Name: Mathew Mallory - Nexus First Floor Lobby - Section A: 9:00-10:00

Co-Authors: Evan Leider

Liam Owens

Faculty: Kees Leune

Lee Stemkoski

Division: Undergraduate

Title: Project ELM

Abstract:

We will be creating a 3D Action-Platformer video game with a third person viewpoint perspective for Windows PC. The game will be possibly in single-player and/or multi-player depending on the rate of development. It will be controlled with the mouse and keyboard. We will program scripts for the playable character(s) and intractable objects in C# within the Unity 3D game engine. We will create 3D models for characters and items using 3d modelling programs such as Sculptris, Blender, and MagicaVoxel depending on our art style/aesthetic choices.

We will implement a combat system where the player can overthrow enemies with various tactics such as a melee attack and projectile attacks. The character(s) will be able to walk and jump to navigate our 3D sculpted world. We will create music for the game by using the program Linux Multimedia Studio. In addition, we will have various sound effects for character actions such as when players jump, get damaged, lose health etc. The game will feature a start screen and a How to Play introduction.

Name: Scott Wendelken - Nexus first Floor Lobby - Section A: 9:00-10:00 A.M.

Co-Authors: Jeanenne Campbell

Faculty: Dr. Kees Leune

Division: Undergraduate

Title: Ozu!

Abstract:

Our project Ozu! is a recreation of Osu! using touch screen controls. It is a rhythm game when the player will attempt to keep up with song beats and get the best score possible. Tapping on the hit circles or completing a slider will earn the player 100 points. If the player misses a hit circle or slider, then the player will not be awarded any points. If the player misses too many hit elements, the game will end.

Name: Jack Demm - Nexus First Floor Lobby - Section A: 9:00-10:00 A.M.

Co-Authors: Natalie Sequeira, Thomas Zorn

Faculty: Dr. Kees Leune

Division: Undergraduate

Title: Organizer App for iOS Devices

Abstract:

An easy to use app made for organizing life’s daily tasks! Users can add tasks such as assignments, tests, or other events, and the app will help actively remind them when they are due. Reminders will be issued by priority, and users can check off tasks once they are complete. Users can also enter their schedule, so reminders can fit around the user’s schedule.

Name: Joseph Koehler - Nexus First Floor Lobby - Section A: 9:00-10:00 A.M.

Co-Authors: Maxwell Sirotin

Faculty: David Chays

Division: Undergraduate

Title: VR Battle Network

Abstract:

The project involves discovering how both game design and virtual reality can be used to create the next generation of video games. The goal is to utilize Unity, a game development engine, and the HTC Vive Virtual Reality Headset to create a game that adopts core gameplay mechanics from an already developed game. Mega Man Battle Network 3 was a video game released by Capcom in 2002 for the Game Boy Advance, a console developed by Nintendo. The game involves the player fighting enemies in a six by three grid based structure. Players and enemies will be able to move along evenly divided sections of the grid. The player will be able to combat enemies by shooting them and utilizing special abilities in the form of items referred to as chips. By recreating this game in a newer, virtual reality based environment, we will have met our goal and gained insight into how future games can be developed with innovations in modern technology.

Name: Harmit Minhas - Nexus First Floor Lobby - Section A: 9:00-10:00 A.M.

Co-Authors: Chenyang, Su

William, Artus

Faculty: Professor David Chays

Division: Undergraduate

Title: Predicting Stock Market Movements

Abstract:

