3:15, UC 171A

## April 10

**College of Arts and Communication**

11:00 to 12:15, UC 171 A&B

**College of Arts and Communication**

2:00 to 3:15, UC 171 A&B

## April 11

**College of Science and Health**

11:00 to 3:15, UC 171 A&B

**College of Education**

12:30 to 2:30, UC Student Center 216

## April 18

**Cotsakos College of Business**

11:00 to 3:15, Valley Rd Auditorium

**College of Humanities and Social Sciences**

12:30 to 1:45, Atrium 125

**Cheng Library Authors Reception and OSP Recognition Awards**

3:30 to 5:00, UC Ballroom C

## Honors Research Week Presentations

UC 168A&B

### April 9

**Business, Cognitive Science and Neuropsychology Tracks**

9:00 to 4:30

**Performing and Literary Arts Tracks**

7:00 to 9:00, Cheng Auditorium

### April 10

**Music, Biology, Clinical Psychology, and Neuropsychology Tracks**

9:45 to 5:00

### April 11

**Nursing, Independent, and Business Tracks**

8:30 to 5:00

**RESEARCH, SCHOLARSHIP AND CREATIVE EXPRESSION PROGRAMS AND  
ACTIVITIES AT WP IN APRIL 2019 (as of March 28)**

**Beyond the Bars: A Panel Discussion on Criminal Justice Reform**

Wednesday, April 3, Cheng Library Auditorium, 12:15 to 2:00 pm

**Reality Check with New York Times Columnist Andrew Rosenthal**

Wednesday, April 3, Hobart Hall, Martini Room, 6:00 pm

**Living Writer Series: Elizabeth Levine, *The Ribbon Around the Bomb***

Thursday, April 4, Atrium Auditorium, 3:30 pm

**13th Annual Undergraduate Research Symposium**

Saturday, April 6, UC Ballrooms, 8:00 to 5:30 pm

**Spring Writer's Conference**

(pre-registration required)

Saturday, April 6, 8:00 to 5:30 pm

**UPS Computer Information Technology Lecture Series**

Tuesday, April 16, University Commons, Room 211, 5:30 - 8:30 pm

**Mathematics and Statistics Awareness Month, April 2019**

**Pi Mu Epsilon Honor Society Induction with Guest Speaker Roxhensa Papa**

Thursday, April 18, Science East 2064, 12:30—1:45 pm

**Mathematics Senior Capstone Presentations, 12:30 - 1:45**

Monday, April 22 to Thursday, April 25, Science East 3037

**William Paterson University Society of Professional Journalists Award Ceremony**

Thursday, April 18, Hobart Hall, Martini Room, 7:00 pm

**5<sup>th</sup> Annual Cyber Security and Big Data Analytics Symposium**

Wednesday, April 24, University Commons Ballrooms, 8:30 am - 3:00 pm

**Reality Check with ABC News reporter Christina Carrega**

Monday, April 29, Hobart Hall, Martini Room, 5:30 - 8:30 pm

**MA in Professional Communication Master Research Presentations**

Monday, May 6, Atrium Auditorium, 6:00 pm

**Nanoscale & Molecular Assemblies: Designing Matter to Control Energy Transport**

August 25-29, San Diego California, 8:00 am - 4:00 pm

**Do you know of a program or activity related to research, scholarship or creative expression that will be happening between April 2 and May 2 or sometime else in 2019?**

Activities can include student presentations and recitals, outside speakers, department symposia, and art exhibitions. Call or email the Office of Sponsored Programs at 973-720-2852 or grants@wpunj.edu with the flier or name and date of the program, the URL for detailed information and we will add your program to the schedule on the web and updates to this program.



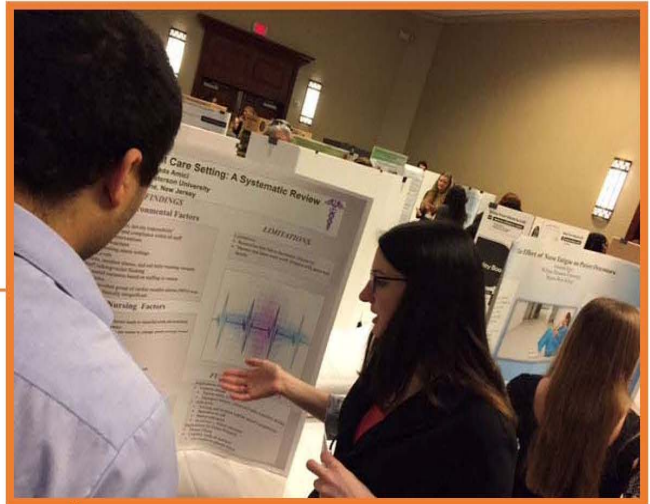
# WILLIAM PATERSON UNIVERSITY



## Honors College

The University Honors College at William Paterson University is a place where academically gifted students explore new ideas and engage in intellectual and creative collaborations with experienced and dedicated members of the faculty. It offers a rigorous curriculum with a challenging array of courses, seminars, and co-curricular activities. The University Honors College provides a comprehensive educational experience that brings together the academic, residential, social, and cultural experiences of its students. It is open to students in all colleges and majors. Nearly 400 students are currently enrolled in the Honors College.

Honors College students participate in a first-year program of Honors courses in the University Core Curriculum. Subsequently, they pursue an interest through one of the 10 honors research or creative tracks, in addition to the disciplinary major. The tracks prepare the student for independent research and result in a senior-level thesis or creative project.

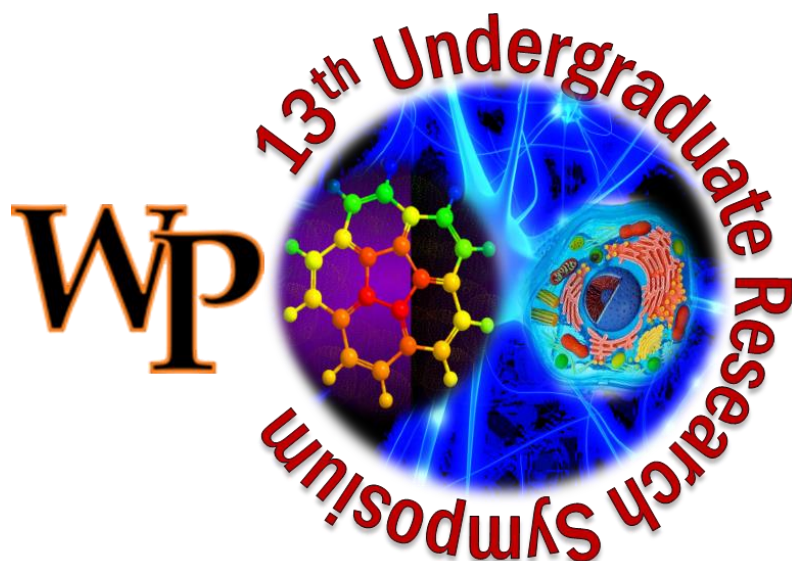


Raubinger Hall  
Room 154  
973.720.3657  
honors@wpunj.edu



**Find us on Facebook!**  
William Paterson University Honors College

[www.wpunj.edu/honors](http://www.wpunj.edu/honors)



## PLENARY SPEAKER

**DR. GEORGE KOOB**  
Director  
National Institute of Alcohol Abuse and  
Alcoholism  
National Institute of Health



### 13<sup>th</sup> ANNUAL UNDERGRADUATE RESEARCH SYMPOSIUM

**Saturday, April 6, 2019**

*You are cordially invited to attend and present your research at the 13<sup>th</sup> annual Undergraduate Research Symposium in the Biological and Chemical Sciences at William Paterson University of New Jersey. In its 13<sup>th</sup> year, this regional symposium provides an excellent forum for undergraduate researchers to present their original work at a regional meeting. Posters are invited in the following areas of research:*

*Physiology, Behavior, Cell & Molecular Biology, Genetics and Ecology & Evolution, Environmental Science*

*Organic and Inorganic Chemistry, Biochemistry, Nano Chemistry, General & Physical Chemistry and Materials Chemistry*

*Posters will be judged by a panel of attending Mentors and awards will be presented to the best undergraduate poster presenters. Participant Abstracts will be published in a Symposium Proceedings. For more information and Free Registration log onto:*

*[www.wpunj.edu/cosh/departments/biology/urs/](http://www.wpunj.edu/cosh/departments/biology/urs/)*

*Send your Abstract and Registration by March 20, 2019 at:*  
*[biochemurs@wpunj.edu](mailto:biochemurs@wpunj.edu)*

## SCHEDULE

**Registration & Breakfast**

8:00 - 8:45 am

**Welcome and Opening Remarks**

8:45 - 9:15 am

**Poster Session A**

9:15 - 11:15 am

**Lunch Break**

11:45 - 1:00 pm

**Plenary Talk**

1:00 - 2:00 pm

**Poster Session B**

2:00 - 4:00 pm

**Awards Ceremony**

4:30 - 5:00 pm

PLACE: University Commons  
Ballroom



# Interdisciplinary Poster Session #1

Tuesday

April 2

12:30 to 1:45

## University Commons, Ballroom B & C

Rosmeiry Valera, Yun Kai Chong, Michelle Cardenas, Tania Chowdhury, Marsha Akoto, Anna Krisak, Melissa Henao, Rose Moise, Osairys Billini, Florida Raja, Aileen Torres, Winnie Ma, Psychology

*Clinical Symptoms, Family Separations and Acculturation in Recently Immigrated Latinx and Bangladeshi Middle School Youth*

Amy Learmonth, Jordan Stewart, Ruchael McNair, Tuba Masood, Kirsten Fernandez, Shazna Ali, Victoria Hanks, Psychology

*Only Adults Figure Out A Complex Location Cue*

Vincent Loud, David Freestone, Computer Science

*Reimagining the Skinner Box*

Reem Eldabagh, Chemistry

*Exploration of the Photocatalytic Activity of Eosin Y in Benzylic Peroxidation Reactions*

Frank Leon, Professional Communication

*Social Media's Impact on the world of Professional Wrestling*

Leslie MacDermid, Professional Communications

*Baby Boomers and Online Dating*

Melissa Mayer, Communication

*Use and Impact of Social Media on Job Seekers and Human Resource Professionals*

Abdulaziz Albarshaa, Communication

*The effect of Snapchat's micro-celebrities on consumer buying behavior in Saudi Arabia*

Salman Alqahtani, Professional Communication

*The Role of social media in Americans' perception of Saudi Arabia as a tourist destination*

Jazmine Perdomo, Kyung-Hyan (Angie) Yoo, Professional Communication

*Influencer Marketing and Consumer Purchasing Behavior:  
Two-Step Flow Perspective*

Zachary Ryan, Professional Communications

*The Role of Facebook Group Engagement in Railfanning*

Gregory Synsmir, Professional Communication

*Activism amongst College Students in the age of Social Media*

Tydasias Williams, Professional Communication

*The Effects Social Media Has On Using Colorism to Depict African American Beauty*

Chris Trembath, PCOMM

*You're Getting a Little Too Personal: How Gender Personalization in Chatbot Design Affects Customer Satisfaction*

Michaela Gardiner, Shana Foster, Holly Leonard, Kelly Dykman, Ryan Wizner, Liam Aylward, Harry Maisch, Martin Becker, Michael Griffiths, Environmental Science

*Chondrichthyans from the Lower Clayton Limestone Unit of the Midway Group (Paleocene) near Malvern, Arkansas, USA with Comments on the K/Pg boundary*

Brandon Johnson, Kinesiology

*Dextrocardia in 35 year old*

Allison Neumann, Chelesia Clarke, Michael Griffiths, Martin Becker, Sora Kim, Harry Maisch IV, Robert Eagle, Clint Mautz, Kenshu Shimada, Matthew Young, Environmental Science

*The Extinction of the Megatoothed Shark Otodus megalodon: Preliminary Evidence from Clumped Isotope Thermometry*

Medine Sahin, Thomas Haughey, Chemistry

*Anionic clays - synthetic and application pathways*

Judy Bernsetin, Trevor Courtright, Kaelyn Deleon, Lisandra Hidalgo, Matthew Jaekel, Casey Murphy, Madeline Reina, Tamia Williams, Benjamin Berth, Trevor Courtright, Kaelyn Deleon, Iesha Falen, Yazmin Fritzes Junco, Kevin McKiernan, Casey Murphy, Nancy Riascos, Tamia Williams, Languages and Cultures,

*Linguistics Student Posters*

Elizabeth Galetz, Nursing

*Simulated Role-Play to Improve Attitudes and Empathy Towards Older Adults in Accelerated Nursing Students*

Christopher Meola, Exercise Science

*Internship Case Study*

Kaytlynn Knyfd, Austin Degen, Troy Nixon, Environmental Science

*Tracing Storms and Climate Change Through Tree-Ring Growth Patterns on Coastal Maritime Forests in NY and NJ*

Sumithra Raghavan, Cassandra Rendon, Marsha Akoto, Psychology

*Mental Health, Social Capital and Academic Success in First Generation College Students*

Leslie Trigoura, Maria Holganza, Chemistry

*The Efficient Copper Catalyzed Homocoupling and Heterocoupling of Terminal Alkynes*

Jay Foley, James Varner, Noor Eldabagh, Derek Volta, Reem Eldabagh, Raghad Nofal, Aya Matari, Chemistry

*WPThermI: pioneering the design of materials for harnessing heat*

Matt Finn, Robert Brady, Seoyoung Sarah Park, Kohl Donnelly, Yara Abaza, Michael Scrivana, Kayla Perez, Gabrielle Alvarado, Art

*Class projects to create Explorations 2019 poster*





## Interdisciplinary Poster Session #2

Thursday

April 4

12:30 to 1:45

Science Hall Lounge

Sara Steinel, Nellie Cordova, Cyril S. Ku Computer Science

*A Knowledge Discovery Approach to Mental Health Problems in New York City: Phase Two*

Ciara Nazaruk, George Antoun, David Hack, John Bae, Kinseiology

*B1G opportunity: motivations and experiences of student volunteerism at the Big Ten Men's Basketball Tournament*

Joseph Duncan, Jason Wicke, Anthony Duncan, Kinesiology

*The Impact of Foam Rolling on Ground Force Reaction and Vertical Jump Height*

Alexander Geleski, Dr. Jason Wicke, Kinesiology

*Biomechanical Analysis of Throwing with and without Ball Release*

Ryan Wizner, Brianna Chandra, Jeremy Scott, Environmental Science

*Examination of a Suburban Lake for Effects from Nonpoint Source Pollution and Copper Sulfate Treatments by Brianna Chandra, Jeremy Scott, Ryan Wizner, Jennifer Callanan, Michael DaSilva, and the students of ENV-3760-70 Fall 2018*

Natasha Lopes-Cunha, Mathematics

*Cryptography and Mathematics*

Brianna Smith, Kevin Martus, Biology

*Current Probe Measurements of a Plasma Jet*

Omayma Hassanain, Communication

*Rational Choice and The influencing Factors of Relational Transgression*

Nora Jamal, Communication: Digital Media

*Political Awareness of Twitter among Saudi Students in The United States*

Daniel Toth, Professional Communication

*Alternative Sports and Social Media*

Ahmed Alsaykhan, Communication

*The Impact of Foodies' Reviews on Social Media Toward Millennials Food Decision Making*



Muhammet Enes Erol, Michael Figueroa, Edin Hadzovic, Kinesiology

*Determination of Heart Rate Percentages at Anaerobic Threshold and The Accuracy of Different Types of Heart Rate Monitors*

Trayer Run-Kowzun, Kinesiology

*The Effect of a 7-Week Progressive Adaptation Yoga Practice on Hamstrings Flexibility*

Nidhi Shah, Kinesiology

*Physical therapy for bilateral knee osteoarthritis*

Nicholas Simon, Kinesiology

*Blood Pressure Response to Chiropractic Manipulation in Hypertensive Individuals*

Austin Degen, Environmental Science

*A 4000-year environmental evaluation of mid-Atlantic coastal wetlands from paired geochemical and diatom analysis of surficial and down-core sediments*

Miryam Wahrman, Corey Basch, Sarah MacLean, Philip Garcia, Biology

*Escherichia coli on the internet: The power of YouTube to educate and influence consumer behavior regarding pathogenic bacteria*

Jordan Cola, Kinesiology

*The Effects of Various Warm-Up Devices on Bat Velocity in Collegiate Baseball Players: A Pilot Study*

Toni LaSala, Jordan Cola, Michael Figueroa, Racine Emmons, Kinesiology

*Determination of Exercise Intensity That Elicits Maximal Fat Oxidation on a Body Weight Supported Treadmill in Normal Weight Males*

Christina Mouser, Ben Eck, Mathematics

*An Analysis of Internet Based Videos Used to Cope with Math Anxiety*

Michelle Rosselli, Megan Chesin, William Tsang, Elizabeth Jeglic, Michele Cascardi, Psychology

*Title: Knowledge and Accepting Attitudes of Suicide are Greater among College Students who Watched 13 Reasons Why Compared to their Peers who did not*

Bogong Su, Erh-Wen Hu, Weihua Liu, Computer Science

*Comparing DSP Software Performance Prediction Models at Source Code Level - from Analytical to Statistical*

Shellecia Smith, Halema Jalil, Public Health

*Utilizing Health Education Skills for Prison Tutoring in The Petey Greene Program*

Naa-Solo Tettey, Soomin Ahn, Steven Nagamine, Public Health

*Assessing Codeine Use through Hip-Hop Lyrics: A Call to Action for Public Health Educators*

Urvi Patel, Natalie Obrecht, Maitry Mahida, Psychology

*Influential Factors in Choices of College Major*

Yomary Collazo, Natalie Obrecht, Maitry Mahida, Urvi Patel, Psychology

*Meta-ethical viewpoints: To what extent do people think ethical rules are objective?*

Weihua Liu, Bonggong Su, Dev Dave, Natalia Zaytseva, Camila Murillo, Computer Science

*Machine Learning Techniques for Software Performance Prediction at Source Level*

Weihua Liu, Oliver Alvarado, Jeffery Albanese, Computer Science

*The statistical properties of XOR-FCSRs*

Joan Inoa, Mansi Patel, Chemistry

*Green Chemistry: Benzylic Functionalization via Visible-light induced photo redox catalysis*

# Interdisciplinary Presentations



**Tuesday April 9**  
**University Commons, Room 171 B**

## 11:00 to 12:15

Thomas Heinzen, Psychology

*Case Study of a Baseball Umpire With a Hangover: The Shadow of Our Future*

Jay Foley, Chemistry

*WPThermI: pioneering the design of materials for harnessing heat*

Deniz Yucel, Sociology and Criminal Justice

*Differential Effects of Direct and Indirect Contact on Prejudice among Greek Cypriots and Turkish Cypriots over a Ten-Year Period*

## 12:30 to 1:45

Megan Conrad, Psychology

*Exploring the Role of Personality, Expectations, and Self-Efficacy in Childbirth Experiences*

Emmanuel Onaivi, Biology

*Advances in Cannabis and Endocannabinoid System Research*

Leslie Trigoura, Chemistry

*The Efficient Copper Catalyzed Homocoupling and Heterocoupling of Terminal Alkynes*

Brenda Marshall, Dustin Hill, and Maria Tobago, Nursing:

*Stigma and Substance Use Disorder (SUD)*

## 2:00 to 3:15

Lydia Albuquerque, Nursing

*Contribution of Short-Term Medical Mission (STMMs) to City of Canaan, Haiti: Clinic of Hope*

Keumaje Park, Sociology and Criminal Justice

*The Paradoxical Positioning of Asian-Americans in the U.S. Racial Structure*

Maxwell Johnson, History

*Militia Christi: A Reevaluation of Norman Piety regarding the First Crusade*

Kelley Healey, Biology

*Specific ERG11 Mutations Identified in the Emerging Fungal Pathogen Candida auris Contribute to Azole Reduced Susceptibility*

Avinash Arya, Accounting and Law:

*Beating Business Cycles through Dynamic Compensation Structure*

# College of Arts and Communication



**Tuesday**

**April 2**

**University Commons, Ballroom A**

**11:00 to 12:15**

Christopher Herbert, Music

*Transcription of Original Colonial American Music Manuscript*

Jennifer Owlett, Communication

*Evaluating Crisis Responses on Twitter: Perspectives from Situational Crisis Communication Theory & Person-Centered Messages*

Julie Nagle, Art

*Interdependent Space and Sound*

**Wednesday**

**April 10**

**University Commons, Room 171 AB**

**11:00 to 12:15**

Payton MacDonald, Music

*Sonic 8 Recordings*

Lori Ramos, Communication

*Vieques Oral History Project*

Zhiyuan Cong, Art

*An International Art Competition Project: Paper Money Brought to the West, Phoenix Sang in Persia*

**2:00 to 3:15**

Angie Yoo, Communication

*Real-time Social Media Engagement and Millennials' Event Experience*

Nicholas Hirshon, Communication

*"Generation K": The New York Media and One of Baseball's Biggest Disappointments*

Jin-A Choi, Communication

*The Effects of Controversy on Social Media Celebrities' Endorsement Power*



## Cotsakos College of Business

Thursday

April 18

11:00 to 3:15

Valley Road Auditorium

Lianzan Xu, Accounting and Law, Francis Cai and Ge Zhang,  
Economics, Finance and Global Business  
*Hybrid Earnings Management Pre- and Post-SOX*

Giuliana Campanelli and Alexandros Panayides, Economics, Finance  
and Global Business, and Susanna Tardi, Sociology  
*The Rise of Contingent Faculty in the US System of Higher  
Education*

Jim Samuel, Rajiv Kashyap, and Myles Garvey, Marketing &  
Management Sciences  
*That Message Went Viral?! Exploratory Analytics and  
Sentiment Analysis of the Propagation of Popular Tweets*

Mahmoud Watad and Cesar Perez-Alvarez, Marketing & Management Sciences:  
*The Interplay of Cultural Identity, Decision-Making and Creative Strategies*

Zhang Chuanqian, Economics, Finance and Global Business  
*Operating Leverage and Underinvestment*

Valeriya Avdeev and Sia Nassiripour, Accounting and Law  
*Tax-Return Screening Inefficiency of the Internal Revenue Service: What Can be Done to Increase  
Compliance and Detection of Erroneously Claimed Educational Credits?*

Lawrence Verzani, John Malindretos, and Tao Guo, Economics, Finance and Global Business  
*Financial Advice and Portfolio Diversification*

Yoel Beniluz, Accounting and Law  
*The Conflict of Interests Between Stockholders and Debtholders: Exploring a Reverse Wealth  
Transfer at Sears*





## Cotsakos College of Business

Thursday

April 18

11:00 to 3:15

Valley Road Auditorium

Continued

Elizabeth Ekmekjian, Accounting and Law, Martin Gritsch and Tricia Snyder, Economics, Finance and Global Business

*How Does the \$10,000 Cap on State and Local Taxes (SALT) Impact the New Jersey Housing Market?*

Myles D. Garvey, Marketing & Management Sciences

*Supply Chain Risk Propagation: An Exploratory Simulation Into the Impact of Canonical Supply Network Structure*

Ali Mir and Raza Mir, Marketing & Management Sciences

*Algorithmic Decision Making: Big Data and Embedded Bias*

Bahar Ashnai and Prabakar Kothandaraman, Professional Sales

*Does Gender Matter in Salespeople Performance Evaluation and Recruitment?*

Rahi Abouk, Economics, Finance and Global Business

*Effect of E-Cigarette Taxation on Prenatal Smoking and Birth Outcomes*

Robert Laud, Andrey Kretinin and Stephen C. Betts, Marketing & Management Sciences

*An Integrated Model for Large-Scale Social Entrepreneurship: Addressing Global Water Supply Problems*

Priya Nagaraj, Economics, Finance and Global Business, Punit Arora and Marta Bengoa, CUNY

*Regulations and Immigrant Entrepreneurship*

WILLIAM PATERSON UNIVERSITY

# 5th Annual Cyber Security and Big Data Analytics Symposium: Today's Threats and Crucial Strategies for Remediation

April 24, 2019 • William Paterson University  
University Commons Ballroom  
300 Pompton Road, Wayne, NJ



Keynote speaker Rebecca Gott, IBM Distinguished Engineer, will present *"Understanding Blockchain and Its Potential Impact."*



- Industry experts will deliberate Blockchain's advantages, disadvantages, and alternatives from business, technical, and financial perspectives.
- Experts from New Jersey Cybersecurity and Communications Integration Cell (NJCCIC) will lead discussions about cyber-crime protection against ransomware, data theft, malware, and more.
- The effectiveness of big data analytics tools like ELK Stack and Hadoop will be examined.

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For more information or to register: [wpunj.edu/cpe](http://wpunj.edu/cpe) • 973.720.2354





## College of Education

Thursday

April 11

12:30 to 2:30

University Commons, Room 216

Dorothy Feola, Geraldine Mongillo, Carrie E. Hong:

*An Examination of Teachers' Awareness, Preparation, and Teaching Strategies When Instructing Linguistically Diverse Learners*

Samuel Fancera, Educational Leadership & Professional Studies:

*School Leaders' Use of Social Media and Networks for Professional Development*

Laura Fattal, Elementary and Early Childhood Education, Sandra Alon, Educational Leadership and Professional Studies:

*Realizing Globalization in the Public School Classroom*

James Alford, Educational Leadership & Professional Studies:

*Training the Hands, Head, and Heart: Student Protest and Activism at Hampton Institute, 1920-1950*

Ellen Pozzi, Educational Leadership and Professional Studies:

*Diversity and Technology in Award-Winning Children's Nonfiction*

Alex Chambers, Special Education and Counseling, Margaret Renn, Office of Field Experiences:

*Using the blackboard module format for online training of pre-service teachers*

Lisa Warner, Elementary and Early Childhood Education, Roberta Schorr, Rutgers University:

*Engagement structures and the development of mathematical ideas*

Geraldine Mongillo, Carrie E. Hong, Michelle Gonzalez, Educational Leadership and Professional Studies:

*Developing teacher leaders: An examination of a graduate reading specialist program*

Alison Dobrick, Elementary and Early Childhood Education:

*Hamilton and Hip-Hop Pedagogy*

Cynthia Northington-Purdie, Secondary and Middle School Education:

*The Gamification of Lesson Planning*

# College of Humanities and Social Sciences

## HSS Senior Research Forum

**Thursday**                      **April 18**                      **12:30 to 1:45**  
**Atrium 125**

An interactive, interdisciplinary discussion of recent research findings and creative outcomes from the humanities and social sciences.

Wendy Christensen, Sociology & Criminal Justice, will discuss her recent book, *Mothers of the Military: Support and Politics during Wartime*

Timothy Liu, English, will read three poems from the final section of his latest book, *Luminous Debris: New & Selected Legerdemain (1992-2017)*

Pete Mandik, Philosophy, will share an excerpt from his *Future Mind* book project

Lawrence Mbogoni, Africana World Studies, will share findings from his recent book *Miscegenation, Identity and Status in Colonial Africa: Intimate Colonial Encounters*

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## College of Science and Health

Thursday

April 11

University Commons, Room 171 AB

### 11:30 to 12:15

Corey Basch, Public Health

*Fluoride Related Posts on Instagram: Representation of Pro and Anti Fluoridation Standpoints*

Yalan Xing, Chemistry

*Development of Green Synthetic Methodology*

Jennifer Callanan, Jeremy Scott, Jonathan Harris, Ryan Wizner, Michael DaSilva, Environmental Science, Gregory Pope, Montclair State University, Matthew Hazen, PA DCNR, Bureau of Forestry, Delaware State Forest:

*Two Year Progression of Soil Chemical Changes As A Result Of The 16 Mile Fire, Delaware State Forest, PA*

Joseph Spagna and Karisa Quimby, Biology

*Spinning spiders strike! Exploring prey-capture in flattie spiders*

### 12:30 to 1:45

Parminder Kaur, Chemistry

*Non-precious metal catalyzed organic transformations for C-C and C-X bond formation*

James Arnone, Biology

*Integrating a targeted suppressor screen to uncover novel genetic links that modulate aging into the Biotechnology curriculum at William Paterson University*

About Rahi, Cannabis Research Institute

*The Cannabis Research Institute*

### 2:00 to 3:15

Zoe Meleo-Erwin, Public Health

*Navigating Post-Operative Care, Services, and Support for Weight-Loss Surgery Patients: The Perspective of Bariatric Professionals*

Abdelrahman Elleithy and Vincent Loud, Computer Science:

*Selfish Nodes Mitigation in Mobile Ad-Hoc Networks*

Dimitri Nannas and Ismael Flores- Marti, Kinesiology

*An Exploration of the Process and Outcomes of the Elementary Physical Education Teacher Evaluation System*

Weihua Liu, Computer Science

*The statistical properties of Shift Register Sequences*

Sonya Bierbower, Biology

*Neuroprotective Effects of KCNQ Potassium Channels after Traumatic Brain Injury*



# Cannabis Research Institute

**Tuesday                      April 2                      12:30 to 1:45**  
**University Commons, Ballroom A**

Rahi Abouk, Economics, Finance and Global Business  
*Maternal employment, time use, and overweight children: A series of implications of legal marijuana sales*

Aleksandar Kecojevic, Public Health  
*Legalization of Recreational Marijuana in New Jersey: The Public Health Perspective*

Betty Kollia and Katie Gasparino, Communication Disorders and Sciences  
*Cannabis Use and Communication Disorders*

William Kernan, Public Health  
*A Study of Municipal Ordinances Limiting the Sale of Recreational Marijuana in New Jersey*

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# Technology Across the Curriculum

**Tuesday                      April 9                      2:00 to 3:15**  
**University Commons, Room 171 A**

Nicole Davi, Environmental Science

*Tree-Ring Expeditions (TRES): Online labs to improve student understanding of climate change and the nature-of-science*

Wendy Christensen, Sociology and Criminal Justice

*Working with Cell Phones in the Classroom*

Jeung Woon Lee, Biology

*Application of virtual reality/augmented reality technologies in biological sciences*

Robert Harris, Center for Teaching with Technology

*Yes We Can! The History, Theory, and Practice of using Open Educational Resources*

**EXPLORATIONS**  
Research, Scholarship,  
& Creative Expression

20<sup>th</sup> Anniversary

**APRIL 2 - MAY 2, 2019**

Events Campus Wide

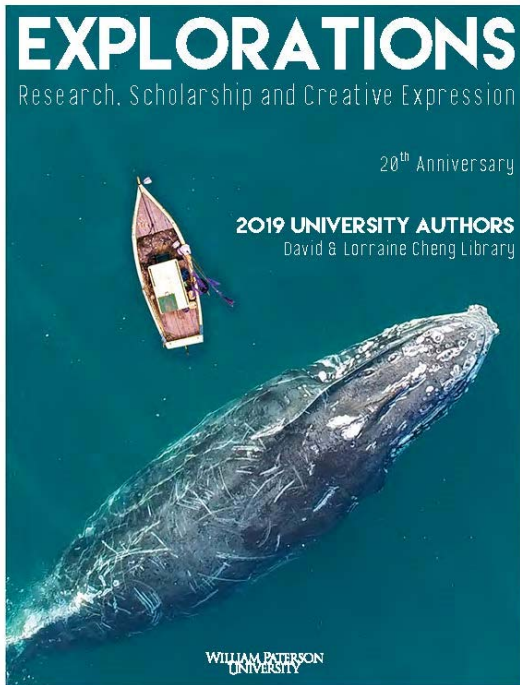


# Annual Reception

Thursday

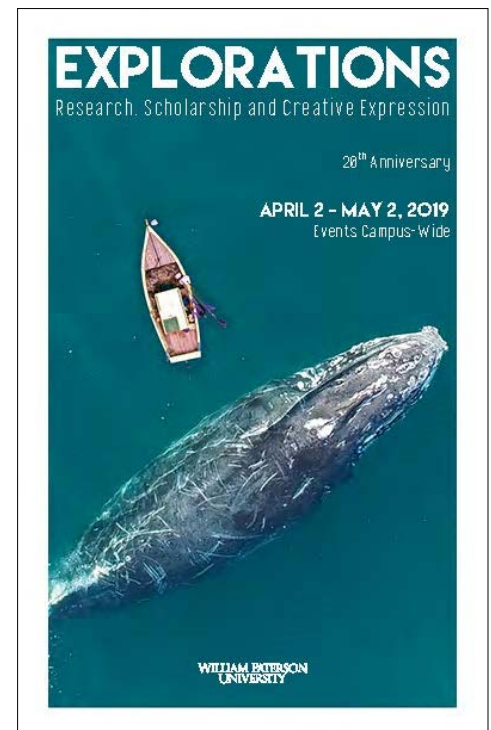
April 18

3:30



David and Lorraine  
Cheng Library  
Honoring WP's  
Authors

and



Office of Sponsored  
Programs  
Honoring WP's New  
Award Recipients  
and New Applicants



**William Paterson University  
College of Science and Health  
Department of Computer Science**

***UPS Computer Information Technology Lecture Series\****

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**Keynote Speaker: Dr. Edward Chapel**

Senior Vice President and Chief Operating Officer (NJEdge)



**April 16, 2019 (Tuesday), 5:30 PM – 8:30 PM  
Student Center Conference Room 211  
(A light dinner will be provided.)**

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***Communicating and Engaging in the Digital Age***

**Abstract**

We are living in “The Digital Era,” amid the forces of high-speed networking, cloud computing, the “Internet of Things” or, better yet, the “Internet of Everything.” Our arrival here is the culmination of the gradual transition from an analog world, reliant upon electronic and mechanical instruments, to one where computers and microprocessors permeate every fiber of the socio-economic fabric. Paired with the accelerated pace of digitization over the past decade we are in the midst of a veritable revolution that is transforming how business is conducted, how scientists engage in research and discovery, and how our citizens are educated and pursue their livelihoods. Dr. Chapel’s presentation will explore the dynamics of these phenomena more deeply and identify technology resources, tools and strategies for scientists, educators and employers to harness the intrinsic value of data and information to navigate the new realities governing how we communicate and engage in the digital age.



### Biography

A career educator, technology leader, social scientist and Chief Information Officer at New Jersey's largest private and second largest public universities for the past twenty years, Dr. Edward Chapel's commitment to active collaboration with industry partners, peer organizations and the NJEdge membership serves as a key driver in the advancement of operational effectiveness and strategic objectives of its member organizations. With a focus on enabling digital technologies, he ensures each client solution is value-based, future-focused and engineered to deliver an end-user experience that is unsurpassed. In addition to overseeing the delivery of a high performing network and ecosystem of purpose-built technology assets and applications, his dedication to NJEdge's shared services consortium approach and advancing professional development through the NJEdge Communities of Practice enables New Jersey's education, healthcare, governmental and corporate enterprises to thrive and grow.

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### Agenda

- |             |   |
|-------------|---|
| 5:30 – 6:00 | Guests arrive, dinner starts  |
| 6:00 – 6:10 | Welcome remark from <b>Dr. Venkat Sharma</b> , Dean of College of Science and Health                                      |
| 6:10 – 6:40 | Invited Speaker from UPS  |
| 6:40 – 6:45 | Keynote Speaker Introduction: <b>Dr. Cyril Ku</b> , Professor of Computer Science Department, William Paterson University |
| 6:45 – 7:30 | Keynote Speech: <b>Dr. Edward Chapel</b> , Senior Vice President and Chief Operating Officer, NJEdge                      |
| 7:30 – 7:45 | Q & A with <b>Dr. Edward Chapel</b>   |
| 7:45 – 7:50 | Wrap up and thank attendees and speakers, <b>Dr. Cyril Ku</b>   |
| 7:50 – 8:30 | Refreshments and student conversations with <b>Dr. Chapel, UPS Speaker and Recruiters</b>                                 |
- 

**\* The UPS Computer Information Technology Lecture Series is made possible by a generous grant from the UPS Foundation of UPS.**

**All are welcome.** This lecture series is open to everyone in the William Paterson University community. For further information, please contact Dr. Cyril S. Ku ([kuc@wpunj.edu](mailto:kuc@wpunj.edu), 973.720.2952), Department of Computer Science, William Paterson University, Wayne, New Jersey

**Please RSVP to Lauryn Lupino ([lupinol@wpunj.edu](mailto:lupinol@wpunj.edu), 973.720.2934) by April 10, 2019**

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11:00	Hybrid Earnings Management Pre- and Post-SOX
11:15	The Rise of Contingent Faculty in the US System of Higher Education
11:30	That Message Went Viral?! Exploratory Analytics And Sentiment Analysis of the Propagation of Popular Tweets
11:45	The Interplay of Cultural Identity, Decision-Making and Creative Strategies
12:00	Operating Leverage and Underinvestment
12:30	Tax-Return Screening Inefficiency of the Internal Revenue Service: What Can be Done to Increase Compliance and Detection of Erroneously Claimed Educational Credits?
12:45	Financial Advice and Portfolio Diversification
1:00	The Conflict of Interests Between Stockholders and Debtholders: Exploring a Reverse Wealth Transfer at Sears
1:15	How Does the \$10,000 Cap on State and Local Taxes (SALT) Impact the New Jersey Housing Market?
1:30	Supply Chain Risk Propagation: An Exploratory Simulation Into the Impact of Canonical Supply Network Structure
2:00	Algorithmic Decision Making: Big Data and Embedded Bias
2:15	Does Gender Matter in Salespeople Performance Evaluation and Recruitment?
2:30	Effect of E-Cigarette Taxation on Prenatal Smoking and Birth Outcomes
2:45	An Integrated Model for Large-Scale Social Entrepreneurship: Addressing Global Water Supply Problems
3:00	Regulations and Immigrant Entrepreneurship

\* funded through Business Practice and Policy Research Forum Grant Program

**EXPLORATIONS**  
Research, Scholarship,  
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20<sup>th</sup> Anniversary  
**APRIL 2 - MAY 2, 2019**  
Events Campus Wide



## Recognizing Research Scholarship and Creative Expression at WP

The presentations and activities included in *EXPLORATIONS* represent the research, scholarly and creative (RSCE) pursuits of WP's faculty, students or others. Core activities include sessions sponsored by WP's colleges, departments or committees, Honors Week events, the Undergraduate Research Symposium, and the Cheng Library Authors Reception.

