

WILLIAM PATERSON UNIVERSITY



WELCOME TO THE FALL 2020 HONORS COLLEGE RESEARCH PRESENTATIONS

Wednesday, November 18, 5:00 p.m.

*Live Zoom event featuring readings from first-year students from the following
HON 1000 Honors First Year Research Seminars:*

Exploring the Creative Process—led by Dr. Philip Cioffari
Writing Ancient History from Coins—led by Dr. Scott McDonough
Psychology, Science, and Pseudoscience—led by Dr. Megan Conrad

Friday, November 20, 1:30 p.m.

*Live Zoom event featuring presentations by HON 1000 Honors First Year Research Seminars
and Khizar Siddiqui, a senior student completing the Biology Track:*

— PROGRAM FOR FRIDAY, 11/20, 1:30 P.M. —



Khizar Siddiqui

1:30 p.m. Welcome and Presentations by first year Honors students in Dr. Jonathan Foley's Honors 1000 Research Seminar, featuring their research on *Developing a Diagnostic Coronavirus Test*.

2:00 p.m. Presentation by Honors College senior Biology major, Khizar Siddiqui, on *The Regulation of Functionally Clustered Genes in Response to Environmental Stress in Fungi*. Khizar is completing the Honors Biology Track under the direction of Dr. Joseph Spagna. WP Biology Department faculty members, Dr. James Arnone and Dr. Jyoti Champanerkar, served as thesis advisors for the project.

2:15 p.m. Presentations by first year Honors students in Dr. Jennifer Callanan's Honors 1000 Research Seminar, featuring their research on *Discovering Microclimates at William Paterson University*.

2:35 p.m. Wrap-up and giveaways!

Recorded presentations by the following Honors College students who are completing their research projects during the fall 2020 semester are available on the Honors Blackboard page. Please email honors@wpunj.edu if you are unable to access the page.



ASHLEY CALLAHAN

Honors Track: Cognitive Science
Major: Communication Disorders
Minor: Psychology
Thesis Title: *A Case Study: Is sarcasm detected in Wernicke's Aphasia?*
Thesis Advisor: Dr. Amy Learmonth

The intent of this proposed study is to see if people diagnosed with Wernicke's Aphasia can detect sarcasm in regular sarcastic conditions and in paradoxical sarcastic conditions, using The Awareness of Social Inference Test (TASIT). This is the first study of its kind to address sarcasm detection using the TASIT in an Aphasia population. Using two participants (1 male, 1 female) this study will address a few questions: 1. Do those diagnosed with Wernicke's Aphasia show problems in their detection of sarcastic cues? 2. If yes, are the differences in their understanding of sarcasm due to the speakers' actions, words, thoughts, and/or feelings? 3. Do those diagnosed with Wernicke's Aphasia comprehend basic emotions and does their understanding of emotion influence their ability to detect sarcasm? The hypothesis is that these participants would show few deficits in the detection of sarcasm due to previous research that found that sarcasm is disturbed when there is damage to the fronto-temporal region of the brain. Because the onset of Aphasia usually does not effect that region, it would be hypothesized that sarcasm would then not be affected. If there were any possible deficits it would be in the sarcastic and paradoxical conditions, which require the comprehension of non-literal verbal language. Finally, the participants in this study would show no deficits in emotional recognition.



KHIZAR SIDDIQUI

Honors Track: Biology
Majors: Biology
Thesis Title: *The Regulation of Functionally Clustered Genes in Response to Environmental Stress in Fungi*
Thesis Advisors: Dr. Arnone and Dr. Jyoti Champanerkar

To survive, all organisms need to maintain certain cellular conditions via a process called gene expression. Cells upregulate or down-regulate the expression of genes that are intimately linked to cellular growth to maintain homeostasis. I analyze spatial positioning mechanism, which is the nonrandom of genes as clusters throughout a genome. Genes that are similar in function, cluster together and form a gene family. I tested the hypothesis that the functional clustering of co-expressed gene families is essential in gene regulation in *C. albicans*. I mapped the genomic distribution of functionally related gene families in *C. albicans*. I also analyzed the conservation of genomic distribution across divergent *Candida* lineages. The results showed that the incidence of genomic clustering varied between co-regulated gene families. In the *Candida* lineage I found that functionally related gene clusters are the result of a mix of old and newer pairings arising by genomic re-arrangements.