In modern society, there is an abundance of data available to us. A lot of it is useless unless we attempt to use it to learn and improve situations to which it is relevant. With all the available data, it can be difficult to find connections and this is where machine learning can help. Machine learning is the implementation of computer algorithms combined with mathematics to help computers learn and make predictions. One specific subset of machine learning is called supervised learning. Supervised learning algorithms use data from the past, whose outcomes are known, to make predictions about future events with a given dataset. One area these types of algorithms can be applied to is the stock market, because we have all the historical information about stocks available. The information can be fed into one or more machine learning algorithms to create a model for future predictions. The model will then be used to see whether a stock will go up or down on a given day, given the movements from the previous days. This will be implemented in the form of a desktop application. To obtain the historical stock data, an open source library that has functions to retrieve data from a database will be used for specified stocks. The data will consist of open, close, high, and low prices for the different days, along with various technical indicators. The data will be received as a JSON file, so it will need to be parsed before it can be inputted into an established algorithm for training. The user will have a choice to make a prediction based on the previous 5, 10, 20, or 25-day movements. The algorithm will then say whether the stock will go up or down that current day. The effectiveness will be tested by using historical data and making predictions for days that have passed.

Name: Jason Massimino - Nexus First Floor Lobby - Section B: 10:10-11:10 A.M.

Co-Authors: Kevin Woll

Thomas Rhatigan

Faculty: Dr. Kees Leune

Division: Undergraduate

Title: Phishing Training Platform

Abstract:

The project we will be pursuing is a phishing training platform. We feel it will be an interesting opportunity to think from the other side of a phishing attack. We will have to organize a database of employees, and be able to track a score they have in regards to how often they fall for a phishing attack. We aim to develop system that will randomly generate phishing emails, as well as be able to tell how far an employee got into getting phished, (such as if the employee disclosed any information or downloaded any files).

We will likely have to host the phishing links such that they can be accessed through a web browser, which while frustrating, is doable. An admin will also be able to view analytics, push out custom emails, and edit settings based on score. The goal of this is to be able to further refine phishing training, as users with a poor 'score' can be given more emails, and those with a 'high' score could be given more deceptive emails. Every time a user fails to identify a phishing email, they will be briefed on phishing safety.

Name: Daniel Hickey - Nexus First Floor Lobby - Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Professor Saleh Aliyari

Division: Undergraduate

Title: Combinatorial games, winning and plausible strategies

Abstract:

The objective of this project is to model a few combinatorial games. All these games are two player games with no draws/ties in which the person who makes the last move wins the game.

In particular the focus of the project is to model variants of a game called Nimble and show that most such games are equivalent to the well-known game called Nim.

Some variants are completely solved and so in this project we only write the appropriate code to play them properly. We will try to expand this to other games that might not be solved. In those cases the goal is to either find a winning strategy or a “reasonable” strategy that could win the game in most cases

Name: Gerard Boniello - Nexus First Floor Lobby - Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr Lee J. Stemkoski

Division: Undergraduate

Title: Experience "The Last Victus"

Abstract:

Get absorbed in the mysterious world of Concordia. Become immersed in the story line that follows Victor on his quest to uncover the past. Battle your way to the truth.

Name: Andrew Viola - Nexus First Floor Lobby - Section B: 10:10-11:10 A.M.

Co-Authors: Thomas Murphy

Faculty: Kees Leune, Lee Stemkoski

Division: Undergraduate

Title: Gen-ED Quest

Abstract:

For our Senior project we have decided to make a video game featuring an interactive version of the Adelphi University campus and its faculty, in order to assist incoming freshmen in building their class schedules. Players will take the role of a new Adelphi student as they go about planning for their semester. Players will move about the campus interacting with various members of the schools faculty and gathering classes that not only fulfill their degree requirements but also match their own individual interests. Students are scored at the end based on how relevant the courses they chose were to their major as well as how they matched their own interests.

Name: Michael Agarenzo - Nexus First Floor Lobby - Section B: 10:10-11:10 A.M.

Co-Authors: Jai Punjwani

Faculty: Dr. Kees Leune

Division: Undergraduate

Title: CloudTooth File Transfer

Abstract:

Suppose that you have to present your final project in an hour, but you left a file on your home desktop, which has terrible internet connectivity. However, you realize that a spare Android device is sitting at home and that it is Bluetooth enabled. Can you use your current smart phone to connect to your device at home, and grab your file in a 3-way file transfer?