### Hybrid Earnings Management Pre- and Post-SOX

Lianzan Xu

Accounting and Law Department

Francis Cai, Ge Zhang

Economics, Finance and Global Business Department

*This paper examines a fourth method of earnings management: the hybrid method. The hybrid method uses a combination of the three well-documented earnings management methods of accrual-based, real activity, and classification shifting to manipulate earnings for the benefits of the management and the company. The manipulated number is presented in the income statement as a single line item such as pension expense or income. The hybrid method is more deceptive and harder to detect outright because it is more complex and often apparently GAAP compliant.*

### The Rise of Contingent Faculty in the US System of Higher Education

Giuliana Campanelli, Alexandros Panayides

Economics, Finance and Global Business Department

Susanna Tardi

Sociology Department

*Over the last decades there has been a significant increase in the number of contingent faculty in the US system of higher education. The phenomenon of "workers on demand" is widespread in the US labor market where a growing number of Americans no longer hold one full-time job. They are instead employed for a finite time, often with a specific task, with little connection to their employers. In the case of higher public education, this phenomenon appears more complicated since it is correlated not only with a substantial decline of full-time faculty, but also with a marked increase of university administrators. In our paper we will analyze the process of "adjunctization" of the American public universities, assess causes, consequences and suggest appropriate policies to promote fairness and a better allocation of resources.*

### That Message Went Viral?! Exploratory Analytics and Sentiment Analysis of the Propagation of Popular Tweets

Jim Samuel, Rajiv Kashyap, Myles Garvey

Marketing & Management Sciences Department

*Information exchange and message diffusion have moved from traditional media to social media platforms. Messages on platforms such as Twitter have become the default mode of company communications replacing lengthier public announcements and updates. Businesses and organizations have increased their use of Twitter to connect with stakeholders. As a result, it is important to understand the key drivers of successful information exchange and message diffusion via Twitter. We conducted an exploratory analysis on a dataset of over a million Tweets, comprising of over 40,000 lead Tweets. We identified the most popular messages, and analyzed the tweets on multiple endogenous dimensions including content, sentiment, motive and richness, and exogenous dimensions such as fundamental events, social learning, and activism. We found some interesting patterns and uncovered new insights to help researchers and practitioners better understand the behavior of popular "viral" tweets. We also performed sentiment analysis and present an early stage model to explain tweet performance.*

### The Interplay of Cultural Identity, Decision-Making and Creative Strategies

Mahmoud Watad, Cesar Perez-Alvarez

Marketing & Management Sciences Department

*The objective of this project is to examine the interplay between cultural identity and group decision-making and its impact on decision effectiveness between two different culturally distinct groups in Spain and the United States. The main premise of the study states that Cultural Identity models Trust and Knowledge Sharing behavior, which, in turn, influence Innovation. One of the main results of the study shows that there seems to be a positive relationship between Uncertainty Avoidance Index and Trust. In other words, as uncertainty avoidance increases, individuals tend to trust more their fellow members. The direction of the relationship is present in both the overall sample and the two subsamples (two groups).*

### Operating Leverage and Underinvestment

Zhang Chuanqian

Economics, Finance and Global Business Department

*In a contingent claims model, we examine the impacts of both operating leverage and financial leverage on a firm's investment decisions in the context of capacity expansion. Our model shows that quasi-fixed operating costs could significantly mitigate the underinvestment problem (Myers, 1977) for debt-financed firms. The existing debt induces equity holders to delay equity-financed expansion because the expanded earnings base will also benefit the debt holders by lowering the bankruptcy risk. The operating costs decrease this type of wealth transfer from equity holders to debt holders by magnifying the bankruptcy risk of the existing debt upon investment. By applying the Cox proportional hazard model on a large sample of publicly traded U.S. firms over the period 1966-2016, we offer empirical support to the theoretical predictions. The results are also robust to various measures of operating leverage.*

**EXPLORATIONS** celebrates and highlights the depth, breadth and quality of research, scholarship, and creative expression that exists throughout the William Paterson community

### **Tax-Return Screening Inefficiency of the Internal Revenue Service: What Can Be Done to Increase Compliance and Detection of Erroneously Claimed Educational Credits?**

Valeriya Avdeev, Sia Nassiripour

Accounting and Law Department

*On January 31st, 2018, Treasury Inspector General for Tax Administration (TIGTA) issued a report examining the effectiveness of the agency specifically under the 2017 Tax Filing Season. The report is referenced as 2018-40-012. According to the report, during 2017 tax filing season, billions of dollars in potentially erroneous American Opportunity Tax Credits Continue to be issued.[1] American Opportunity Tax Credit is a partially refundable for undergraduate college student expenses that is only available for the first four years of undergraduate education.[2] The credit is phased-out for single taxpayers with MAGI of \$80,000 or \$160,000 if married filing jointly.[3] Specifically, TIGTA found that Internal Revenue Service continues to not effectively identify potentially erroneous American Opportunity Tax Credit claims before refunds are paid.[4] As noted in the TIGTA report, 1.2% of the returns filed during 2017 tax season contained an error and resulted in improper refunds due to American Opportunity Tax Credit error alone. This is a significant error on the part of the Internal Revenue Service that creates inefficiency and under-collection of revenue. By identifying possible solutions to this problem, an increase in the revenue of as much as \$2.8 billion can be created for the agency on annual basis. This issue is specifically of interest to William Paterson University as an educational institution that issues close to 10,000 1098-T forms every year to its students.*

### **Financial Advice and Portfolio Diversification**

Lawrence Verzani, John Malindretos, Tao Guo

Economics, Finance and Global Business Department

*This paper examines whether households diversify their investment portfolios and whether portfolio diversification could be affected by where investors seek advice. We found that respondents find advice from banks, insurance companies, and brokerage houses less helpful compared to reading investment research and financial periodicals when making their portfolio decisions. But when looking at a metric of optimal investing, diversification, we see that those who rely on brokers' advice ended up with a less diversified portfolio.*

### **The Conflict of Interests Between Stockholders and Debtholders: Exploring a Reverse Wealth Transfer at Sears**

Yoel Beniluz

Accounting and Law Department

*This paper investigates the idea of a reverse wealth transfer from stockholders to debtholders through a mechanism of an influential creditor. The common view in the literature addresses a transfer of wealth from debtholders to stockholders by investing, for example, in risky projects which generate returns to stockholders at the expense of the debtholders - the overinvestment problem and assets substitution. However, not enough research has addressed the transfer of wealth in the opposite way - from stockholders to bondholders. This paper contributes to the literature by exploring and highlighting such a reverse wealth transfer. Using an illustrative example based on the real-world numbers at Sears Holding Corporation, and by examining the evidence and circumstances at Sears, the paper highlights and demonstrates the notion of a reverse wealth transfer from stockholders to debtholders through a mechanism of an influential creditor. In addition, the paper examines the range of the influential creditor's share ownership in which the conflict of interests between the influential creditor and the rest of the stockholders exists. The findings of this paper suggest that stockholders should consider and establish a protection mechanism against an influential creditor.*

### **How Does the \$10,000 Cap on State and Local Taxes (SALT) Impact the New Jersey Housing Market?**

Elizabeth Ekmekjian

Accounting and Law Department

Martin Gritsch, Tricia Snyder

Economics, Finance and Global Business Department

*The Tax Cuts and Jobs Act caps deductions on federal individual income tax returns for State and Local Taxes (SALT) at \$10,000 a year effective January 1, 2018. New Jersey has one of the highest rates of property taxes in the country and a good number of homeowners are likely to be affected by the cap. We examine patterns of housing prices using data on the New Jersey real estate market from multiple data sources. We find that the mean amount of property taxes, individuals' income, and high school rankings all play a role in the determination of mean housing prices in a municipality.*

### **Supply Chain Risk Propagation: An Exploratory Simulation Into the Impact of Canonical Supply Network Structure**

Myles D. Garvey

Marketing & Management Sciences Department

*Many in the extant literature have attempted to characterize a supply network's structure. In doing so, customized characterizations have been proposed for the goal of explaining various supply chain dynamics. In addition, supply chain risk propagation is a relatively new construct that has recently been an area of study dedicated mainly to measurement purposes. In this research, we synthesize the current streams of literature in supply chain risk propagation, network structure, and levels of analysis to propose new conceptual frameworks within each of these respective areas. We subsequently employ a simulation to study the intersection of these areas of study. In so doing, we introduce the concept of the k-Ego-Network, a new type of network structure within which we will explore the connection between canonical network structure and risk propagation. Managerial and academic implications are discussed in regards to strategic decision making within the context of supply chain structure and risk propagation.*



## Algorithmic Decision Making: Big Data and Embedded Bias

Ali Mir, Raza Mir

Marketing & Management Sciences Department

*The use of algorithms in decision-making is widespread and growing in our society. Algorithms now help determine economic, legal, social, educational, and even health outcomes for an increasing number of people. Since algorithms rely on professionals who write the code, on data that is used to train the algorithm to predict future outcomes, and on managers and other stakeholders who guide the process, it is hardly surprising that they replicate the biases of their creators. But even in cases where there is no discriminatory intent, the nature of data used can generate discriminatory outcome; in other words, algorithms can create a disparate impact even in the absence of disparate treatment. Finally, algorithmic decision-making can have an adverse impact on groups by the practice of hiring for positions on the basis of measures of future performance rather than on past credentials or identity, thus reinforcing already existing disparities between groups and undermining society's ability to bridge social and economic gaps. This paper argues that we need a healthy and open debate about algorithmic decision making and its role in reproducing social and economic discrimination in our society and suggests ways in which this the embedded bias in big data can be combated*

## Does Gender Matter in Salespeople Performance Evaluation and Recruitment?

Bahar Ashnai, Prabakar Kothandaraman

Professional Sales Department

*Gender is one of the primary factors in terms of identity categorization, social equality and diversity. Although the form and strength of gender biases has experienced challenges and changes during the past decades, the issue is still burning, complicated and relevant. We use a dataset based on skill set evaluation and selection decision scores involving potential entry-level sales candidates, examine whether there are still biases with regard to gender in this context. This research provides important insights with regard to existence and form of bias within our context and offers suggestions to organizations that seek to hire diverse workforce, particularly in respect to the gender factor. The study focused on evaluation of skill set and hiring decisions where candidate-recruiter's gender is considered. Results from our study would help companies with recruiting practices for entry level positions in sales that would actually contribute to a gender-balanced workforce.*

## Effect of E-Cigarette Taxation on Prenatal Smoking and Birth Outcomes

Rahi Abouk

Economics, Finance, and Global Business Department

*States and counties have recently levied taxes on e-cigarettes in the US. Using the 2013-2017 census of all births, we show that these taxes increase the likelihood of pregnant women switching to conventional cigarettes. However, not much effect was observed on birth outcome. These results are in line with the evidence suggesting that the level of nicotine, the substance that adversely affects infant health, are similar in e-cigarettes and conventional cigarettes.*

## An Integrated Model for Large-Scale Social Entrepreneurship: Addressing Global Water Supply Problems

Robert Laud, Andrey Kretinin Stephen C. Betts

Marketing & Management Sciences Department

*This paper introduces a large-scale social entrepreneurship model to help address the growing need for the development of an international water resource sustainability system within a world water economy. We explore the relationships between government policy, geopolitical impacts, and business interests. In particular, we investigate why past policy has largely failed, while proposing an emerging entrepreneurial model that introduces a new perspective for large-scale green business start-up capability. We believe an appropriate overlay of multiple stakeholder interests and alternative structuring may be employed in innovative entrepreneurial start-ups that require complex manufacturing and distribution networks. Comprehensive long-term water shortage planning and short-term interventions coupled with an emerging prototype large-scale green entrepreneurship model may help to advance the conversation.*

## Regulations and Immigrant Entrepreneurship

Punit Arora, Marta Bengoa

City University of New York

Priya Nagaraj

Economics, Finance and Global Business Department

*Immigrants in the US start more than a quarter of the businesses in the country and since 2016 have generated one of every ten jobs. However, there exist institutional barriers at the state level -formal and informal- that contribute to inequality in entrepreneurship levels and growth rates. These barriers have an effect on the rate of new business growth by immigrants. In this paper, we analyze the impact of state level institutional environments on immigrants' ability to establish and succeed at entrepreneurship. We use individual level data from Census Bureau to control for immigrants' social, demographic and economic characteristics. We find negative and significant effect of state barriers, such as e-verify, on the immigrants' capacity to be more entrepreneurial. Female immigrant entrepreneurs' impact on self-employment is positive and larger than that of male immigrants. The results of this study inform immigration policy on how to augment the contributions of immigrant entrepreneurs and enhance the positive spillovers coming from innovation and business creation. It also informs small businesses on better negotiating their formal and informal institutional environment.*

## Business Practice and Policy Research Forum Grant Program

The Business Practice and Policy Research Forum (BPPRF) Grant program is a Cotsakos College of Business initiative to support research that provides novel insights into the rich domain of issues at the intersection of business and public policy. The goal is to draw attention to important problems in need of greater attention and study, and provide a vehicle for policymakers and organizations to communicate directly with business scholars.

*We thank Dean Siamack Shojai for designing and supporting this innovative program.*



# WILLIAM PATERSON UNIVERSITY



## HONORS RESEARCH WEEK 2019

*in conjunction with*

### EXPLORATIONS 2019

*Research, Scholarship, and Creative Expression*

#### SCHEDULE AT A GLANCE

#### **TUESDAY, APRIL 9**

9:00 A.M. — 4:30 P.M. UC 168 A/B

Presentations by students in the following Honors Tracks:  
Business, Cognitive Science, and Social Sciences.

7:00 — 9:00 P.M.

**Cheng Library Auditorium**

Presentations by students in the  
Honors Performing and Literary Arts Track.  
Reception follows in the Library Friends' Lounge.

#### **WEDNESDAY, APRIL 10**

9:45 A.M. — 5:00 P.M., UC 168 A/B

Presentations by students in the following Honors Tracks:  
Music, Biology, Clinical Psychology and Neuropsychology,  
Humanities, Music, and Independent.

#### **THURSDAY, APRIL 11**

8:30 A.M. — 5:00 P.M., UC 168 A/B

Presentations by students in the following Honors Tracks:  
Nursing, Independent, and Business.

#### **ABOUT HONORS WEEK AND EXPLORATIONS 2019**

Each spring, the Honors College showcases the work of students who are completing one of the Honors College tracks, and recognizes the faculty and staff members who have contributed to their success. Congratulations to all of the outstanding individuals who are participating in Honors Week/Explorations 2019! For more information please visit:  
<http://www.wpunj.edu/osp/explorations/>

#### **WILLIAM PATERSON UNIVERSITY**

**Richard Helldobler**  
University President

**Sandra DeYoung**  
Interim Provost and Senior Vice President  
for Academic Affairs

#### **UNIVERSITY HONORS COLLEGE**

Raubinger 154  
300 Pompton Road  
Wayne, New Jersey  
[honors@wpunj.edu](mailto:honors@wpunj.edu)  
[www.wpunj.edu/honors](http://www.wpunj.edu/honors)

<b>Tuesday, April 9</b> <b>UC 168 A/B</b>	
9:00	Michele Boyle (BU)
9:15	Rosemary Davidson (BU)
9:30	Kyle Labouseur (BU)
9:45	William Signoretti (BU)
10:00	Gabriela Triveno (BU)
	<b>BREAK</b>
11:30	Mary Moynihan (CGSI)
11:45	Justin Chudley (CGSI)
12:00	Chelsea Davis (CGSI)
12:15	Morgann Duncan (CGSI)
12:30	Aszhadia Harris (CGSI)
	<b>BREAK</b>
1:00	Richard Bach (CGSI)
1:15	Miranda Labbree (CGSI)
1:30	Vincent Loud (CGSI)
1:45	Sarah Berroa (CGSI)
2:00	Madeleine Oppenheim (CGSI)
2:15	Sara Steinel (CGSI)
2:30	Irina Zaytseva (CGSI)
	<b>BREAK</b>
3:15	Casaundra Pagan (SSH)
3:30	Sean Orso (SSH)
3:45	Anna Guarino (SSH)
4:00	Tyler Ponomarev (SSH)
4:15	Abigail Urena (SSH)
4:30	Reem Shair (SSH)

<b>Wednesday, April 10</b> <b>UC 168 A/B</b>	
9:45	Hannah Comia (MUS)
10:00	Thomas Killackey (MUS)
10:15	Stephen Pale (MUS)
10:30	Maria Katrina Holganza (BIO)
10:45	Aldrick Espinosa (BIO)
11:00	Luisa Gallego-Zuluaga (BIO)
11:15	Sabrina Galloza (BIO)
11:30	Dylan Lewin (BIO)
11:45	Lauren Poletti (BIO)
	<b>BREAK</b>
12:30	Rebecca Pavlick (CP)
12:45	Sarah Hitchcock (CP)
1:00	Deana Salvadore (CP)
1:15	Jesse Wheeler (CP)
1:30	Jillian Falt (CP)
	<b>BREAK</b>
2:00	David Hunter (HUM)
2:15	Caroline Chambers (HUM)
2:30	Jonathan Tobal (HUM)
2:45	Alexandra Reale (HUM)
3:00	Joseph Saulenas (HUM)
	<b>BREAK</b>
3:30	Morgan Theobald (HUM)
3:45	Erik Lascano (HUM)
4:00	Olivia Arcilla (HUM)
4:15	Raymond Ackerman (HUM)
4:30	Mateusz Rojek (MUS)
4:45	Cole Whittenburg (MUS)
5:00	Cassandra Hillmer (IND)

<b>Thursday, April 11</b> <b>UC 168 A/B</b>	
8:30	Kristian Adap (NUR)
8:45	Melanie Afuang (NUR)
9:00	Annika Alviar (NUR)
9:15	Michael Borriello (NUR)
9:30	Zoey Gibbs (NUR)
9:45	Joanne Iglesias (NUR)
10:00	Micah Mangundayao (NUR)
10:15	Gabriel Morton (NUR)
	<b>BREAK</b>
10:45	Kristen Myers (NUR)
11:00	Ramoncalvin Ombrete (NUR)
11:15	Daniel Podlesiecki (NUR)
11:30	Gem Polius (NUR)
11:45	Markie Serafini (NUR)
12:00	Kyle Siringan (NUR)
12:15	Ashley Velasquez (NUR)
12:30	Anna Weisz (NUR)
	<b>BREAK</b>
1:00	John Zeitler (IND)
1:15	Dante Vocaturo (IND)
1:30	Emmanuel Garcia (IND)
	<b>BREAK</b>
2:00	Marisa Adelman (BU)
	Meagan Trozzo (BU)
	Kyle Quigley (BU)
	Andrew Masefski (BU)
3:00	Mirella Arias-Rios (BU)
	Madeline Rydlewski (BU)
	James Khoneisser (BU)
	Jonathan Hommes (BU)
4:00	Christopher Naylor (BU)
	Nicolelynn Garcia (BU)
	Elieth Serrano Ortega (BU)
	Robert Wolfe (BU)

**Performing & Literary Arts Track**  
**Tuesday, 4/9 – 7:00 p.m.**  
**Cheng Library Auditorium**  
*(order to be announced)*

Kasey Arnold
Faith Boonstra
Briseyda Bravo
Sophia Candrilli
Mackenzie Donnelly
Jonathan Pinon
Richard Potenza
Christina Sakelakos
Erika Schiller
Michael Topping
Christopher Von Essen



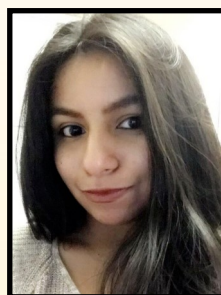
*Please join us for a reception following the Performing and Literary Arts presentations in the Library Friends' Lounge next door to the Auditorium.*

Out of courtesy to our presenters and guests, please refrain from entering and exiting the room during the presentations. Thank you!

<b>TRACK CODES</b>	
<b>BIO</b>	Biology
<b>BU</b>	Business
<b>CGSI</b>	Cognitive Science
<b>CP</b>	Clinical Psy. & Neuropsychology
<b>HUM</b>	Humanities
<b>IND</b>	Independent
<b>MUS</b>	Music
<b>NUR</b>	Nursing
<b>PLA</b>	Performing and Literary Arts
<b>SSH</b>	Social Sciences



**RAYMOND ACKERMAN**  
**Honors Track:** Humanities  
**Majors:** Philosophy and Elementary Education  
**Thesis Title:** *The Free Will Helmet: Semantic Compatibilism Based on Ontology and Neurophysiology*  
**Thesis Advisor:** Dr. K. Molly O'Donnell



**MIRELLA ARIAS-RIOS**  
**Honors Track:** Business  
**Majors:** Accounting and Professional Sales  
**Thesis Title:** *Pariser Industries Finished Goods Analysis*  
**Thesis Advisors:** Dr. Chen-Ho (Mike) Chao and Dr. Raza Mir



**KRISTIAN ADAP**  
**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *Influences of Clinical- Decision Making of the Off-Duty Nurse in the Prehospital Setting*  
**Thesis Advisor:** Dr. Jill Nocella



**KASEY ARNOLD**  
**Honors Track:** Performing and Literary Arts  
**Major:** Art (Studio Art)  
**Thesis Title:** *AND, OR*  
**Thesis Advisor:** Dr. Philip Cioffari



**MARISA ROSE ADELMAN**  
**Honors Track:** Business  
**Major:** Accounting  
**Thesis Title:** *Raw Materials Solution for Pariser Industries, Inc.*  
**Thesis Advisors:** Dr. Chen-Ho (Mike) Chao and Dr. Raza Mir



**RICHARD BACH**  
**Honors Track:** Cognitive Science  
**Major:** Nursing  
**Thesis Title:** *Privacy Fatigue and Intention to Disclose Personal Information on Social Media*  
**Thesis Advisors:** Dr. David Freestone and Dr. Amy Learmonth



**MELANIE AFUANG**  
**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *Identifying Effective Interventions for Depression and Anxiety in Adult Cancer Patients: A Systematic Review of the Literature*  
**Thesis Advisor:** Dr. Jill Nocella



**SARAH BERROA**  
**Honors Track:** Cognitive Science  
**Major:** Communication Disorders & Sciences  
**Thesis Title:** *Is It Funny? Demographic Effects on the Perception of Humor*  
**Thesis Advisor:** Dr. Amy Learmonth



**ANNIKA ALVIAR**  
**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *A Systematic Review of Literature: Optimal Interventions for Depression and Anxiety in Immigrant Children and Adolescents*  
**Thesis Advisor:** Dr. Jill Nocella



**FAITH CRYSTAL BOONSTRA**  
**Honors Track:** Performing and Literary Arts  
**Majors:** Music (Pop) and Asian Studies (Japanese Focus)  
**Thesis Title:** *The Blue Side of the Pink Ribbon*  
**Thesis Advisor:** Dr. Philip Cioffari



**OLIVIA ARCILLA**  
**Honors Track:** Humanities  
**Majors:** History and Secondary Education (Teachers of Students with Disabilities)  
**Thesis Title:** *Hamilton the Musical: Changing the Social Studies Classroom*  
**Thesis Advisor:** Dr. K. Molly O'Donnell



**MICHAEL VINCENT BORRIELLO**  
**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *The Nursing Practice Gap: A Systematic Review on Ways to Narrow the Gap*  
**Thesis Advisor:** Dr. Jill Nocella





**MICHELE BOYLE**

**Honors Track:** Business  
**Major:** Financial Planning  
**Thesis Title:** *Resident vs. Commuter Students: How Students' Living Arrangements Affect Their Workload*  
**Thesis Advisors:** Dr. Bela Florenthal and Dr. Chen-Ho (Mike) Chao



**ROSEMARY DAVIDSON**

**Honors Track:** Business  
**Major:** Business Management  
**Thesis Title:** *Social Media Influencers and Millennials*  
**Thesis Advisors:** Dr. Bela Florenthal and Dr. Chen-Ho (Mike) Chao



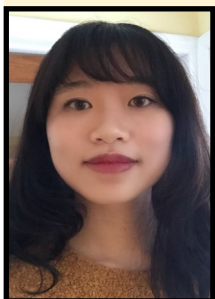
**BRISEYDA BRAVO**

**Honors Track:** Performing and Literary Arts  
**Majors:** Psychology and Criminology & Criminal Justice  
**Thesis Title:** *You Don't Choose Family, But You Choose Your Path: A Fiction Novel Based on a Real-Life Story*  
**Thesis Advisor:** Dr. Philip Cioffari



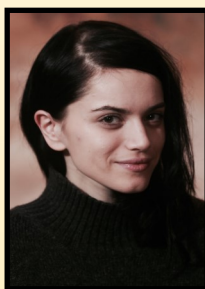
**CHELSEA DAVIS**

**Honors Track:** Cognitive Science  
**Major:** Communication Disorders & Sciences  
**Thesis Title:** *Comparative Effects of Labels and Semantic Knowledge on Visual Processing*  
**Thesis Advisors:** Dr. David Freestone and Dr. Amy Learmonth



**SOPHIA CANDRILLI**

**Honors Track:** Performing and Literary Arts  
**Majors:** Sociology and Asian Studies  
**Thesis Title:** *Into Ruin*  
**Thesis Advisor:** Dr. Philip Cioffari



**MACKENZIE E. DONNELLY**

**Honors Track:** Performing and Literary Arts  
**Major:** English (Writing)  
**Thesis Title:** *That Which Blooms Amidst the Caldera: A Collection of Poetry and Prose*  
**Thesis Advisor:** Dr. Philip Cioffari



**CAROLINE CHAMBERS**

**Honors Track:** Humanities  
**Major:** Communication (Public Relations)  
**Thesis Title:** *Collaborative Adversaries: Feminists and Conservatives Confront Porn in the Age of #MeToo*  
**Thesis Advisor:** Dr. K. Molly O'Donnell



**MORGANN ALYSSA DUNCAN**

**Honors Track:** Cognitive Science  
**Major:** Athletic Training  
**Thesis Title:** *Quality of Autobiographical Memory in Concussed Athletes*  
**Thesis Advisor:** Dr. Amy Learmonth



**JUSTIN CHUDLEY**

**Honors Track:** Cognitive Science  
**Major:** Computer Science  
**Thesis Title:** *Comparing Algorithmic Trading Decisions to Human Trading Decisions*  
**Thesis Advisors:** Dr. David Freestone and Dr. Amy Learmonth



**ALDRICK ESPINOSA**

**Honors Track:** Biology  
**Major:** Biology  
**Thesis Title:** *Phylogenetic Relationship Between Western, Eastern, and European Funnel-weaver Spiders*  
**Thesis Advisor:** Dr. Joseph Spagna



**HANNAH COMIA**

**Honors Track:** Music  
**Major:** Music (BM Classical Performance Piano)  
**Thesis Title:** *The Duo Sonata: The Historical Significance and Influence of Beethoven's Cello Sonata No. 4, Op. 102, No.1*  
**Thesis Advisors:** Dr. Carl Patrick Bolleia and Dr. Lauren Fowler-Calisto



**JILLIAN RAE FALT**

**Honors Track:** Clinical Psychology and Neuropsychology  
**Major:** Psychology  
**Thesis Title:** *The DRM Paradigm*  
**Thesis Advisors:** Dr. Randi Ona and Dr. Bruce Diamond



**LUISA GALLEGO-ZULUAGA**

**Honors Track:** Biology  
**Major:** Biology  
**Thesis Title:** *Fall and Winter Activity of Bats in High Mountain Park Preserve*  
**Thesis Advisors:** Dr. Lance Risley and Dr. Joseph Spagna



**ASZHADIA HARRIS**

**Honors Track:** Cognitive Science  
**Major:** Communication Disorders & Sciences  
**Thesis Title:** *Evaluating the Effectiveness of AAC on Social Development in Children*  
**Thesis Advisor:** Dr. Amy Learmonth



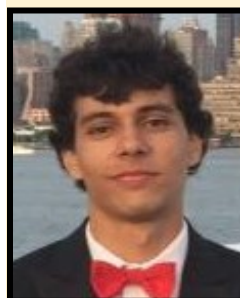
**SABRINA GALLOZA**

**Honors Track:** Biology  
**Major:** Biology  
**Thesis Title:** *Detecting Differences Between Honeybee Gut Microbiomes in a Quick, Economical SYBR qPCR Assay*  
**Thesis Advisors:** Dr. Kendall Martin and Dr. Joseph Spagna



**CASSANDRA HILLMER**

**Honors Track:** Independent  
**Majors:** Mathematics and Secondary Education  
**Thesis Title:** *Implementing Problem-Solving in Small Group Settings to Engage Students in Mathematical Practices at the Middle School Level*  
**Thesis Advisors:** Dr. Sharon Leathers, Dr. Ronald Verdicchio, and Dr. Barbara Andrew



**EMMANUEL GARCIA**

**Honors Track:** Independent  
**Major:** Music (BM Jazz Studies)  
**Thesis Title:** *The Role of Music in Motion Pictures*  
**Thesis Advisors:** Dr. David Weisberg and Dr. Barbara Andrew



**SARAH HITCHCOCK**

**Honors Track:** Clinical Psychology and Neuropsychology  
**Major:** Psychology  
**Thesis Title:** *Effectiveness of Yoga for Posttraumatic Stress Disorder Symptomology*  
**Thesis Advisor:** Dr. Bruce Diamond



**NICOLELYNN GARCIA**

**Honors Track:** Business  
**Majors:** Accounting and Financial Planning  
**Thesis Title:** *An Analysis of RPG Acoustical Systems*  
**Thesis Advisors:** Dr. Chen-Ho (Mike) Chao and Dr. Raza Mir



**MARIA KATRINA HOLGANZA**

**Honors Track:** Biology  
**Major:** Biology (Physiology and Behavior)  
**Thesis Title:** *Synthesis of Daumone Precursor and Its Effect on Aging in Saccharomyces Cerevisiae*  
**Thesis Advisors:** Dr. James Arnone and Dr. Joseph Spagna



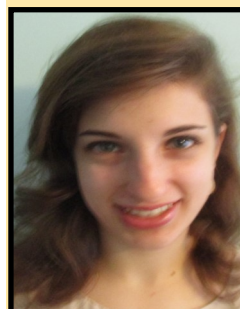
**ZOEY GIBBS**

**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *An Integrative Review of the Science on Reducing Infant and Maternal Mortality in African Americans*  
**Thesis Advisor:** Dr. Jill Nocella



**JONATHAN HOMMES**

**Honors Track:** Business  
**Major:** Financial Planning  
**Thesis Title:** *Pariser Industries Finished Goods Analysis*  
**Thesis Advisors:** Dr. Chen-Ho (Mike) Chao and Dr. Raza Mir



**ANNA GUARINO**

**Honors Track:** Social Sciences  
**Major:** Political Science  
**Thesis Title:** *The Psychosocial Benefits of Martial Arts Training*  
**Thesis Advisor:** Dr. Neil Kressel



**DAVID HUNTER**

**Honors Track:** Humanities  
**Majors:** Secondary Education (Teachers of Students with Disabilities) and History  
**Thesis Title:** *There is a Tide in the Affairs of Men: Plato and Shakespeare*  
**Thesis Advisor:** Dr. K. Molly O'Donnell





**JOANNE IGLESIAS**  
**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *Relationship Between Self-Efficacy, Self-Esteem, and Assertiveness in Undergraduate Nursing Students*  
**Thesis Advisor:** Dr. Jill Nocella



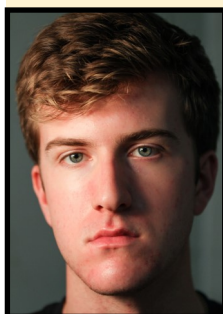
**DYLAN LEWIN**  
**Honors Track:** Biology  
**Major:** Biology  
**Thesis Title:** *Web Construction and Prey Capture in the Grass Spider, *Agelenopsis Pennsylvanica**  
**Thesis Advisor:** Dr. Joseph Spagna



**JAMES KHONEISSER**  
**Honors Track:** Business  
**Major:** Accounting  
**Thesis Title:** *Pariser Industries Finished Goods Analysis*  
**Thesis Advisors:** Dr. Chen-Ho (Mike) Chao and Dr. Raza Mir



**VINCENT LOUD**  
**Honors Track:** Cognitive Science  
**Major:** Computer Science  
**Thesis Title:** *Reimagining the Skinner Box*  
**Thesis Advisors:** Dr. David Freestone and Dr. Amy Learmonth



**THOMAS KILLACKEY**  
**Honors Track:** Music  
**Major:** Music (Jazz Studies)  
**Thesis Title:** *Akinmusire's "The Imagined Savior is Far Easier to Paint:" An Analysis and Juxtaposition of Postmodern Improvisation and Composition*  
**Thesis Advisor:** Dr. Lauren Fowler-Calisto



**MICAH MANGUNDAYAO**  
**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *Factors that Affect Pediatric Registered Nurses' Job Satisfaction*  
**Thesis Advisor:** Dr. Jill Nocella



**MIRANDA LABBREE**  
**Honors Track:** Cognitive Science  
**Major:** Communication Disorders & Sciences  
**Thesis Title:** *Can Dinosaurs be Girls?*  
**Thesis Advisor:** Dr. Amy Learmonth



**ANDREW MASSEFSKI**  
**Honors Track:** Business  
**Majors:** Accounting & Finance  
**Thesis Title:** *Raw Materials Solution for Pariser Industries, Inc.*  
**Thesis Advisors:** Dr. Chen-Ho (Mike) Chao and Dr. Raza Mir



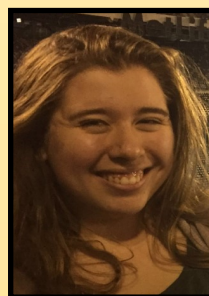
**KYLE LABOUSEUR**  
**Honors Track:** Business  
**Major:** Business Management  
**Thesis Title:** *Millennials' Preference for Online Versus In-Person Coaching Methods*  
**Thesis Advisors:** Dr. Bela Florenthal and Dr. Chen-Ho (Mike) Chao



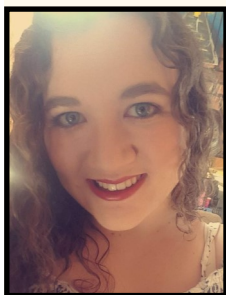
**GABRIEL MORTON**  
**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *Evaluating the Knowledge and Risks of Coronary Heart Disease Among Filipino American Young Adults*  
**Thesis Advisor:** Dr. Jill Nocella



**ERIK LASCANO**  
**Honors Track:** Humanities  
**Majors:** Political Science and Legal Studies  
**Thesis Title:** *Rethinking Criminal Responsibility: Evidence of Mitigating Culpability and Its Implications for Reforming the Criminal Justice System*  
**Thesis Advisor:** Dr. K. Molly O'Donnell



**MARY E. MOYNIHAN**  
**Honors Track:** Cognitive Science  
**Major:** Communication Disorders & Sciences  
**Thesis Title:** *The Broad Autism Phenotype and the Honors College*  
**Thesis Advisor:** Dr. Amy Learmonth



**KRISTEN MYERS**

**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *Nursing Burnout and the Factors that Influence It*  
**Thesis Advisor:** Dr. Jill Nocella



**STEPHEN PALE**

**Honors Track:** Music  
**Major:** Music (Jazz Studies)  
**Thesis Title:** *Jazz Album Art: Fusing Art and Music in Miles Okazaki's "Mirrors," "Generations," and "Figurations"*  
**Thesis Advisor:** Dr. Lauren Fowler-Calisto



**CHRISTOPHER NAYLOR**

**Honors Track:** Business  
**Major:** Marketing  
**Thesis Title:** *An Analysis of RPG Acoustical Systems*  
**Thesis Advisors:** Dr. Chen-Ho (Mike) Chao and Dr. Raza Mir



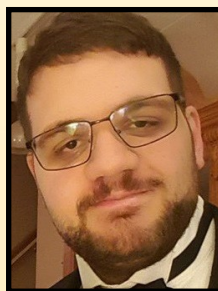
**REBECCA PAVLICK**

**Honors Track:** Clinical Psychology and Neuropsychology  
**Major:** Psychology  
**Thesis Title:** *High Levels of Executive Function and Sensation Seeking Lead to Resilience*  
**Thesis Advisor:** Dr. Bruce Diamond



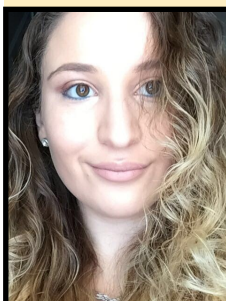
**RAMONCALVIN OMBRETE**

**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *A Non-Experimental Study of the Correlation of Physical Activity and Levels of Burnout in Nurses*  
**Thesis Advisor:** Dr. Jill Nocella



**JONATHAN PINON**

**Honors Track:** Performing and Literary Arts  
**Major:** Music (Sound Engineering Arts)  
**Thesis Title:** *Desiderata*  
**Thesis Advisor:** Dr. Philip Cioffari



**MADELEINE OPPENHEIM**

**Honors Track:** Cognitive Science  
**Major:** Communication Disorders & Sciences  
**Thesis Title:** *Cognitive Disfluency*  
**Thesis Advisor:** Dr. Amy Learmonth



**DANIEL PODLESIECKI**

**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *The Relationship Between Physical Exercise and Self-Esteem Levels in Nursing Students*  
**Thesis Advisor:** Dr. Jill Nocella



**SEAN ORSO**

**Honors Track:** Social Sciences  
**Major:** Mathematics  
**Thesis Title:** *How Americans Think About the Abortion Issue*  
**Thesis Advisor:** Dr. Neil Kressel



**LAUREN POLETTI**

**Honors Track:** Biology  
**Major:** Biology  
**Thesis Title:** *Airborne Transmission of the Honeybee Waggle-dance Pheromone*  
**Thesis Advisors:** Dr. Joseph Spagna and Dr. David Gilley



**CASAUNDRAG PAGAN**

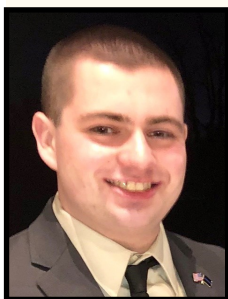
**Honors Track:** Social Sciences  
**Major:** Communication (Public Relations)  
**Thesis Title:** *Hispanic Student Ambitions and the Influence of Family Structure*  
**Thesis Advisors:** Dr. Sumithra Raghavan and Dr. Neil Kressel



**GEM POLIUS**

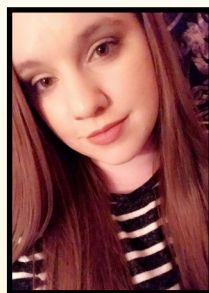
**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *The Effects of Various Interventions on Future Health Outcomes of Infants Born with Neonatal Abstinence Syndrome: A Systematic Review of the Literature*  
**Thesis Advisor:** Dr. Jill Nocella





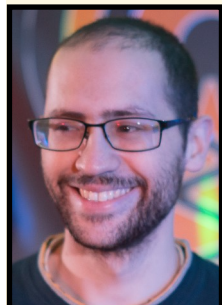
**TYLER PONOMAREV**

**Honors Track:** Social Sciences  
**Major:** Criminology & Criminal Justice  
**Thesis Title:** *Representations of Police on Television: A Content Analytic Study*  
**Thesis Advisors:** Dr. Lee Michael Johnson and Dr. Neil Kressel



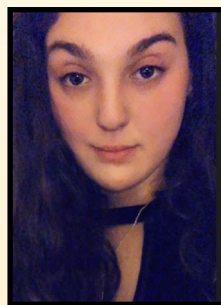
**CHRISTINA SAKELAKOS**

**Honors Track:** Performing and Literary Arts  
**Major:** Athletic Training  
**Thesis Title:** *Self-Reflection*  
**Thesis Advisor:** Dr. Philip Cioffari



**RICHARD POTENZA**

**Honors Track:** Performing and Literary Arts  
**Major:** Communication (Media Production)  
**Thesis Title:** *Bag Head*  
**Thesis Advisor:** Dr. Philip Cioffari



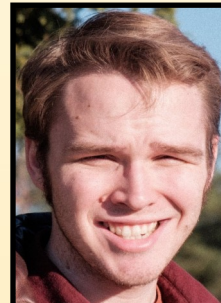
**DEANA SALVADORE**

**Honors Track:** Clinical Psychology and Neuropsychology  
**Major:** Psychology  
**Thesis Title:** *Determination of Personality, Behavioral, and Cognitive Profiles Associated with Sociopathy*  
**Thesis Advisor:** Dr. Bruce Diamond



**KYLE DAVID QUIGLEY**

**Honors Track:** Business  
**Major:** Financial Planning  
**Thesis Title:** *Raw Materials Solution for Pariser Industries, Inc.*  
**Thesis Advisors:** Dr. Chen-Ho (Mike) Chao and Dr. Raza Mir



**JOSEPH SAULENAS**

**Honors Track:** Humanities  
**Major:** Communication (Media Production)  
**Thesis Title:** *Road To Nowhere: Media, Psychology, and David Byrne's Utopia*  
**Thesis Advisor:** Dr. K. Molly O'Donnell