ENRICO CRUZ

Honors Track: Cognitive Science
Major: Communication Disorders
Minor: Psychology
Thesis Title: *Music While Working: A Study on Attention and Reading Comprehension*
Thesis Advisor: Dr. David Freestone

Background music disrupts academic performance (Thompson, Schellenberg, & Letnic, 2012), maybe because it distracts or divides the listeners' attention (Tze & Chou 2009; Shih et al. 2012). Previous studies have shown that faster music disrupts more than slower music, and that lyrics disrupt more than instrumental music. But to date no one has studied which of these disrupt performance more. We asked 50 college students to listen to music while completing a reading comprehension assessment. Each participant saw three conditions: no music, slow music, and fast music. Half the participants heard music with lyrics, the other half did not. We used a linear model to estimate how much tempo and lyrics affected comprehension accuracy. Our results showed that while both lyrics and tempo do slightly reduce comprehension accuracy, it is not statistically reliable. This suggests that, if music disrupts performance at all, it has a weak effect.



MELANIE TORRE

Honors Track: Social Sciences
Majors: Early Childhood Education
 Psychology
Thesis Title: *How Single Sex Schools Influence Girls' Academic Achievement and Self-Esteem: A Review of the Literature*
Thesis Advisor: Dr. Neil Kressel

Although most education is coeducational, some researchers and education professionals have argued that single sex education can have beneficial effects on students. This paper reviews research on the differences between single sex girls' education and coeducation, focusing especially on academic achievement, academic attitudes, academic motivation, self-esteem, and teacher perception and views. The paper concludes that researchers are split on effectiveness of single sex student learning. In terms of self-esteem, positive increases were found in girls in single-sex schools. Academic achievement, academic attitude, and academic motivation differed in regard to factors such as school location, school resources, grade level, and more. Similarly, teacher perception and views depended on the gender of the teachers, the location of the schools, teachers' religious beliefs, and more. To guide educational policy and planning, more research must be done on single sex girls' education and the above-mentioned categories.



JORDAN PESOLA

Honors Track: Performing & Literary Arts
Major: Popular Music
Minors: Digital Music Creation and Arranging
Thesis Title: *The Making of Wishbone*
Thesis Advisor: Dr. Philip Cioffari

This project is a full-length album titled *Wishbone* by the band Wishbone. The album was mixed and mastered by a member of the band to address the sometimes tenuous relationship between the musical and sonic elements of an album that can arise when production is handled outside of an artist's hands. The album was mixed and mastered in a home studio with continuous input from the band and with the ability to record additional parts where necessary. The resulting album was a project true to the artists' original ideas without outside influence. The album was released on October 20, 2020.

HONORS TRACK DIRECTORS

Barbara Andrew
Independent

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Business

Philip Cioffari
Performing & Literary Arts

Bruce Diamond
Clinical Psychology
& Neuropsychology

David Kerzner (Interim)
Music

Neil Kressel
Social Sciences

David Freestone (Interim)
Cognitive Science

Jill Nocella
Nursing

Molly O'Donnell
Humanities

Joseph Spagna
Biology

Marianne Sullivan
Public Health

In addition to the live event, recorded senior thesis presentations and additional individual first year presentations are on the Honors Blackboard page. They include Fall 2020 Honors 1000 First year Research Seminars:

Music, Culture, and Community— led by Dr. Anton Visio
Modeling the Urban Environment—led by Dr. David Miller

If you need access to the Honors Blackboard page, please email honors@wpunj.edu.



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HONORS COLLEGE

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