We are developing a 3-way file transfer system that allows users to use an Android device or any web browser to connect to an Android device at home and then use it to access files from a nearby computer via Bluetooth. Once the Android device at home receives the requested file, it will use cloud storage to send the requested file back to the user.

Name: Hankyol Cho - Nexus First Floor Lobby - Section C: 11:20-12:20 A.M.

Co-Authors: Renzhentaxi Bearde

Faculty: Dr. Kees Leune

Division: Undergraduate

Title: Phishing Training Platform

Abstract:

For this project, we are going to create a phishing simulator that mainly targets faculty members. The purpose of the project is to raise the awareness of the danger of real-life phishing attacks. Our project will include three types of phishing emails. The first category contains emails that lead the faculty members to fake websites that trick the faculty to enter sensitive information.The sites will not store any private information that it collects. Once the user submits any information to the website, they will be redirected to another website that presents them with an instructional message on how to detect fake sites in the future. The second type of phishing emails includes emails that trick the user to download malicious attachments. The attachments will be harmless to the user. They will only open a webpage that educates the user on how to detect malicious attachments. The last email type will simply trick the users to reply to the emails. Once the simulator detects the reply, it will send another email containing information on how to identify phishing emails.

The phishing simulator will grade each faculty member on how they react to the phishing emails. If the user recognizes the phishing attempt, they will gain a point, but if they don’t, they will lose a point. (EX: 1 point taken off for downloading the attachment).The simulator will keep track of scores and produce reports when requested. We’ll try to make this front ended if we have time. Tracking the email will be done using PHP(right now, probably by attaching the image and loading it with the email). Hopefully, the school will provide us with a server for hosting the fake websites.

Name: Brian Reiskin - Nexus First Floor Lobby - Section C: 11:20-12:20 A.M.

Co-Authors: Mateusz Gembarzewski

Faculty: Professor Kees Leune

Division: Undergraduate

Title: Decentralized Honey Pot

Abstract:

Our objective is to develop a honeypot network with scalability to allow for honey farm integration. Our honeypot will be built in a decentralized fashion (honeypot is on a separate network), where if a firewall detects a possible threat, the threat actor will be placed into a honeypot. Our honeypot will be a high interaction honeypot.

Our display is going to have the dashboard that shows all the analytics and actionable data, as well as the honeynet topology and diagrams to get an idea of the structure of our system.

Name: Rebecca Gotterbarn - Nexus First Floor Lobby - Section C: 11:20-12:20 A.M.

Co-Authors: Nicolas Gomez

Faculty: Professor Kees Leune

Division: Undergraduate

Title: HoneyPot Network Development

Abstract:

During this project, we will work towards developing a functioning honeypot network using existing Adelphi network infrastructure. A honeynet is a collection of honeypots, nonproduction systems that are sequestered from the main organizational network and exist only for information security purposes. Any interaction with these honeypots is therefore presumed to be malicious and unauthorized. The purpose of a honeypot network is primarily data collection by observing potential attacker’s activity within your honeypot network.

In our development process, we will research various forms of honeypots, develop a clear understanding for how they will be able to aid us in the detection, analysis, and research of attacker activity, and attempt to mitigate these risks with defensive security practices. We hope to configure a central management server that can deploy virtual honeypots with varying levels of interaction, and that are compatible with multiple operating systems. We aim to use these honeypots for both education and production.

Name: Paul Maurantonio - Nexus First Floor Lobby - Section C: 11:20-12:20 A.M.

Co-Authors:

Faculty: Professor Sung Kim

Division: Undergraduate

Title: Friends Fight Foes

Abstract:

I am in the process of making a four player, 2D, 8bit style, platformer videogame made with Construct 2 containing multiple characters and levels. It is something that I've wanted to do for a while and I am learning a lot about Construct 2 and my capabilities as a creator through this project.

Name: Marlee Fleisher - PAC Auditorium - Olmstead Theater - Section C: 11:20-12:20 A.M.