**ALEXANDRA REALE**

**Honors Track:** Humanities  
**Majors:** Sociology and Criminology & Criminal Justice  
**Thesis Title:** *Tearing Families Apart, Ripping the Country Apart: The Trump Administration's Immigration Enforcement and Its Impact*  
**Thesis Advisor:** Dr. K. Molly O'Donnell



**ERIKA SCHILLER**

**Honors Track:** Performing and Literary Arts  
**Major:** Communication (Broadcast Journalism)  
**Thesis Title:** *City of Burlington Documentary*  
**Thesis Advisor:** Dr. Philip Cioffari



**MATEUSZ ROJEK**

**Honors Track:** Music  
**Major:** Music Education (Classical Piano)  
**Thesis Title:** *Male Population Performance Anxiety in Youth Choirs*  
**Thesis Advisor:** Dr. Lauren Fowler-Calisto



**MARKIE B. SERAFINI**

**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *College Students Smoking Habits*  
**Thesis Advisor:** Dr. Jill Nocella



**MADELINE RYDLEWSKI**

**Honors Track:** Business  
**Major:** Marketing  
**Thesis Title:** *Pariser Industries Finished Goods Analysis*  
**Thesis Advisors:** Dr. Chen-Ho (Mike) Chao and Dr. Raza Mir



**ELIETH SERRANO ORTEGA**

**Honors Track:** Business  
**Major:** Management  
**Thesis Title:** *An Analysis of RPG Acoustical Systems*  
**Thesis Advisors:** Dr. Chen-Ho (Mike) Chao and Dr. Raza Mir



**REEM SHAIR**

**Honors Track:** Social Sciences  
**Major:** Public Health  
**Thesis Title:** *A Content Analysis of Direct to Consumer Adverting from Pharmaceutical Companies*  
**Thesis Advisors:** Dr. Zoe Meleo-Erwin and Dr. Neil Kressel



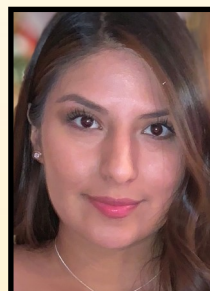
**MICHAEL TOPPING**

**Honors Track:** Performing and Literary Arts  
**Major:** Music (Jazz Performance)  
**Thesis Title:** *Four Pieces of Music for Four Poems*  
**Thesis Advisor:** Dr. Philip Cioffari



**WILLIAM SIGNORETTI**

**Honors Track:** Business  
**Majors:** Accounting & Finance  
**Thesis Title:** *The Importance of on the Job Training: Do Skills College Students Learn in Class Directly Apply to Jobs/Internships They Obtain?*  
**Thesis Advisors:** Dr. Bela Florenthal and Dr. Chen-Ho (Mike) Chao



**GABRIELA TRIVEÑO**

**Honors Track:** Business  
**Major:** Finance  
**Thesis Title:** *Male Millennials' Perception of Women in the Workforce and its Effect on Sexual Harassment*  
**Thesis Advisors:** Dr. Bela Florenthal and Dr. Chen-Ho (Mike) Chao



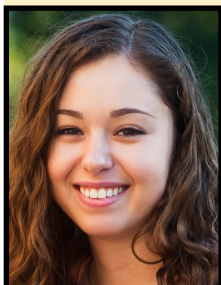
**KYLE SIRINGAN**

**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *An Objective Measurement of Compassion Fatigue of Hospice Nurses Using the Professional Quality of Life Checklist*  
**Thesis Advisor:** Dr. Jill Nocella



**MEAGAN TROZZO**

**Honors Track:** Business  
**Major:** Business Management  
**Thesis Title:** *Raw Materials Solution for Pariser Industries, Inc.*  
**Thesis Advisors:** Dr. Chen-Ho (Mike) Chao and Dr. Raza Mir



**SARA STEINEL**

**Honors Track:** Cognitive Science  
**Major:** Computer Science  
**Thesis Title:** *A Knowledge Discovery Approach to Analyzing Mental Health Problems in NYC*  
**Thesis Advisors:** Dr. David Freestone and Dr. Amy Learmonth



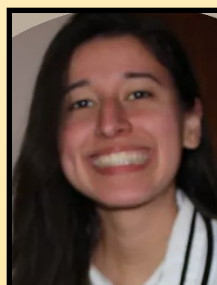
**ABIGAIL URENA**

**Honors Track:** Social Sciences  
**Major:** Public Health  
**Thesis Title:** *Finding Thinspiration: An Integrative Review of Pro-Anorexia Literature*  
**Thesis Advisors:** Dr. Zoe Meleo-Erwin and Dr. Neil Kressel



**MORGAN THEOBALD**

**Honors Track:** Humanities  
**Major:** Communication Disorders & Sciences  
**Thesis Title:** *The Origins of Wonder Woman: Comics as Psychological Propaganda, 1930s-1940s*  
**Thesis Advisor:** Dr. K. Molly O'Donnell



**ASHLEY VELASQUEZ**

**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *Behavioral Health and the Willingness to Seek Help*  
**Thesis Advisor:** Dr. Jill Nocella



**JONATHAN TOBAL**

**Honors Track:** Humanities  
**Major:** Mathematics  
**Thesis Title:** *"More than an Athlete": LeBron James as an Athlete/Activist*  
**Thesis Advisor:** Dr. K. Molly O'Donnell



**DANTE VOCATURRO**

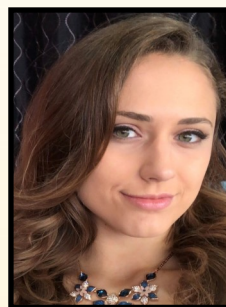
**Honors Track:** Independent  
**Major:** Communication (Broadcast Journalism)  
**Thesis Title:** *Evolution: An Analysis of Women's Roles on WWE Programming*  
**Thesis Advisors:** Dr. Nicholas Hirshon and Dr. Barbara Andrew





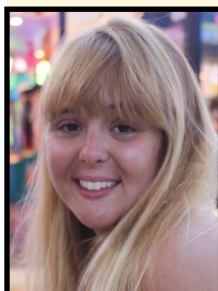
**CHRISTOPHER JAMES  
VON ESSEN**

**Honors Track:** Performing and Literary Arts  
**Majors:** Communication (Theater and Comedy) and English Writing  
**Thesis Title:** *A Collection of Comedic Sketches*  
**Thesis Advisor:** Dr. Philip Cioffari



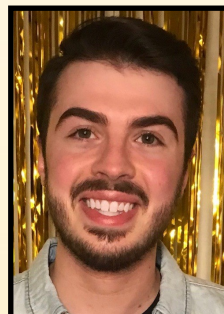
**IRINA ZAYTSEVA**

**Honors Track:** Cognitive Science  
**Major:** Communication Disorders & Sciences  
**Thesis Title:** *Perception of Accents on Different Context*  
**Thesis Advisor:** Dr. Amy Learmonth



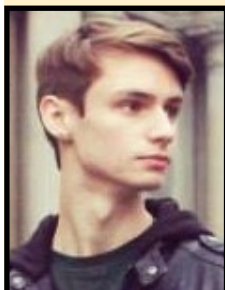
**ANNA WEISZ**

**Honors Track:** Nursing  
**Major:** Nursing  
**Thesis Title:** *The Impact of Animal Assisted Therapy on Children Diagnosed with Autism Spectrum Disorder and Attention Deficit/Hyperactive Disorder*  
**Thesis Advisor:** Dr. Jill Nocella



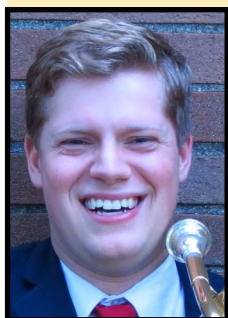
**JOHN C. ZEITLER**

**Honors Track:** Independent  
**Major:** Communication (Public Relations)  
**Thesis Title:** *Album Rollouts: How a Project's Rollout Influences an Album's Success*  
**Thesis Advisors:** Dr. Lorra Brown and Dr. Barbara Andrew



**JESSE WHEELER**

**Honors Track:** Clinical Psychology and Neuropsychology  
**Major:** Psychology  
**Thesis Title:** *Mindfulness as a Means for Reducing Anxiety and Perceived Stress*  
**Thesis Advisors:** Dr. Randi Ona and Dr. Bruce Diamond



**COLE AMBROSE WHITTENBURG**

**Honors Track:** Music  
**Majors:** Music Education and Music  
**Thesis Title:** *Friends and Pioneers: The Stories of Alec Wilder, Harvey Phillips, and the Evolution of Tuba Solo Literature*  
**Thesis Advisors:** Dr. Carl Patrick Bolleia and Dr. Lauren Fowler-Calisto



**ROBERT WOLFE**

**Honors Track:** Business  
**Major:** Financial Planning  
**Thesis Title:** *An Analysis of RPG Acoustical Systems*  
**Thesis Advisors:** Dr. Chen-Ho (Mike) Chao and Dr. Raza Mir

**WILLIAM PATERSON UNIVERSITY  
HONORS COLLEGE**

**Barbara Andrew**  
Dean

**Jan Pinkston**  
Assistant Director

**Alice Armstrong**  
Administrative Assistant

**Lily Fritsch**  
Graduate Assistant

**Samantha Koprowski**  
Student Assistant

— TRACK DIRECTORS —

**Dr. Barbara Andrew**  
Independent

**Dr. Neil Kressel\***  
Social Sciences

**Dr. Chen-Ho (Mike) Chao\***  
Business

**Dr. Amy Learmonth**  
Cognitive Science

**Dr. Philip Cioffari**  
Performing and Literary Arts

**Dr. Jill Nocella**  
Nursing

**Dr. Bruce Diamond**  
Clinical Psychology and Neuropsychology

**Dr. K. Molly O'Donnell**  
Humanities

**Dr. Lauren Fowler-Calisto**  
Music

**Dr. Joseph Spagna**  
Biology

\* **Dr. Raza Mir** served as interim Director of the Business Track for the fall 2018 semester.

\* **Dr. Sumithra Raghavan** is serving as interim Director of the Social Sciences Track for the spring 2019 semester.

# EXPLORATIONS

Research, Scholarship,  
& Creative Expression

20<sup>th</sup> Anniversary

**APRIL 2 - MAY 2, 2019**

Events Campus Wide



# Abstracts

**Alphabetical Listing by First Author**

The Office of Sponsored Programs:

**Promoting Ideas Into Knowledge**

**Rahi Abouk, Faculty, Economics, Finance and Global Business**

*Maternal employment, time use, and overweight children: A series of implications of legal marijuana sales*

When states allow for recreational use and sale of marijuana legally, we find that parents with grade-school aged kids in the household have lower employment rates and lower labor force participation rates. As a plausible explanation, we offer evidence establishing a concurrent increase in older worker labor force participation and employment, which likely is attributable to the latter's greater ability to manage work-limiting conditions. In a two-stage estimation, we also show that the grade-school aged children of women not in the labor force following legal marijuana sales have a lower prevalence of obesity. Finally, we show in time use data that parents are spending more times cooking food and less time dining out with their kids following marijuana legalization.

This activity was supported by: Assigned Release Time for Research (ART)

**Rahi Abouk, Faculty, Economics, Finance and Global Business**

*Cannabis Research Institute*

We will introduce the Cannabis Research Institute (CRI) and the areas of research conducted by the affiliated faculty members. We will also talk about the current situation about legalizing recreational cannabis in New Jersey and discuss potential benefits and harms.

**Rahi Abouk, Faculty, Economics, Finance and Global Business**

*Effect of E-Cigarette Taxation on Prenatal Smoking and Birth Outcomes*

States and counties have recently levied taxes on e-cigarettes in the US. Using the 2013-2017 census of all births, we show that these taxes increase the likelihood of pregnant women switching to conventional cigarettes. However, not much effect was observed on birth outcome. These results are in line with the evidence suggesting that the level of nicotine, the substance that adversely affects infant health, are similar in e-cigarettes and conventional cigarettes.

This activity was supported by: Cotsakos College of Business, Business Practice and Policy Research Forum (BPPRF) Grant

**Raymond Ackerman, Undergraduate Student, Humanities Honors Track**

*The Free Will Helmet:*

*Semantic Compatibilism Based on Ontology and Neurophysiology*

Suppose there was a machine that could give you more free will. Advancements in neuroscience and biotechnology make such a machine plausible. In this essay, I analyze the phenomenon of free will, including philosophical debate surrounding its truth. We ordinarily take it for granted that we are free to act as we will. Philosophical positions on free will generally divide into two camps: compatibilists who believe that freedom is possible in a mechanical universe, and incompatibilists who maintain that if a system is mechanically determined, then it cannot possibly be free. In my analysis, I'm specifically interested in investigating the evidence for compatibilism. The compatibilism I propose preserves moral responsibility, self-actualization, and even the full semantic use of the term freedom while designating which uses are unintelligible. Two thought experiments are used to support my proposed compatibilism: 1) the free will helmet and 2) the meaning of freedom in unwinnable versus winnable games.

**Kristian Adap, Undergraduate Student, Nursing Honors Track**

*Influences of Clinical- Decision Making of the Off-Duty Nurse in the Prehospital Setting*

There is a gap in the literature regarding the use of the off-duty nurse's clinical decision-making skills in the out-of-hospital setting. This study aimed to explore aspects of clinical decision-making in this context to provide more adequate prehospital care. Information was collected through semi-structured interview to collect nurse narratives of interventions and rationale behind those interventions. Qualified participants involved in the study are licensed, practicing nurses who encountered emergencies in the out-of-hospital setting while off-duty. Common themes in each participant's clinical decision-making process were found using content analysis.

### **Marisa Adelman, Undergraduate Student, Business Honors Track**

#### *Raw Materials Solution for Pariser Industries, Inc.*

Four honors students and a multi-million dollar chemical company. How can these two go together? We were called in to be management consultants in the fall of 2018. We spent many days at the factory learning the ins and outs of the chemical industry and our specific company, Pariser Industries Inc. They operate all throughout the United States, Canada and the Caribbean. They've been around for 50 years- so what do they need four students for? Turns out, many things. In fact, so many things we could not tackle every issue there was. As a consultant team, we chose the issues that were most pressing and we had to develop a solution that solved as many issues as possible. We worked together using each of our individual, unique experiences and assets to formulate a plan.

### **Melanie Afuang, Undergraduate Student, Nursing Honors Track**

#### *The Most Optimal Intervention for Depression and Anxiety in Adult Cancer Patients: A Systematic Review of the Literature*

Cancer is a group of diseases that involve abnormal cell growth that have the potential to invade and spread to other parts of the body. The onset of cancer or the treatment process itself can be alarming, stressful, and depressing for patients. Therefore, it's important to focus on interventions to help alleviate symptoms of depression and anxiety for cancer patients. This systematic review of peer-reviewed journals found from CINAHL and PsychINFO published from 2008 through 2018 focused on the importance of treatment for adult cancer patients with depression and anxiety and on the comparison of various interventions that have been utilized around the world and proved to help ease these symptoms. The goal of this paper was to find the most effective intervention for adult cancer patients with depression and anxiety. Analysis is underway with study completion expected in early 2019. Keywords: cancer, patients, interventions, depression, anxiety

### **Abdulaziz Albarshaa, Master's Student, Communication**

Faculty Sponsor: Kyung-Hyan (Angie) Yoo

#### *The effect of Snapchat's micro-celebrities on consumer buying behavior in Saudi Arabia*

Social media has brought significant changes in the buying behaviors of consumers. Nowadays, a growing number of companies work with micro-celebrities' in social media platforms for their marketing campaigns to promote brand or product. While Snapchat is one of the most favorable social media platforms in Saudi Arabia, still there are no empirical studies that investigate how Snapchat influences on Saudi Arabia consumers' purchasing behaviors, in particular, the role of micro-celebrities in the marketing campaigns. Therefore, this study aims to explore the influence of Snapchat's micro-celebrities on consumers' purchasing decision-making in Saudi Arabia. An online survey will be used to collect data. The findings of this study are useful for both marketers and academics, to better understand the impact of Snapchat's micro-celebrities.

### **Lydia Albuquerque, Faculty, Nursing**

#### *Contribution of Short-Term Medical Mission (STMMs) to City of Canaan, Haiti: Clinic of Hope*

**Purpose:** The purpose of this project was to partner and build a medical clinic in the city of Canaan which would provide primary care services to the residents. A collaboration was sought between National Association of Indian Nurses of America and United Light of Hope a non profit based organization involved in medical mission work in Haiti. A community need assessment tool was utilized to assess the needs of the identified city in Haiti.

**Objectives:** 1. To build a clinic to provide Primary care services to the community. 2. Implement a needs assessment survey of the community. 3. Train and equip local health care provider to render basic health care services to the community

**Methods:** The Advance Practice Committee of National Association Of Indian nurses of America set a goal to complete a medical mission during the office term 2017-2018. During a brain storming session, the possibility of partnering with United light of hope 501(c) 3 organization was explored. The Local chapter of Indian Nurses of Greater Houston ( INAGH) were the main stake holders along with the National Association of Indian Nurses of America( NAINA) in raising funds to build the Clinic of Hope in the city of Canaan in Haiti. A proposal was submitted to the Board of Directors, funds were approved and the drive for raising funds through non-profit organization was initiated. Dates for the medical mission were scheduled From January 23rd, 2018 to January 30th 2018. The Clinic of Hope was built and financial support for the project was raised by INAGH. Team of Seven Volunteers arrived in Haiti on January 23rd. Medical mission camps were conducted, Primary care was provided to men, women and children of the local community. Needs assessment survey was conducted through home visits. Local community members were trained to provide Basic Cardio Pulmonary resuscitation (CPR) Education on



basic topics like Hygiene, hand-washing, breast feeding, safe sex, nutrition was imparted. The work in this clinic continues with support from funds raised from local communities and national Association of Indian nurses of America. The clinic is currently run by two local health care providers and local community health workers.

Results: During the seven day medical mission, 400 patients were provided with primary care of which 120 were men 172 women and 102 children. Common diagnosis among children was scabies, ear infection and malnutrition. Newborn and children had no access to immunization. There was a high incidence of teenage pregnancy. Hypertension was most common among men and women. Most women had anemia and large number of women had vaginal infection. The community survey indicated that there was no source of safe drinking water. Houses were made of tin roof with potential of flooding during the rains. Water was stored in reservoirs for consumption. Few homes had electricity. There was one school in the local area where children were given basic education to read and write. The staple food is rice and bean and most Haitians eat only one meal a day.

Implication: Lack of health care resources resulted in high incidence of skin infection, vaginal infection, hypertension and anemia. Providing basic health care through the clinic and health education could reduce the rate of infection and disease among men, women and children. A water reservoir has been built in the clinic, so that families can access safe drinking water.

Conclusion: Repeat medical missions can contribute to provide primary care to the population of the community. Utilizing the STTMs can improve the quality of care provided by missions, and stimulate solution sharing and service learning.

This activity was supported by: National Association of Indian Nurses of America

### **James Alford, Faculty, Educational Leadership and Professional Studies**

#### *Training the Hands, Head, and Heart: Student Protest and Activism at Hampton Institute, 1920-1950*

This research project examined how African American students at historically Black Hampton Institute (now Hampton University) used their collective voice to dismantle a system of racial oppression on their campus. The overall goal of the research was to expand the current body of literature that has failed to acknowledge the contributions of African Americans, more specifically, Black students at Historically Black Colleges and Universities during the 1920s, 1930s, and 1940s. Due to their activism and protest, students at Hampton were not only able to affect subtle changes on the faculty, staff, and campus, but they were also able to radically transform the political and social climate at their institution during Jim Crow segregation.

This activity was supported by: Assigned Release Time for Research (ART)

### **Salman Alqahtani, Master's Student, Professional Communication**

Faculty Sponsor: Kyung-Hyan (Angie) Yoo

#### *The Role of social media in Americans' perception of Saudi Arabia as a tourist destination*

The recent national transformation program 2020 in Saudi Arabia have made an improvement plan for the tourism industry that leads to looking for new marketing strategies to improve the economy. With the government's growing interests in the tourism industry, it is getting more important to understand the image of Saudi Arabia as a tourist destination. This study seeks to measure the destination image of Saudi Arabia, which is a critical element in travelers decision making. There are three pillars of the study which are the Saudi Arabia images as a tourist destination, the role of social media in painting images of Saudi Arabia and their intention to visit Saudi Arabia. The purpose of this study is to investigate Americans' perceptions of Saudi Arabia as a tourist destination and the role of social media. The findings of this study can provide recommendations and suggestions to Saudi Arabia's Ministry of Tourism to attract potential tourists.

### **Ahmed Alsaykhan, Master's Student, Communication**

Faculty Sponsor: Kyung-Hyan (Angie) Yoo

#### *The Impact of Foodies' Reviews on Social Media Toward Millennials Food Decision Making*

The purpose of the study is to examine the impact of foodies' reviews on social media toward Millennials food decision making. The subjects of the study are Millennials following foodies on various social media platforms. From a theoretical perspective, this is a new area to study. There is still a lack of studies that actually conducted data and analyze the influence of foodies on social media platforms. The findings of the study can help to better understand this growing area. An online survey will be conducted, to understand the relationship between foodies' reviews on social media and food decision making.

This activity was supported by: Assigned Release Time for Research (ART)

**Annika Alviar, Undergraduate Student, Nursing Honors Track**

*A Systematic Review of Literature: Optimal Interventions for Depression and Anxiety in Immigrant Children and Adolescents*

The purpose of this systematic review of literature is to identify the relationship between depression and anxiety amongst immigrant children and adolescents, and determine the interventions that will effectively treat these conditions. Studies have shown that immigrating to a different country at a young age has a significant impact on mental health. This study reviews works of literature that conducted studies on children and adolescents between the ages of 6-18 years old who immigrated to the United States or Canada. This study then explores effective interventions that lessen depression and anxiety. Interventions include therapy, medications, or a mixture of both. Overall, a systematic review of interventions and their effectiveness is needed to understand the most appropriate response to treat depression and anxiety. This study is implemented to raise awareness in the healthcare field, so high levels of depression and anxiety would be prevented in their adulthood.

**Olivia Arcilla, Undergraduate Student, Humanities Honors Track**

*Hamilton the Musical: Changing the Social Studies Classroom*

Through my thesis, I examine the benefits of using Hamilton the Musical in a Social Studies classroom, and I explore how the classroom teacher can design effective lessons integrating the musical. I explore existing teachers' strategies as well as examine the learning outcomes of using the musical with students. I interview teachers, investigate how they employ the contents of the music lyrics and plot in their classrooms, as well as interpreting studies of the educational effectiveness of using music and nontraditional strategies for cross-curricular learning. Teaching students in a new way with new resources is an important innovation for reaching students who are struggling. Bringing Hamilton the Musical, which is now so popular, offers a great opportunity to measure the success of this approach. I conclude by offering specific strategies for using the musical most effectively to teach content.

**Mirella Arias-Rios, Undergraduate Student, Business Honors Track**

*Pariser Industries Finished Goods Analysis*

Our group was tasked with assisting Pariser Industries, a family-owned chemical manufacturer in Paterson, NJ. We focused on studying the firm's finished goods inventory. The inventory itself was very disorganized, difficult to find, and creating issues that rippled through the production process, stretching from raw material intake to delivery of shipments. Compounding this issue was a lack sufficient training for warehouse staff, and inadequate compensation / benefits. Through discussions with management, tours of the facility, and interviews of warehouse staff, we developed a comprehensive series of recommendations to improve the organization and efficiency of the warehouse team responsible for Pariser's finished goods.

**Kasey Arnold, Undergraduate Student, Performing and Literary Arts Honors Track**

*Poetry Collection*

The purpose of my poetry is to have a healthy way to express my ideas, in a way that could be beneficial to others if read by them. My themes revolve around gender, home life, and childhood. I designed my writings around a way I wanted to design my titles of each piece. I have always been interested in how a writer or artist connects their title to their piece, especially when the title of it is not that closely related. For my poems I used an original concept of a phrase, and then a definition underneath of my own creation. This helped me feel more heavily invested in the thesis I created.

**James Arnone, Faculty, Biology**

*Integrating a targeted suppressor screen to uncover novel genetic links that modulate aging into the Biotechnology curriculum at William Paterson University*

There are many hallmarks of aging, each of which has multiple genetic pathways that intersect to regulate an organisms lifespan. The loss of two of these pathways - autophagy and cellular respiration - are linked to an abnormally short chronological life-span in many species. In an attempt to identify novel genetic interactions between these pathways I designed, developed, and integrated an over-expression suppressor screen into the Biotechnology curriculum at William Paterson University. The genetic screen was designed to rescue the short lived phenotype that is associated with autophagy and respiration deficient mutants. Students in the "Recombinant DNA Technologies" (Bio 4/5300) course course identified putative regulators of this process, cloned the genes into the yeast overexpression vector pRS315 (a leucine vector), transformed their plasmids into the appropriate genetic background, and screened for rescuing the life-span phenotype seen in both the autophagy and respiration deficient

genetic backgrounds. Gene selection was based on alterations to CLS in at least one peer-reviewed, published study that had never been tested in the context of the aforementioned mutant genetic backgrounds. I will discuss this project and the advances made by William Paterson students to date, including the results of the genes that have been cloned and the current efforts to expand the study.

This activity was supported by: Assigned Release Time for Research (ART); College of Science and Health, Center for Research.

### **Avinash Arya, Faculty, Accounting and Law**

#### *Beating Business Cycles through Dynamic Compensation Structure*

Business cycles have a significant impact on the survival and profitability of business organizations. During expansion phases such as recovery and growth, economic activity tends to trend up whereas during recessionary phases such as contraction and slump, economic activity tends to trend down. Since pay structure (fixed and incentive pay) is a powerful tool to influence the motivation and performance of employees, it can have a profound impact on the ultimate success and failure of the firm.

We analyze the pay practices of 1,500 large US firms over 1993-2013 period and examine the impact of recession on the use of two widely reported performance measures- net income and sales. We find that during recessionary period, firms reduce weight on income and increase relative weight on sales. The effect is more pronounced for mature and declining firms.

The findings of the project are potentially of great interest to HR managers who are responsible for formulating effective compensation plans for sales force and to compensation committees of the board who are responsible for designing the compensation structure of CEOs and members of the top management team. Shortening product life cycles and intensifying global competition have increased pressure on these two groups to come up with effective designs of pay structure that motivate employee behavior congruent with organizational objectives. Results of this project indicate that by dynamically changing the weights on sales and income measures, the firms can capitalize on the opportunities present in the expansionary phase of business cycle and mitigate the adverse effects of recessionary phase of business cycle. This illustrates how compensation policies can be used as a strategic tool to navigate the organization through different phases of business cycle.

This activity was supported by: College Faculty Research Assistance: Business Practice and Policy Research Forum

### **Bahar Ashnai, Faculty, Professional Sales**

Prabakar Kothandaraman, Faculty, Professional Sales

#### *Does Gender Matter in Salespeople Performance Evaluation and Recruitment?*

Gender is one of the primary factors in terms of identity categorization, social equality and diversity. Although the form and strength of gender biases has experienced challenges and changes during the past decades, the issue is still burning, complicated and relevant. We use a dataset based on skill set evaluation and selection decision scores involving potential entry-level sales candidates, examine whether there are still biases with regard to gender in this context. This research provides important insights with regard to existence and form of bias within our context and

offers suggestions to organizations that seek to hire diverse workforce, particularly in respect to the gender factor. The study focused on evaluation of skill set and hiring decisions where candidate-recruiter's gender is considered. Results from our study would help companies with recruiting practices for entry level positions in sales that would actually contribute to a gender-balanced workforce.

This activity was supported by: Cotsakos College of Business, Business Practice and Policy Research Forum (BPPRF) Grant

**Valeriya Avdeev, Faculty, Accounting and Law**

Sia Nassiripour, Faculty, Accounting and Law

*Tax-Return Screening Inefficiency of the Internal Revenue Service: What Can Be Done to Increase Compliance and Detection of Erroneously Claimed Educational Credits?*

On January 31st, 2018, Treasury Inspector General for Tax Administration (TIGTA) issued a report examining the effectiveness of the agency specifically under the 2017 Tax Filing Season. The report is referenced as 2018-40-012. According to the report, during 2017 tax filing season, billions of dollars in potentially erroneous American Opportunity Tax Credits Continue to be issued.[1] American Opportunity Tax Credit is a partially refundable for undergraduate college student expenses that is only available for the first four years of undergraduate education.[2] The credit is phased-out for single taxpayers with MAGI of \$80,000 or \$160,000 if married filing jointly.[3] Specifically, TIGTA found that Internal Revenue Service continues to not effectively identify potentially erroneous American Opportunity Tax Credit claims before refunds are paid.[4] As noted in the TIGTA report, 1.2% of the returns filed during 2017 tax season contained an error and resulted in improper refunds due to American Opportunity Tax Credit error alone. This is a significant error on the part of the Internal Revenue Service that creates inefficiency and under-collection of revenue. By identifying possible solutions to this problem, an increase in the revenue of as much as \$2.8 billion can be created for the agency on annual basis. This issue is specifically of interest to William Paterson University as an educational institution that issues close to 10,000 1098-T forms every year to its students.

This activity was supported by: Cotsakos College of Business, Business Practice and Policy Research Forum (BPPRF) Grant

**Valeriya Avdeev, Faculty, Accounting and Law**

Sia Nassiripour, Faculty, Accounting and Law

*Tax-Return Screening Inefficiency of the Internal Revenue Service: What can be done to Increase Compliance and Detection of Erroneously Claimed Educational Credits?*

According to the Treasury Inspector General for Tax Administration, as of February 2nd, of 2018, Internal Revenue Service continues to assess and pay out education credit refunds to ineligible students. Specifically, Treasury Inspector General for Tax Administration estimates that IRS erroneously paid \$2.8 billion in American Opportunity Tax Credit on more than 1.7 million Tax Year 2016 returns.

As of May 5, 2017, the IRS received 138.9 million returns and issued more than 101.6 million refunds totally almost \$282 billion. As such, 1.2% of the returns filed contained an error and resulted in improper refunds due to American Opportunity Tax Credit error alone.

Our paper is aimed at examining this specific issue based on the Treasury Inspector General for Tax Administration-Results of the 2017 Filing Season Report, dated January 31, 2018 (Ref number: 2018-40-012). After examining the report and conducting relevant research, my manuscript will provide recommendations as to possible solutions to this erroneous overpayment issue, including possible changes to the IRS document matching program and possible changes to the Form 1098-T, Tuition Statement Form.

**Richard Bach, Undergraduate Student, Cognitive Science Honors Track**

*Privacy Fatigue and Intention to Disclose Personal Information on Social Media*

Social media and smartphones have taken over our daily lives and given us the ability to send messages, tweet, and share posts on the go. This constant uploading of information provides several opportunities for others to potentially misuse it. The purpose of this study is to explore the privacy concerns, habits of users and to see whether or not participants will disclose more personal information if they are fatigued. The results will be analyzed to see if there is a relationship between being fatigued and granting permission for social media applications to access different types of personal information.



## **Corey Basch, Faculty, Public Health**

### *Fluoride Related Posts on Instagram: Representation of Pro and Anti Fluoridation Standpoints*

Social media has become a prevalent mechanism for the sharing of information. This presentation will describe a study funded by CfR in 2018 which aimed to describe fluoride related content on Instagram, a popular social media platform. The presentation will begin with a discussion of why fluoride has been considered controversial over the years, and will be followed by a description of the study. In short, content categories were created and coded to describe the nature of the posts. At three points in time, data was collected. The most common topics were conspiracy theory, contained in 37.3% of posts, followed by dangers of fluoride to health (30.3%) and benefits of fluoride to teeth (28.7%). Of the posts reviewed, 96/300 (32.0%) contained pro-fluoride content while 139/300 (63.0%) posts featured anti-fluoride content. Content varied significantly between pro- vs. anti-fluoride posts. There was a higher number of anti-fluoride related content compared to pro-fluoride related content. This raises concern that consumers may be misinformed on an issue hailed as a public health achievement.

This activity was supported by: College of Science and Health, Center for Research

## **Yoel Beniluz, Faculty, Accounting and Law**

### *The Conflict of Interests Between Stockholders and Debtholders: Exploring a Reverse Wealth Transfer at Sears*

This paper investigates the idea of a reverse wealth transfer from stockholders to debtholders through a mechanism of an influential creditor. The common view in the literature addresses a transfer of wealth from debtholders to stockholders by investing, for example, in risky projects which generate returns to stockholders at the expense of the debtholders - the overinvestment problem and assets substitution. However, not enough research has addressed the transfer of wealth in the opposite way - from stockholders to bondholders. This paper contributes to the literature by exploring and highlighting such a reverse wealth transfer. Using an illustrative example based on the real-world numbers at Sears Holding Corporation, and by examining the evidence and circumstances at Sears, the paper highlights and demonstrates the notion of a reverse wealth transfer from stockholders to debtholders through a mechanism of an influential creditor. In addition, the paper examines the range of the influential creditor's share ownership in which the conflict of interests between the influential creditor and the rest of the stockholders exists. The findings of this paper suggest that stockholders should consider and establish a protection mechanism against an influential creditor.

This activity was supported by: Cotsakos College of Business, Business Practice and Policy Research Forum (BPPRF) Grant

## **Judy Bernsetin, Faculty, Languages and Cultures**

### *Linguistics Student Posters*

Undergraduate students enrolled in upper-level linguistics courses are developing posters related to grammar and syntax (LANG 3050) and Romance Languages in diaspora (LANG 3100).

#### Structure of Language (LANG 3050)

How does English grammar work? What about the grammars of other languages? We can list the patterns of individual languages, as grammar guides do. But the students enrolled in LANG 3050 will apply their skills in syntax to issues of personal interest to them, on topics such as: aphasia's effect on the syntax of bilinguals; the historical comparison of the syntax of poetry; a comparative analysis of syntax in comic books; and the syntax of pronouns in European vs. Brazilian Portuguese. Presenters: Trevor Courtright, Kaelyn Deleon, Lisandra Hidalgo, Matthew Jaekel, Casey Murphy, Madeline Reina, Tamia Williams

#### Romance Languages in Diaspora (LANG 3100)

Latin was exported throughout the Roman Empire. Over time and distance the Romance languages were born. These daughter varieties share features with the mother language, but have also diverged significantly from it. The students enrolled in LANG 3100 will take things a step further and study features of those Romance languages exported out of Europe and across the globe, often a result of colonialism: Portuguese, French, Spanish, and Romance creoles.

Presenters: Benjamin Berth, Trevor Courtright, Kaelyn Deleon, Iesha Falen, Yazmin Fritzes Junco, Kevin McKiernan, Casey Murphy, Nancy Riascos, Tamia Williams

**Sarah Berroa, Undergraduate Student, Cognitive Science Honors Track**

*Is it Funny? Demographic Effects on the Perception of Humor*

This study explored the demographic information that could affect the perception of humor as funny and/or offensive. An online survey containing demographic questions, appropriate jokes, and racist jokes was distributed. Participants were asked if they understood the joke, to rate each joke on funniness and offensiveness, and explain their ratings. Results revealed that females overall found the jokes less funny and more offensive. Also, everyone found the racist jokes more offensive, but not less funny.

**Sonya Bierbower, Faculty, Biology**

*Neuroprotective Effects of KCNQ Potassium Channels after Traumatic Brain Injury*

Traumatic Brain Injury (TBI) affects millions of people each year. Characterization of TBI is defined as a direct injury to the brain followed by inflammation. Moderate-to-severe TBIs can trigger a range of symptoms over a period of years/decades. Post-TBI recovery is often associated with negative changes in behavior. In neurons, "M-type" K<sup>+</sup> channels, play dominant roles in control over excitability, and thus are implicated in myriad neurological and psychiatric disorders. Recently, M-channel "openers" such as retigabine (RTG) are novel anti-convulsive and anti-nociceptive compounds. Retigabine has been shown to be neuroprotective against cell death, deleterious inflammation and motor impairment after a stroke. Previous data indicates that M-channel openers represent a novel and powerful therapy after a TBI through reducing electrical excitability, inflammation and cell edema which are linked to irreversible brain damage. Thus, this study aims to test the therapeutic target of M-channel activation to reduce the damage of the secondary injury after a severe TBI.

This activity was supported by: Assigned Release Time for Research (ART); Student Research and Creative Expression Program (SRCEP)

**Faith Boonstra, Undergraduate Student, Performing and Literary Arts Honors Track**

*The Blue Side of the Pink Ribbon*

Stories and music are two things that have been a part of my life. I wanted to be able to combine the two as a screenplay and as a musical score. The story that I've created is one that is rare and seems to be drowned out, but important nonetheless. What if a man got breast cancer? I lost my grandfather to lung cancer, a family friend to brain/breast cancer, and my neighbor is currently a survivor of breast cancer. It was a story that I wanted to explore and write to show that cancer is cancer. Both men and women go through these things, which is a fact that so often seems to be forgotten.

**Michael Borriello, Undergraduate Student, Nursing Honors Track**

*The Nursing Practice Gap: A Systematic Review on Ways to Narrow the Gap*

The nursing practice gap is the disconnect between evidence-based practice, produced through research by nursing researcher, and the implementation in the clinical setting by nurses. This systematic review looked at other systematic reviews, qualitative studies, quantitative studies, and expert opinions to find out what ways researchers are combating the nursing research practice gap. The review includes 10 research articles in English from the U.S., Canada, Australia, New Zealand, and Europe. Research articles had to include a solution to the research practice gap. Researchers from around the world have tried several methods mostly centered on setting up training programs and creating electronic teaching programs. The most common method used to fix the gap is creating programs that teach a select few nurses, who then disperse the information to nurses within their practice. People reading this systematic review will understand the current reasons why the research practice gap is a problem, its effects on nursing, current methods to fix the gap, and the best methods to narrow the nursing practice gap.

**Michele Boyle, Undergraduate Student, Business Honors Track**

*Resident vs. Commuter Students: How Students' Living Arrangements Affects their Workload*

With the cost of college increasing, working among college students has become the norm, regardless of resident or commuter status. The number of hours worked are assumed to be contingent upon on-campus jobs verse off-campus employment, sometimes based on level of financial need. This study examines college students' living arrangements and whether these conditions encourage or deter a high intensity workload, which is working more than 25 hours a week. One hundred and fifty students from multiple colleges/universities in the North East were surveyed about their education, living arrangements, and employment status. Results are anticipated to indicate that commuter students, compared to resident students, are more likely to work high intensity hours off-campus because of financial need, causing them to have lower GPAs. Most likely, results will show resident students working on-campus under 20 hours per week. The results suggest that hiring managers should inquire about a college student's living arrangement during the interview process, bringing a school-work balance into focus.

## **Briseyda Bravo, Undergraduate Student, Performing and Literary Arts Honors Track**

*You do not Choose Family, but you Choose your Path: A Fiction Novel Based on a Real-Life Story*

Briseyda Bravo's *YOU DO NOT CHOOSE FAMILY, BUT YOU CHOOSE YOUR PATH: A FICTION NOVEL BASED ON A REAL-LIFE STORY* is a very vivid, realistic, powerful, and emotional novel. The novel is broken down into nine chapters, divided chronologically from birth to early twenties. In addition, the novel is written with such depth and emotion that it is hard to tell what is unreal and what is real. Not only that but, this novel encompasses several themes in sociology and psychology such as crime, behavior, child abuse, resilience, nature vs. nurture debate, and the lifespan of a teen. Although, this novel is a fiction novel, the author does try to be as specific and vividly realistic to give the reader a sensation that they are looking from the eyes of the character. Lastly, this novel, is not meant to make anyone uncomfortable but readers' must be warned that this novel might be a little disturbing and/or uncomfortable due to the topic which it touches most vividly on, child abuse.