Co-Authors: Performers: Kennady Brim, Yu-Chieh Kao, Carley Lund, Alyssa Manginaro, Emma Saunders, Haley Schmich and Jared Stern

Faculty: Professor Orion Duckstein

Division: Undergraduate

Title: temnein//the separation of parts

Abstract:

The choreographic work, "temnein//the separation of parts," is inspired by "The Anatomy Lesson of Dr. Nicolaes Tulp," by Rembrandt van Rijn. The music, movement, structure, costuming and lighting of the piece are influenced by the tone and contents of the painting. These elements combine to create an abstract and new interpretation of the artwork. Similar to the painting, the choreography examines the entirety of the human body. Using somatic movement research techniques (working through various systems of the body: Skeletal, Muscular, Circulatory, Nervous and Integumentary), movement initiation studies, and by employing gestures from the painting, the piece explores the seen and unseen elements of the human form.

Name: Joy Douglas - PAC Auditorium - Olmstead Theater - Section C: 11:20-12:20 A.M.

Co-Authors: (Performers: Ann Francis Ang, Pamyla Cummings, Hannah Franz, Kayla Jenkins, Taro Jones, Catrina Kubek, Madeline Kuhlke, Caitlin McCloskey-Meyer, Kelsey Sargent, and Charles Siguenza.

Rehearsal assistants: Naiara Bermudez and Erik Debono)

Faculty: Orion Duckstein and Adelheid B. Strelick

Division: Undergraduate

Title: Excerpts from Sisu

Abstract:

This research project utilizes contemporary movement exploration to highlight the concept of “other” in relation to the heteronormative practices that the current U.S. society is based upon. This is a study that examines the implications of being seen as different in terms of sexuality, race, and mental health.

The purpose of this project is to create a full length work that is to be performed as part of J. Douglas’ capstone for the Dance BFA program. Previous versions of this work were shown as the capstone for the Levermore Global Scholars program in December as well. However, any work shown on Research Day would be excerpts from the full length work.

This research has been conducted through independent movement investigation along with outside sources brought into the research area to be implemented on other bodies. Sources include but are not limited to the artwork from Josef Albers, Yayoi Kusama, Ryan Peltier; works of literature from Neil Gaiman, Nikita Gill, Rumi; and public speaker Les Brown. It became clear early on that this was an endeavor where the topic becomes abstract through the lens of the observer.

In addition to the foundation of this work, more questions came up as it was first shared with the Levermore Global Scholars program and additional audience members. They began to provide feedback which called for further development of additional material for the final version. The question that is being used for research day is: Does art need to be understood to be valued? The additional material created from this new research will be presented in a dance performance.

Name: Laura Jacobsen - Nexus First Floor Lobby – B41 – Section B: 10:10-11:10 A.M.

Co-Authors: Christina DeBlasio, Lynne Hundhammer, Panayotis Agelarakis

Faculty: Professor Anagnostis Agelarakis

Division: Undergraduate

Title: Preliminary Analyses of the Population of the Krousonas Tholos Tomb: Reflections on the Human Condition in Late Bronze Age Crete

Abstract:

This poster presents the bioarchaeological assessment of human skeletal remains excavated from the Krousonas tholos-tomb, located in the endoplains of Herakleion prefecture in northern Crete, Greece. Remains date to the Late Minoan IIIC period (1200-1100 BCE), a time period at the end of Bronze Age in the Eastern Mediterranean, characterized by warfare and piracy infested sea routes. Inhabitants of the peri-coastal plains of Crete often moved to elevational areas that offered natural protection. Mortuary activities and funerary locations reflect this self-preservational movement, as individuals selected camouflaged areas to serve as their families’ final resting places. Exceptions to these phenomena include the tholos-tombs of the period that belonged to princely families, often protected by adequate military contingents, or tholos-tombs belonging to important war-lords of Late Minoan Crete. Subsequent to the archaeological recovery of the anthropological remains, based on the approaches of Bioarchaeology and Forensic Anthropology, osteological research evaluated anthropological remains derived from seventeen stratigraphically relevant intra-tomb contextual associations. The remains were comingled and fragmented, posing challenges to definitive skeletal analysis. Therefore, research questions relative to forensic identification and allocation of skeletal fragments to parent skeletons were based on a “Minimum Number of Individuals” (MNI) approach and methodological implementation, with a focus on morpho-anatomic variability, paleopathology, and overlap of cranio-infracranial loci. The primary unit in skeletal analysis was the individual dental or bone fragment. An MNI of 10 individuals was yielded based on the distal left humeral diaphyses. It was possible to determine aspects of the human condition of the population sample involved on matters of demographic dynamics, epigenetic variability, dietary intake and ante mortem occupational traces in the skeletal record.

Name: Emily Farrell - Nexus First Floor Lobby – B39 – Section B: 10:10-11:10 A.M.

Co-Authors: Kristie Siegel

Faculty: Professor Kathryn E. Krasinski

Professor Brian T. Wygal

Division: Undergraduate

Title: Ice Age Archaeology and the Paleo Diet of the First Alaskans

Abstract:

Kristie Siegel

Emily Farrell

Prof. Kathryn E. Krasinski

Prof. Brian T. Wygal

2/20/2018

Adelphi University Research Day Abstract

Ice Age Archaeology and the Paleo Diet of the First Alaskans

The saying, “you are what you eat” may seem to be just an ordinary phrase, but when it comes to reconstructing the lives of our ancestors, analyzing paleo diets and the utilization of resources is essential to understanding the evolution and adaptation of our species to various environments. These changes can be aptly demonstrated at Holzman South, a Pleistocene (ice age) site in the Tanana Valley, Big Delta, Alaska, in which ancient food remains of the first Americans are preserved. Results of our analysis show most of these remnants are fragmentary animal bones from large mammals. While most bones lack burn marks, or evidence of cooking, the presence of scratches on the bone’s surface are essential to note. Such markings could indicate scraping of the bone surface by stone tools, and in the case of teeth, wear patterns may indicate a plant based diet versus a meat based diet. Additionally, we hope to begin conducting refit analysis on these larger marked bones, thus providing evidence of where and how these bones were broken, as well as movements and use of space at the individual level. The synthesis of all these elements will further progress our understanding of the paleo diet of the first Alaskans during a time in which many of the ice age mammal species were going extinct.

Name: Kimberly Campuzano - Nexus First Floor Lobby – B38 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Professor Kathryn Krasinski

Division: Undergraduate

Title: Medicinal Plant Use in Ecuadorian Immigrants to New York City

Abstract:

One often responds to illnesses by visiting their doctor after which they are often prescribed medicine from a pharmacy. This is particularly true in Western societies such as the United States. Before these changes took place, however, societies primarily relied on traditional ecological knowledge, especially of plants, for medicine. The tradition of using medicinal plants is not, however, in the past. On the contrary, there are many cultures who continue to use medicinal plants to heal including in Ecuador. To understand how Ecuadorian immigrants to New York City use traditional knowledge of medicinal plants, I developed a proposal approved by Adelphi University’s Institutional Review Board after conducting a literature review. Ethnographic research involving interviews with Ecuadorian immigrants in New York City was a crucial component in this project, as it provides insight into the unique experiences of each individual. One participant seldom makes visits to the doctor and explains how plants such as manzanilla have helped her with stomach pains and other ailments. She has been able to share her knowledge among her children and grandchildren through frequent conversations and demonstrations of how to prepare teas with various plants. Her experiences along with others will illustrate how Ecuadorian immigrants have adapted to the urban setting of New York City by maintaining Ecuadorian medicinal practices.

Name: Christina DeBlasio - Nexus First Floor Lobby – B40 – Section B: 10:10-11:10 A.M.