## **Jennifer Callanan, Faculty, Environmental Science**

Jeremy Scott, Undergraduate Student, Environmental Science; Jonathan Harris, Undergraduate Student, Environmental Science; Ryan Wizner, Undergraduate Student, Environmental Science; Michael DaSilva, Professional Staff, Environmental Science; Gregory Pope, From Outside WPU, Montclair State University; Matthew Hazen, From Outside WPU, Montclair State University

*Two Year Progression of Soil Chemical Changes As A Result Of The 16 Mile Fire, Delaware State Forest, PA*

The 16 Mile Fire began on April 20, 2016 and burned a total of 7,949 acres in the Delaware State Forest, PA. The high intensity and behavior of the fire was not typical for forests of northeastern Pennsylvania. The fire intensity was attributed to a warmer than average winter leading to little snow pack and lack of fuel compaction, 3 years of gypsy moth defoliation, and an extreme drying due to a drier spring. Progressive monitoring of changes in soil chemistry is needed to better understand the implications of these types of fires as they may become more prevalent given changing climatic conditions. Soil was collected from 16 sites in and around the 16 Mile Fire over the course of two years at approximate six-month intervals. Soil was sampled from the surface to depths of 12-15 inches and evaluated for pH, available Ca, Mg, K, percentage organic content, and bulk density. Overall, burned surface and subsurface soil chemistry altered by fire generated ash is shown to reach pre-fire conditions after 12-14 months. Scorched soils show chemical changes persisting beyond 14 months due to severe alkaline conditions created as a result of high temperature, white ash production. Percentage organic material remains above pre-fire conditions in scorched, surface soils due to decreased decomposition rates.

This activity was supported by: Assigned Release Time for Research (ART); College of Science and Health, Center for Research and Student Worker Funds; Pennsylvania Department of Conservation and Natural Resources, Bureau of Forestry, Delaware State Forest

## **Giuliana Campanelli, Faculty, Economics, Finance and Global Business**

Alexandros Panayides, Faculty, Economics, Finance and Global Business; Susanna Tardi, Faculty, Sociology

*The Rise of Contingent Faculty in the US System of Higher Education*

Over the last decades there has been a significant increase in the number of contingent faculty in the US system of higher education. The phenomenon of "workers on demand" is widespread in the US labor market where a growing number of Americans no longer hold one full-time job. They are instead employed for a finite time, often with a specific task, with little connection to their employers. In the case of higher public education, this phenomenon appears more complicated since it is correlated not only with a substantial decline of full-time faculty, but also with a marked increase of university administrators. In our paper we will analyze the process of "adjunctization" of the American public universities, assess causes, consequences and suggest appropriate policies to promote fairness and a better allocation of resources.

This activity was supported by: Cotsakos College of Business, Business Practice and Policy Research Forum (BPPRF) Grant

## **Sophia Candrilli, Undergraduate Student, Performing and Literary Arts Honors Track**

*Into Ruin*

Sophia Candrilli has completed a 200-page manuscript set in a fantasy world inspired by historical Japan. The protagonist is an antiheroine seeking revenge after losing her family and being enslaved. The project was supervised by Dr. Philip Cioffari.

**Alex Chambers, Faculty, Special Education and Counseling**  
Margaret Renn, Professional Staff, Office of Field Experiences

*Using the blackboard module format for online training of pre-service teachers.*

Passage of legislation at the state level, specifically with regards to teacher preparation and licensing, has a direct impact on the logistics of teacher preparation programs. More specifically, laws can require teacher preparation programs to provide specific training to pre-service teachers in order to be in compliance with said laws. In 2012, the state of New Jersey passed the Anti-Bullying Bill of Rights Act, which all pre-service teachers needed to be trained in prior to starting their teaching assignments. The office of field experience at William Paterson University, with very limited time for orientation for pre-service teachers, needed to identify a way to provide this training. An online module was created in 2017 to provide this training, and student feedback data of the module was collected. Details of the module, including monitoring and assessments, will be covered. Student feedback, which reflected an overall positive perception of the module format and other specific implications will also be discussed.

**Caroline Chambers, Undergraduate Student, Humanities Honors Track**

*Collaborative Adversaries: Feminists and Conservatives Confront Porn in the Age of #MeToo*

My research explores two groups that capitalize on the #MeToo movement to bring attention to sexual assault allegations and to call for the end of pornography. Anti-pornography feminists and moral conservatives have long opposed adult films as a root cause of sexual violence. By exploring these two groups, we gain a clear picture of their methods for drawing attention to their campaigns.

I conclude that not only are these collaborative adversaries working together through social media, they are leveraging recent public health warnings citing the dangers of pornography and demanding restrictions on youth access to adult entertainment. Thanks to their renewed push, new legislation and corporate policy in the industry have emerged. My research unmask the evolving and unlikely relationship between feminists and conservatives as “collaborative adversaries,” using social media to push for policy changes through the #MeToo campaign.

**Jin-A Choi, Faculty, Communication**

*The Effects of Controversy on Social Media Celebrities' Endorsement Power*

Celebrities are known to serve as valuable endorsers for brands. On the other hand, celebrities' regrettable actions and controversies also bring damaging consequences for the brands and corporations who sponsor them. Therefore, brands associated with celebrities rise and fall in synchrony with the celebrity endorser's behavior and public image. Brands either sever ties with endorsers who are involved in controversial events or use image repair strategies to support the endorsers despite their shortcomings.

Recently, we find more and more celebrities emerging from the social media platform. These individuals are recognized for their user generated content as well as creative endorsement efforts. They command thousands and even millions of fans who subscribe to and consume their content on a regular basis. In the past year, several social media celebrities (SMCs) fell from the public's grace. Although SMCs may provide an apology, their relationships with sponsors are inevitably damaged. Brands have severed ties with top SMCs in fear of the stars damaging or negatively influencing their brand.

Furthermore, social media sites are identified as efficient communication platforms for repairing damaged images and reputations while preventing boycotting of both the endorser and the endorsed in various crisis situations (Schultz, Utz and Görizt 2011). The effects of crisis communication on social media sites, in comparison to traditional media, are still understudied. Therefore, the current study will analyze public responses to SMCs' image repair strategy through SAS Text Miner.

This activity was supported by: College of the Arts and Communication Center for Creative Activity and Research Summer Grant

**Wendy Christensen, Faculty, Sociology & Criminal Justice**

*Working with Cell Phones in the Classroom*

This presentation upends the idea that cell phones are a distraction in the classroom, and instead takes the approach that students need to learn how to use their cell phones effectively. Through examples of activities students can do with their phones in class, I will give suggestions for how students can better use their phones to find reliable news sources and to increase their civic engagement.



## **Zhang Chuanqian, Faculty, Economics, Finance and Global Business**

### *Operating Leverage and Underinvestment*

In a contingent claims model, we examine the impacts of both operating leverage and financial leverage on a firm's investment decisions in the context of capacity expansion. Our model shows that quasi-fixed operating costs could significantly mitigate the underinvestment problem (Myers, 1977) for debt-financed firms. The existing debt induces equity holders to delay equity-financed expansion because the expanded earnings base will also benefit the debt holders by lowering the bankruptcy risk. The operating costs decrease this type of wealth transfer from equity holders to debt holders by magnifying the bankruptcy risk of the existing debt upon investment. By applying the Cox proportional hazard model on a large sample of publicly traded U.S. firms over the period 1966-2016, we offer empirical support to the theoretical predictions. The results are also robust to various measures of operating leverage.

This activity was supported by: Cotsakos College of Business, Business Practice and Policy Research Forum (BPPRF) Grant

## **Justin Chudley, Undergraduate Student, Cognitive Science Honors Track**

### *Comparing Algorithmic Trading Decisions to Human Trading Decisions*

Trading on the stock market is moving away from humans trading stocks and towards computers making and executing trading decisions, known as algorithmic trading. While many traders attempt to define sets of rules for algorithmic trading, we propose using popular statistical algorithms -- Reinforcement Learning, Bayesian Estimation, Logistic Regression, and a Neural Network - to determine rules for algorithmic trading. The effectiveness of each algorithm is compared to participants trading on a simulated stock market. Participants in this study were given a set amount of fake money and shares and then asked to complete 104 simulated trades on historical stock data. The same historical stock data was used by the trading algorithms to compare their effectiveness to humans.

## **Jordan Cola, Faculty, Kinesiology**

### *The Effects of Various Warm-Up Devices on Bat Velocity in Collegiate Baseball Players: A Pilot Study*

Purpose: The purpose of this study was to examine the effects of various weighted warm-up devices on standard baseball bat velocity and trajectory in collegiate baseball players.

Methods: Three, right handed hitters (mean age= 19.3yrs  $\pm$  1.5yrs; height= 1.74m  $\pm$  .13m; mass=81kg  $\pm$  20.4kg; baseball experience=14.2  $\pm$  1.3) volunteered for this study. Maximal bat velocity was obtained by swinging the 30oz standard bat for the control condition. Participants were then instructed to perform a general and specific warm-up with each of the weighted bats (standard bat with 16oz donut ring (46oz total) and standard bat with 24oz power sleeve (54oz total) on separate days. Following the I8warm-up procedures, participants were instructed to swing 3 times with the 30oz standard bat for maximal velocity while impacting the ball resting on the tee located belt-high and in the middle of home plate.

Results: No significant differences were revealed by Shewart Chart method for baseball bat velocity or trajectory. Also, it was observed that all participants swung the bat at its lowest point in its trajectory for all conditions.

Conclusion: Based upon no changes in the dependent variables in the population tested, Division II collegiate athletes can choose any of the warm-up devices investigated because no deleterious effects were observed.

This activity was supported by: Assigned Release Time for Research (ART)

## **Yomary Collazo, Undergraduate Student, Psychology**

Natalie Obrecht, Faculty, Faculty; Maitry Mahida, WP Alumna; Urvi Patel, Undergraduate Student  
Faculty Sponsor: Natalie Obrecht

### *Meta-ethical viewpoints: To what extent do people think ethical rules are objective?*

Goodwin & Darley (2008) asked Princeton undergraduates to rate their agreement with a variety of factual, ethical, conventional, and taste-based statements. Subjects also rated whether the statements were factual or opinion based. Based on their data, Goodwin & Darley argue that people view ethical statements to be more objective than conventional and taste-based statements, but less objective than factual statements. They also found that people

who believe in God or who think that society would fail without ethical rules tend to view ethics are more objective. We are testing whether these results hold up in a more diverse sample, and are also examining whether personality and demographic factors predict how people view the objectivity of ethical statements.

### **Hannah Comia, Undergraduate Student, Music Honors Track**

*The Duo Sonata: The Historical Significance and Influence of Beethoven's Cello Sonata No. 4, Op. 102, No. 1*

In the art of collaborative piano, “duo sonata” is a significant genre in the repertoire. Although the current idea of a duo sonata involves equal parts between the pianist and the other instrument, this was not always the case. Before the mid-eighteenth century, these sonatas had a clear soloist, with the other musician serving as accompaniment or harmony underneath. However, works like Beethoven’s Cello Sonata No. 4, Op. 10, No. 1 pioneered a change towards musical equality during the Viennese classical era. Rather than definitive solo and supporting roles, Beethoven provides virtuosic parts for both the piano and cello, two instruments that traditionally were outside of the spotlight. This thesis highlights the influence of this work to the “duo sonata” genre through historical research, aural analysis, and individual performance practice review.

### **Zhiyuan Cong, Faculty, Art**

*An International Art Competition Project: Song of the Phoenix: Paper Money Delivered to the West*

I am a finalist in an international art competition governed by China Culture and Arts Council, and organized by the China National Academy of Painting and the National Art Museum of China. *Song of the Phoenix: Paper Money Delivered to the West*, a painting across five panels of rice paper mounted to silk, measuring a total 201 inches wide and 99 inches high.

For my competition piece, I chose the topic *First Paper Money*. China was the first country to use paper money, followed by Persia, then India, Greece and Italy. These countries found that paper money opened more trade possibilities and made the Silk Road the most popular international trading route. My work tells the comprehensive story of the Silk Road through paper money and its contribution to international trade and cultural exchange.

My multi-level creative process began with research in 2014 and continued through the years with my concept and a small drawing, then a larger drawing which was transferred to wall-size paper in charcoal. I was spending the summer in the University’s Power Art Center for the most time-consuming piece of my project – recreating the images by hand, in color paint, on five panels of rice paper. I will transport the panels to China in December 2018, where I will adhere them to silk for the final presentation to the competition committee.

The painting aims to record and reflect far back into history when the epic East-West exchange had its glorious and magnificent moment, to express contemporary mankind’s vision for mutual development and the ideal of a peaceful world. I feel very fortunate to have had my artwork voted through multiple times by the majority of the international art project committee.

This activity was supported by: College of the Arts and Communication Center for Creative Activity and Research Summer Grant

### **Megan Conrad, Faculty, Psychology**

*Exploring the Role of Personality, Expectations, and Self-Efficacy in Childbirth Experiences*

Negative childbirth experiences have a number of consequences for a woman's psychological and physical health, including postpartum depression (Bell & Andersson, 2016) and delaying future pregnancies (Gottvall & Waldenstrom, 2002). In the current study, we used a prospective methodology to survey pregnant women before and after the birth of their first child. We explored the relationships between multiple antepartum factors (personality, labor expectations, childbirth self-efficacy) and their childbirth experiences. The childbirth experience measure included multiple dimensions of the subjective birth experience, including feelings of self-capacity (sense of control, personal feelings), professional support, perceived safety, and participation (possibilities to influence the birthing situation).

We found that women with lower self-efficacy scores also reported more negative expectations, expecting to experience more negative emotions and a lack of positive emotions. Personality related to both self-efficacy and expectations. Those who had more negative expectations scored higher on neuroticism, lower on extraversion, and lower on conscientiousness. Similarly, those with low self-efficacy scored higher on neuroticism and lower on openness to new experience. All three of these measures were also related to labor outcomes. Women with more negative expectations reported feeling less supported by their labor provider. Those who scored higher on

agreeableness and conscientiousness reported feeling more supported by their labor provider. Finally, those with more labor self-efficacy reported feeling like they had greater control over labor decisions.

The results of the current proposal add to the limited body of research on the relationship between personality, expectations and fear, and subjective birthing experiences. Future research in this area may provide a new way for doctors, midwives, and doulas to tailor support and intervention based on individual differences to help reduce negative expectations and facilitate more positive birthing experiences.

This activity was supported by: Research Center for the Humanities and Social Sciences  
Summer Stipend Program 2018

### **Nicole Davi, Faculty, Department of Environmental Science**

#### *Tree-Ring Expeditions (TRES): Online labs to improve student understanding of climate change and the nature-of-science*

Original research and field-based opportunities are not equally available to all students due to funding issues, liability, or physical inaccessibility. However, with rapid technological advances, laboratory and low-cost virtual-reality field experiences can be accessed by more students than ever before. Here we present a data-rich, multimedia educational website called *Tree-Ring Expeditions (TRES)*, which immerses students in the field of dendrochronology, or tree-ring science, to support undergraduate climate and science literacy. We developed TRES through a partnership of education and research professionals working in diverse teaching settings, including two community colleges, a military academy, a four-year state school, and a research institute. Through TRES, students learn about how scientists conduct research and how authentic tree-ring data can be used, for example, to reconstruct temperature variability of the past two thousand years in the Northern Hemisphere, to place exact calendar dates on ancestral pueblos in the U.S. Southwest, and to reconstruct streamflow estimates for the U.S. Colorado River. Using 360° imagery, students drop into important tree-ring field sites and are then guided to use many of the same tools and strategies that dendrochronologists use. We ask the students to measure and evaluate tree-ring data from each site and perform analyses with visualization tools and international databanks.

This activity was supported by: National Science Foundation, Division of Undergraduate Education

### **Rosemary Davidson, Undergraduate Student, Business Honors Track**

#### *Social Media Influencers*

Among millennials, influencers are common across social media platforms such as Instagram and Twitter. They are not only captivating, but sponsored by various companies for the more intimate level of marketing they are able to provide. This study is looking for the most effective platform, Twitter and Instagram for influencers, as well as the most effectively targeted group of millennials. A questionnaire has been developed to show the usage patterns and engagement of millennials with influencers. I plan to interpret this data through SPSS software. The effectiveness of influencers, superior platform, and targeted demographic will be proven through this study. The study should demonstrate that having an interconnected web of people online allows influencers' online presence to reach an even wider audience. The demographic of female millennials is predicted to prefer following influencers on Instagram over Twitter.

### **Chelsea Davis, Undergraduate Student, Cognitive Science Honors Track**

#### *Comparative Effects of Labels and Semantic Knowledge on Visual Processing*

Previous research suggests that an object with a label or other descriptive information is found faster than an unlabeled object during visual search. However, no study has put labels and descriptive information against each other. This study aims to compare the effects of labels and semantic information on how quickly and accurately participants can locate a stimulus among distractors. In a mixed-effects design, half of the participants learned information about an object's function, and the other half learned a fact about the object's origin (e.g. when and where it was invented). For all participants, some objects were labeled and some were not. Participants were familiarized with the objects and their information and completed a visual search task with the objects. Preliminary results suggest that learning an object's function overshadows learning its label, producing slower reaction times, but improved accuracy.

**Austin Degen, Undergraduate Student, Environmental Science**

Faculty Sponsor: Michael Griffiths

*A 4000-year environmental evaluation of mid-Atlantic coastal wetlands from paired geochemical and diatom analysis of surficial and down-core sediments*

Industrial and urban pollutants have been changing the ecosystems on which many organisms depend. This study focuses on the long term effects modern anthropogenic activities have had on mid-Atlantic coastal wetlands. Pollution and other environmental factors that alter an ecological system are readily preserved in the water and sediments, along with the organisms that inhabit the wetland. For example, diatoms are microscopic siliceous algae widely used as indicators of environmental conditions in aquatic ecosystems. Because of their high ecological sensitivity and their potential for preservation in bottom sediments, they are a valuable tool to infer past environmental conditions in both lacustrine and coastal environments. Whilst some work has been done to develop diatom transfer functions in mid-Atlantic estuaries and marshes, we still lack a robust understanding of how the abundances of the different species vary within the ecosystems. Additionally, there are still uncertainties in the transfer functions themselves, which calls for additional geochemical tracers to help constrain these relationships. To help reduce these uncertainties analysis of diatom assemblages from seven spatially distributed locations in the New Jersey coastal area have been undertaken. Diatom assemblages have also been analyzed from two marine sediment cores from Tuckerton and Silver bay, located along the NJ coastline. To better assess the link between diatoms and ecological conditions, geochemical properties of Phosphorous, Carbon, Hydrogen, and Nitrogen composition as well as sediment grain size and percent organics were taken from the sediments. Each core was also carbon dated at multiple transects to create an age model of geochemical parameters and diatom assemblages going back as far as four thousand years. The results from this study will not only improve the diatom transfer functions, but also allow us to trace the diatom composition over time and identify reference assemblages that existed in the bay over the past few centuries. Such data is not only important for understanding how the structure and function of biological communities is changing as a result of human impacts, but are also useful for establishing biological indicators of ecosystem health.

**Alison Dobrick, Faculty, Elementary and Early Childhood Education**

*Hamilton and Hip-Hop Pedagogy*

Teachers all over the country have engaged in interdisciplinary, meaningful, personal, and curriculum-based work based on Hamilton, some through officially sponsored partnerships and programs connected with the show, and many more because of their personal inspiration (Miranda & McCarter, 2016). Hamilton's groundbreaking use of Hip-Hop verse makes it a uniquely appealing version of history for today's audiences, but this fact just scratches the surface of the musical's potential impact to change students' lives and perspectives.

This poster presents research in progress that explores compelling possible links between Hamilton and the dynamic, flourishing field of Hip-Hop Pedagogy, in hopes of illuminating ways to teach about and with the show as a text. An overview of Hip-Hop Pedagogy, including its roots, values, and practical applications, provides the background for standards-based, flexibly integrated classroom activities.

This activity was supported by: Assigned Release Time for Research (ART)

**Mackenzie Donnelly, Undergraduate Student, Performing and Literary Arts Honors Track**

*That Which Blooms Amidst the Caldera: A Collection of Poetry and Prose*

*That Which Blooms Amidst the Caldera: A Collection of Poetry and Prose* is a work of introspection concerning the childhood grief of a broken home and the resulting heavyheartedness of adulthood, the tangles and idiosyncrasies present in all of our most intimate relationships, and the contemplation and celebration of romantic union. This work, which largely confronts parent-child skeins, includes a volume of thirty poems, one personal essay, two segments of flash fiction, and one fictional short story by which the title of this complete work was inspired. Though this collection is composed chiefly of my most recent work, it does also feature a small quantity of my earlier work—written anywhere from a year and a half to two years ago—which is significantly less mature than my recent work but nevertheless, deeply meaningful and essential to the whole. Producing this collection was a practice in healing; discovering the most private rooms of the self and going carefully through the clutter. It is also a statement of hope. *Barrelhouse Magazine's* 2019 issue will publish a poem of mine included in this collection, entitled: *If in the Early Most Years of Our Marriage*.



**Joseph Duncan, Master's Student, Kinesiology**

Jason Wicke, Faculty, Kinesiology; Anthony Duncan, Master's Student, Kinesiology  
Faculty Sponsor: Jason Wicke

*The Impact of Foam Rolling on Ground Force Reaction and Vertical Jump Height*

The purpose of this study was to examine whether foam rolling prior to the vertical jump will increase the ground force reaction generated while performing the exercise, thus increasing the height of the vertical jump. It was hypothesized that foam rolling prior to this performance-based exercise (vertical jump), would increase muscle activation causing a greater ground force reaction, allowing the individual to generate more power to increase their vertical jump. Participants were thirty volunteers (n=15 males, n=15 females) with no previous lower body injuries in the last six months that could potentially be exacerbated because of this study. Each participant completed a structured dynamic warm-up prior to initiating the trials and intervention. Six maximal vertical jumps were performed and recorded using motion analysis software (name) while standing on two ground force plates. Jump height was assessed with take-off and landing displacements in time measured in seconds, while ground reaction was measured in Newton's. The first two jumps were used to set a baseline standard for the individual, whereas the second two jumps applied the foam rolling intervention just prior to each jump. Two final vertical jumps were recorded with no intervention for a recovery analysis. Results are pending the finalization of data collection as well as overall conclusion. The results of this study may demonstrate how improvements or limitations may occur from a self-myofascial release prior to explosive performance-based exercises. It may also indicate the kinematics and dynamics of an individual as they travel through various ranges of motion.

**Morgann Duncann, Undergraduate Student, Cognitive Science Honors Track***Quality of Autobiographical Memory in Concussed Athletes*

Although concussion awareness is increasing, little evidence analyzes the effect of concussions on autobiographical memory, specifically the relationship between increased concussion history and episodic memory. Autobiographical memory stems from episodic memory, relating to detailed memory descriptions, as opposed to semantic memory, which is more factual, and less personal in nature. It is known that mild traumatic brain injuries can lead to neurocognitive deficits such as delayed reaction times and impaired short-term or long-term memory. However, most research supporting this assesses concussion symptoms 5 days to one-month post-injury. Additionally, an increased concussion history has shown to leave individuals susceptible to more concussions, especially if additional concussions are sustained in the same season. The purpose of this study was to find a correlation between the amount of concussions sustained by athletes and the quality of autobiographical memory responses. I predict that athletes who have sustained more concussions will produce more semantic memory responses.

**Elizabeth Ekmekjian, Faculty, Accounting and Law**

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

*How Does the \$10,000 Cap on State and Local Taxes (SALT) Impact the New Jersey Housing Market?*

The Tax Cuts and Jobs Act caps deductions on federal individual income tax returns for State and Local Taxes (SALT) at \$10,000 a year effective January 1, 2018. New Jersey has one of the highest rates of property taxes in the country and a good number of homeowners are likely to be affected by the cap. We examine patterns of housing prices using data on the New Jersey real estate market from multiple data sources. We find that the mean amount of property taxes, individuals' income, and high school rankings all play a role in the determination of mean housing prices in a municipality.

This activity was supported by: Cotsakos College of Business, Business Practice and Policy Research Forum (BPPRF) Grant

**Reem Eldabagh, Master's Student, Chemistry**

Faculty Sponsor: Jonathan Foley and Yalan Xing

*Exploration of the Photocatalytic Activity of Eosin Y in Benzylic Peroxidation Reactions*

The use of photoredox catalysis for functionalization reactions is a novel approach in synthetic organic chemistry. Synthetic efforts in our lab focus on halogenation and benzylic peroxidation reactions. Peroxides are prevalent in drug molecules, commonly part of pharmacophores. Eosin Y is a low-cost, long-known dye molecule used for photocatalysis. Successful benzylic peroxidation reactions of 2-phenethylbromide, 3-methylacetophenone, and other phenylic compounds using the photocatalyst Eosin Y were confirmed via TLC and NMR analyses. The

mechanism of photocatalysis by Eosin Y is being explored computationally using the The General Atomic and Molecular Electronic Structure System (GAMESS) software. Through the application of the DFT and CI theories, the equilibrium and excited state geometries of the photocatalyst may be obtained to reveal insightful data on the mechanistic action of Eosin Y as a photoredox catalyst.

This activity was supported by: College Student Research Assistance, Graduate Research Assistantship from Department of Chemistry in College of Science and Health

**Abdelrahman Elleithy, Faculty, Computer Science**

Vincent Loud, Undergraduate Student, Computer Science

*Selfish Nodes Mitigation in Mobile Ad-Hoc Networks*

Mobile Ad-Hoc Networks (MANETs) face many challenges of quality of service including bandwidth, utilization, and end-to-end delay. This project aims to provide a solution for improving the average delays between end-to-end devices while taking into consideration the arrival process, collision avoidance, and back-off mechanisms. The main purpose is to properly deliver the packets from one end to another while selfish nodes are manipulated or ignored during the packets delivery. A node is selfish if it is not forwarding the packets to its neighbor nodes. The detection of the selfish nodes and the malicious attackers is done using watch dogs where the selfish nodes are divided into 3-degree levels. Using this mechanism, we identify the threshold of the node to identify normal nodes, selfish nodes that are allowed to transmit, and selfish nodes that are prevented transmission. In this project we suggest a new algorithm to mitigate selfish nodes, to simulate the suggested algorithm, and to evaluate its performance against other mechanisms presented in the literature.

This activity was supported by: College of Science and Health, Center for Research.

**Muhammet Enes Erol, Master's Student, Kinesiology**

Michael Figueroa, Faculty, Kinesiology; Edin Hadzovic, Master's Student, Kinesiology  
Faculty Sponsor: Michael A. Figueroa

*Determination of Heart Rate Percentages at Anaerobic Threshold and The Accuracy of Different Types of Heart Rate Monitors*

Purpose: To examine the heart rate percentage (HR%) at the anaerobic threshold (AT) in order to determine the appropriate exercise intensity below or above the AT. A second goal was to assess the accuracy of different types of wearable heart rate monitors (HRMs) during a graded exercise test.

Method: Thirty healthy individuals (n=21 male & n=9 female; aged  $24.50 \pm 3.48$  years) participated in a single incremental exercise protocol on a cycle ergometer (CE). AT was detected through a metabolic cart by using V-slope method, which determined the point of a nonlinear increase in carbon dioxide output (VCO<sub>2</sub>) against oxygen uptake (VO<sub>2</sub>). HR was measured each minute of exercise test via two optical-based monitors (Apple Watch S3 & Fitbit Ionic) and two electrical-based monitors (Quinton Q Stress ECG & Polar M400). Electrocardiography (ECG) was used as a "Gold Standard" for comparison in this study.

Results: The mean  $\pm$  SD of HR percentages at AT was  $41.46 \pm 14.64$ . The mean  $\pm$  SD of VO<sub>2peak</sub> was  $30.78 \pm 6.75$  ml/kg/min with HR (ECG) of  $130 \pm 16$  bpm. The most accurate HR values were obtained from Polar M400 during an incremental cycling test.

Discussion: The average of HR percentages at AT were estimated between 40-45% of VO<sub>2peak</sub>. This study supported the findings that Polar has the highest correlation (0.92) with ECG in the overall outcomes of exercise testing stages. The accuracy of HRMs are varied at different intensity of exercise. This might be due to the fact that both HRMs utilize similar mechanisms of measurement.

Conclusions: Evaluation of HR% at AT is found approximately at 45% of individual maximum effort. Electrical-based HRMs are found to be more accurate in comparison with optical-based HRMs.

This activity was supported by: Graduate funds for MS in Exercise and Sport Studies master's thesis.

**Aldrick Espinosa, Undergraduate Student, Biology Honors Track**

*Phylogenetic Relationship between Western, Eastern, and European Funnel-Weaver Spiders*

Spiders in the family Agelenidae, and particularly the Agelenine subfamily, is common in Holarctic faunas, with 1287 species described in 80 genera. The growth of DNA barcoding allowed us to gather a broad dataset of Agelenine taxa, representing about 20 genera in the subfamily, and covering nearly the geographic range of the

group, including North America, Europe, and Asia. We developed a core taxon set (30 individuals, 9 genera) with data from between 3 and 6 mitochondrial and nuclear loci, combining lab data, previously published data, and newly generated sequences. We subsequently added barcode sequences from 83 additional individuals. We performed Bayesian MCMC analysis, using a GTR+I+G model for 50,000,000 generations, to estimate a phylogeny for the Ageleninae and Tegeriinae, with an orb-weaver as outgroup. The North American taxa split into two groups, a clade including the Western and Central American genera, and one including the widespread and gulf coast genera, and thus the continental assemblage of Agelenines appears diphyletic, but neither of these groups' affinities with European taxa were resolved with statistical support in the Bayesian analysis. Subsequent tree-searches using alternate criteria showed little improvement in resolving the polytomy of these three major groups.

### **Jillian Falt, Undergraduate Student, Clinical and Neuropsychology Honors Track**

#### *The DRM Paradigm*

The DRM Paradigm is a model of words and procedure in psychology that is used to elicit false memories. The paradigm was initially developed by Deese (1959) and improved when McDermott and Roediger (1996) extended the line of research. The purpose of this study is to demonstrate false memory elicitation following the methodology of the DRM paradigm. The foundations of the methodology will replicate the original study by McDermott and Roediger (1996). It is hypothesized the results will demonstrate false memory elicitation when following the paradigm. Participants will be undergraduate students at William Paterson University who will be presented six lists containing fifteen words that are read aloud. Participants will then be interviewed about whether they remember the non-presented associate word that was not mentioned.

### **Samuel Fancera, Faculty, Educational Leadership & Professional Studies**

#### *School Leaders' Use of Social Media and Networks for Professional Development*

The purpose of this study was to describe and examine how school leaders use social media and networking (SMN) for professional development (PD) in P-12 settings, and to determine which SMN platforms school leaders perceive as most useful for teacher PD. Semi-structured interviews with six school leaders from the northeast and midwest regions of the USA who used SMN for teacher PD provided the qualitative data to answer the research questions. The following themes emerged from the six interviews: SMN can be one component of a multifaceted and personalized PD agenda; leadership to model and encourage use is needed for teachers to realize value; some barriers to traditional types of PD might be eliminated; credit toward annual PD requirements can lead to expanded and increased use; and Twitter is the preferred platform for PD. Descriptions of school leaders' perceptions of various SMN platforms for PD indicate they find the most value in Twitter via chats and connecting with other educators to exchange information relevant to teaching and learning. Future use among this sample of school leaders is expected to increase, however, the use of SMN for PD among other P-12 schools is unknown. These findings have implications for school leadership practice, future research, and PD policy.

This activity was supported by: Assigned Release Time for Research (ART)

### **Laura Fattal, Faculty, Elementary and Early Childhood Education**

Sandra Alon, Faculty, Educational Leadership and Professional Studies

#### *Realizing Globalization in the Public School Classroom*

Participants, preservice and inservice teachers, in the diverse Fulbright-Hays study abroad programs administered by faculty at William Paterson University have engaged in experiential learning in India, South Korea, Israel, and Senegal and Gambia. Bringing their first-hand global experiences back to the public school classroom requires an alignment with the curricular framework of elementary, middle, and high schools. This session focuses on the high school art teacher, Ivan Rosa's student work reflecting on his global travel to India and South Korea and the students' study of Asian cultures. Centered on artwork, cultural artifacts and the landscape of India and South Korea, Mr. Rosa's teaching advances the globalization of the curriculum at International High School in Paterson, New Jersey. Drs. Fattal and Alon will facilitate the discussion of the goals of the Fulbright-Hays study abroad program as well as dialogue with Mr. Rosa on the process and content of the displayed work.

This presentation is supported by ART 2018-2020 Teacher Experiential Insights - India, South Korea, Israel, Senegal and Gambia- Constructing Global Education Understanding Over-time

This activity was supported by: Assigned Release Time for Research (ART)

**Dorothy Feola, Faculty, Educational Leadership and Professional Studies**

Geraldine Mongillo, Faculty, Educational Leadership and Professional Studies; Carrie E. Hong, Faculty, Educational Leadership and Professional Studies

*An Examination of Teachers' Awareness, Preparation, and Teaching Strategies When Instructing Linguistically Diverse Learners*

The United States, like many nations worldwide, has seen an increase of diverse language learners entering school with little or no knowledge of English. Teachers in the US face increasingly greater challenges in supporting students' English language and literacy development, as well as academic achievement in subject areas. As members of the World Educational Research Association's (WERA) International Research Network, we have partnered with Israel, South Africa, and South Korea to examine effective teachers' communicative strategies when instructing linguistically diverse learners. Based on results from this larger study, we constructed and administered a survey to explore teachers' preparation, knowledge, and practices for diverse language learners. Participants of the study were elementary (K-5) teachers in New Jersey public schools. Survey data were compiled and analyzed for statistical analysis and recurrent patterns. Going forward, the survey findings will be compared with the results of our partner countries for similarities, differences, and/or unique and universal features.

This activity was supported by: Research & Travel Incentive Award

**Matt Finn, Faculty, Art***Project to Design Explorations 2019 Poster in course on Typography: Form and Application*

This project design assignment focused on the poster for Explorations 2019. The final poster of the whale, created by Robert Brady, and six other poster submissions had to both fulfill the needs of the course as well as the client, William Paterson University's Research and Scholarship Council. Poster submissions by Robert Brady, Seoyoung Sarah Park, Kohl Donnelly, Yara Abaza, Michael Scrivana, Kayla Perez, and Gabrielle Alvarado.

**Jay Foley, Faculty, Chemistry**

James Varner, Undergraduate Student, Chemistry; Noor Eldabagh, Master's Student, Biology; Derek Volta, Undergraduate Student, Chemistry; Reem Eldabagh, Master's Student, Chemistry; Raghad Nofal, Undergraduate Student, Chemistry; Aya Matari, Undergraduate Student, Chemistry

*WPTherml: pioneering the design of materials for harnessing heat*

The interaction between light and nanostructures can give rise to a number of different resonant phenomena, including plasmon resonances in metal nanoparticles, excitonic resonances in semiconductor nanoparticles, and scattering resonances in dielectric nanoparticles. An exciting feature of these resonant phenomena is that they provide opportunities to control the flow of optical energy at the nanoscale, a prospect which has important implications for renewable energy technologies among others. Creating hybrids of various nanoscale materials can often lead to new emergent phenomena, giving us yet more levers of control over light at the nanoscale. We will present a virtual design engine that our group has been developing, call WPTherml, which may be leveraged to design materials for controlling the flow of thermal energy. We will also discuss several renewable energy applications where we believe this tool is poised to make an impact.

This activity was supported by: Assigned Release Time for Research (ART); College of Science and Health; Garden State - LSAMP

**Elizabeth Galetz, Faculty, Nursing***Simulated Role-Play to Improve Attitudes and Empathy Towards Older Adults in Accelerated Nursing Students*

Nearly 18% of the United States population will be at least 65 years or older by 2025. Studies suggest student nurses have a negative attitude toward working with this population. There is a need to increase the number of graduate nurses who have positive attitudes towards older adults and an interest in working with this population upon graduation. This pre- and post-test intervention study aimed to: 1) examine the effectiveness of two educational modalities, a case study and simulated role-playing scenarios, on improving attitudes and empathy towards older adults; 2) explore factors affecting attitudes and empathy in accelerated baccalaureate of science in nursing (ABSN) students towards older adults. A convenience sample of 45 ABSN students completed pre- and post-test questionnaires. The results showed role-playing simulation scenarios had no impact on improving attitudes and empathy towards older adults, however, within group, the case study intervention was found to improve students' attitudes. No significant predictor was found for attitudes; one significant predictor was found for empathy. Empathy is highly correlated with attitude. Further study is needed to explore educational modalities that improve attitudes and empathy in the ABSN student population.



## **Luisa Gallego-Zuluaga, Undergraduate Student, Biology Honors Track**

### *Fall and Winter Activity of Bats in High Mountain Park Preserve*

There is high mortality in hibernating bats in eastern North America due to White Nose Syndrome (WNS). Recent research has shown that bat activity during winter is linked to WNS, but no information of winter activity has been reported for High Mountain Park Preserve, where summer monitoring has documented the presence of a threatened bat species. I recorded bat activity from fall 2018 through winter 2019 in two locations using acoustic detectors. Bats were active during the course of the study at temperatures as low as  $-3^{\circ}\text{C}$ . Both high and low frequency bat calls were recorded which confirmed the presence of 5 of the 9 species of bats found in NJ, including the threatened *Myotis* species. My study provides evidence that bats are hibernating at undocumented sites in or near the preserve. This project confirms that High Mountain Park Preserve serves as both a summer and a winter habitat for bats.

## **Sabrina Galloza, Undergraduate Student, Biology Honors Track**

### *Detecting Differences between Honeybee Gut Microbiomes in a Quick, Economical SYBR qPCR Assay*

The honeybee gut microbiome may provide a powerful tool for determining the health of bees and the effects stressors may have. The gut community of the adult honeybee is relatively simple, containing only nine bacterial species clusters. As a result, we should be able to develop a simple and economical molecular method for microbiome analysis. A subset of the taxonomic groups will be characterized with PCR primer sets in a quantitative, nested-PCR approach. The relative abundance of the bacterial species clusters will be used to detect differences between bee-gut microbiomes between and within hives. If we can distinguish between bees, then we should be able to develop an assay that can be used to characterize responses to stressors in the longer-term investigations of bee colony health.

## **Emmanuel Garcia, Undergraduate Student, Independent Honors Track**

### *The Role of Music in Motion Pictures*

This study will analyze the emotional response generated by music paired with a visual scene, ranging from a slideshow of paintings or sculptures, to a full length film. Music can suggest that a scene relatively neutral in mood is heroic, sad, or dangerous, and elicit these respective feelings from the audience. In the early days of film and cartoons, music was used to illustrate movement, behavior, and sometimes, even dialogue. The best examples of this technique, called commenting, can be seen in old cartoons such as Tom and Jerry and Mickey Mouse. However this technique has become an outdated and redundant way of scoring. Therefore, this study will describe and provide examples of how the art of film scoring and the art of pairing music to a visual image has evolved over time.

To evaluate the effect of music on an audience's emotions, the audience's emotional response to a visual scene, unaccompanied by music, will be recorded, and then the same scene will be shown a second time, to the same audience, with accompanying music. The contrast in emotional responses to the same scene will be the focus of the study.

Results: Film music is responsible for manipulating our emotions, shaping the portrayal of characters, assisting plot development, and creating an overall emotional atmosphere.