Co-Authors: Julio RuizDiaz

Faculty: Professor Brian Wygal

Professor Kathryn Krasinski

Division: Undergraduate

Title: Prehistoric stone technology at the Holzman archaeological site in interior, Alaska

Abstract:

At the end of the last ice age woolly mammoths and many other megafauna taxa including bison, horses, and camels went extinct with the first appearance and spread of Homo sapiens across the Americas. To understand how the first Americans culturally adapted to unfamiliar and new places, we investigated the stone tool technology of the recently discovered Holzman South site. Located along Shaw Creek in the Tanana Valley, Big Delta, Alaska, the site dates around 13,000 calbp at the end of the Pleistocene (ice age). The site yielded numerous stone tools and animal remains, including those of woolly mammoth. We analyzed the lithic technology (stone tools) for attributes of manufacturing, platform type, size, weight and raw materials to reconstruct subsistence activities of the first Americans. The reliance on lower quality locally available materials such as basalt and quartz shows that these inhabitants had not yet accumulated specific landscape knowledge of high quality raw materials. The majority of the lithics analyzed reflect flint-knapping activities while the presence of scrapers, flake tools, and projectile points show hide processing and meat preparation also occurred at Holzman South. The results of this research are critical to understanding the attributes of resilient cultures which survive such dramatic environmental changes. They provide applicable information for how humanity might be able to respond to the ongoing sixth extinction which will result in significant losses of food and medicinal resources.

Name: Melissa Beresoff - Nexus First Floor Lobby – A52 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Dale Flashner

Division: Undergraduate

Title: Her Place, Her Choice

Abstract:

Through out history women have been told where their place. She is told she needs to be in the home taking care of her family, cooking and cleaning. But, through out history women have also been fighting this stereotype. They have taken up jobs and fought for their rights. “Her Place, Her Choice” explores women being strong, independent and making their own choices about their own life. Showing woman should be treated as an equal and should there fore be given equal right to make a decision as to where her place is. ”Her Place, Her Choice” shows that if a woman wants to leave her home and become a doctor, lawyer, or nurse; that is her decision to make. But, If she wants to stay home and take care of her family that is also her choice to make.

Name: Megan Winters - Nexus First Floor Lobby – A53 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Dale Flashner

Division: Undergraduate

Title: Strength Has No Gender

Abstract:

In 2016, women only made up about 11 percent of employees that worked in the construction industry. Women can do any job that they want to do and your job shouldn’t be decided on what gender you are. Just because they are women doesn’t mean they can’t handle a job that requires a lot of work and strength. Women can be just as strong and successful in the construction industry as men are. In my postage stamp I wanted to show a woman in action performing a job that she can do just as efficient as a man would do. I wanted to prove that strength really has no gender and what we choose to do with our lives and how we make a living shouldn’t be affected by our gender.

Name: Victoria Macchia - Nexus First Floor Lobby – A54 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dale Flashner

Division: Undergraduate

Title: Boys Will Be Boys

Abstract:

For my project, I have created a series of postage stamps exploring the theme of gender inequality, specifically I’ve focused my research of society’s gender roles and their influence on males in the community. Gender roles project a specific image onto males, which in reality is not the reality of anyone. We’re all unique in our own way, by using a stereotypical saying ‘boys will be boys’ I’ll be showing a variety of guys and how society’s role doesn’t fit.

Name: Chrissie Moten - Nexus First Floor Lobby – A55 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Dale Flashner

Division: Undergraduate

Title: Level The Paying Field

Abstract:

I created my postage stamp to help promote and raise awareness for gender inequality. I wanted to touch on job inequality, making aware that fifty-four years later women still face a substantial gender wage gap across the spectrum. Women working full time use to earn on average seventy-nine cents for every dollar a man earned. By using original photography of a seesaw, I was able to illustrate the inequality of the gender wage gap. Women are starting to move up in the business world and while research estimates that it will not be reached until 2059, slight progress has been made towards pay equality. But we are still fighting to be seen as equal to men.

Name: Valerie Buonaiuto - Nexus First Floor Lobby – A56 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Dale Flashner

Division: Undergraduate

Title: End Gender Pricing

Abstract:

For the 2018 research conference I researched gender discrimination and found that one of the problems our society faces is discriminatory pricing based on gender. Personal care products were one of the biggest offenders, but pricing gaps can be found almost every where from toys to the dry cleaners. If there was no pricing gap, the “male” product contained more product for the same price. For my postage stamp I decide to highlight this unfair gender pricing by depicting the difference between male and female razors on the stamp. Using original photography, I show that male and female razors, which are essentially the same, are priced based on the assumed gender that is purchasing the product. I hope that by calling attention to this problem on a postage stamp, I will be able to raise awareness of this unfair disparity and change this problem in favor of equality. Women should not pay more for the same products as their male counterparts.

Name: Katelin Smith - Nexus First Floor Lobby – A58 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Dale Flashner

Division: Undergraduate

Title: Stronger Together

Abstract:

The postage stamp I have created aims to promote the fight against gender inequality, namely the way in which women have joined together to fight. Throughout the past few months the strength women possess in numbers has been in the forefront of the nation’s view. In banding together it has shown the power and force women possess in fighting for rights and changes. I wanted to depict the strength women across the nation hold when coming together regardless of what their background may be. I used original photography in an attempt to show the revolution forming around women’s fight against gender inequality and the way in which this revolution has been bringing women together as a united whole. Despite the challenges women have faced throughout the past few months their strength has also been highlighted more than ever and this is what I wanted to represent in my postage stamp.

Name: Carolina Restrepo - Nexus First Floor Lobby – A51 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dale Flashner

Division: Undergraduate

Title: Accept Me

Abstract:

Accept Me

Gender discrimination is one of the topics that we all face everyday. For my forever stamp I wanted to focus on all genders and not just one because we are all facing gender discrimination. Within my research, I found the paper brown bag test that was used to separate African Americans by their skin complexion. I felt that both of these topics influenced each other. That being said I wanted to combine the two topics. It helps to illustrate that each individual is able to overcome the stereotypes that they face for having a different skin color and gender. As a society we should all accept each other no matter the difference that there is.

Name: Lillian Hernandez - Nexus First Floor Lobby – A57 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dale Flashner

Division: Undergraduate

Title: Show Her It’s Everyone’s World

Abstract:

In doing my research I came across propaganda from the 1950’s and was disgusted by the sexist notions of the time. Women were seen as property and degraded, which inspired me to create a postage stamp promoting gender equality by flipping these ideals. I used the 1950’s aesthetic in my own original photography, while focusing on more modern ideals to put my own spin on the ads I found. My intention is to uplift and support all genders by shutting down out of date gender stereotypes.

Name: Lisa Romano – Nexus First Floor Lobby – A50 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Dale Flashner

Division: Undergraduate

Title: Combat Inequality

Abstract:

The question of how women should serve in America’s military has been debated over since World War I. Recently, women’s involvement has been expanding more than ever. In 2005, the first woman was awarded a silver star for direct combat with an enemy. Rules such as the “risk rule” have been lifted. These rules stated that women were “banned” from direct combat and were not allowed to fight on the front lines with direct enemy combat.

I’ve created a Forever USA stamp to celebrate and promote women serving in the military today, who are in direct combat and are receiving awards for their service, and by doing so blurring the lines and combating inequality on the battlefield.

Name: Angela Jing – Nexus First Floor Lobby – C1 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Argie Agelarakis

Division: Undergraduate

Title: The Analysis and Identification of Human Dentition through an Artistic Perspective

Abstract:

This presentation will be the result of research into the history of scientific and medical illustration and how it is still valuable today, that art can be combined with science to enhance learning. In drawing human anatomy or biological processes, the right hemisphere of the brain is stimulated. This side controls imagery, music, poetry, and creativity; while the left hemisphere controls language. Drawing enables attentiveness to the visual details that our brains usually skip over. The goal of this independent study was to analyze human dentition by drawing, rather than simply reading and studying them. These detailed illustrations of each individual tooth from several aspects will also be displayed in this presentation. Through the process of illustration, a better understanding of each tooth, its shape, size, and placement within the mandible and maxilla were better understood.