## **Nicolelynn Garcia, Undergraduate Student, Business Honors Track**

### *An Analysis of RPG Acoustical Systems*

RPG Acoustical Systems is a U.S. manufacturing company that specializes in manufacturing wooden products that improve acoustics. Passaic, located in New Jersey, has become the home to the newly revived RPG, a company once settled in Canada. The company has been in the state of New Jersey for almost two years now and has continued being one of the most highly recognized providers in their industry. When meeting with RPG, our goal was to help them increase their sales as well as explore the existing business model they had established. Our group sought to help them find ways to increase their sales presence and increase the close rate on their future bids. The RPG Acoustical Systems case will highlight our approach to reinforce the ideas that have not been followed through, although they'd be advantageous to the company. Furthermore, our recommendations to the company that have not yet been considered are an effort to increase their sales conversions.

**Michaela Gardiner, Undergraduate Student, Environmental Science**

Shana Foster, Undergraduate Student, Environmental Science; Holly Leonard, Undergraduate Student, Environmental Science; Kelly Dykman, Undergraduate Student, Environmental Science; Ryan Wizner, Undergraduate Student, Environmental Science; Liam Aylward, Undergraduate Student, Environmental Science; Harry Maisch, Adjunct Faculty, Environmental Science; Martin Becker, Faculty, Environmental Science; Michael Griffiths, Faculty, Environmental Science  
Faculty Sponsor: Martin Becker

*Chondrichthyans from the Lower Clayton Limestone Unit of the Midway Group (Paleocene) near Malvern, Arkansas, USA with Comments on the K/Pg boundary*

The Lower Clayton Limestone Unit (LCLU) of the Midway Group (Paleocene) near Malvern, Arkansas contains an assemblage of chondrichthyans recently exposed by excavation for highway stabilization. Chondrichthyan teeth in this assemblage belong to at least 10 taxa including: *Odontaspis winkleri*, *Carcharias* cf. *C. whitei*, *Carcharias* sp., *Palaeohypotodus rutori*, *Palaeogaleus vincenti*, *Pseudoginglymostoma* sp., *Hypolophites hutchinsi*, *Dasyastis* cf. *D. hexagonalis*, *Myliodasyastis* sp., and *Raja* sp. Locally, these chondrichthyans occur within a stratigraphic section directly above the Cretaceous-Paleogene (K/Pg) boundary that also contains chondrichthyans. This occurrence is uncommon in the global fossil record and provides an opportunity to: 1) assess chondrichthyan diversity across the K/Pg boundary in the Malvern region and Gulf Coastal Plain of southwestern Arkansas; and, 2) evaluate the timing of shallow marine chondrichthyan faunal turnover and extinction at a proximal location ~1500km from the Chicxulub, Mexico, K-Pg impact site. Observed patterns within this K/Pg stratigraphic section indicate that changes in chondrichthyan fauna are primarily derived by sea level cyclicity and occurred across several million years.

**Myles Garvey, Faculty, Marketing and Management Science**

*Supply Chain Risk Propagation: An Exploratory Simulation Into the Impact of Canonical Supply Network Structure*

Many in the extant literature have attempted to characterize a supply network's structure. In doing so, customized characterizations have been proposed for the goal of explaining various supply chain dynamics. In addition, supply chain risk propagation is a relatively new construct that has recently been an area of study dedicated mainly to measurement purposes. In this research, we synthesize the current streams of literature in supply chain risk propagation, network structure, and levels of analysis to propose new conceptual frameworks within each of these respective areas. We subsequently employ a simulation to study the intersection of these areas of study. In so doing, we introduce the concept of the k-Ego-Network, a new type of network structure within which we will explore the connection between canonical network structure and risk propagation. Managerial and academic implications are discussed in regards to strategic decision making within the context of supply chain structure and risk propagation.

This activity was supported by: Cotsakos College of Business, Business Practice and Policy Research Forum (BPPRF) Grant

**Alexander Geleski, Master's Student, Kinesiology**

Faculty Sponsor: Jason Wicke

*Biomechanical Analysis of Throwing With and Without Ball Release*

The purpose of this study was to observe and analyze the kinetic (force) and kinematic (displacement, velocity, and acceleration) effects upon holding and releasing three types of weighted balls between softball and baseball players. The findings of this research may indicate what corrections may be made to increase torque and velocity potential within each athlete. Participants included 25 Division III William Paterson University baseball and softball athletes (females n=15, males n=10). Three types of weighted balls were distributed to participants in clinical trials. Trials for male participants included throwing weighted balls of five ounce (standard), a one pound, and a two pound ball, whereas female participants threw an eight ounce, a one pound, and a two pound weighted ball. Motion analysis markers were placed throughout the body to analyze biomechanical discrepancies in performance of participants. Torque was the primary biomechanical factor analyzed to help determine where corrections may be made. Torque in combination with velocity was analyzed to determine factors that need to be improved for each participant.

Observation of kinetics provides an understanding of analysis within the force generated through a moving object. Within kinematics (study of motion) the collection of points generated from participants was factored into data analysis. Deceleration training and the importance of its application is discussed within the testing process. Analytical comparisons between deceleration throws and regular throws aid in determining what improvements may be made to achieve peak performance.

**Alexander Geleski, Master's Student, kinesiology**

Dr. Jason Wicke, Faculty, Kinesiology

Faculty Sponsor: Jason Wicke

*Kinetics and Kinematics of Pitching*

The purpose of this study was to observe and analyze the kinetic (force) and kinematic (displacement, velocity, and acceleration) effects upon holding and releasing three types of weighted balls between softball and baseball players. The findings of this research may indicate what corrections may be made to increase torque and velocity potential within each athlete. Participants included 25 Division III William Paterson University baseball and softball athletes (females n=15, males n=10). Three types of weighted balls were distributed to participants in clinical trials. Trials for male participants included throwing weighted balls of five ounce (standard), a one pound, and a two pound ball, whereas female participants threw an eight ounce, a one pound, and a two pound weighted ball. Motion analysis markers were placed throughout the body to analyze biomechanical discrepancies in performance of participants. Torque was the primary biomechanical factor analyzed to help determine where corrections may be made. Torque in combination with velocity was analyzed to determine factors that need to be improved for each participant.

**Zoey Gibbs, Undergraduate Student, Nursing Honors Track**

*An Integrative Review of the Science on Reducing Infant and Maternal Mortality in African Americans*

The purpose of this integrative review is to appraise the state of the existing science in regards to the reduction of infant and maternal mortality in African Americans. Maternal death rates among African American women are 43.5 per 1,000 live births ("Pregnancy Mortality Surveillance System | Pregnancy | Reproductive Health | CDC," 2018). That means that African American women are about three times more likely to die from pregnancy related causes than their white counterparts. The fetal mortality rate amongst African Americans is 11.3 per 1,000 live births ("Pregnancy Mortality Surveillance System | Pregnancy | Reproductive Health | CDC," 2018). This is more than two times the rate found in their white counterparts (4.9 per 1,000). Addressing the health care disparities that plague the African American community has been a part of America's Healthy People's Goals since its inception (Bond, 2011). However, addressing disproportionate maternal and fetal mortality is not just a governmental aim but a moral one. Health care professionals strive to give the best care possible to their patients. In order to do that they must be attuned to the different issues that affect the specific patient populations they serve, so they may be appropriately addressed (Giddens, 2017). The health disparity of higher infant and fetal mortality rates is a serious problem that African Americans face.

**Anna Guarino, Undergraduate Student, Social Sciences Honors Track**

*The Psychosocial Benefits of Martial Arts Training*

Research suggests several possible positive outcomes resulting from training in martial arts. This paper reviews existing studies and examines the effects that martial arts have on various psychosocial traits. Studies suggest that traditional martial arts may be effective for reducing aggression shown by at-risk youth. Martial arts training can also be helpful in the prevention of juvenile delinquency and may help children in and out of the classroom. Martial arts have also been suggested as possible treatment for individuals with certain neurological conditions, such as ADHD and Autism Spectrum Disorder. It may also be an effective treatment for stress and depression. Psychosocial benefits of martial arts training have not only been exclusive to youth, but have been recorded in adults and the elderly. This paper reviews and assesses studies already published on the topic, identifies possible gaps in the research literature, and concludes with recommendations for further research on martial arts' role in society.

**Aszhadia Harris, Undergraduate Student, Cognitive Science Honors Track**

*Evaluating the Effectiveness of AAC on Social Development in Children*

Childhood is a notorious period in development for the formation of tight-knit peer relationships. Unfortunately, not all children establish these close relationships because of differences that distinguish them from their peers. Unlike peers, children with communication impairments struggle discerning and conveying communicative information. Fortunately, modern technology has introduced augmentative and alternative communication devices which facilitate functional communication for individuals with limited or unintelligible speech. Bearing this in mind, raises the question "How effective are augmentative and alternative communication devices in enhancing the social development of children with communication impairments?" Ninety-four articles published between 2014 and 2018 were accessed through the PsychInfo database and analyzed to determine if research supports the implementation of augmentative and alternative communication in children. Thirty articles were classified under analysis given they included data classifiable as having positive, mixed or null results. Our analysis concluded twenty-seven were positive, three were mixed and zero produced null results.

## **Robert Harris, Professional Staff, Center for Teaching with Technology**

### *Yes We Can! The history, theory, and practice of using open educational resources*

We all know the story: students who can barely afford the costs of tuition are stymied by the torrent of the ancillary costs of higher education. While faculty can't do anything about housing we can work to decrease the burden of costly textbooks. Mandatory texts have always been a burden to students but with the practice of regularly released new editions and the advent of digital content, students today are often faced with the possibility of attempting to complete a course without the text.

Multiple studies by John Hilton, David Wiley and others show that open educational resources can provide educational value equivalent to the costly alternative, produce equivalent of higher grades and, importantly, increase retention.

In this session we will review the history, theory, and practice of open educational resources (OER). We'll review the roots of the campaign for OER, including the development of copyright tools which allow authors to direct the rules by which their material can be reused, remixed, and published. An evaluation of some of the many academic studies of OER use will demonstrate that open materials can be of equivalent educational value to transitional texts, are well received by faculty and students, and work to raise grades and increase retention.

After a tour of some of the most popular OER content participants will be given the chance to see for themselves how easy it is to find and use open educational resources. Hyperlinks to the presentation, the bibliography, repositories and the presenter will offer participants the tools they need to forge ahead with their own projects.

## **Omayma Hassanain, Master's Student, Communication**

Faculty Sponsor: Kyung-Hyan (Angie) Yoo

### *Rational Choice and The influencing Factors of Relational Transgression*

Relational transgressions such as deception and sexual infidelity, can post many challenges for romantic partners. These transgressions can lead partners to either forgive their partner, seek retribution, retaliation or to terminate their relationship. The purpose of this study is to examine what influencing factors contribute to a transgressor's decision to transgress against their partner as well as examining what influencing factors contribute to the victim's response to the transgression. Finally, it will examine if the transgressor or victim regretted the decision(s) they made pre-transgression and post-transgression. The findings of this study may help communication experts, psychologists and marriage/relational counselors better understand why these situations occur.

## **Kelley Healey, Faculty, Biology**

Milena Kordalewska, Public Health Research Institute - Rutgers New Jersey Medical School; Cristina Jimenez Ortigosa, Public Health Research Institute - Rutgers New Jersey Medical School; Ashutosh Singh, University of Delhi; Indira Berrio, Hospital General de Medellin Luz Castro de Gutierrez ESE; Anuradha Chowdhary, University of Delhi; David S. Perlin, University of Delhi

### *Specific "ERG11" mutations identified in the emerging fungal pathogen "Candida auris" contribute to azole reduced susceptibility*

The emerging fungal pathogen *Candida auris* has spread across the globe, caused hospital outbreaks, and been reported as refractory to common antifungal agents, including azoles, such as fluconazole and voriconazole. Currently, *C. auris* is divided into four major clades: South Asian, East Asian, South African, and South American. Transmission of highly clonal *C. auris* isolates within health care facilities has triggered institutional outbreaks, further emphasizing the importance of understanding resistance mechanisms in this yeast. Multiple mechanisms of azole resistance have been described in other *Candida* species, including mutations in the ergosterol synthesis pathway (primarily in the azole target *ERG11*). In this study, we determined azole susceptibilities and *ERG11* genotypes from different clades. Thus far, multiple Erg11 amino acid substitutions were identified in clinical isolates of *Candida auris* originating from India (South Asian clade) and Colombia (South American clade). Elevated azole MICs were detected in *Saccharomyces cerevisiae* upon heterologous expression of *C. auris* *ERG11* alleles that encoded for Y132F or K143R amino acid substitutions; however, expression of alleles encoding I466M, Y501H, or other clade-defined amino acid differences yielded susceptible MICs. Similar to other *Candida* species, specific *C. auris* *ERG11* mutations resulted directly in reduced azole susceptibility.



## **Thomas Heinzen, Faculty, Psychology**

### *Case Study of a Baseball Umpire With a Hangover: The Shadow of Our Future*

Baseball umpire Ron Luciano sometimes drank too much but still had to call balls and strikes the next day. So he sometimes asked the catcher to hold the ball a little longer for a strike. Luciano reported that catchers never cheated because of what Robert Axelrod (1984, p. 126) called "the shadow of the future" - Luciano would be their umpire again soon. This baseball version of the trust game called *The Prisoner's Dilemma* hints at the research and motivating potential of game design principles in service of student success, especially retention. I present those principles in the context of qualitative and quantitative data collected at WPU: Leveling up in a statistics class, a motivating experience in a film essay of signs directing visitors to WPU, the mismatch between when students can use support services and when they are available, and an experiment about the number of points presented in a syllabus. The long history of applied game design includes (a) the game of life understood by a stoic Greek philosopher, (b) the voice of God in the Bible, and (c) an explanation for the bloodshed during the French revolution. Modern game design has become sophisticated and is referred to as "Serious Games," "Gamification," and "Social Gaming." Higher education is operating now beneath the shadow of an uncertain future that we know is coming. Games can induce extraordinary levels of persistence, so we are applying principles of game design to increase student retention and graduation rates among at-risk students.

This activity was supported by: Assigned Release Time for Research (ART)

## **Christopher Herbert, Faculty, Music**

Lauren Fowler-Calisto, Faculty, Music; Loki DeAngelis, Undergraduate Student, Music; Anna Petrillo, Master's Student, Music

### *Presentation and Performance of Music from the Ephrata Cloister*

The celibate sisters and brothers of the eighteenth-century Ephrata Cloister in Pennsylvania produced one of the first collections of original hymns in the Americas. This presentation illustrates the methodology used to transcribe their music manuscripts into modern notation. It also examines a specific music manuscript in the Library of Congress -- the *Ephrata Codex* -- which contains evidence of the first known female composers in America. A short performance of Ephrata hymns by a small group of William Paterson University vocalists is also included in the presentation.

This activity was supported by: College of the Arts and Communication Center for Creative Activity and Research Summer Grant

## **Cassandra Hillmer, Undergraduate Student, Independent Honors Track**

### *How the Use of Technology in a Small Group Setting Enhances Math Problem-Solving Skills at the Middle School Level*

This study explores the effects of technology in a group setting on math achievement at the middle school level. In this action research project, teachers in one middle school expressed the potential of using technology in small group settings in order to produce positive effects on problem-solving skills in the math classroom. Technology is readily available and important to most students, and problem-solving skills are necessary for the real world. This project, which takes place in a middle school math classroom, assesses both individual and group problem-solving content. The study has the potential to add insights and new knowledge for middle school math teachers.

## **Nicholas Hirshon, Faculty, Communication**

### *"Generation K": The New York Media and One of Baseball's Biggest Disappointments*

Early in the 1996 baseball season, the New York Mets plastered the photographs of their three top pitching prospects - Jason Isringhausen, Bill Pulsipher, and Paul Wilson - on the cover of what the team dubbed its official newspaper. A bold headline dubbed the trio "Generation K," an allusion to the letter used to denote a strikeout in baseball scorekeeping. Inside, a chart compared the rookie years of Isringhausen and Pulsipher against the debut seasons of Cy Young Award winners Tom Seaver and Dwight Gooden, while the adjacent article included interviews with coaches and baseball executives who were encouraged to hype Wilson even though he had only been in the Major Leagues for a few weeks. The players themselves were asked whether they could reach their lofty expectations. "I don't know what's going to happen," Isringhausen was quoted as saying. "You hear it more from the media than anyone else." He had a point. The members of "Generation K" had become the focus of fawning articles in the New York tabloids, were given the rare Sports Illustrated treatment, and even appeared on David Letterman's late-night television show to deliver the Top Ten list. All the attention seemed premature, a media creation almost destined to disappoint fans. Sure enough, all three pitchers succumbed to injuries over the

next year and were discarded without producing much for the Mets. Today, almost a quarter century later, "Generation K" remains one of the biggest letdowns in baseball history.

This activity was supported by: College of the Arts and Communication Center for Creative Activity and Research Summer Grant

### **Sarah Hitchcock, Undergraduate Student, Clinical and Neuropsychology Honors Track**

#### *Effectiveness of Yoga for Posttraumatic Stress Disorder Symptomology*

The current study analyzed the effectiveness of yoga for Posttraumatic Stress Disorder symptomology in a sample of students who met criteria for PTSD as indicated by the Posttraumatic Stress Disorder Checklist-DSM-5 (PCL-5). The objective of this study is to decrease Posttraumatic Stress Disorder symptomology and overall scores through yoga. Participants were randomly assigned to either a yoga group or waitlist group, and participated in 3-weeks of yoga classes. Participants were screened for Posttraumatic Stress Disorder, pre- and post-intervention to see if the yoga classes were effective in reducing PCL-5 scores. The current study's hypothesis is that yoga will decrease participants' Posttraumatic Stress Disorder symptomology, participants' overall PCL-5 scores, and may provide a tool for those diagnosed with Posttraumatic Stress Disorder to better cope with their symptoms.

### **Maria Katrina Holganza, Undergraduate Student, Biology Honors Track**

#### *Synthesis of Daumone Precursor and Its Effect on Aging in *Saccharomyces cerevisiae**

Nature has produced an abundant number of compounds that are seen to elicit medicinal properties. An example of this is the well-known natural product Spermidine, which was seen to extend lifespan by offering cardio protective and neuroprotective effects in humans (Minois et al. 2014). Because of the medicinal importance of natural products, scientists in both fields of chemistry and biology are constantly investigating new natural products. One natural product currently under investigation is daumone. In the presence of poor environmental conditions (low nutrients and high population density) larval *Caenorhabditis elegans*, enter a resting state that causes the arrest of larval development, termed the dauer stage (Golden et al., 1984). It was discovered that daumones, dauer pheromone ascarosides, secreted by larval *C.elegans* are responsible for inducing the dauer stage (Hollister et al., 2013). Since then, additional daumone compounds have been identified and synthesized; some having a more potent effect in inducing the dauer state compared to the first isolated daumone (Edison et al., 2009). However, the general biological properties of daumones, and their role in aging, are still under-characterized. The purpose of this research was to investigate and characterize the effects of a daumone precursor on cellular aging using *Saccharomyces cerevisiae* as a model. The daumone precursor was synthesized and the structure was confirmed and characterized by <sup>1</sup>H and <sup>13</sup>C NMR. To test the effect of the daumone precursor on the chronological lifespan of *S. cerevisiae*, a colony forming unit and spotting test assay were conducted. Various concentrations (25 mM, 12.5 mM, 6.25 mM) of the daumone precursor suspended in DMSO were used for these biological assays. The data suggests that the daumone precursor provides a brief protective effect against DMSO's toxicity. This is supported by the yeast cells only being able to grow within the first fifteen minutes of exposure to the daumone precursor. Because the yeast cells were only viable within the fifteen minutes of exposure, we conducted a CFU assay using a more dilute dose (0.041 mM). The data indicates that the yeast cells exposed to the daumone precursor aged similarly to the untreated cells. Further testing will be conducted to lead to a more definite conclusion of the effects of the daumone precursor on *S.cerevisiae* lifespan. Future directions include the synthesis and biological characterization of another natural product under investigation is Actinopolymorphol B, isolated from *Actinopolymorpha ritulus*.

### **Jonathan Hommes, Undergraduate Student, Business Honors Track**

#### *Pariser Industries Finished Goods Analysis*

Our group was tasked with assisting Pariser Industries, a family-owned chemical manufacturer in Paterson, NJ. We focused on studying the firm's finished goods inventory. The inventory itself was very disorganized, difficult to find, and creating issues that rippled through the production process, stretching from raw material intake to delivery of shipments. Compounding this issue was a lack sufficient training for warehouse staff, and inadequate compensation / benefits. Through discussions with management, tours of the facility, and interviews of warehouse staff, we developed a comprehensive series of recommendations to improve the organization and efficiency of the warehouse team responsible for Pariser's finished goods.

**David Hunter, Undergraduate Student, Humanities Honors Track**

*There is a Tide in the Affairs of Men*

My study explores parallels in the works of Shakespeare and Plato, who each wrote during times of severe economic, political, and social upheaval. Shakespeare's characters used the power of rhetoric to influence others, including the audience's worldview. Through dialogues, Plato examined and evaluated the state of humankind, stressing the importance of finding virtue through philosophy. Through the use of stories, both Shakespeare and Plato evaluate the past, inspect their own time, and leave valuable insights for the future. My project provides linguistic and psychological insights into their major texts, including Shakespeare's King Lear, Phaedra, and Othello and Plato's Republic to conclude that these commonalities are far from coincidental. I contend that Shakespeare drew on newly-discovered Platonist manuscripts and popularized them for the masses in his plays. Thus, both authors share many philosophical understandings of the world and seek to instruct others in how to adapt to severe social and economic change and shifting political winds.

**Joanne Iglesias, Undergraduate Student, Nursing Honors Track**

*Relationship between Self-Efficacy, Self-Esteem, and Assertiveness in Undergraduate Nursing Students*

Nurses who do not possess confidence, positive self-esteem, and good assertiveness skills are more prone to making medical errors; therefore, it is of value to research more into this topic and build up confidence levels in undergraduate nursing students. The purpose of this study was to determine the links between self-efficacy, self-esteem, and assertiveness in 3rd to 4th year nursing major students who are taking clinical courses. The study will use the Rosenberg Self-Esteem Scale, The Rathus Assertiveness Schedule, and the General Self-Efficacy Scale to measure the links between these traits in undergraduate student nurses. Results will be analyzed in early 2019. The anticipated outcome will be that there is a positive result in self-esteem, assertiveness, and self-efficacy in nursing students as they excel in the program.

**Joan Inoa, Undergraduate Student, Chemistry**

Mansi Patel, Undergraduate Student, Chemistry  
Faculty Sponsor: Yalan Xing

*Green Chemistry: Benzylic Functionalization via Visible-light induced photo redox catalysis*

Visible-light photo-redox catalysis offers a promising synthetic technology which replaces traditional methods due to its mildness and high compatibility with functional groups. Visible light is considered as clean energy because of its high abundance, greenness, benign environmental impact, and sustainability. We developed a visible-light induced photo-redox catalysis for the efficient functionalization of benzylic/allylic C-H bonds with peroxides. This research was primarily conducted to functionalize various substrates at the benzylic position by the addition of a peroxide group. An organic dye, Eosin Y, is used as a non-expensive photocatalyst and the blue LED light was employed as the light visible light source. Various benzylic peroxides were prepared under our optimal conditions in good to excellent yields. This reaction takes advantage of a Hydrogen Atom Transfer mechanism and features mild conditions, high functional group compatibility, and broad substrate scopes.

**Nora Jamal, Master's Student, Communication: Digital Media**

Faculty Sponsor: Kyung-Hyan (Angie) Yoo

*Political Awareness of Twitter among Saudi Students in The United States*

The aim of this study is to understand the political awareness of Twitter among Saudi students in the U.S. This study seeks to answer two research questions: which are / what is the political content that the Saudi students follow on Twitter? and how much is the political awareness of using Twitter for Saudi students in America? The finding of the study will contribute in understanding the political awareness of Saudi Arabia students in the U.S. it introduces how the social media contributed to spread democracy and freedom of expression. Yet, this study will cover another aspect, which is the political awareness of Twitter users, as well as examine the most influencing political content the users look for on Twitter. Moreover, the research community consists of Saudi students who applied for scholarship programs in the United States to earn bachelor's, master's and doctoral degrees in various majors. However, the study sample will be selected randomly. The researcher will provide an online survey for the Saudi Students.

However, the questionnaire aims at determining two main points:

1. Determine the level of political awareness of Saudi college students in the U.S.
2. Determine what Saudi students are looking for from the verified political accounts on Twitter.

In conclusion, the study will raise the level of political awareness among university students. Also, will help

faculty members work on spreading the culture of political participation among the university youth groups. In addition, the results of the study will help governments and organizations improve their communication with people on social media, as well as understand their interests.

**Brandon Johnson, Master's Student, Kinesiology**

Faculty Sponsor: Michael Figueroa and Toni LaSala

*Dextrocardia in 35 year old*

Introduction - Dextrocardia is a congenital condition, which is when your heart points to the right instead of the left which affects less than 1% of the general population. Dextrocardia is a congenital condition, which can be asymptomatic or symptomatic. Dextrocardia can cause double outlet right ventricle which the aorta connects to the right ventricle, and endocardial cushion defect which the walls are poorly formed or absent. Dextrocardia can also cause single ventricle, transposition of great vessels which the aorta and pulmonary artery are switched, and ventricular septal defect which there is a hole between the right and left ventricles. Pulmonary stenosis can affect breathing, resulting in cyanosis and fatigue because it narrows the pulmonary valve.

Case Presentation: The patient is a 35-year-old female who is attending cardiac rehab at Hackensack University Meridian Center. Dextrocardia is diagnosed with either X-Ray or MRI. It can also be detected by an ECG as the leads will look reversed from a normal ECG. The patient's major complaint is problem with her breathing. She had her first surgery at 2 years old which repaired the pulmonary valve but it closed again. Pulmonary stenosis is a symptom of dextrocardia and is generally treated with a balloon valvuloplasty or open-heart surgery. The latest surgery was a sternotomy replacement of pulmonic valve using bio-prosthesis. Her medication is Aspirin, Ibuprofen and Metoprolol.

Discussion: This patient has a diagnosis and treatment regimen to improve pulmonary ventilation, MET level, and quality of life.

**Maxwell Johnson, Undergraduate Student, History**

*Militia Christi: A Reevaluation of Norman Piety regarding the First Crusade*

My paper evaluates differing perspectives regarding the motivations of Norman participants, more specifically, Norman leaders within the confines of the First Crusade. An integral facet of Crusade history, the First Crusade's Norman pilgrims have been severely neglected in reevaluations of Crusade concepts and continue to be regarded to have been motivated by materialism through a series of neglectful analyses of their religious values and their manifestations. Moreover, such a neglect allows for the proliferation of a concept which may hold that the First Crusade represents the first step in proto-colonialism since such a dismissal of an entire sect of crusaders provides a perfect foundation for a claim holding that parts of the crusader mission set forth with the explicit desire for land or wealth. This paper will evaluate 11th century religious and societal values and precedent to then evaluate the validity of the two major schools of thought regarding general First Crusader motivations and then providing an argument in favor of the religious motivation of the Norman Crusaders in particular by examining Bohemond and other members of the Hauteville line.

**Parminder Kaur, Faculty, Chemistry**

*Non-precious metal catalyzed organic transformations for C-C and C-X bond formation*

See Abstract on next page.

This activity was supported by: Assigned Release Time for Research (ART); College of Science and Health, Center for Research; National Science Foundation, Garden State LSAMP; Department of Chemistry

**Aleksandar Kecojevic, Faculty, Public Health**

*Legalization of Recreational Marijuana in New Jersey: The Public Health Perspective*

Objectives: New Jersey (NJ) is poised to join 10 other states in the U.S. that have already legalized marijuana for recreational use. As a result, there is a need to carefully examine potential public health impact of marijuana legalization in NJ.

Methods: We outline the public health framework for marijuana legalization according to three core functions of public health: assessment, policy development, and assurance.



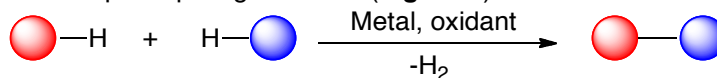
# Non-precious metal catalyzed organic transformations for C-C and C-X bond formation

Parminder Kaur

College of Science and Health, Department of Chemistry, William Paterson University, 300 Pompton Road, Wayne, NJ 07470, United States

The development of new and simpler methodologies for the C-C and C-X (X = O, N, S, P) bond formation has been an area of great interest for many decades. Conventionally, the most common approaches used in literature for the C-C and C-X bond formation involves the nucleophilic additions, Friedel-Crafts-type reactions and substitution reactions.

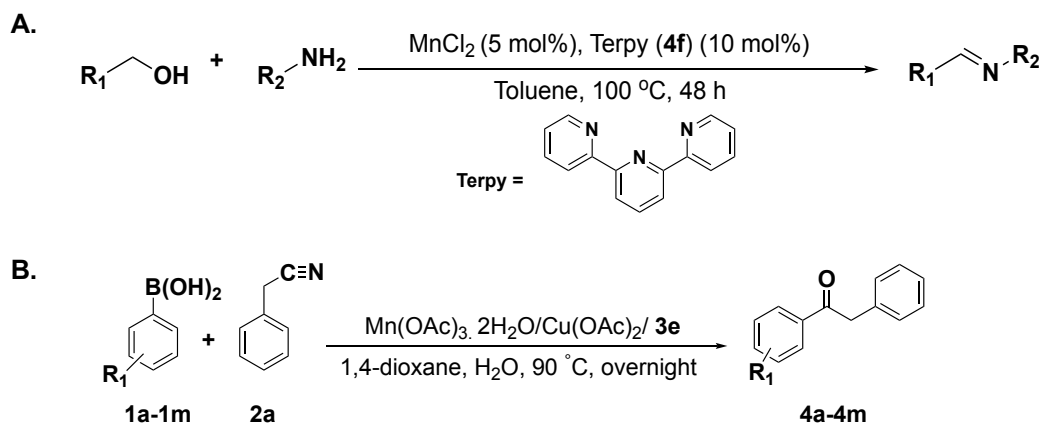
Recently, the development of transition metal catalyzed reactions boosted the scope of C-C and C-X bond formation reactions particularly through cross-dehydrogenative coupling (CDC). The CDC reaction proceeded mainly through the initial transition metal catalyzed C-H activation of the molecule followed by the C-C bond formation in which the new bond formation is accompanied by the elimination of a hydrogen atom from each of the participating molecule (**Figure 1**).



**Figure 1. Representation of cross dehydrogenative coupling**

The CDC reactions require the *in-situ* activation of the C-H bond under the oxidative conditions. Until now transition metals such as Pd, Fe, and Cu have been used for carrying out the CDC reactions but a lot of work still needs to be done to carry out these reactions successfully using non-precious metals particularly manganese, cobalt and nickel.

Exploring new non-precious metal-based catalyst system is not just limited to the area of CDC reactions, various conventional methods for challenging transformations using non-precious metal catalysts has also been explored in the recent past. In our current research, we use the non-precious metals for carrying out following two organic transformations: (i) Dehydrogenative coupling of alcohol and amine; (ii) use of Mn/Cu dual system for the direct synthesis of aryl nitriles. (**Figure 2**).



**Figure 2. A. Mn catalyzed dehydrogenative coupling of alcohol and amine to give imines; B. Mn/Cu dual catalytic system for the direct synthesis of aryl nitriles**

# Office of Sponsored Programs

## Promoting Ideas Into Knowledge

The Office of Sponsored Programs (OSP) provides assistance and support to William Paterson University 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 federal, state, and other government sponsors, grantmaking public charities, professional associations, and some commercial sponsors. The OSP concentrates its activities in three areas:

- Proposal development, submission and finalization of contracts (Pre-Award)
- Award set-up, management, and reporting (Post-Award)
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- ◆ Encourages artistic activity that creates and shares culture
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The mission of the Office of Sponsored Programs is to provide value-added assistance to encourage, develop, and support the research, scholarship, education, creative and community service aspirations of William Paterson University's faculty, staff, and students.

The Office of Sponsored Programs accomplishes its mission by:

- Collaborating in the development of projects and leading the submission of proposals to Federal, State, and other government sponsors, grantmaking public charities, professional associations, and some commercial sponsors.
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- Developing, monitoring and implementing policies to ensure compliance with sponsor expectations and related regulatory requirements.

If you are interested in seeking external funding to support a new or ongoing project or activity, contact the OSP:

973-720-2852

Christine Bravo  
Assistant Director

BravoC4@wpunj.edu

309 Raubinger Hall

[www.wpunj.edu/osp](http://www.wpunj.edu/osp)

Results: Estimates from the 2016 National Survey on Drug Use and Health (NSDUH) indicate that one in ten NJ residents used marijuana in the past year. Legalization necessitates further monitoring the patterns of marijuana use and the health effects of use. For example, marijuana use in adolescence, increased frequency of use, and higher potency may have profound implications for public health in NJ in the long-term. In addition, a little is known about the impact of NJ marijuana legalization on motor-vehicle accidents, treatment admissions, and opioid use. A considerable effort will be required to develop policies and regulations to protect the public's health and safety. It is likely that policies and regulations (i.e. smoke-free policies, taxation, retailer licensing) will utilize the public health measures implemented in reducing the prevalence of tobacco use and alcohol-related problems. Public will need assurance that the marijuana policies and laws are enforced and periodically evaluated. Additionally, it is important to establish a network of local public health professionals and train a competent workforce to address the impact of marijuana legalization.

Conclusions: While the legalization of marijuana has a potential to advance social justice and economic benefits to the state of NJ, it also necessitates a robust public health framework consistent with the core public health functions of assessment, policy development, and assurance. Public health can help to minimize the potential harms of marijuana legalization in NJ.

### **William Kernan, Faculty, Public Health**

#### *A Study of Municipal Ordinances Limiting the Sale of Recreational Marijuana in New Jersey*

This research study documents the prevalence of municipal-level regulations of the sale of recreational marijuana in New Jersey as the state moves ever closer to being a state where cannabis is sold legally in retail establishments to the general population. In addition to mapping the locations of these ordinances, this study documents geographic and sociodemographic correlates and implications for public health and public policy.

### **James Khoneisser, Undergraduate Student, Business Honors Track**

#### *Detailed Decision and Problem Analysis of the Finished Goods at Pariser: Case Study*

Our group was tasked with assisting Pariser Industries, a family-owned chemical manufacturer in Paterson, NJ. We focused on studying the firm's finished goods inventory. The inventory itself was very disorganized, difficult to find, and creating issues that rippled through the production process, stretching from raw material intake to delivery of shipments. Compounding this issue was a lack of sufficient training for warehouse staff and inadequate compensation / benefits. Through discussions with management, tours of the facility, and interviews of warehouse staff, we developed a comprehensive series of recommendations to improve the organization and efficiency of the warehouse team responsible for Pariser's finished goods.

### **Thomas Killackey, Undergraduate Student, Music Honors Track**

#### *Akinmusire's "The Imagined Savior is Far Easier to Paint:" An Analysis and Juxtaposition of Postmodern Improvisation and Composition*

The music of Ambrose Akinmusire, in a postmodern world, exemplifies the contemporary ideologies of Miles Davis and Nicholas Payton. An exploration of Akinmusire's music and qualitative data derived from interviews with Miles Davis and Akinmusire coupled with the experience of Nicholas Payton is utilized in developing a system of musical analysis. Qualitative data derived from this analysis provides a template upon which postmodern improvised music can be observed, specifically identifying the way it transcends genre and label. This study focuses on select compositions from Akinmusire's *The Imagined Savior is Far Easier to Paint*, and delineates the form and function of both compositional and improvisational characteristics. By juxtaposing both the cultural and musical facets of the data collected, Ambrose Akinmusire's work is justified, establishing his place in this postmodern musical fabric.

### **Kaytlynn Knyfd, Undergraduate Student, Environmental Science**

Austin Degen, Undergraduate Student, Environmental Science; Troy Nixon, WP Alumni  
Faculty Sponsor: Nicole Davi

#### *Tracing Storms and Climate Change Through Tree-Ring Growth Patterns on Coastal Maritime Forests in NY and NJ*

This project focuses on coastal maritime forests located on Sandy Hook, NJ, Fire Island, NY, and Montauk NY, in an attempt to understand if major tropical cyclone activity is recorded in the tree-ring record and to determine how trees are responding to climate. Specifically, we aim to examine ring damage and/or growth releases in tree ring

records as a result of severe storm events and/or saltwater inundation. Due to anthropogenic climate change creating more severe storms and rising sea levels, this study has become increasingly relevant and important in creating necessary foundational research on these unique forests. Cores were sampled from dominant tree species at the study sites. Following sample preparation, we measured tree-ring width and density using a high resolution scanner and CooRecorder, image analysis software. Using Coo-Recorder we will also evaluate Blue Intensity (BI), a relatively new image analysis derived methodology that analyzes the blue component of visible light reflected from scanned images of tree-ring cores. BI has been broadly interpreted as an indirect proxy measurement of wood density and can result in a stronger paleoclimate reconstructions. Once the RW and BI chronologies have been constructed using rigorous cross-dating techniques, we will use the site-specific meteorological data to determine the climate signal. We will also evaluate the oxygen isotopic composition of each ring in several of the older tree specimens to better understand the atmospheric dynamics, and potentially 'fingerprint' major storm events. Some of the trees sampled for this study date back to the early 1800s and will provide extended insights into forests response to climate change and storm frequency in this region.

This activity was supported by: National Park Service and the Lamont-Doherty Earth Observatory - Tree Ring Lab

**Betty Kolia, Faculty, Communication Disorders and Sciences**

Katie Gasparino, Master's Student, Communication Disorders and Sciences

*Cannabis Use and Communication Disorders*

We will present an overview of studies of the effects of opioids and cannabis on the communication skills of young persons, including learning disability, cognitive functions, memory, executive functions, verbal learning, and verbal memory.

**Miranda Labbree, Undergraduate Student, Cognitive Science Honors Track**

*Can Dinosaurs be Girls?*

This study looked to determine if children and adults hold the bias to refer to animals of unknown gender as male. Participants were provided with images of a dinosaur, rabbit, and baby and asked to tell a story about each in order to determine the gender the animal was assigned by the participant. Data indicates that dinosaurs and babies are assigned male by participants and rabbits are split evenly between the two genders.

**Kyle Labouseur, Undergraduate Student, Business Honors Track**

*Millennials' Preference for Online Versus In-Person Coaching Methods*

This project involves a direct relation between millennials and their preference in training styles when exercising. The purpose of this research is to determine the decision making process of millennials in regard to online coaching versus in-person fitness training in the realm of fitness. The method of discovery is through a questionnaire in which quantitative data will be discovered and will be analyzed for results. Some anticipated findings include: the preference of online coaching over in-person fitness training, a larger level of commitment to fitness with the help of an online coach, a strong relationship with honesty towards an online coach over an in-person fitness trainer, and a higher result of willingness to share experiences with others when using an online coach rather than an in-person fitness trainer.

**Toni LaSala, Faculty, Kinesiology**

Jordan Cola, Faculty, Kinesiology; Michael Figueroa, Faculty, Kinesiology; Racine Emmons, Faculty, Kinesiology

*Determination of Exercise Intensity That Elicits Maximal Fat Oxidation on a Body Weight Supported Treadmill in Normal Weight Males*

Purpose: To determine the exercise intensity that elicits maximal fat oxidation while walking at 100% to 75% on a lower body positive pressure treadmill (LBPP) in normal weight men.

Results: Peak oxygen consumption ( $\dot{V}\ddot{I}\ddot{O}_2\text{peak}$ ) was significantly lower ( $p < .001$ ) at 75% BW compared to 100% BW where fat oxidation (FO), and respiratory exchange ratio (RER) were not significantly lower ( $p > .05$ ) at 75% BW compared to 100% BW.

Conclusion: Unweighting on the LBPP can be used as a low to moderate intensity exercise intervention for normal weight individuals by reducing force, improving exercise tolerance, as well as maintaining cardio respiratory demand.

Keywords: lower body positive pressure treadmill, peak fat oxidation, peak oxygen consumption, respiratory exchange ratio.



**Erik Lascano, Undergraduate Student, Humanities Honors Track**

*Rethinking Criminal Responsibility: Evidence of Mitigating Culpability and its Implications for reforming the Criminal Justice System*

Many people think every adult is responsible for his or her actions. Our society recognizes some visible physical and mental limitations on this responsibility because we see the relationship between cause and effect more readily. But, psychological and neurological as well as societal influences on people's behavior are less obvious. Some examples of social pressures include negative influences like gangs, bullying, or abuse. Some psychological and neurological issues inhibiting responsibility include brain damage or other irregularities, as well as mental illness and addiction, all of which can limit an individual's responsibility. In my research, I discuss how youth, especially those who have reached adulthood but whose brains are still forming, are particularly vulnerable to harsher sentencing than they deserve due to mitigating factors. I argue that revised sentencing guidelines and broader expert evaluation for this cohort of adolescent and young adult male criminal offenders are necessary steps towards reforming the criminal justice as a whole to achieve fairer sentencing and prosecution.

**Robert Laud, Faculty, Marketing and Management Science**

Andrey Kreetinin, Faculty, Marketing and Management Sciences; Stephen Betts, Faculty, Marketing and Management Sciences

*An Integrated Model for Large-Scale Social Entrepreneurship: Addressing Global Water Supply Problems*

This paper introduces a large-scale social entrepreneurship model to help address the growing need for the development of an international water resource sustainability system within a world water economy. We explore the relationships between government policy, geopolitical impacts, and business interests. In particular, we investigate why past policy has largely failed, while proposing an emerging entrepreneurial model that introduces a new perspective for large-scale green business start-up capability. We believe an appropriate overlay of multiple stakeholder interests and alternative structuring may be employed in innovative entrepreneurial start-ups that require complex manufacturing and distribution networks. Comprehensive long-term water shortage planning and short-term interventions coupled with an emerging prototype large-scale green entrepreneurship model may help to advance the conversation.

This activity was supported by: Cotsakos College of Business, Business Practice and Policy Research Forum (BPPRF) Grant

**Amy Learmonth, Faculty, Psychology**

Jordan Stewart, Undergraduate Student, Psychology; Ruchael McNair, Undergraduate Student, Psychology; Tuba Masood, Undergraduate Student, Psychology; Kirsten Fernandez, Undergraduate Student, Psychology; Shazna Ali, Undergraduate Student, Psychology; Victoria Hanks, Undergraduate Student, Psychology

*Only Adults Figure Out A Complex Location Cue*

In the current study adults and children were presented with cues to help them find Mr. Smiley. Participants saw four training trials where Mr. Smiley was visible and then had to find him on 40 learning trials. On half of the 40 learning trials the geometry of the space indicated where to look for Mr. Smiley and on the other half a star on the opposite side of the figure provided the information necessary to find Mr. Smiley. Participants were expected to learn to respond relative to the location of a moving landmark and to the geometric properties of the figures in different trials. Only the adults learned to use the landmark to find Mr. Smiley. The children at 3, 4, and 5 years old did not learn the connection between the star and the hiding place indicating they have difficulty with complex cue relationships.

This activity was supported by: Assigned Release Time for Research (ART); Student Research and Creative Expression Program (SRCEP)

**Jeung Woon Lee, Faculty, Biology**

*Application of virtual reality/augmented reality technologies in biological sciences*

The use of virtual reality/augmented reality (VR/AR) technology is exponentially increasing these days encompassing not only the gaming industry but also in the higher learning centers, medicine and pharmaceutical industries. The clear advantage of using visualization technology, such as the VR/AR, in biomedicine provides a simple and straight forward learning opportunity for the present generation of students who are skillfully adept in the digital media. The traditional 2D instruction in neuroanatomy shows its limitations in instructions of 3D structures such as the brain/spinal cord. Clinical and research students have difficulty in conceptualizing

neuroanatomical tracts, projections of axonal tracts and anatomical interconnections between different cerebral and medullary nuclei. Use of 3D printed anatomical models or precast models are presently used in classrooms, but are faced with the difficulty of cumbersome setup as well as the limitation of the number of precast models available in the classroom. The use of VR/AR minimizes many of the challenges present in 2D-style learning. It has the ability to immerse the student into a fully 3D environment that the student can interact and react to. Learning a 3D structure in a 3D virtual environment may provide a unique simulated environment of the reality in a “digital reality”. Use of the digital tools on a digital-generation may enhance their learning experience.

**Frank Leon, Master's Student, Professional Communication**

Faculty Sponsor: Kyung-Hyan (Angie) Yoo

*Social Media's Impact on the world of Professional Wrestling*

What this research aims to discover is what the impact of social media is on professional wrestling as well as if there is a need to filter what the wrestlers are putting out on social media in order to help them maintain the illusion they aim for with their story lines and their characters. Professional wrestling is a character driven industry that needs to put the shield over their audiences' eyes in order to maintain the illusion that the performers in the ring are really the characters that they play. Making the audience believe in the stories and the people doing the stories allows the audience to become invested in the story and can make them have the reactions necessary to a) sell the product and b) continue to draw the crowds to make the product work.

**Dylan Lewin, Undergraduate Student, Biology Honors Track**

*Web Construction and Prey Capture in the Grass Spider, *Agelenopsis pennsylvanica**

Grass spiders (local species *Agelenopsis pennsylvanica*) make a flat, non-sticky web that extends outward from a funnel. To study these spiders and their webs, I collected spiders and allowed them to build webs in clear plastic boxes, documenting web construction over the course of several weeks. Experimentally, I presented the spiders with prey items, and used high-speed video cameras to record their prey-capture behaviors. These included sensing, pursuing, biting and envenomating the prey. High-speed recordings allowed me to see that the spiders frequently stop and reorient themselves while approaching prey. These corrections suggest that the vibrations are important for locating prey, but the system is imperfect. Furthermore, the age of the webs had little impact on the efficiency of prey capture or number of reorientations required to catch prey. Future research will involve designing models and computer algorithms for the capture of prey on a vibrating sheet-like web.

**Weihua Liu, Faculty, Computer Science**

*The Statistical Properties of Shift Register Sequences*

Random sequences have many applications in Cryptography and Network Security. A number of network security algorithms based on cryptography make use of random numbers. For example, generating the keys for RSA public-key encryption, generating stream key for stream ciphers, and used for handshaking in key distribution system to prevent replay attacks. I will present our research and testing results on pseudorandom sequences that are generated by shift registers such as linear feedback shift registers (LFSRs), feedback with carry shift registers (FCSRs) and XOR-FCSRs using NIST test suite.

This activity was supported by: College of Science and Health, Center for Research.

**Weihua Liu, Faculty, Computer Science**

Oliver Alvarado, Undergraduate Student, Computer Science; Jeffery Albanese, Undergraduate Student, computer Science

*The Statistical Properties of XOR-FCSRs*

Pseudorandom sequences play an important role in modern electronics and information technology. we looked into pseudorandom sequences that are generated by shift registers such as linear feedback shift registers (LFSRs), feedback with carry shift registers (FCSRs) and XOR-FCSRs. LFSRs and FCSRs are pseudorandom sequence generators that has been studied for many years. As a modification of FCSRs, XOR-FCSRs can also generate interesting pseudorandom sequences. However, the properties of XOR-FCSR sequences are unknown. We would like to present our testing results of the statistical properties of those three kinds of shift register sequences by running the NIST test suite. Those results help us understand the properties of XOR-FCSRs and enhance our further research on stream cipher design and analysis.

This activity was supported by: Assigned Release Time for Research (ART); Center for Research, College of Science and Health

**Weihua Liu, Faculty, Computer Science**

Bogong Su, Faculty, Computer Science; Dev Dave, Undergraduate Student, Computer Science; Natalia Zaytseva, Undergraduate Student, Computer Science; Camila Murillo, Undergraduate Student, Computer Science

*Machine Learning Techniques for Software Performance Prediction at Source Level*

Performance prediction is critical in embedded system design for reducing the turnaround time of software. CPU execution time is the major performance predictor of software applications. Using simulation to measure the performance of the whole source code is often too slow, particularly after the modification of the source code due to change in problem specification. Computer science researchers and practitioners have taken previous research software performance predictions and have been using various approaches, such as analytical and statistical, both separately and together, to predict future software performance times. Indeed, research using such approaches has been the primary ways for evaluating existing data and predicting new performance times. Nonetheless, these approaches have not given accurate results. New techniques need to be developed to obtain more accurate predictions.

This activity was supported by: Assigned Release Time for Research (ART); the 2018-19 Collaborative Research Experience for Undergraduates (CREU) program funded by CRA-W and iAAMCS.

**Natasha Lopes-Cunha, Undergraduate Student, Mathematics**

Faculty Sponsor: Jyoti Champanerkar

*Cryptography and Mathematics*

Cryptography is the practice of protecting data and network security in order to keep information private and secure from unauthorized users through the use of mathematical techniques. The fundamental objective of cryptography is to enable two users to communicate over a channel in way that even if an unauthorized party gets access to the message, they cannot easily decipher it. One of the first methods used to encrypt messages is known as the Caesar Cipher, named after Julius Caesar who used it with a shift of three letters in order to encrypt messages in the military. The modern cryptography draws on more advanced areas of mathematics, such as modular arithmetic, number theory, and probability. Throughout my research, I have explored the use of the Alphabetic Cipher, One-Time Pad, Pseudorandom Number Generator, the Fundamental Theorem of Arithmetic, and the Diffie-Hellman key exchange and their relation to modern cryptography.

**Vincent Loud, Undergraduate Student, Cognitive Science Honors Track***Reimagining the Skinner Box*

Commercial operant chambers are widespread in psychology labs. The expensive upfront costs and high maintenance fees restrict large scale implementation to universities and research centers with ample funding. DIY devices provide an inexpensive alternative. We propose an affordable Arduino-based system built with easy to purchase components to act as an in-nest device with commercial-grade resolution while also being customizable and robust. The system is portable, runs 24/7, and autonomously creates data files for easy storage.

**Vincent Loud, Undergraduate Student, Computer Science**

David Freestone, Faculty, Psychology

Faculty Sponsor: David Freestone

*Reimagining the Skinner Box*

Commercial operant chambers are widespread in psychology labs. The expensive upfront costs and high maintenance fees restrict large scale implementation to universities and research centers with ample funding. DIY devices provide an inexpensive alternative. We propose an affordable Arduino-based system built with easy to purchase components to act as an in-nest device with commercial-grade resolution while also being customizable and robust. The system is portable, runs 24/7, and autonomously creates data files for easy storage.

**Leslie MacDermid, Master's Student, Professional Communications**

Faculty Sponsor: Kyung-Hyan (Angie) Yoo

*Baby Boomers and Online Dating*

This study will focus on the motivational increased use of online dating in the Baby Boomer generation. Online

dating has become an increasingly popular way for people to meet prospective mates. Previous research heavily examines the Millennial generation and generation X when it come to the topic of examining romantic online communications, but there is a great gap in information when referring to the Baby Boomer generation. On average Baby Boomers dating fell between the years of 1960's and 1970's, well before Web 1.0 occurred. In a generation where online dating wasn't available, why are the number of Baby Boomers engaging in online internet dating sites increasing? The stigma of online dating has rapidly been decreasing as time goes on due largely to the rise in social networking. Even though the majority of marriages still occur more through traditional means, studies show that nearly everyone on the Web has met someone and or made a friend online.

This activity was supported by: Research & Travel Incentive Award

### **Payton MacDonald, Faculty, Music**

#### *Sonic 8 Recordings*

Payton MacDonald's Sonic 8 project is a recording of new music based on drones and a mix of notation techniques, recorded with Payton on marimba, legendary avant-garde guitarist Elliott Sharp, and recent WP alum Steven Crammer on drum set.

### **Micah Mangundayao, Undergraduate Student, Nursing Honors Track**

#### *Factors that Affect Pediatric Registered Nurses' Job Satisfaction*

The U.S. Bureau of Labor Statistics predicts a need for 1.1 million new registered nurses to expand and fulfill the amount of seasoned nurses expected to retire in 2022. The purpose of this qualitative research study was to examine what factors play a part in affecting nurses' job satisfaction. This research study focused on pediatric registered nurses- a certain specialty that is prone to burnout and dissatisfaction. Semi-structured interviews were conducted in a community hospital to gain insight on various factors. Results from this study indicate the need to understand the multi-dimensional factors that affect nurses' job satisfaction in order to retain nurses and minimize turnover rates.

### **Brenda Marshall, Faculty, Nursing**

Dustin Hill, Undergraduate Student, Nursing; Maria Tobago, Undergraduate Student, Nursing

#### *Stigma and Substance Use Disorder (SUD)*

Problem Statement/Background: In the United States, during 2015, 91.8 million adults (over 18 years of age) used prescription opioids (more than 1/3 of Americans who are not institutionalized), with 11.5 of them reporting misuse of opioids, and 1.9 demonstrating criteria for Opioid Use Disorder, OUD (Han, Compton, Blanco, Crane, Lee, Jones, 2017) . When youth from 12 years old are included, it is reported 591,000 Americans in 2015 met criteria for a substance use disorder using heroin. Deaths from overdose in adolescents and young adults are on the rise. The American Society of Addiction Medicine explain that about 23% of people who use heroin will develop OUD (NIDA 2014). Stigma against those with substance use disorders prevent the help seeking behaviors that can provide life-saving measures. There are few programs that reduce the stigma of SUD and proactively help adolescents and young adults connect with someone they trust and with whom they can cultivate a bond that will provide them with a vision of future worth.

Objective: This study evaluates the level of stigma against people with SUD on a college campus.

Design: Descriptive self report survey.

Results: Levels of stigma toward SUD were present across all categories, but more severe with opioids. This research was supported by COSH through an ART and AlumniTIES of the Fulbright Organization.

This activity was supported by: Assigned Release Time for Research (ART), Fulbright Association / AlumniTIES

### **Andrew Masefski, Undergraduate Student, Business Honors Track**

#### *Raw Materials Solution for Pariser Industries, Inc.*

Four honors students and a multi-million dollar chemical company. How can these two go together? We were called in to be management consultants in the fall of 2018. We spent many days at the factory learning the ins and outs of the chemical industry and our specific company, Pariser Industries Inc. They operate all throughout the



United States, Canada and the Caribbean. They've been around for 50 years- so what do they need four students for? Turns out, many things. In fact, so many things we could not tackle every issue there was. As a consultant team, we chose the issues that were most pressing and we had to develop a solution that solved as many issues as possible. We worked together using each of our individual, unique experiences and assets to formulate a plan.

**Melissa Mayer, Master's Student, Communication**

Faculty Sponsor: Kyung-Hyan (Angie) Yoo

*Use and Impact of Social Media on Job Seekers and Human Resource Professionals*

The job search process can be rigorous and frustrating when an individual is searching for a new job opportunity. Similarly, the recruitment process is equally as cumbersome, when searching for the perfect candidate for an open job opportunity. The emergence of technology and social media has made researching jobs and perspective candidates easier. (Stophfer & Gosling 2013). Job seekers have access to Human Resource professional's profiles and recruiters can promote new job opportunities on social networking sites like LinkedIn. (Nikolaou 2014). Even though recruiters from 2010-2015 were said to have shown an 82-93 percent social media usage, is this the most efficient way to find quality candidates? Many individuals participate in social network sites, but how do we know this is the best way for job seekers to find new job opportunities? The purpose of this proposed study is to see the degree of efficiency social media sites provide for Human Resource Professionals. This study will also measure how resourceful social media sites are for job seekers searching for a new job opportunity.

**Zoe Meleo-Erwin, Faculty, Public Health**

*Navigating Post-Operative Care, Services, and Support for Weight-Loss Surgery Patients: The Perspective of Bariatric Professionals*

Approximately 200,000-250,000 individuals undergo a bariatric procedure in the United States each year. Given their surgically altered digestive systems, bariatric patients are said to require life-long medical follow-up. However, the majority of patients do not return for follow-up care. A previous thematic analysis of bariatric patient website content conducted by the researcher found that bariatric patients report a lack of appropriate follow-up services, directives from bariatric surgeons to maintain care with other providers; fears of admonishment for having regained weight, as well as geographic and time barriers as the reasons why they do not maintain relationships with their home surgical clinics. The purpose of this study was to explore the post-surgical relationships between bariatric patients and providers from the perspective of bariatric professionals. Thirteen semi-structured telephone and Skype interviews were conducted with bariatric nurses, dietitians, mental health professionals, and surgeons. The results suggest that providers see structural barriers, including weight-based bias and discrimination within the bariatric profession, as factors shaping low rates of patient follow-up. However, as will be discussed, many providers also challenge the notion that all patients need regular, ongoing support and follow-up services from their home bariatric clinics in the first place.

This activity was supported by: College of Science and Health, Center for Research.

**Christopher Meola, Master's Student, Exercise Science**

*Internship Case Study*

**Introduction:** The purpose of this case study is to provide chiropractic treatment protocols to correct postural deviations to reduce chronic dizziness and vertigo. Traditionally, symptoms of vertigo and dizziness were attributed to dysfunctions of the vestibular system. However, controversy remains with regards general guidelines for diagnosis. According to research, annual emergency department visits is estimated to be 4.3 million people in the United States and 50-100 million people worldwide.

**Case Presentation:** The patient is a 31-year-old female, with a blood pressure 104/62 mmHg and a heart rate 76 bpm. Traumas include a caesarean section 3 years ago, fractured left hand 13 years ago, and suffers from a chronic dizziness and vertigo. Symptoms occur at random or can persist throughout the course of a day. Currently, she has difficulty with overall balance and displays muscular weakness throughout her left side. Diagnosis of her condition included an initial evaluation via a questionnaire, posture pictures, and X-rays of her spine. Additionally, baseline measurements taken, included cervical and lumbar range of motion, bilateral weighting, and grip strength assessment. Treatment plan includes chiropractic adjustments, cervical and thoracic traction, along with an exercises prescription to correct postural abnormalities, improve balance, and increase muscular strength on her left side.

**Discussion:** As a result, of the program implemented, the patient made improvements which can be observed through the progressions in her treatment plan. She improved her lower body strength and neuromuscular control, increased overall balance, and noted a decrease in her symptoms.

**Ali Mir, Faculty, Marketing and Management Science**  
Ali Mir, Faculty, Marketing and Management Science

*Algorithmic Decision Making: Big Data and Embedded Bias*

The use of algorithms in decision-making is widespread and growing in our society. Algorithms now help determine economic, legal, social, educational, and even health outcomes for an increasing number of people. Since algorithms rely on professionals who write the code, on data that is used to train the algorithm to predict future outcomes, and on managers and other stakeholders who guide the process, it is hardly surprising that they replicate the biases of their creators. But even in cases where there is no discriminatory intent, the nature of data used can generate discriminatory outcome; in other words, algorithms can create a disparate impact even in the absence of disparate treatment. Finally, algorithmic decision-making can have an adverse impact on groups by the practice of hiring for positions on the basis of measures of future performance rather than on past credentials or identity, thus reinforcing already existing disparities between groups and undermining society's ability to bridge social and economic gaps. This paper argues that we need a healthy and open debate about algorithmic decision making and its role in reproducing social and economic discrimination in our society and suggests ways in which this the embedded bias in big data can be combated

This activity was supported by: Cotsakos College of Business, Business Practice and Policy Research Forum (BPPRF) Grant

**Geraldine Mongillo, Faculty, Educational Leadership and Professional Studies**

Carrie E. Hong, Faculty, Educational Leadership and Professional Studies; Michelle Gonzalez, Faculty, Educational Leadership and Professional Studies

*Developing teacher leaders: An examination of a graduate reading specialist program*

The role of the teacher leader is currently under-going considerable attention and it is being redefined and redesigned for and by educators. The role of teacher leader is clearly recognized as integral to building successful school climate (ACSD, 2014) by empowering teachers to collaborate with peers, administrators, and the school community. Although we recognize the importance of teacher leaders, we do not have consensus on what empowers, and develops teachers to become leaders (Danielson, 2007; Lieberman, 2011). This presentation will focus on the preliminary findings related to the efficacy of the coursework in our graduate Reading Specialist program to create genuine experiences that nurture teacher leaders. This will be accomplished as we track and examine the leadership growth overtime of three graduates of the program. Specifically, we will endeavor to demonstrate the connection between the course assignments and the ways these graduates were nurtured and supported to become teacher leaders.

This activity was supported by: Research & Travel Incentive Award

**Gabriel Morton, Undergraduate Student, Nursing Honors Track**

*Evaluating the Knowledge and Risks of Coronary Heart Disease among Young Adult Filipino Americans*

Significance: Compared to other Asian subgroups, FAs are more likely to be overweight or obese, have high rates of physical inactivity, and traditional Filipino diets are high in cholesterol and sodium. Because of the different, multicultural backgrounds deeply rooted into Filipino culture, there is lack of literature studying the health of this specific population and current studies focus more on North Asian demographics. Since nurses must utilize culturally sound and evidence-based practice in the nursing profession, there is a need to add research for underrepresented Filipino American patients across the United States.

Purpose/Aim: The goal of the study is to determine the relationship between Coronary Heart Disease knowledge, CHD risk factors, sociodemographic, and socioeconomic characteristics of Filipino American college students between 18 to 35 years old (young adult).

**Christina Mouser, Faculty, Mathematics**

Ben Eck, Professional Staff, Mathematics

*An Analysis of Internet Based Videos Used to Cope with Math Anxiety*

It is a wide known problem in education that students have a tendency to struggle in mathematics. In a recent survey, 29% of Americans have stated that they are not good at math. This same survey showed that females are more inclined to say that they are not good at math compared with men (37% versus 21%). Furthermore, 18% of Americans surveyed claimed they feel anxious when they have to do math. Parents of struggling children are often faced with the inability to understand or teach the mathematical concepts themselves and in turn seek to find

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alternative methods to help their children understand the material. One such method is the internet. In the modern age of technology, social media and You Tube, there is a plethora of resources online. The question we address is, who is posting these tutorials (i.e. teachers, students, parents, tutors, counselors, etc), are they reliable sources, are the answers and explanations to questions accurate, whom are the videos geared towards and is watching the videos actually a useful resource in coping with math anxiety. In this work, we compile a sufficiently large list of video clips and then analyze and classify them based on numerous factors. Pairwise comparisons are made to determine if there are statistically significant differences between the various categories of videos.

This activity was supported by: Assigned Release Time for Research (ART)

### **Mary Moynihan, Undergraduate Student, Cognitive Science Honors Track**

#### *The Broad Autism Phenotype and the Honors College*

Research has long suggested that subclinical autistic features, referred to as the Broad Autism Phenotype (BAP) are distributed throughout the general population. This study explored if there are increased subclinical autistic features in typically developed WPUNJ honors students as compared to their typically developed non-honors WPUNJ peers. Utilizing the Broad Autism Phenotype Questionnaire, students were ranked in terms of aloofness, rigid personality, and difficulties with pragmatic language, the three most common subclinical autistic traits seen in typically developed people. Analyses indicated that there were no differences in the total amount of subclinical autistic features between typically developed honors students and typically developed non honors students. Analyses also found no differences between students with a relative with ASD and students without a relative with ASD and no gender differences.

### **Kristen Myers, Undergraduate Student, Nursing Honors Track**

#### *Nursing Burnout and the Factors that Influence It*

Nursing burnout is the physical, mental, and emotional exhaustion nurses can experience (Sentinel, 2017). The goal of this study was to discover the specific variables that influence nursing burnout. Specifically, this study examined the amount of years a nurse has worked and what units the nurse has worked in. This study utilized the Oldenburg Burnout Inventory tool to survey registered nurses at a healthcare system in northwestern New Jersey. Data collection is underway; therefore results are currently pending.

### **Priya Nagaraj, Faculty, Economics, Finance and Global Business**

Punit Arora and Marta Bengoa, City University of New York

#### *Regulations and Immigrant Entrepreneurship*

Immigrants in the US start more than a quarter of the businesses in the country and since 2016 have generated one of every ten jobs. However, there exist institutional barriers at the state level -formal and informal- that contribute to inequality in entrepreneurship levels and growth rates. These barriers have an effect on the rate of new business growth by immigrants. In this paper, we analyze the impact of state level institutional environments on immigrants' ability to establish and succeed at entrepreneurship. We use individual level data from Census Bureau to control for immigrants' social, demographic and economic characteristics. We find negative and significant effect of state barriers, such as e-verify, on the immigrants' capacity to be more entrepreneurial. Female immigrant entrepreneurs' impact on self-employment is positive and larger than that of male immigrants. The results of this study inform immigration policy on how to augment the contributions of immigrant entrepreneurs and enhance the positive spillovers coming from innovation and business creation. It also informs small businesses on better negotiating their formal and informal institutional environment.

This activity was supported by: Cotsakos College of Business, Business Practice and Policy Research Forum (BPPRF) Grant

### **Julie Nagle, Faculty, Art**

#### *Interdependent Space and Sound*

This grant was used to purchase materials for several sculptures which depict unconventional timelines or models of space from astronomy and physics. They incorporate musical instruments and interactive sound, paintings and projections, to create an ambient cosmic space. Drastic scale shifts in this body of work present humanities' small place in a vast universe where we are left to contemplate the possibility of sentience beyond our comprehension. Intricately balanced forms and interwoven subjects encourage humility and empathy with humanity and other species. Outdated depictions of the universe hover alongside our most recent visions, calling to consideration how shifts in our conception of space alter how we see our place in it; reorienting the mystery and meaning in our lives. *Saturnalia: Pulsar Map* was exhibited in a group show at Index Art Center, Newark, NJ titled *Between Wisdom and Madness: Works in Sculpture*. *Darkness There Was at First By Darkness Hidden* was included in the solo exhibition *Julie Ann Nagle: At Daybreak* at McLanahan Gallery, Misciagna Family Center for the Performing Arts, Penn State University, Altoona, PA. Several pieces will be presented in an upcoming solo exhibition titled *Eternal Currents*.

This activity was supported by: College of the Arts and Communication Center for Creative Activity and Research Summer Grant

### **Dimitri Nannas, Master's Student, Kinesiology**

Dr. Ismael Flores- Marti, Faculty, Kinesiology

#### *An Exploration of the Process and Outcomes of the Elementary Physical Education Teacher Evaluation System*

In today's society, modern physical education (PE) classes have seen the "fight or flight" syndrome. For too many PE teachers of "former glory", times have changed and the idea of tossing out the playground balls and organized play has passed its time. One major issue in school systems today is the rise of childhood obesity and the lack of



physical activity. Physical education teachers have a more important role now more than ever to help combat these two detrimental factors. The time has come for PE teachers to be taken seriously in the administrator's and evaluator's eyes for them to provide successful professional development and to be evaluated for pedagogical improvement. Although the setting and content of PE is vastly different from other academic areas, it is equally important that PE teachers are evaluated and held to the same accountability standards as the teachers in other subject areas (Hunt, Gurvitch & Lund, 2016). This study will explore the Physical Education teacher evaluation system from PE Teachers and teacher evaluators with both PE and non-PE backgrounds.

Two elementary evaluators, two elementary physical education teachers and one main supervisor will be participating in this study. This study aims to compare and contrast the results from both the evaluator's and the teacher's responses to interview questions. All results will come from in-person interviews with questions ranging from the participants background education history, to understanding if there has been any professional developments or certifications given for a better understanding of what a quality physical education class should resemble.

### **Christopher Naylor, Undergraduate Student, Business Honors Track**

#### *An Analysis of RPG Acoustical Systems*

RPG Acoustical Systems is a U.S. manufacturing company that specializes in manufacturing wooden products that improve acoustics. Passaic, located in New Jersey, has become the home to the newly revived RPG, a company once settled in Canada. The company has been in the state of New Jersey for almost two years now and has continued being one of the most highly recognized providers in their industry. When meeting with RPG, our goal was to help them increase their sales as well as explore the existing business model they had established. Our group sought to help them find ways to increase their sales presence and increase the close rate on their future bids. The RPG Acoustical Systems case will highlight our approach to reinforce the ideas that have not been followed through, although they'd be advantageous to the company. Furthermore, our recommendations to the company that have not yet been considered are an effort to increase their sales conversions.

### **Ciara Nazaruk, Undergraduate Student, Kinseiology**

Antoun George, From Outside WPU, Kinesiology; David Hack, Faculty, Kinseiology; Bae John, Faculty, Kinesiology

#### *BIG opportunity: motivations and experiences of student volunteerism at the Big Ten Men's Basketball Tournament*

This presentation introduces findings from an investigation into the motivations and experiences of 12 student volunteers at the 2018 Big Ten Men's Basketball Tournament, an intercollegiate sporting event held at Madison Square Garden. The case study method allowed for the investigation of this complex, contemporary phenomenon (Zainal, 2007). Yin (2009) advocates for case studies "as an empirical inquiry that investigates contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used (p. 23). This study was guided by three research questions: 1) What were the motivations for students who volunteered for the Big Ten Tournament? 2) What were the experiences of students who volunteered for the Big Ten Tournament? 3) What was the overall level of satisfaction of students who volunteered for the Big Ten Tournament? Data analysis also revealed an assortment of experiences related to career direction skill development, a poor experience at orientation, and high levels of idle time. Finally, analysis revealed that the experience met or exceeded expectations of each participant, although some offered suggestions to improve the experience.

### **Allison Neumann, Undergraduate Student, Environmental Science**

Chelesia Clarke, Undergraduate Student, Environmental Science; Michael Griffiths, Faculty, Environmental Science; Martin Becker, Faculty, Environmental Science; Sora Kim, Faculty, UC Merced; Harry Maisch IV, Adjunct Faculty, Environmental Science; Robert Eagle, Faculty, Environmental Science; Clint Mautz, Undergraduate Student, Environmental Science; Kenshu Shimada, Faculty, DePaul University; Matthew Young, Undergraduate Student, Environmental Science

#### *The Extinction of the Megatoothed Shark *Otodus megalodon*: Preliminary Evidence from Clumped Isotope Thermometry*

The largest and most iconic fossil shark to have ever lived is *Otodus megalodon*. Fossil teeth and vertebra indicate this highly successful apex predator achieved lengths up to 20 meters, weights exceeding 20,000 kg, and global distribution throughout the Miocene and Pliocene (23-2.5 MYA). A general consensus indicates that the ability to thermoregulate in "*O. megalodon*" acted as a key driver for the evolution of gigantism that impacted its ecological role and success in surviving environmental changes. However, little agreement exists as to the primary cause for the disappearance of *O. megalodon* where models suggest predator-prey dynamics or environmental change resulted in extinction.

To address these alternative hypotheses, 'clumped isotope thermometry (CIT) was tested on modern shark teeth, with known thermoregulatory physiologies, to validate a previously reported calibration equation. Application of this calibration equation to fossils from *O. megalodon* reveal a high body temperature (~38-40°C), similar to cetaceans, which are known to thermoregulate. Given *O. megalodon* was an apex predator, it would have had to have consumed large quantities of prey to maintain such a high metabolic rate. Indeed, high  $\delta^{13}C$  values of the same *megalodon* teeth indicate that it was likely feeding at a high trophic level. High body temperature of *megalodon* favors the hypothesis that it had the thermoregulatory ability to withstand cooler waters during the Pliocene. Therefore, our results suggest that the extinction of *megalodon* was probably not driven by global cooling, but rather factors related to habitat loss produced by sea-level fluctuations and/or biotic changes such as prey availability and/or competition.

This activity was supported by: Student Research and Creative Expression Program (SRCEP); National Science Foundation

### **Cynthia Northington-Purdie, Faculty, Secondary and Middle School Education**

#### *The Gamification of Lesson Planning*

The purpose of this research is to identify the ways in which gamification of the K-12 school curriculum can facilitate more effective teaching, learning, and retention.

Fortnite is one of the most popular single shooter web-based video games in the game world. Since 2017, one hundred twenty-five million people have downloaded this free game. In 2018 for example, 80 million people downloaded the game in a 31 day period (U.S.: Verto Analytics, 2018). The game has been described as addictive, all-consuming, and captivating by parents and teachers alike (common sense media.org). In response to the Fortnite phenomena, educational gaming software, and stand-alone programs are rapidly being developed in order to bolster classroom management and reinforce curricular pedagogy. Programs such as Classcraft, apply fantasy game design elements to reinforce pedagogical concepts. Such programs require students to strategize, collaborate and adapt to changing and/or consequential outcomes (either created or realized by the students themselves). Other programs such as Plickers offer students the opportunity for competition and mastery of the curriculum through the use of mobile SMS technology and QR coding. It is predicted, that the creation of engaging, competitive, social gaming will become commonplace in the 21st-century classroom.

### **Ramoncalvin Ombrete, Undergraduate Student, Nursing Honors Track**

#### *A Non-Experimental Study of the Correlation of Physical Activity and Levels of Burnout in Nurses*

Ten to seventy percent of registered nurses in any given sample is said to have experienced or is experiencing burnout syndrome. Burnout syndrome can affect a nurse's mental health and their capability to provide a high standard of care, ultimately putting clients' safety at risk. Participating in physical activity regularly is known to improve mood and physical capabilities among other benefits. The aim of this study was to determine if registered nurses who work at least 36 hours a week and participated in the recommended amount of physical activity designated by the US Health and Human Services were less likely to experience burnout than nurses who do not exercise. Nurses were asked to complete an anonymous paper survey, which included the Oldenburg Burnout Inventory and asked questions about their level of activity based on the U.S. Department of Health and Human Services as well as demographic questions. The results of the survey were then analyzed through the use of the statistical program SPSS.

### **Emmanuel Onaivi, Faculty, Biology**

#### *Advances in Cannabis and Endocannabinoid System Research*

The rapidly shifting landscape on cannabis medicalization, recreational and legalization is due in part to new knowledge on cannabis molecular genetics and the discovery of the endocannabinoid system in the human body and brain. Cannabinoids are the constituents in the cannabis plant, and the endocannabinoid system consist of the cannabinoid receptors (CBRs), endocannabinoids and their biosynthetic and degradation enzymes. Advances in molecular biology techniques has transformed cannabis and endocannabinoid research into mainstream science and Main Street. Cannabis use, cannabinoids and endocannabinoids activate two major CBRs (CB1Rs and CB2Rs). CB1Rs have been well characterized but there are controversies over the functional neuronal expression of CB2Rs. We created and generated Cx3cr1-Cnr2 and DAT-Cnr2 conditional knockout (cKO) mice with deletion of CB2Rs in microglia and dopamine neurons. Immunoblotting, immunohistochemistry, gene expression profiling, behavioral assessment in models of CNS function were used to characterize the CB2R cKO mice and their wild type (WT) controls. RNAscope in situ hybridization with CB2R mRNA and other probes were used to validate the deletion of CB2Rs. We report that DAT-Cnr2 cKO and not Cx3cr1-Cnr2 mice were hyperactive in motor function

tests and that CB2Rs are involved in the tetrad assay induced by cannabinoids in these mice contrary to the long-standing notion that the tetrad tests were mediated by CB1R agonism. WT mice and Cx3cr1-Cnr2 but not DAT-Cnr2 cKO mice consumed more, and showed robust conditioning to alcohol. These groundbreaking studies implicates neuro-immuno- modulatory effects of CB2Rs in mouse CNS models of mental and neurological disorders.

This activity was supported by: Assigned Release Time for Research (ART)

### **Madeliene Oppenheim, Undergraduate Student, Cognitive Science Honors Track**

#### *Cognitive Disfluency*

Cognitive disfluency has been described as a desirable difficulty; a cognitive burden that improves learning. The current study explored the effects of disfluency (manipulating font) on reader's comprehension and explored if the difficulty in writing style (blog or textbook) had an effect on participants' comprehension of the material. The participants who read the material in the disfluent font had a higher mean correct score. There were no differences between the two styles.

### **Sean Orso, Undergraduate Student, Social Sciences Honors Track**

#### *How Americans Think about the Abortion Issue*

Over the last half-century, the issue of abortion has been one of the most controversial political and social topics in the public sphere. The 1973 Supreme Court decision in *Roe v. Wade* that legalized abortion in the United States has followed with decades of protest and debate. Both major political parties in the United States have adopted either pro-choice abortion legalization or pro-life abortion opposition into their platforms. When the question is framed as "pro-life" versus "pro-choice," the American people are split with almost 48% for each. However, abortion attitudes are more nuanced with respect to public policy. Analyses of polling data and social science literature determine that the American people will have differing degrees of support for abortion in different contexts. This research will capture the political, social, and religious patterns of Americans that contribute to forming their abortion attitudes.

### **Jennifer Owlett, Faculty, Communication**

Kliver Oh, Pepperdine University; Angie Yoo, Faculty, Communication

#### *Exploring Mediated Crisis Communication: Situational Crisis Communication Theory and Person-Centered Messages*

A growing number of organizations today are facing crisis threats on social media (Coombs & Holladay, 2012). Unfortunately, few guidelines exist that assist crisis managers in creating appropriate crisis response strategies online (Roshan, Warren, & Carr, 2016). To respond to this need, one goal for this research is to evaluate how U.S. based airlines use person-centered messages (PCMs) when responding to crisis on Twitter. Three research questions guide this study. Our results indicate that multiple crisis types (accidental, 44%; victim, 28%; and preventable, 28%) are present across all five airlines' tweets (RQ1). In addition, the included airlines report multiple crisis types, but most frequently use medium person-centered messages (73%; RQ2). Furthermore, all crisis types use medium-person centered messages (MPCs; 73%) most frequently (RQ3). Low person-centered messages (LPCs; 24.2%) are also implemented, but highly-person centered messages (HPCs; 2.8%) are not often used. During this presentation, we will discuss practical and social implications of our findings while highlighting limitations and future directions for research.

This activity was supported by: College of the Arts and Communication Center for Creative Activity and Research Summer Grant

### **Casaundra Pagan, Undergraduate Student, Social Sciences Honors Track**

#### *Hispanic Student Ambitions and the Influence of Family Structure*

Between 2000 and 2015, the college enrollment rate among Hispanic students grew from 22 (1.3 million) to 37 percent (3.6 million), making it the fastest growing minority student group in colleges and universities in the United States. Despite this increased enrollment, Hispanic students still lag behind their peers in college completion. As of 2017, 18% of Hispanics from ages 25 to 29 have a bachelor's degree or higher, compared to 42% of non-Hispanic White students in the same age demographic. These rates remain low in comparison to other minority groups, as 22% of Black students and 60% of Asian American students possess a college degree. This in-depth literature review explores the factors that contribute to college completion for Hispanic students, with particular focus on non-academic factors including familial expectations and personal challenges.

### **Stephen Pale, Undergraduate Student, Music Honors Track**

#### *Jazz Album Art: Fusing Art and Music in Miles Okazaki's "Mirrors," "Generations," and "Figurations"*

The foremost medium in which the visual language of jazz is conveyed is the album cover. Musicians have varying control over the art portrayed on their albums ranging from none to personal hand-illustrations of their own work. Miles Okazaki, a contemporary American jazz guitarist, composer, and visual artist created a trilogy of albums where its musical and visual elements seamlessly intersect. His first three albums, *Mirrors*, *Generations*, and *Figurations*, include his intricate compositions accompanied by illustrations that in some way relate to the music. Crafting a distinctive intent for these albums, Okazaki also discusses an artistic vision in liner notes, designing a specific vision for his audience. This study analyzes how music and artwork are created in tandem, citing Okazaki's scores, notebook sketches and artwork, illuminating the importance of these three albums as twenty-first-century, interdisciplinary art.

### **Keumjae Park, Faculty, Sociology and Criminal Justice**

#### *The Paradoxical Positioning of Asian-Americans in the U.S. Racial Structure*

Looking at the history of U.S. immigration laws, one can easily see that this country has consistently and systematically treated Asians as non-citizens and a group to be excluded. In fact, much of the history of U.S. immigration policies until 1950s reads as if they were all created to exclude Asian immigrants. However, at a time of vicious and aggressive attacks against immigrants, especially focusing on Latinx immigrants and on Middle Eastern-Americans and/or Muslim Americans, Asian-Americans have been re-constructed as the "model minority," a convenient symbol for racism deniers to put forth an argument that minorities are not held down by structural racism. In this paper, I critically examine the history of Asian exclusion and the myth of Asian "model minority." My argument is that, despite upward class mobility of Asian-Americans, their contradictory positioning in the U.S. racial order continues to expose Asian-Americans to persistent racism.

This activity was supported by: Assigned Release Time for Research (ART)

### **Urvi Patel, Undergraduate Student, Psychology**

Natalie Obrecht, Faculty, Psychology; Maitry Mahida, WPU Alumni

#### *Influential Factors in Choices of College Major*

In the current experiment, in an online survey, we looked at a person's religion, family income, interests, morality, intuition, willingness to try new things, and personal and family expectations. Specifically, we predicted that students who expect themselves (or who are expected by families) to make more money in the future will tend to show higher interest in majors that are associated with making money. Similarly, students who expect themselves (or are expected by families) to help people will show higher interest in a major that would lead them to helping people in the future. In line with one of our prediction, we found that people who expected themselves to help others in the future expressed a greater interest in majoring in Psychology, a major which tends to be associated with helping (this relationship held even after controlling for gender in a regress. The data showed that when students judged a major would lead to a satisfying career path, they tended to be strongly interested in that major. Additionally, those who showed interest in Computer Science tended to think this career path would lead to a high paying job. The data here are consistent with previous work showing that students consider future income when selecting a major, and additionally suggest that their personal-expectations for helping others may affect their interest in a given major.

This activity was supported by: Student Research and Creative Expression Program (SRCEP)

### **Rebecca Pavlick, Undergraduate Student, Clinical and Neuropsychology Honors Track**

#### *High Levels of Executive Function and Sensation Seeking Lead to Resilience*

Levels of executive function and sensation seeking traits were assessed to determine a correlation between resilience and stress related disorders. As past research shows, those who experience trauma and are less resilient tend to fall victim to psychiatric disorders. Due to the disorders acquired, this could lead to lower levels of executive function. The assessments investigating the levels of executive function and sensation seeking were a combination of cognitive and computer tasks: Controlled Oral Word Association Test (COWAT), National Adult Reading Test (NART), Digit Span (forward and reversed), Stroop, Brief Fear Task, 2-Back Dual Task, Simple Reaction Time, and fatigue scales at different increments of the assessment period. The participants examined consisted of college students, ranging within age and gender, whom were either experiencing PTSD or resided in the healthy population. The anticipated results should show that those who suffer from a stress related disorder have lower levels of executive function, sensation seeking, and resilience.



**Jazmine Perdomo, Master's Student, Professional Communication**  
Kyung-Hyan (Angie) Yoo, Faculty, Professional Communication

*Influencer Marketing and Consumer Purchasing Behavior: Two-Step Flow Perspective*

This study aims to discuss how influencer marketing have an effect on consumer purchasing behaviors. Previous literatures have found the significant influence of social media marketing on consumers. However, there is limited literature on influencer marketing impact on consumers. Influencer marketing is a different tactic that present day marketers can incorporate into marketing campaigns. Two-Step Flow Model of Communication is applied in this study to understand if Influencers are considered "Opinion Leaders" present day.

This study will represent and highlight if the relationship between influencer marketing and consumer purchasing decisions can or cannot work with one another. Throughout the literature review, the study will introduce topics such as Two-Step Flow of Communication, marketing and social media, influencer and eWOM marketing and Millennials. Through this research, three research questions are proposed and an online survey will be distributed to help with the findings on this research.

**Jonathan Pinon, Undergraduate Student, Performing and Literary Arts Honors Track**

*Desiderata*

As a student of the Sound Engineering Arts program here at William Paterson University, my intent for this project was to utilize the mixing and sound design skills I've attained in tandem with something that has greatly fascinated me for many years: poetry and its cultural significance. Through the Literary and Performing Arts Track of the Honors College, I saw an opportunity to create something that is very seldom heard of, even in the vast expanse of music available to the public through modern technology. Humans seem to have a natural affinity for the sound of each other's voices; people are instinctively drawn towards charismatic speakers in public squares, children enjoy hearing stories from their parents before going to bed, and some even enjoy listening to podcasts and audiobooks to help them wind down before drifting off to sleep. With this in mind, I was rather astonished to notice a distinct lack of ambient music that takes advantage of the spoken word to create its tranquil atmosphere. Out of all the releases I am familiar with, the only ones of this sort that I can name are Ruth White's Flowers of Evil (which greatly inspired this project), Jeff Bridges' The Sleeping Tapes, and many of the works of Laurie Anderson. As a lover of ambient music, I saw it fit to help contribute to this relatively untapped niche. With my knowledge of audio and compelling reading voice (according to what I've been told), I compiled a short collection of modern poetry read on top of lush, experimental soundscapes. One of these poems gives this project its name: Max Ehrman's *Desiderata*, a word which means "things that are desired."

**Daniel Podlesiecki, Undergraduate Student, Nursing Honors Track**

*The Relationship between Physical Exercise and Self-Esteem Levels in Nursing Students*

The purpose of this study was to determine whether a link between hours of physical exercise and self-esteem among nursing students exists. Physical activity has well-documented physical and psychological benefits in people. However, nurses and nursing students are documented as having low levels of physical activity and high levels of stress, which can lead to decreased self-esteem. A cross-sectional study was conducted to examine the relationship between physical activity and self-esteem in undergraduate student nurses at a university in New Jersey. This study used the International Physical Activity Questionnaire – Short Form to measure physical activity, and the Rosenberg Self-Esteem Scale to measure self-esteem among nursing students. Data collection was completed in December of 2018. A total of 123 responses were physically collected and all were used in data analysis using SPSS. Most participants (53.3%) received no days of vigorous exercise in the last 7 days; 35.2% did not receive any moderate exercise in the last 7 days. For self-esteem, 6.5% of students had a self-esteem score below 25 on the Rosenberg Self Esteem Scale, signifying low self-esteem. However, no significant relationships were found between any of the exercise variables and self-esteem scores, or UDC level (semester of nursing school).

**Lauren Poletti, Undergraduate Student, Biology Honors Track**

*Airborne Transmission of the Honeybee Waggle-Dance Pheromone*

Foraging honeybees, or *Apis mellifera*, are responsible for pollinating a large portion of crops around the globe. The waggle-dance pheromone is a mixture of four hydrocarbons that is emitted by waggle-dancing foragers and promotes foraging behavior. The known traits of previously studied chemical communication in *Apis mellifera* suggest that direct contact is not necessary for the waggle-dance pheromone to produce a behavioral response. To test our hypothesis, waggle-dancing bees were observed during trials where the foragers were not able to

physically touch the pheromone. The number of waggle-dances before the pheromone was introduced was compared to the number of dances after it was introduced. The observed increase in the number of waggle dances after the introduction of the pheromone supports the hypothesis that contact is not necessary for a behavioral response. Further observations also suggest that nectar foraging bees respond more strongly to the pheromone than pollen foragers.

### **Gem Polius, Undergraduate Student, Nursing Honors Track**

#### *The Effects of Various Interventions on Future Health Outcomes of Infants Born with Neonatal Abstinence Syndrome: A Systematic Review of the Literature*

With the rise of the opioid epidemic in the United States, many newborns are now being born with Neonatal Abstinence Syndrome (NAS). The health complications that these newborns face can follow them throughout their lives without proper intervention. The aim of this study was to explore the literature to determine how various interventions may influence the future health outcomes of these infants. A systematic review of the literature was conducted and resulted in examination of 16 articles. Findings include appropriate scoring of the level of abstinence, which is necessary to ensure proper treatment, and aiming to improve access to pharmacological and non-pharmacological treatment programs. Infants with NAS are at increased risk to be re-hospitalized throughout childhood. Through review of the current state of science related to NAS, healthcare providers may guide policy change and establish protocols, as well as educate families and enroll them in early intervention programs.

### **Tyler Ponomarev, Undergraduate Student, Social Sciences Honors Track**

#### *Representations of Police on Television: A Content Analytic Study*

The police are a critical part of our society, as they uphold law and order and form “the thin blue line” between criminals and the public. The police have always been a popular and controversial topic in the United States, but exponentially more since the events in Ferguson, Missouri. Numerous incidents involving the police—including but not limited to shootings, excessive force, racial profiling, and other types of police killings—have been brought up in the news. This has caused extreme tensions between the public and the police, especially in disadvantaged minority neighborhoods. On top of that, the police and related law enforcement fields continue to be a major source of entertainment in today’s culture. The goal of this study is to take an explorative look how police officers are represented on live-action television shows in a selection of pre-Ferguson and post-Ferguson shows through a content analytic lens.

### **Richard Potenza, Undergraduate Student, Performing and Literary Arts Honors Track**

#### *Bag Head*

This is a short film focused on a character, struggling with guilt and paranoia, as he tries to hide the body of a man he accidentally hit with his car. The purpose of this project was to culminate everything I have learned, in the past three years of studying media production and literature, into a single production that makes use of thematic elements in order to drive a story. The specific story elements and film language that drive this story were developed, refined, and implemented during each stage of production. I have learned a lot about writing stories through this project, and even more about the collaborative effort that is required in order to manifest a film from a written script. I am very fortunate to have been given the opportunity to work with so many incredible people from the William Paterson Communications department and Honors College and could not have completed this project without their help.

### **Ellen Pozzi, Faculty, Educational Leadership and Professional Studies**

#### *Diversity and Technology in Award-Winning Children's Nonfiction*

In 1990 Rudine Sims Bishop noted that readers need mirrors, windows, and doors into other cultures in the form of literature that depicts diversity. Children's literature has not always provided this for its readers but movements such as We Need Diverse Books ([weneeddiversebooks.org](http://weneeddiversebooks.org)) are working to change this reality. The lack of diverse children's literature is often examined through the lens of fiction but as a window and door into the real world, nonfiction is also important. Students from diverse communities need to be able to see themselves as scientists, inventors, politicians, teachers, wildlife experts, and computer programmers. In their study analyzing images of scientists in children's trade books, Rawson and McCool noted "the crucial role that occupational prototypes play" in career decisions. Based on their research, "a child's prototype for the scientist will be White and male" (2014, 17). Rudine Sims Bishop also noted the importance of nonfiction in counteracting "a tradition of distortions, inaccuracies, and omissions of the histories, heroes, literatures and cultural traditions of people of color" (1997, 5).

This research examines medal winners and honor books of the Horn Book Boston Globe Nonfiction Award to interrogate trends in the depiction of diverse individuals interacting with technology over the past half century. Award winning books are examined using multiple methods to uncover who is depicted using, fixing, and inventing which types of technologies in order to explore what windows, mirrors and doors are available to readers of children's nonfiction.

**Kyle Quigley, Undergraduate Student, Business Honors Track**

*Raw Materials Solution for Pariser Industries, Inc.*

Organization, order, and rules have proved to be the foundation along with many other principles in the world of business. But when these principles are not followed, things become more difficult for not only management, but also employees. When my management team of Marisa Adelman, Meagan Trozzo, Andrew Massefski, and myself arrived at Pariser Industries Inc., these principles were lost. As we walked around the chemical cleaning supplies warehouse in Paterson, we began to think about what we could do to bring these principles back. Inventory was everywhere, it could not be found or tracked, and no one in management knew what they had. In this study, my team and I assessed the company and figured out the best ways to help them. The goal was to get their inventory control back on track, while also keeping ideas cost effective and would have a lasting impact on the company.

**Kara Rabbitt, Faculty, College of Humanities & Social Sciences**

Wendy Christensen, Faculty, Sociology & Criminal Justice; Timothy Liu, Faculty, English; Peter Mandik, Faculty, Philosophy; Lawrence Mbogoni, Faculty, Africana World Studies

*HSS Senior Faculty Research Panel: an interactive, interdisciplinary discussion of recent research findings and creative outcomes from the humanities and social sciences.*

**Wendy Christensen** (Sociology & Criminal Justice): Dr. Christensen will discuss her recent book, *Mothers of the Military: Support and Politics during Wartime*, which examines the kinds of support required during an increasingly privatized war, specifically material, moral, and healthcare. This project followed the mothers of U.S. service members in the War on Terrorism through the stages of recruitment, deployment, and post-deployment, asking how the acts of supplying material, moral, and medical support end up often marginalizing mothers as citizens from the political process and how mothers resist.

**Timothy Liu** (English): Professor Liu will read three poems from the final section of his latest book, *Luminous Debris: New & Selected Legerdemain (1992-2017)*. He will also discuss a little about how this book is organized into the form of a tarot deck, thus breaking up the chronology of poems written and published over the past 25 years.

**Pete Mandik** (Philosophy): Dr. Mandik will share an excerpt from his *Future Mind* book project, which examines points of intersection between philosophy of mind and the cognitive sciences, especially neuroscience, psychology, and artificial intelligence.

**Lawrence Mbogoni** (Africana World Studies): Dr. Mbogoni will share findings from his recent book *Miscegenation, Identity and Status in Colonial Africa: Intimate Colonial Encounters*, which studies inter-racial intimate relations in colonial Africa resulting in the birth of racially mixed children. British colonial policy considered these relations unacceptable because they transgressed racial lines. The book highlights the dilemma that the identity and status of racially mixed persons presented and explains why despite the rigid racial barriers it was difficult to legislate against intimate relations between races.

This activity was supported by: Assigned Release Time for Research (ART)

**Sumithra Raghavan, Faculty, Psychology**

Kassandra Rendon, Master's Student, Psychology; Marsha Akoto, Master's Student, Psychology  
Faculty Sponsor: Sumithra Raghavan

*Mental Health, Social Capital and Academic Success in First Generation College Students*

What is the relationship between mental health, culture, social capital and academic success in first generation college students? How can we use these findings to develop empirically supported programming? National educational data estimates that one third of college students across the country are the first in their family to attend college. These first-generation college students (FGCs) often juggle conflicting demands, report a lower sense of belonging and higher levels of anxiety and depression than continuing generation peers. These challenges are heightened for minority students who may face structural barriers to success. Despite widespread acknowledgment

that many universities are facing a "mental health crisis", research examining predictors of college completion often neglects to assess the pivotal role of mental health. We predict that mental health symptoms impact university engagement, thereby undermining students' acquisition of social capital, which can be invaluable for FGCSs. Our research uses a mixed-methods approach to compare the academic and psychosocial impact of university engagement in first generation and continuing generation college students. Analyses will be conducted to determine whether psychological distress impacts the relationship between generational status and academic outcomes. We will compare themes regarding student successes, needs and program effectiveness obtained from narrative data. This is a pilot study and we anticipate having data from 10-15 subjects at the time of presentation, but feel that even this pilot data will be valuable in laying the groundwork for a course of study in this area.

This activity was supported by: Assigned Release Time for Research (ART)

### **Lori Ramos, Faculty, Communication**

*Viequez Oral History Project*

No abstract or description provided

### **Alexandra Reale, Undergraduate Student, Humanities Honors Track**

*Tearing Families Apart, Ripping the Country Apart: The Trump Administration's Immigration Enforcement and its Impact*

My thesis examines the progressively tightening federal immigration policies in the US starting with President Obama, who increased incarcerations and deportations of undocumented immigrants to remove them from society. As immigration policies become more punitive under Trump, his administration is now enforcing a new "get tough" policy that separates children from their families. This focuses on how the separation affects the children and parents, particularly the danger that these removed children may never be reunited with their families. The overcrowding of jails and foster systems are consequences of this policy, this creates more problems for the people working in the jails and foster systems because there are too many people for them to account for.

### **Mateusz Rojek, Undergraduate Student, Music Honors Track**

*Male Population Performance Anxiety in Youth Choirs*

This study explores the question of causation in relation to performance anxiety within male youth choirs. Performance anxiety is an ever-present factor in the life of a performing musician. An important topic of discussion within the music community and fields of social research, this study analyzes potential sources of performance anxiety in adolescent males participating in youth choirs and how their anxiety may vary from their female counterparts due to differences in societal treatment and influence of social norms. A series of interview questions was specifically devised for adolescent males who are currently enrolled in local choral programs. These questions pertained to participants' experiences in choir, their motivation to sing, interactions with colleagues, specific performance experiences with or without performance anxiety and additional questions that could provide useful insight into this important subject among young males in the choral ensemble environment. These insights could potentially impact rehearsal and recruitment strategies among choral music educators.

### **Michelle Rosselli, Doctoral Student, Psychology**

Megan Chesin, Faculty, Psychology; William Tsang, Doctoral Student, Psychology; Elizabeth Jeglic, Faculty, John Jay College; Michele Cascardi, Faculty, Psychology

*Title: Knowledge and Accepting Attitudes of Suicide are Greater among College Students who Watched "13 Reasons Why" Compared to their Peers who did not*

In Spring 2017, a fictional television series, *13 Reasons Why*, about the suicide of a high-school student, was released on Netflix. The show was watched by millions (Parrot, n.d.). Professional organizations released statements of concern that watching the show would increase suicide acceptance, knowledge, and ultimately suicide behavior risk (Society of Clinical Child and Adolescent Psychology, 2017). In light of these professional concerns, and the sparse research about the potential impact of viewing this television series, we aimed to test differences in attitudes toward and knowledge of suicide between students who viewed *13 Reasons Why* and students who did not.

Survey data from 525 college students (61.0% (n=320) who watched *13 Reasons Why*) were collected via an on-line survey in Fall 2017. Suicide attitudes and knowledge were measured using the Stigma of Suicide Scale-Short Form (SOSS-SF) (Batterham et al., 2013a, b) and the Literacy of Suicide Scale-Short Form (LOSS-SF) (Batterham et al., 2013b).



Knowledge and accepting attitudes of suicide were greater among those who watched the show compared to those who did not (mean difference=0.4, U=2.5, p=.01; mean difference=2.4, U=12.4, p<.01). Watching *13 Reasons Why* was associated with greater knowledge and accepting attitudes of suicide. This research aligns with prior research showing greater exposure to suicide in the media is associated with more accepting attitudes toward suicide (Batterham, Calear, & Christensen, 2013). This research extends research showing relationships between personal exposure to suicide, e.g., knowing someone who died by suicide, and greater knowledge of and less stigmatizing attitudes toward suicide (Beautrais et al., 2003).

This activity was supported by: Student Research and Creative Expression Program (SRCEP)

### **Trayer Run-Kowzun, Master's Student, Department of Kinesiology**

Faculty Sponsor: Michael Figueroa and Toni LaSala, Kinesiology

#### *The Effect of a 7-Week Progressive Adaptation Yoga Practice on Hamstrings Flexibility*

**Introduction:** The purpose of this study was to determine if there are any changes in hamstring flexibility after 7 weeks of a Hatha Yoga practice. Hatha Yoga is a sequence of yoga postures and breathing techniques done in a mindful way to balance the body and mind that benefit range of motion. All poses progressed from easy to difficult and occurred in all three planes of motion. Increasing range of motion in hamstrings flexibility may enhance sports and reduce injury.

**Methods:** Thirty to forty healthy college men and women aged between 18-30 years who have little to no experience in Yoga were recruited for this study. Each participant attended Yoga class two times per week for 7 weeks. A pre-test and post-test was done to determine hamstring flexibility on both legs using a Halo digital goniometer that including an inclinometer, a goniometer and postural assessment in a single device.

**Results:** After 7 weeks of Hatha Yoga, there will be a difference between pre-test and post-test measurements of hamstring flexibility.

**Discussion:** It is hypothesized that the major finding of this 7-week Hatha Yoga program will increase hamstring flexibility in a healthy young adult population. Consistent with previous studies, observed increases in range of motion in the hamstrings after a regular Yoga practice may be important for increasing mobility in physical sport and activities.

**Conclusion:** Yoga exercises can be a recommendation for college aged students to increase range of motion in the joints, which is particularly important for improving physical activities to benefit certain sport and possible reduce hamstring injury.

### **Zachary Ryan, Master's Student, Professional Communications**

Faculty Sponsor: Kyung-Hyan (Angie) Yoo

#### *The Role of Facebook Group Engagement in Railfanning*

In today's world, the incorporation of the Internet and ICTs into people's everyday activities and happenings is ever-present. The growth and evolution in technology has allowed the Internet to expand and envelope many of the hobbies that people have gotten themselves into. One of these technologies has been that of Facebook groups, which have been formulated through the namesake social media platform. The hobby of railfanning has been one of these activities that has seen an increase in the integration of Facebook and the group aspects into its happenings. From tracking trains to sharing digital content, Facebook has come to possess a forum where train enthusiasts can band together and enjoy a common goal - the documenting of railroad operations. This study looks, through online surveys, at the role that these Facebook railfanning groups and engagement in them have served with various railfans and their enjoyment in the hobby. It also examines the necessity of the information contributed and shared within the Facebook groups as well as if railfans feel they could still enjoy their hobby in the absence of the groups. Data will be collected and analyzed through the online survey distribution among a variety of Facebook railfanning groups on the platform. It is through these means that the study hopes to find how much of a role, if any, that Facebook railfanning groups and engaging within them plays among railfans of various generations.

### **Madeline Rydlewski, Undergraduate Student, Business Honors Track**

#### *Pariser Industries Finished Goods Analysis*

Our group was tasked with assisting Pariser Industries, a family-owned chemical manufacturer in Paterson, NJ. We focused on studying the firm's finished goods inventory. The inventory itself was very disorganized, difficult to

find, and creating issues that rippled through the production process, stretching from raw material intake to delivery of shipments. Compounding this issue was a lack sufficient training for warehouse staff, and inadequate compensation / benefits. Through discussions with management, tours of the facility, and interviews of warehouse staff, we developed a comprehensive series of recommendations to improve the organization and efficiency of the warehouse team responsible for Pariser's finished goods.

### **Medine Sahin, Master's Student, Chemistry**

Thomas Haughey, Undergraduate Student, Chemistry  
Faculty Sponsor: Mihaela Jitianu

#### *Anionic clays - synthetic and application pathways*

Anionic clays (LDHs) with the formula  $[M(II)_{1-x}M(III)_x(OH)_2](CO_3)_{x/2n}H_2O$ , where  $M(II) = Ni(II), Co(II)$  and  $M(III) = Al(III), Cr(III)$  have been synthesized and characterized for various cations compositions. Metallic cations are located in  $M(OH)_2$ -type layers with the brucite (cadmium iodide-like) structure. The partial substitution of the divalent cations by trivalent ones leads to a positive charge of the layer, balanced by carbonate anions, creating the so-called interlayer, where water molecules also exist. Lamellar compounds with this type of structure have been used as ion exchangers, catalysts, and catalyst precursors after being calcined at fixed temperatures. Each cation composition led to specific features and characteristics of the obtained materials. Many organic compounds can be decomposed in aqueous solution in the presence of  $TiO_2$  powders under irradiation with near ultraviolet light into carbon dioxide and water. The photocatalytic reaction takes place on the surface of the  $TiO_2$  particles. When titanium dioxide ( $TiO_2$ ) absorbs ultraviolet radiation from sunlight or is illuminated by a light source (fluorescent lamps), 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 to ultimately avoid their recombination with the holes. Due to the particular structure of LDHs, it is hypothesized to eliminate the rapid recombination of excited electrons/holes during the photoreaction by further create composite materials Mg-Al-LDH-enhanced  $TiO_2$ . Composites have been tested for photocatalytic decomposition of vanillin, showing a high conversion rate into carbon dioxide and water.

This activity was supported by: Assigned Release Time for Research (ART); Student Worker Funds, College of Science and Health

### **Christina Sakelakos, Undergraduate Student, Performing and Literary Arts Honors Track**

#### *Self-Reflection*

Within this project, I have taken a journey through myself in order to portray an individual's struggle with mental illness and other difficult challenges that some may face throughout their lives. At a young age, I found that writing was the best outlet for me to face these challenges and discover my inner strengths and weaknesses. I am heavily inspired by the poet, Charles Bukowski, who is daring and unafraid to speak the truth within his works. From this, I took a leap into my own universe and dove through the depths of some of my deepest memories to reflect on how I became a writer. I reflect on the stigma of mental illness and how although sometimes dark, the most beautiful things can be produced from the wildest of experiences. While it was both challenging and emotional to complete this collection of works, I believe that it is my best collection to date as a freelance writer.

### **Deana Salvadore, Undergraduate Student, Clinical and Neuropsychology Honors Track**

#### *Determination of Personality, Behavioral, and Cognitive Profiles Associated with Sociopathy.*

There is evidence that sociopathy is associated with high sensation seeking behavior, substance use disorders and differences in cognition. The goal of this research is to examine high sensation seeking, executive function and information processing in offenders and in a healthy college-age sample in order to determine if there are personality, behavioral and cognitive profiles associated with sociopathy. The hypothesis is that among offenders and healthy college-age participants (with a history of minor offenses and risky behavior) there will be a distinct personality and cognitive profile. This is based on research suggesting that the propensity to engage in risky or problem behaviors may be a function of personality traits. These traits predispose individuals to seek complex, intense, and novel experiences (i.e., sensation seeking; Zuckerman, 1979). This study is using measures of high sensation seeking, impulsivity, mood, personality, computer programs measuring executive function and implicit responses to forensic scenes. A questionnaire measuring drug use and abuse is also being administered. In conclusion, we expect to find that sociopathy is associated with higher sensation seeking, lower executive function and a higher prevalence of substance use disorders.

**Jim Samuel, Faculty, Marketing and Management Science**

Rajiv Kashyap, Faculty, Marketing and Management Science; Myles Garvey, Faculty, Marketing and Management Science

*That Message Went Viral?! Exploratory Analytics and Sentiment Analysis of the Propagation of Popular Tweets*

Information exchange and message diffusion have moved from traditional media to social media platforms. Messages on platforms such as Twitter have become the default mode of company communications replacing lengthier public announcements and updates. Businesses and organizations have increased their use of Twitter to connect with stakeholders. As a result, it is important to understand the key drivers of successful information exchange and message diffusion via Twitter. We conducted an exploratory analysis on a dataset of over a million Tweets, comprising of over 40,000 lead Tweets. We identified the most popular messages, and analyzed the tweets on multiple endogenous dimensions including content, sentiment, motive and richness, and exogenous dimensions such as fundamental events, social learning, and activism. We found some interesting patterns and uncovered new insights to help researchers and practitioners better understand the behavior of popular “viral” tweets. We also performed sentiment analysis and present an early stage model to explain tweet performance.

This activity was supported by: Cotsakos College of Business, Business Practice and Policy Research Forum (BPPRF) Grant

**Joseph Saulenas, Undergraduate Student, Humanities Honors Track***Road To Nowhere: Media, Psychology, and David Byrne's Utopia*

My thesis highlights the impact of one of the most influential avant garde artists of the late 20th and early 21st century, David Byrne. Through exploring themes in the work of this musician, filmmaker, poet, cultural ethnographer, and illustrator, we come to a deeper understanding of the spirit of today's culture. Byrne's worldview exposes poststructuralism's influence on human existence. He centers his works on the psychological and emotional incongruities emerging from dissonance between humans and their surroundings. In Byrne's perspective, contemporary humans exist and evolve in consciousness symbiotically with the artificial environments they construct. I focus on three major, enduring, and interrelated themes in his works and their relevance our lives: First, Human consciousness and the need to resolve the disaffection and alienation of postmodern society; Second, how humans construct their identity in relation to mass media and consumerism; and lastly, how they can attain happiness in a cynical world.

**Erika Schiller, Undergraduate Student, Performing and Literary Arts Honors Track***Burlington, New Jersey*

The City of Burlington Documentary covers various historical sites, fun events, new businesses, and an interview with the Mayor of Burlington City, New Jersey. Extensive research was conducted along with videography, editing, and writing. The City of Burlington is my hometown and I want to share with others why I love it and why they should visit. My origin for creating this documentary was to give it to the City of Burlington to use as a recruitment tool to bring visitors to town.

**Markie Serafini, Undergraduate Student, Nursing Honors Track***College Student's Smoking Habits*

Smoking, in whatever form, is a major concern in America, despite the common knowledge related to the detrimental health-effects of smoking. College students are a high risk group for developing smoking behaviors, and need to be the target of primary prevention programs that educate about this health problem. The study was a quantitative correlational design and the purpose of this research project was to better understand what college student's smoking habits were and how these habits related to their knowledge of the adverse health problems associated with smoking. Surveys were handed out to WPU students, with a final sample of 167. A t-test revealed significant results that supported the hypothesis, demonstrating that college students who had not tried any tobacco product had a higher knowledge score about the adverse health-effects of smoking as opposed to those who had tried tobacco products.

## **Elieth Serrano Ortega, Undergraduate Student, Business Honors Track**

### *An Analysis of RPG Acoustical Systems*

RPG Acoustical Systems is a U.S. manufacturing company that specializes in manufacturing wooden products that improve acoustics. Passaic, located in New Jersey, has become the home to the newly revived RPG, a company once settled in Canada. The company has been in the state of New Jersey for almost two years now and has continued being one of the most highly recognized providers in their industry. When meeting with RPG, our goal was to help them increase their sales as well as explore the existing business model they had established. Our group sought to help them find ways to increase their sales presence and increase the close rate on their future bids. The RPG Acoustical Systems case will highlight our approach to reinforce the ideas that have not been followed through, although they'd be advantageous to the company. Furthermore, our recommendations to the company that have not yet been considered are an effort to increase their sales conversions.

## **Nidhi Shah, Master's Student, Kinesiology**

Faculty Sponsor: Michael Figueroa and Toni LaSala

### *Physical therapy for bilateral knee osteoarthritis*

Introduction: Osteoarthritis is the degenerative joint disease, characterized by osteophytes, crepitus, swelling and erosion. It affects about 10-15% population in United States. Morning stiffness and pain are relieved by movement and warming up the joints.

Case Presentation: Patient is a 72-year-old female who has bilateral knee osteoarthritis for more than 25 years. She also had a meniscal injury and had arthroscopic surgery for the same. Patient has severe osteoarthritis in both knees, which makes it difficult for her to move. She also has morning stiffness in both knees which gets relieved with some movement. Diagnostic tests included MRI and X-rays. General examination included but was not limited to palpation, postural assessments, skin examination, motor examination, and sensory examination. Special orthopedic tests like McMurry's test, Apley's test, active patellar grind test, and Clarke's sign, were performed for differential diagnosis. Patient is receiving outpatient physical therapy and chiropractic rehabilitation care at Family Chiropractic Center. Moreover, at times the patient suffers from the severe pain due to which she has to reduce the intensity and frequency of exercises during therapy sessions. Treatment options include pharmacological intervention such as pain killers and non-pharmacological intervention such as physical therapy, chiropractic therapy (traction) and assistive devices such as the rollator and cane. Physical therapy intervention includes general mobility exercises, manual therapy, mobilization, distractions and electrical stimulation.

Discussion: Osteoarthritis is the most common condition encountered in clinical practice. Regular physical therapy treatment shows notable improvements in patient's condition and functional independence.

## **Reem Shair, Undergraduate Student, Social Sciences Honors Track**

### *A Content Analysis of Direct to Consumer Adverting from Pharmaceutical Companies*

Pharmaceutical advertising has increased by 62% since 2012, averaging 6 billion dollars spent on advertisements a year. Direct-to-consumer advertising is a term that is commonly used to define a pharmaceutical companies marketing practices on the public. This study will look to identify common marketing themes prevalent in a sample of 25 pharmaceutical TV commercial advertisements regarding anti-depressant medications. Advertisements will be review through Qualtrics for factors such as actor appearance and behavior, side effects listed, drug interactions, music, brand names, and common reasons why someone would or should be on this medication. Data will be collected via Qualtrics Survey Software and analyzed for themes. Many studies have shown that pharmaceutical advertising is on the rise, fueling an increase in healthcare spending. This study will look to further previous research by focusing primarily on commercial advertisements.

## **William Signoretti, Undergraduate Student, Business Honors Track**

### *The Importance of on the Job Training: Do Skills College Students Learn in Class Directly Apply to Jobs/Internships They Obtain?*

Determining the importance of on the job training and learning a relevant skillset while in college is crucial to understand for business students, professors, and future employers. Professors and employers need to assess the need to change curriculums and training programs so business students can become marketable professionals and valuable to the businesses they plan to work for. This research attempts to examine the importance of on the job training and extracurricular activities to business students and whether their classes fail to teach necessary skills and material. This research is conducted with a survey which asks varying views of business students. There are



prescreening and demographic questions to ensure validity. I am expecting the results to show that business students' classes have not prepared them for the job market. I also expect to find that business students rely heavily on on-the-job training, extracurriculars, and networking to prepare business students for career opportunities and development.

**Nicholas Simon, Master's Student, Kinesiology**

Faculty Sponsor: Michael Figueroa and Toni LaSala

*Blood Pressure Response to Chiropractic Manipulation in Hypertensive Individuals*

**Purpose:** The purpose of this study was to determine whether or not chiropractic biophysics can reduce high blood pressure in four weeks when coupled with traction. High blood pressure or hypertension is an epidemic that has increasingly afflicted approximately 77.9 million Americans (American Heart Association, 2013). Stage 1 hypertension is defined as a systolic pressure of 130 mmHg and/or a diastolic pressure of 80 mmHg or greater, stage 2  $\geq 140/90$  mmHg and stage 3  $\geq 180/100$  mmHg. The most widely used method for treating hypertension is medication, however there has been conflicting information on whether chiropractic manipulation can have a lowering effect on hypertension.

**Methods:** Participants were recruited at Family Chiropractic. All participants were between the ages of 40-90 years of age with previously recorded blood pressures at or over 140/90. Participants were seated for two minutes prior to their chiropractic adjustment to record their first blood pressure reading. A chiropractic adjustment was then performed followed by traction and a follow up blood pressure. Patients were followed for 4 weeks with blood pressure readings taken once a week.

**Results:** Four weeks of treatment using chiropractic biophysics, 80% of the patients experienced approximately 10-15% lower blood pressure readings when compared with the first reading taken at the beginning of the study.

**Discussion:** With continued treatment Chiropractic biophysics may lower blood pressure in those who are hypertensive. **Conclusion:** Chiropractic treatments may be an alternative to pharmacological interventions to treat those with Stage 1, 2, and 3 hypertension.

**Kyle Siringan, Undergraduate Student, Nursing Honors Track**

*An Objective Measurement of Compassion Fatigue of Hospice Nurses Using the Professional Quality of Life Checklist*

The purpose of this study was to objectively measure compassion fatigue among nurses providing end of life care. Literature regarding compassion fatigue in nurses have been extensively gathered through qualitative interviews. While the present information is a great contribution to the general body of nursing related to professional mental health, there is not much data regarding objective measurements of stress levels among nurses. As a result, differences in opinion might arise regarding the significance of the effects of compassion fatigue on nurses. This study used the Professional Quality of Life survey to measure levels of compassion fatigue. The hypothesis of the paper states that hospice nurses will report higher scores on the survey, translating to high levels of compassion fatigue. Results showed that the participants reported moderate levels of compassion fatigue, denying the hypothesis. However, objective data still showed that nurses providing end of life care still experienced stress, nonetheless.

**Brianna Smith, Undergraduate Student, Biology**

Kevin Martus, Faculty, Physics

*Current Probe Measurements of a Plasma Jet*

Measurements of the current in an atmospheric helium plasma jet using current probes are reported. The plasma jets are generated using a high frequency (17kHz) high voltage (14kV) power supply acting on an external electrode of a ¼quartz tube. The helium gas is introduced into the quartz tube at constant flow rate of 50 sccm. The power is limited to produce a discharge region only toward the exit aperture of the tube. The resulting plasma plume extends approximately 1.0cm beyond the exit aperture. Emphasis of has been on the region 2.5cm downstream regions of the plume. The current probes ability to measure in the frequency range are confirmed and an optimization is made to enhance the plasma current measurements. Optical emission spectroscopy confirmed that in addition to weak helium emissions there also is strong emission features corresponding to molecular nitrogen in the 300-450nm wavelength range. The relatively low current values and thermal plasma temperatures measurements indicate that the operating parameters of the torch are suitable for experiments involving regenerative wound healing studies in tadpoles, *Xenopus Laevis*.

This activity was supported by: Assigned Release Time for Research (ART); Student Worker Funds, College of Science and Health

**Shellecia Smith, Undergraduate Student, Public Health**

Halema Jalil, Undergraduate Student, Public Health  
Faculty Sponsor: Naa-Solo Tettey

*Utilizing Health Education Skills for Prison Tutoring in The Petey Greene Program*

The United States incarcerates more of its citizens per capita than any other country in the world. The impact of incarceration extends far beyond the person who is imprisoned. Families and communities are also affected. A public health approach that looks at both the causes of incarceration and the factors that lead to the high recidivism rates can lead to strategies to address the roots of the problem, develop viable, effective alternatives, and reduce our reliance on incarceration. One of the major contributing factors to high incarceration rates is lack of education and low literacy levels. The Petey Greene program works to make improvements in this area. This poster will share William Paterson public health student experiences as Peter Greene tutors and the implications for health education.

**Joseph Spagna, Faculty, Biology**

Karisa Quimby, Undergraduate Student, Biology

*Spinning spiders strike! Exploring prey-capture in flattie spiders*

Spiders in the family *Selenopidae*, commonly called flatties, are known for two things- their flat bodies, and their rapid movements. Here we explore the rapid spinning attacks of flattie spiders from the Southwestern US and Australia, using high-speed video of prey-capture sequences. Spiders were collected in their habitats and brought to lab for filming. Prey (flies or small crickets) were offered to the spiders from a variety of angles, which would spin around to grab the prey. The spiders achieved rotational speeds up to 3000 degrees/s, among the fastest rotational animal movements ever recorded. The two groups (*North American Selenops* and *Australian Karaops*) are compared for leg usage. On average, we found that the Australian spiders use fewer legs to provide torque to the animal for spinning. Further findings include the fact that rapid spin performance works almost as well (no significant speed dropoff) when a spider has seven legs as it does with eight, but that losing two legs does result in an average drop in speed of 40%. These differences suggest that there is no single optimal pattern for leg use while spinning but that adaptations have taken place for differences in species' morphology and ecology. Finally, it shows spiders can adjust rapidly- within their lifetime- to changes in leg arrangement following limb-loss.

This activity was supported by: Assigned Release Time for Research (ART); Student Research and Creative Expression Program (SRCEP); College of Science and Health, Center for Research; the Provost's Office

**Sara Steinel, Undergraduate Student, Cognitive Science Honors Track**

*A Knowledge Discovery Approach to Analyzing Mental Health Problems in NYC*

This research analyzes artificial tanning as a possible contributing factor to some of the mental health problems in New York City using Centers for Disease Control and Prevention's (CDC's) Youth Risk Behavior Survey (YRBS) data. Rather than using traditional hypothesis-driven statistical analyses, we use a knowledge discovery approach to discover hidden relationships in the data. There are two main purposes for this research: the first purpose is to analyze the relationship between artificial tanning and suboptimal mental health; the second purpose is to provide a comparison of these two approaches, and discuss when to use a theory-driven statistical approach that tests an already existing verbal model versus when to use a knowledge discovery approach that is not driven by an experimenter's model, but by hidden patterns in the raw data.

**Sara Steinel, Undergraduate Student, Computer Science**

Nellie Cordova, Undergraduate Student, Mathematics  
Faculty Sponsor: Cyril S. Ku and Corey H. Basch, William Paterson University, and Grace C. Hillyer, Columbia University

*A Knowledge Discovery Approach to Mental Health Problems in New York City: Phase Two*

This is a multi-disciplinary and inter-institutional research project between the Department of Computer Science and the Department of Public Health at William Paterson University and the Mailman School of Public Health at Columbia University. The research uses knowledge discovery approach to find hidden relationships, anomaly detection, and trend prediction using Centers for Disease Control and Prevention's (CDC's) Youth Risk Behavior Survey (YRBS) data, focusing on mental health problems in New York City. This presentation specifies our data mining environment and shows the preliminary results using the Python machine learning algorithms. The validation of the knowledge discovery model by the theory-driven statistical approach will also be presented.

This activity was supported by: Assigned Release Time for Research (ART); Student Worker Funds, College of Science and Health

**Bogong Su, Faculty, Computer Science**

Erh-Wen Hu, Faculty, Computer Science; Weihua Liu, Faculty, Computer Science

*Comparing DSP Software Performance Prediction Models at Source Code Level - from Analytical to Statistical*

Efficient performance prediction at source code level is essential in reducing the turnaround time of software development, particularly when the source code is subject to changes due to modification of problem specification. In this paper, we investigate and compare five performance prediction models from practical standpoint to determine the usefulness of these models. To verify the effectiveness of these models, we select a set of functions from PHY DSP Benchmark and TIC64 DSP processor for experiment. Comparing the predicted performance to the actual measured execution time, we observed that the relative prediction error generated from two of the five models are low and can thus be used for practical purposes.

This activity was supported by: Assigned Release Time for Research (ART); Research & Travel Incentive Award

**Gregory Synsmir, Master's Student, Professional Communication**

Faculty Sponsor: Kyung-Hyan (Angie) Yoo

*Activism amongst College Students in the age of Social Media*

This study takes an in-depth look at the relationship between exposure to social or political issues on social media and the willingness to participate in social and political activism amongst in the real world amongst college students. With the current climate of the United States from a social and political standpoint, the youth has become more informed about what is going on in society around them. This study investigates the role that social media plays in the interest of college students in particular, in social and political activism. Are students from minority backgrounds more likely to get engaged with activism through social media than their Caucasian counterparts? Is there a gender divide when it comes to interest amongst college students in social and political activism? Which Social media platform is best suited for serious dialogue about social and political activism? These are some of the key questions that will be explored throughout this study.

**Naa-Solo Tettey, Faculty, Public Health**

Soomin Ahn, Undergraduate Student, Public Health; Steven Nagamine, Undergraduate Student, Public Health

*Assessing Codeine Use through Hip-Hop Lyrics: A Call to Action for Public Health Educators*

Background: Prescription opioid misuse has increased significantly over the past decade and is now a public health epidemic. Lean - also known as purple drank, purple lean, sizzurp, dirty sprite, and lean drink - is a combination of prescription-strength cough medicine, soft drinks, and hard, fruit-flavored candy. Lean is alarmingly extolled in popular culture, especially hip-hop music. Various studies have demonstrated the impact of hip-hop music on shaping the attitudes and behaviors of youth and young adults. This is cause for alarm especially as it relates to dangerous substances such as lean.

Prescription cough syrups used to make lean drink present the most danger because they often contain codeine, a powerful opioid drug, and promethazine, an antihistamine that causes sedative effects and can impair motor functioning. Prolonged use of lean can lead to dental decay, seizures, coma and death. There is a misconception regarding the safety of this drug due to its use of common items like cough syrup. Therefore, more public health education and interventions specifically targeted at the hip-hop community and audience are needed to reduce harm and prevent misuse.

Methods: Lyrical content of popular rap and hip-hop songs (n=40) were read and coded for lyrics that mention codeine use. Song lyrics were assessed for themes and then classified into seven categories based on these themes.

Results: Of the 40 songs assessed, lean was mentioned an average of 12.7 times. The content analysis demonstrated that the most prevalent themes for hip-hop lyrics regarding lean are for everyday use, for combined use with other drugs like marijuana, as a recreational drug, and to assist with sleep and mental health issues.

Conclusion: Many popular rap songs reference codeine and promote its use. It is important for public health educators to understand this trend and create interventions to help decrease codeine use among this population.

**Morgan Theobald, Undergraduate Student, Humanities Honors Track***The Origins of Wonder Woman: Comics as Psychological Propoganda, 1930s-1940s*

Wonder Woman has fascinated and inspired people of all ages for decades. But how did she come to be? Dr.

William Moulton Marston, a psychologist with a Ph.D. from Harvard, created her in 1941. He sought to inspire children with strength, courage, and freedom. He spurned the notion that women were weak or inferior to men, and he championed their potential in all human endeavors. Even further, he promoted women's superiority to men as more innately peace-loving and nurturing, in his words, "[f]rankly, Wonder Woman is psychological propaganda for the new type of woman who should, I believe, rule the world" (Marston, 1941). My study examines the history of his invention, Wonder Women, highlighting Marston's eccentric world-view, and explaining how Wonder Women came to serve as a role model and prototype of a female superhero.

**Jonathan Tobal, Undergraduate Student, Humanities Honors Track**

*"More than an Athlete": LeBron James as an Athlete/Activist*

My thesis explores the fascinating career of the athlete LeBron James and details how his career is redefining societal expectations of an African American athlete. I examine his early career, his interest in philanthropy, his noteworthy economic impact as a superstar, sports, his entrepreneurship, and his politics; in each of these areas he is setting new precedents.

In my study, I utilize interviews, journalism, sports histories, and other sources as evidence for understanding his career and all of his endeavors, particularly his vision for social and political change, as well as its limits. Through comparing his ideas and actions to those of other prominent historical and contemporary African American athletes, I conclude LeBron is unique, a perfect example on how an athlete can parlay his talent for a sport into successes throughout multiple facets of life.

**Michael Topping, Undergraduate Student, Performing and Literary Arts Honors Track**

*Four Pieces of Music for Four Poems*

Since attending a concert during my junior year of high school, where I was captivated by a performance of a composition written around a Carl Sandburg poem, I have had an ongoing fascination with the blending of jazz and poetry. Most of my encounters with the two art forms being presented together have been accidental before beginning work on this project. It is in this spirit that this project seems to have taken on the secondary objective of exploring different methods of utilizing improvisation as a compositional device. Knowing that I wanted to give each piece of music a unique structure, I read several books of poetry each by a different poet so as to have a diverse array of "canvases" to compose over for each piece. The poems I selected, as well as the one poem I wrote, all have significant meaning to me. The chaos and the lyricism I tried to capture in my compositions as a response to the written words of the poems are a reflection of my experiences in life so far.

**Daniel Toth, Master's Student, Professional Communication**

Faculty Sponsor: Kyung-Hyan (Angie) Yoo

*Alternative Sports and Social Media*

This study is about the relationship between Alternative Sports and Social Media and whether or not Social Media can raise awareness and interest in these sports to both participants and non-participants of Alternative Sport. With the addition of Skateboarding, Surfing, and Rock Climbing into the 2020 Olympics, Alternative Sports have become more main stream and popular than ever before, and this study looks into whether or not Social Media can possibly reach out to non participants of Alternative Sports and create interest in these sports, while simultaneously gathering information from participants of these sports and whether or not they consume Alternative Sports content through Social Media. Social Media is a powerful tool that can expose groups of users to content, activates, and events that they might not have been aware of if it were not for Social Media, and this study will be looking at the ability Social Media has with exposing groups of people to Alternative Sports that were historically not as popular as they are now.

**Chris Trembath, Master's Student, Professional Communication**

Faculty Sponsor: Kyung-Hyan (Angie) Yoo

*You're Getting a Little Too Personal: How Gender Personalization in Chatbot Design Affects Customer Satisfaction*

According to a report by Gartner, Inc., an estimated 25% of companies will use chatbot technology to augment their customer service and support operations by the year 2020 (Moore, 2018). Further, a survey conducted by Oracle and first reported by Business Insider found that 80% of 800 decision makers of companies around the globe plan to use chatbot technology by the year 2020 (Herrera, 2017). However, the far-reaching implications of using such advanced technology is not completely understood. While simple robot-like chatbots have been used for years, recent advances in Artificial Intelligence (AI) have increased the personalization of chatbot communication to the point where chatbots are now human-like, and in effect, more personal.



While research has been conducted regarding the personalization of chatbots using male and female gender types, there has been limited research, if any, asking the question whether the gender-specific chatbots will affect a customer's satisfaction (CSAT) when engaging in online company-customer communication when the issue being discussed is gender-sensitive. For example, if a female ordering or inquiring about intimate apparel is presented with a male chatbot during the customer-company communication, would it affect the customer's overall customer satisfaction?

The results of this research can be of importance to chatbot designers and companies wishing to deploy chatbots as part of their customer service offerings when the subject matter or company is gender-sensitive.

**Leslie Trigoura, Undergraduate Student, Chemistry**

Maria Holganza, Undergraduate Student, Chemistry  
Faculty Sponsor: Yalan Xing

*The Efficient Copper Catalyzed Homocoupling and Heterocoupling of Terminal Alkynes*

There are numerous bioactive compounds that have been discovered to contain 1,3-diynes, which are found in nature and widely applied in organic synthesis. Through experimentation, we have discovered ideal conditions for the efficient synthesis of unsymmetrical and symmetrical 1,3-diynes. We have developed an efficient copper catalyzed reaction that resulted in high yields for the homocoupling and heterocoupling of a variety of terminal alkyne substrates. Through our research, we have found that in room temperature, copper(II) triflate was the optimal catalyst and acetone was the optimal solvent to conduct these reactions efficiently. These optimal conditions were applied successfully to 14 homocoupling and 6 heterocoupling reactions of a variety of terminal alkyne substrates, an overall scope of 20 substrates.

This activity was supported by: College Student Research Assistance, Department of Chemistry, William Paterson University

**Leslie Trigoura, Undergraduate Student, Chemistry**

Maria Katrina Holganza, Undergraduate Student, Chemistry

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This activity was supported by: College Student Research Assistance, Department of Chemistry, William Paterson University

**Gabriela Triveno, Undergraduate Student, Business Honors Track**

*Study of Male Perception of Women in the Workforce and its Effect on Sexual Harassment*

The purpose of this research paper is to understand how millennial men perceive sexual harassment among women in the workforce and the prevalence of it. They are the current generation of working adults and are also the rising workforce. Millennials are known to be very liberal and gender-blind, but if they are not aware of the current prevalence and pervasiveness of sexual harassment and how it disproportionately affects women, it could negatively impact their generation and their workplaces. The way that they perceive sexual harassment will influence the future in both social and legal aspects. For this research, 150 men between the ages of 18-38 will be surveyed. They will provide their perceptions on sexual harassment, stereotypical views, and demographic information. SPSS software will be used to analyze the data. We anticipate to find that millennial men who hold more stereotypical views of gender will believe that sexual harassment is less prevalent in the workplace. The men who have stereotypical views will prefer men supervisors instead of women supervisors and will have male-dominated university majors. This study hypothesized that the men who aren't aware of the prevalence of sexual harassment will also have a greater tolerance of it. The results can help managers work towards a more positive work environment with less possibility of sexual harassment.

**Meagan Trozzo, Undergraduate Student, Business Honors Track**

*Raw Materials Solution for Pariser Industries, Inc.*

Four honors students and a multi-million dollar chemical company. How can these two go together? We were called in to be management consultants in the fall of 2018. We spent many days at the factory learning the ins and outs of the chemical industry and our specific company, Pariser Industries Inc. They operate all throughout the United States, Canada and the Caribbean. They've been around for 50 years- so what do they need four students for? Turns out, many things. In fact, so many things we could not tackle every issue there was. As a consultant team, we chose the issues that were most pressing and we had to develop a solution that solved as many issues as possible. We worked together using each of our individual, unique experiences and assets to formulate a plan.

**Abigail Urena, Undergraduate Student, Social Sciences Honors Track**

*Finding Thinspiration: An Integrative Review of Pro-Anorexia Literature*

This project aims to comprehensively explore the online movement of pro-anorexia, determining the extent of its damage, expanding on the concept of its social benefit, while acknowledging feminist perspectives and creating a dialogue between disciplines. Pro-anorexia webpages promote anorexia nervosa as a choice or lifestyle. They provide support for individuals with anorexia through online social forums, specific 'Tips and Tricks' sections, and thinspiration images of extremely thin celebrities and models that serve as body goals and motivation. Previous research has analyzed the content of these web pages and social media platforms to understand the impact on user body image and perceived weight. Negative findings have led to numerous attempts to shut down pro-anorexia websites, largely led by healthcare professionals attempting to improve patient behavior. Further studies were conducted towards understanding the psychosocial motivations behind pro-anorexia site users, believing the websites to provide the benefit of social interactions for site users. More contemporary feminist research has claimed that pro-anorexia users are being unfairly targeted and censored. The goal of this project is to compose a relevant, current, and complete exposition of the online pro-anorexia literature.

**Rosmeiry Valera, Master's Student, Department of Psychology**

Yun Kai Chong, Master's Student, Department of Psychology; Michelle Cardenas, Master's Student, Department of Psychology; Tania Chowdhury, Doctoral Student, New York University; Marsha Akoto, Master's Student, Department of Psychology; Anna Krisak, Master's Student, Department of Psychology; Melissa Henao, Master's Student, Department of Psychology; Rose Moise, Master's Student, Department of Psychology; Osairys Billini, Undergraduate Student, Department of Psychology; Forida Raja, Undergraduate Student, Department of Psychology; Aileen Torres, Faculty, Department of Psychology; Winnie Ma, Faculty, Department of Psychology  
Faculty Sponsor: Winnie Ma and Aileen Torres

*Clinical Symptoms, Family Separations and Acculturation in Recently Immigrated Latinx and Bangladeshi Middle School Youth*

Immigration has been found to increase children's risk of developing internalizing and externalizing problems, as well as academic challenges (Aronowitz, 2018; Chan, Davis, & Staub, 2001). Studies have also suggested that individuals who immigrated before age 13 showed higher rates of psychiatric disorders (Alegria, 2007; Fuligni & Perreira, 2009), and that first-generation immigrants often have more difficulties and higher stress levels particularly when they reside in an economically disadvantaged neighborhood (Walsh et al., 2008; Suarez-Orozco et al., 2010). Considering recently immigrated middle school students are a potential at-risk group, this study focuses on the relationships between psychological symptoms, family separations and acculturative stress reported by 27 middle school students (9 males and 6 females in Bangladeshi group, 6 males and 6 females in Latinx group) who were recruited from 3 public schools in the United States to participate in 2 separate pilot in-school intervention programs. Results from the Acculturative Stress Inventory for Children (ASIC; Suarez-Morales, Dillon, & Szapocznik, 2007) and Youth Self-Report (YSR; Achenbach, 1991) showed that participants' experience of emotional and behavioral problems were positively correlated with acculturative stress. Internalizing problems were the most common in both groups, with elevations on the Anxious/Depressed, Withdrawn/Depressed and Social Problems scales being more common for the Latinx group, and elevations on the Somatic Complaints and Thought Problems scales being more common for the Bangladeshi group. All but one of the Latinx participants were separated from at least one parent, compared to only one participant who was separated from at least one parent in the Bangladeshi group. Female Bangladeshi participants also reported higher acculturative stress from perceived discrimination and higher severity of emotional and behavioral problems compared to male Bangladeshi participants. No gender differences were found for the Latinx group. These results highlight the importance of addressing emotional and behavioral problems, as well as acculturative stress from perceived discrimination and immigration-related stressors among recently immigrated youth. Further implications and limitations will be discussed.

## **Ashley Velasquez, Undergraduate Student, Nursing Honors Track**

### *Behavioral Health and the Willingness to Seek Help*

There are many variables, such as stigma, perceived devaluation, and gender that affect an individual's willingness to seek help when confronted with behavioral health issues or an emotional crisis. The purpose of this study was to determine students' feelings about mental health resources available at their university and elsewhere. This study used the Perceived Devaluation Discrimination Scale, the Stigma Consciousness Scale, and a demographic questionnaire. The questionnaires measured the barriers to seeking help and the perceived shame that goes along with being diagnosed with a behavioral health difficulty. Findings from the study may suggest that students do not feel comfortable receiving psychological help from the resources provided at the university or elsewhere. Data collection is currently underway.

## **Lawrence Verzani, Faculty, Economics, Finance and Global Business**

John Malindretos, Faculty, Economics, Finance and Global Business; Tao Guo, Faculty, Economics, Finance and Global Business

### *Financial Advice and Portfolio Diversification*

This paper examines whether households diversify their investment portfolios and whether portfolio diversification could be affected by where investors seek advice. We found that respondents find advice from banks, insurance companies, and brokerage houses less helpful compared to reading investment research and financial periodicals when making their portfolio decisions. But when looking at a metric of optimal investing, diversification, we see that those who rely on brokers' advice ended up with a less diversified portfolio.

This activity was supported by: Cotsakos College of Business, Business Practice and Policy Research Forum (BPPRF) Grant

## **Dante Vocaturo, Undergraduate Student, Independent Honors Track**

### *Evolution: An Analysis of Women's Roles on WWE Programming*

Relevant research has shown a disparity in the representation of women on both sports television and entertainment television programming compared to their male contemporaries. In a time where entertainment companies are more sensitive to female roles and representation, World Wrestling Entertainment (WWE) has jumpstarted a self-titled "Women's Evolution" on programming the company has dubbed "sports-entertainment." This study sought to determine if WWE's portrayal of their female athletes more closely coincided with characteristics of female representation in either sports television or entertainment television. An analysis of female representation on WWE's weekly television shows, as well as monthly pay-per-view events, demonstrates that on-screen time given to female talent is consistent with that of televised sporting events. Calculating average times for segments featuring women found roughly 33 percent of weekly television and 30 percent of monthly pay-per-view events featured segments using female athletes.

## **Christopher Von Essen, Undergraduate Student, Performing and Literary Arts Honors Track**

### *A Collection of Comedic Sketches*

From Saturday Night Live to Portlandia to Key and Peele, sketches are an essential part of the comedic world. Sketch writing allows for creativity to flourish and punchlines to be pumped out. I have written over fifty pages of sketches in preparation for landing a job that will eventually allow me to write comedy for a living. Here I will be showing two sketches I wrote and filmed. 'America's Next Top Mall Santa' and 'Breadstick' which is currently nominated for an IBS Award for best comedy show.

## **Miryam Wahrman, Faculty, Biology**

Corey Basch, Faculty, Public Health; Sarah MacLean, From Outside WPU, Icahn School of Medicine, Mount Sinai; Philip Garcia, Undergraduate Student, Public Health

### *"Escherichia coli" on the internet: The power of YouTube to educate and influence consumer behavior regarding pathogenic bacteria*

Background: Proper education about food safety and hand hygiene helps to reduce the risk of exposure to *Escherichia coli* associated disease. The purpose of this study was to describe the 100 most widely viewed YouTube videos on the subject of *E. coli* to determine what consumers are viewing related to the hazards of, and reducing risk of exposure to, bacteria such as *E. coli*.

Methods: The search term was conducted using the keywords *E. coli*. The 100 videos with the top view counts were included in this study. The sampling frame for this study included only videos that were in English. The source of the upload of each video was determined to be one of the following: (1) consumer, (2) professional (MD, RN)/government, (3) any news (television-based, internet-based, or print/radio). Content categories were created using a fact sheet from the Centers for Disease Control and Prevention.

Results: Videos uploaded by a news source tended to have been uploaded more recently (2015 - 2018) compared to other sources ( $p < 0.001$ ). Videos uploaded by consumers or news sources tended to have more views than professional/government-uploaded videos ( $p = 0.044$ ). Videos uploaded by news sources were more likely to mention a specific outbreak ( $p < 0.001$ ), statistics ( $p = 0.004$ ), and transmission via raw meat ( $p = 0.036$ ), feces ( $p = 0.006$ ), vegetables or produce ( $p = 0.006$ ), and processing techniques ( $p = 0.005$ ).

Conclusions: YouTube videos on the topic were widely divergent, and varied in content, emphasizing different aspects of concern over hazards associated with *E. coli*. Consumer sources, rather than experts, were the most common source of upload of the most highly viewed videos. Government agencies, which collect and analyze public health data, do not appear to use YouTube effectively to disseminate information. This underscores the need for media to work with government agencies to provide accurate, timely information to the public.

This activity was supported by: Assigned Release Time for Research (ART)

**Lisa Warner, Faculty, Elementary and Early Childhood Education**  
Roberta Schorr, Rutgers University

*Engagement structures and the development of mathematical ideas*

We describe the relationship that exists between shifts in engagement and shifts in mathematical thinking, using the construct of engagement structures (Warner and Schorr, in press, 2019). The engagement structure construct (Goldin, Epstein, Schorr, Warner, 2011) is a way to account for and describe the complex dynamical interactions that recur as students solve mathematical problems. Our research is focused on a group of eighth grade students solving a problem in a group setting in an urban district. Our analysis involves video-recorded episodes, retrospective interviews and comprehensive field notes. We also document the social conditions present in the classroom that surrounded the shifts. Our findings suggest a variety of changes that can occur within an individual student, and across students in the same classroom, depending upon the social context. At times, changes in mathematical ideas preceded shifts in engagement, and vice-versa. Aside from the within student differences, our research provides an example of how, within the same classroom, students can have very different engagement and mathematical experiences.

This activity was supported by: National Science Foundation to Rutgers University (Award Numbers 0138806, ESI-0333753, and 1008770)

**Mahmoud Watad, Faculty, Marketing and Management Science**  
Cesar Perez-Alvarez, Faculty, Marketing and Management Science

*The Interplay of Cultural Identity, Decision-Making and Creative Strategies*

The objective of this project is to examine the interplay between cultural identity and group decision-making and its impact on decision effectiveness between two different culturally distinct groups in Spain and the United States. The main premise of the study states that Cultural Identity models Trust and Knowledge Sharing behavior, which, in turn, influence Innovation. One of the main results of the study shows that there seems to be a positive relationship between Uncertainty Avoidance Index and Trust. In other words, as uncertainty avoidance increases, individuals tend to trust more their fellow members. The direction of the relationship is present in both the overall sample and the two subsamples (two groups).

This activity was supported by: Cotsakos College of Business, Business Practice and Policy Research Forum (BPPRF) Grant

**Anna Weisz, Undergraduate Student, Nursing Honors Track**

*The Impact of Animal Assisted Therapy on Children Diagnosed with Autism Spectrum Disorder and Attention Deficit/Hyperactive Disorder*

The purpose of this research was to determine the effects of animal assisted therapy on children diagnosed with Autism Spectrum Disorder and Attention Deficit/Hyperactive Disorder. Animal assisted therapy involves



introducing an animal (dogs, cats, horses, etc.) into an individual's environment, and certain activities are performed between the individual and animal. This study was guided by the Theory of Holistic Comfort and utilized survey questions adapted from the Lincoln Autism Pet Dog Impact Scale. The online survey was distributed to parents and guardians of children who are diagnosed with Autism Spectrum Disorder and Attention Deficit/Hyperactive Disorder. A study was conducted comparing time spent around an animal and its effect on the child's adaptability skills, social skills, and conflict management skills. Results showed that the children who were around the animal more frequently had better social skills and conflict management skills than those who were not around the animal as often. These results are important to the nursing profession because the use of trained animals and animal companions can benefit patients and improve both quality of care and quality of life in and out of the clinical setting.

### **Jesse Wheeler, Undergraduate Student, Clinical and Neuropsychology Honors Track**

#### *Mindfulness as a Means for Reducing Anxiety and Perceived Stress*

Anxiety is accompanied by both physiological and cognitive responses that can be associated with the preoccupation of events that have yet to occur or may never occur. Perceived stress is a self-reported measure of subjective stress a person experiences, and as related to anxiety, there is support for these two variables to share a positive and direct relationship. Mindfulness-based interventions (MBI's) follow the intent of promoting mindfulness, described as a present-focused attitude or position of non-judging openness and acceptance. The primary aim of this study was to review the current literature of mindfulness-based interventions as they relate to perceived stress and anxiety to observe and report on their efficacy for reducing these variables. The hypothesis is that mindfulness-based interventions are effective in reducing anxiety and perceived stress.

### **Cole Whittenburg, Undergraduate Student, Music Honors Track**

#### *Friends and Pioneers: The Stories of Alec Wilder, Harvey Phillips, and the Evolution of Tuba Solo Literature*

In the decades after its implementation as a standard orchestral instrument, the tuba was unjustly portrayed as inherently comical. During the mid-late 20th century, composer Alec Wilder and tubist Harvey Phillips collaborated to develop repertoire with the purpose of validating tuba performance as an artistic endeavor. In examining their lives, careers, and close personal friendship, it is evident that the collaboration between Wilder and Phillips significantly impacted the evolution of concert literature for the tuba. Phillips was dedicated to commissioning and performing new music from composers both renowned and obscure, as well as expanding the horizons of tuba repertoire in musicality and virtuosity. In that spirit, the main component of this project is a lecture recital, presented in the spring, featuring a brand-new piece that I have commissioned for solo tuba and percussion, written by composer Ian Wiese.

### **Tydasia Williams, Master's Student, Professional Communication**

Faculty Sponsor: Kyung-Hyan (Angie) Yoo

#### *The Effects Social Media Has On Using Colorism to Depict African American Beauty*

For hundreds of years, colorism has persisted within the African American community as well as outside. African American women, especially, have had to deal with colorism in one way or another in their lifetime. Many studies have shown that mass media have used colorism to depict African American beauty. This study will examine the effects social media has on using colorism to portray African American beauty in the media. Some of the key questions that will be examined and addressed include: What role does social media play in depicting African American beauty? Does the representation of African American beauty in the media portray colorism? Does social media use African American beauty to influence Eurocentric women to seek African American features? The survey methodology will be used as well as a comparative method to analyze the responses on how African Americans are affected by the way they are represented via social media in reference to colorism.

### **Ryan Wizner, Undergraduate Student, Environmental Science**

Brianna Chandra, Undergraduate Student, Environmental Science; Jeremy Scott, Undergraduate Student, Environmental Science  
Faculty Sponsor: Jennifer Callanan

#### *Examination of a Suburban Lake for Effects from Nonpoint Source Pollution and Copper Sulfate Treatments by Brianna Chandra, Jeremy Scott, Ryan Wizner, Jennifer Callanan, Michael DaSilva, and the students of ENV-3760-70 Fall 2018*

The natural process of eutrophication is accelerated by excess nutrients from nonpoint source pollutants, in which an inorganic compound, copper sulfate (CuSO<sub>4</sub>), is used to conduct the reversal known as oligotrophication.

Runoff in suburbanized areas combined with human practices such as, spreading fertilizers and pesticides that contain nitrogen or phosphorus, and applying rock salts composed of chloride, will promote damaging algal blooms. It is critical to determine the source of algal blooms as they can deplete dissolved oxygen in water bodies causing the aquatic ecosystem to suffer from nonpoint source pollutants. The influx of nutrients deposited into a suburban lake in New Jersey before and after a major rain storm was determined to detect relationships between precipitation and algal bloom intensity. An additional study examining the accumulation of copper from annual copper sulfate (CuSO<sub>4</sub>) treatments was also conducted.

Results displayed similar readings at all but three sites between both sample dates. After the rainfall event the inorganic phosphorus concentration in the water at Evergreen (G) decreased while inorganic phosphorus within the sediment at Mountainside (F2) increased. Concentrations of sulfate and chloride were higher prior to the rainfall event at Brockwood (F1).

Copper concentrations from three lake center sites were below 2ppb and insignificant.

This activity was supported by: Packanack Lake Water Quality Committee

### **Robert Wolfe, Undergraduate Student, Business Honors Track**

#### *An Analysis of RPG Acoustical Systems*

RPG Acoustical Systems is a U.S. manufacturing company that specializes in manufacturing wooden products that improve acoustics. Passaic, located in New Jersey, has become the home to the newly revived RPG, a company once settled in Canada. The company has been in the state of New Jersey for almost two years now and has continued being one of the most highly recognized providers in their industry. When meeting with RPG, our goal was to help them increase their sales as well as explore the existing business model they had established. Our group sought to help them find ways to increase their sales presence and increase the close rate on their future bids. The RPG Acoustical Systems case will highlight our approach to reinforce the ideas that have not been followed through, although they'd be advantageous to the company. Furthermore, our recommendations to the company that have not yet been considered are an effort to increase their sales conversions.

### **Yalan Xing, Faculty, Chemistry**

#### *Development of Green Synthetic Methodology*

The basic principles for green synthetic strategy include: 1) Maximizing yields by utilizing catalysts when appropriate. 2) Utilizing energy economically and looking at energy sources that do not rely on fossil fuel combustion. 3) Reducing potential waste production by utilizing atom economical processes, which minimize the use of solvents. 4) Reducing the use of hazardous reagents or the production of hazardous by-products. 5) Minimizing time so that energy consumption is reduced. Our research focuses on developing novel synthetic methodologies to provide unique access to bioactive small molecule agents and, ultimately, to address the increasing needs in medicinal chemistry structure and activity relationship study. The three synthetic methodologies in this presentation all feature green chemistry principles. 1. Sol-gel polymer Catalyzed Alkyne Functionalization. Sol-gel polymer was found to catalyze alkyne halo-functionalization in a highly efficient and regioselective manner. The sol-gel catalyst can also be re-cycled and reused. 2. Visible-light Induced benzylic Functionalization. Sustainable visible light has been used as the energy source for the benzylic functionalization in the presence of photocatalyst, Eosin Y. A variety of benzylic hydrogen peroxides have been synthesized in high yield. 3. Electrochemical synthesis of heterocyclic molecules. Electrochemistry has been adopted in the efficient synthesis of complex heterocyclic molecules. Expensive and toxic catalysts and reagents are avoided using electrochemistry approach.

This activity was supported by: American Chemical Society Petroleum Research Fund

### **Lianzan Xu, Faculty, Accounting and Law**

Francis Cai, Faculty, Economics, Finance and Global Business; Ge Zhang, Faculty, Economics, Finance and Global Business

#### *Hybrid Earnings Management Pre- and Post-SOX*

This paper examines a fourth method of earnings management: the hybrid method. The hybrid method uses a combination of the three well-documented earnings management methods of accrual-based, real activity, and classification shifting to manipulate earnings for the benefits of the management and the company. The manipulated number is presented in the income statement as a single line item such as pension expense or income. The hybrid method is more deceptive and harder to detect outright because it is more complex and often apparently GAAP compliant.

This activity was supported by: Cotsakos College of Business, Business Practice and Policy Research Forum (BPPRF) Grant

**Kyung-Hyan (Angie) Yoo, Faculty, Communication***Real-time Social Media Engagement and Millennials' Event Experience*

This exploratory study examined the role of real-time social media engagement in the millennials' event experience. An onsite survey was conducted at a social event in the Northeast United States. A total of 100 millennial attendees participated in the study. The data was analyzed using descriptive analyses, t-tests and ANOVA. The findings of study show that the event attendees who read the event-related contents on social media reported a higher quality event experience than those who did not read the contents. The event attendees who created the event-related contents on social media also reported a more positive event experience than non-creators. The ANOVA result further confirmed that the event experience quality was higher for the groups who were more active on event-related social media content creation. The findings of this study showed that the quality of event experience was greater for the attendees who were engaged in the real-time social media communication using the event hashtag during the event. These findings suggest the growing importance of real-time social media communication in event management and indicates that the social media communication is now a key strategy to engage the young event attendees and co-create a high quality event experience.

This activity was supported by: College of the Arts and Communication Center for Creative Activity and Research Summer Grant

**Deniz Yucel, Faculty, Sociology and Criminal Justice***Differential Effects of Direct and Indirect Contact on Prejudice among Greek Cypriots and Turkish Cypriots over a Ten-Year Period*

In post-conflict and segregated societies, overcoming high prejudice between groups is essential for peaceful coexistence. In this paper, we explore the roles of direct contact (face-to-face contact and cross-group friendship) and indirect contact (extended cross-group friendship) in reducing prejudice between Greek Cypriots and Turkish Cypriots living in Cyprus. Moreover, this study further explores whether the effects of direct and indirect contact vary between Turkish Cypriots and Greek Cypriots, as well as across a ten year period. To explore these issues, we analyze data from different representative samples of Greek Cypriots and Turkish Cypriots at two different time points (years 2007 and 2017). The results suggest that all three forms of contact have significant effects on prejudice. The results, however, suggest some variations by community (but not year of data collection) in the effects of direct (but not indirect) contact on prejudice.

This activity was supported by: Sabbatical Award, 2017-2018

**Irina Zaytseva, Undergraduate Student, Cognitive Science Honors Track***Perception of Accents on Different Context*

Native speakers are rated as more reliable than a non-native speakers, which can impact the non-native speakers' daily lives. This study further explores the relationship between a speaker's credibility and the speaker's accent. In this experiment, participants listened to two different passages presented by one of three levels of non-native accented speaker (Mild, Moderate, Strong accent) or a native English speaker. The hypotheses were that non-native accented speech would be rated lower than native accented speech. However, this pattern would differ when presented with information related to the origin of the foreign accent. The ratings for the Moscow passage would be higher for accented speakers than the native English speaker. Initial analyses indicated that there are no differences in the ratings of the Moscow passage and the ant passage collapsed across groups.

**John Zeitler, Undergraduate Student, Social Sciences Honors Track***Album Rollouts: How a Project's Rollout Influences an Album's Success*

The landscape of the music industry is constantly evolving. The introduction of streaming services such as Pandora and Spotify changed the landscape of the music business, from how music is consumed to how artists release their projects. Music-sharing websites like Soundcloud gave artists a platform to find their audiences without signing to a record label. When an artist plans to release an album or project, the goal is to sell/stream music, debut on the Billboard charts, and have radio/playlist play/placement. Artists and labels need to consider various factors that could influence an album's success such as public interest, public image, and timing when rolling out a project. Project releases such as Beyoncé's self-titled visual album, Beyoncé, and Drake's *Scorpion* are pivotal moments in music industry marketing that showcase how even the most influential artists must reinvent album rollouts to adjust to the ever-changing music business. This research examines Katy Perry's, Drake's, and Nicki Minaj's latest album rollouts and how their marketing and public image influenced their projects' success or failure.

# THE RIBBON AROUND THE BOMB



Poems by Elizabeth Levine

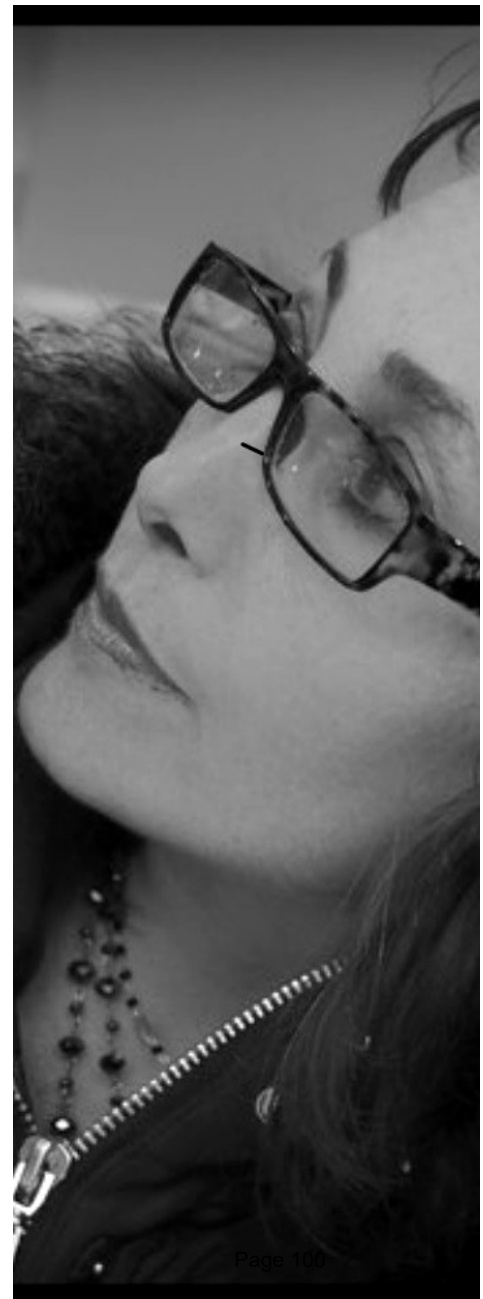
## A Living Writers Series Event

Professor Elizabeth Levine will read from her debut chapbook, *The Ribbon Around the Bomb*, which addresses the subject of poets who have committed suicide. She is a graduate of the WPU MFA Program, a trilingual author, a poet, and Adjunct Faculty in the English Department at William Paterson University.

Thursday,  
April 4th

3:30 PM

Atrium  
Auditorium





**RESEARCH, SCHOLARSHIP AND CREATIVE EXPRESSION PROGRAMS AND  
ACTIVITIES AT WP IN APRIL 2019 AND BEYOND! (as of March 28)**

**Beyond the Bars: A Panel Discussion on Criminal Justice Reform**

Wednesday, April 3, Cheng Library Auditorium, 12:15 to 2:00 pm

**Reality Check with New York Times Columnist Andrew Rosenthal**

Wednesday, April 3, Hobart Hall, Martini Room, 6:00 pm

**13th Annual Undergraduate Research Symposium**

Saturday, April 6, UC Ballrooms, 8:00 to 5:30 pm

**Living Writers Series, Elizabeth Levine: *The Ribbon Around the Bomb***

Thursday, April 4, Atrium Auditorium, 3:30 to 4:30 pm

**13th Annual Undergraduate Research Symposium**

Saturday, April 6, UC Ballrooms, 8:00 to 5:30 pm

**Spring Writers Conference**

(pre-registration required)

Saturday, April 6, Atrium, 9:30 to 3:30 pm

**UPS Computer Information Technology Lecture Series**

Tuesday, April 16, University Commons, Room 211, 5:30 - 8:30 pm

**Mathematics and Statistics Awareness Month, April 2019**

**Pi Mu Epsilon Honor Society Induction with Guest Speaker Roxhensa Papa**

Thursday, April 18, Science East 2064, 12:30—1:45 pm

**Mathematics Senior Capstone Presentations, 12:30 - 1:45**

Monday, April 22 to Thursday, April 25, Science East 3037

**William Paterson University Society of Professional Journalists Award Ceremony**

Thursday, April 18, Hobart Hall, Martini Room, 7:00 pm

**5<sup>th</sup> Annual Cyber Security and Big Data Analytics Symposium**

Wednesday, April 24, University Commons Ballrooms, 8:30 am - 3:00 pm

**Reality Check with ABC News reporter Christina Carrega**

Monday, April 29, Hobart Hall, Martini Room, 5:30 - 8:30 pm

**MA in Professional Communication Master Research Presentations**

Monday, May 6, Atrium Auditorium, 6:00 pm

**Nanoscale & Molecular Assemblies: Designing Matter to Control Energy Transport**

August 25-29, San Diego California, 8:00 am - 4:00 pm

**Do you know of a program or activity related to research, scholarship or creative expression that will be happening between April 2 and May 2 or sometime else in 2019?**

Activities can include student presentations and recitals, outside speakers, department symposia, and art exhibitions. Call or email the Office of Sponsored Programs at 973-720-2852 or grants@wpunj.edu with the flier or name and date of the program, the URL for detailed information and we will add your program to the schedule on the web and updates to this program.