Name: Abinash Kaur - Nexus First Floor Lobby – A32 – Section A: 9:00-10:00 A.M.

Co-Authors: Juliana Gonzalez, Vital Sapojnikov

Faculty: Dr. Brian J. Stockman

Division: Undergraduate

Title: Counter Screens to Validate Inhibitors of Adenosine/Guanosine Nucleoside Ribohydrolase (AGNH) Enzyme in Trichomonas vaginalis

Abstract:

The adenosine/guanosine nucleoside ribohydrolase (AGNH) enzyme has been identified as a distinct, druggable target for the infectious parasite Trichomonas vaginalis. Inhibition of AGNH prevents the production of free purine nucleobases necessary for the parasite’s survival. Previously for treatment, a class of 5-nitroimidazole drug treatments were used, however, unacceptably high and common repeat infections indicate increased resistance to the treatments. Therefore, fragment screening of 2000 compound from AstraZeneca’s library was conducted by looking for a potential drug candidate with high-affinity and high potency to construct an inhibitor for AGNH. 78 fragments exhibited inhibition against the enzyme and 36 of the fragments clustered into one of 9 classes based on structure. A representative subset of these structural classes were subjected to 3 independent counter screens: increased substrate, jump dilution assay, and addition of Triton X-100. These counter screens validate that the inhibitors are not pan assay interference compounds (PAINS), colloidal aggregators, or irreversible inhibitors. Potent inhibitors that have been validated by the counter screens will provide the chemical starting points for this next step in the drug discovery process.

Name: Madison Canestrari - Nexus First Floor Lobby – A34 – Section A: 9:00-10:00 A.M.

Co-Authors: Maham Mahmood, Samantha Thuilot

Faculty: Dr. Brian J. Stockman

Division: Undergraduate

Title: The validation of AGNH and UNH pathways as antitrichomonal targets through in vitro characterization using NMR-based activity assays.

Abstract:

Trichomoniasis, the most prevalent, non-viral sexually transmitted infection in the world, is caused by the parasitic protozoan Trichomonas vaginalis. Studies have indicated an association between T. vaginalis and various other health problems such as chlamydia, gonorrhea, and syphilis. The parasite has shown increasing resistance to the current treatment of 5-nitroimidazole drugs such as metronidazole. T. vaginalis is incapable of de novo synthesis of purine and pyrimidine rings, so it must rely on salvage pathway enzymes, such as adenosine/guanosine preferring nucleoside ribohydrolase (AGNH) and pyrimidine preferring uridine ribohydrolase (UNH), to scavenge nucleobases.

The goal of this research is to validate AGNH and UNH as antitrichomonal targets by demonstrating a correlation between enzyme inhibition and antitrichomonal activity in the parasite. As the first step towards achieving this goal, Escherichia coli cells with endogenous ribohydrolase gene expression of rihA (ybeK), rihB (yieK) and rihC (yaaF) are being used as a surrogate to develop protocols for observing in vitro enzyme activity. Thus far, background signals of cell contents and enzyme activity have been observed in NMR spectra and data has shown that ribohydrolase activity is present in the cells rather than in the media. Future studies will include testing potent inhibitors in E. coli cells to serve as a model for cell penetration. Detecting in vitro enzyme inhibition would be indicative of cell penetration. Ultimately, the lessons learned in our methods and development will be translated to metronidazole-sensitive and metronidazole-resistant strains of T. vaginalis cells.

Name: Julia Persaud - Nexus First Floor Lobby – A35 – Section A: 9:00-10:00 A.M.

Co-Authors: Shannon Auletta

Wagma Caravan

Faculty: Brian J. Stockman

David W. Parkin

Division: Undergraduate

Title: Identification and Screening of Fragments Inhibitors of Uridine Nucleoside Hydrolase in Trichomonas vaginalis

Abstract:

Trichomoniasis is the most common non-viral sexually transmitted infections that infects an estimated 276 million people worldwide. Trichomoniasis is caused by Trichomonas vaginalis, a flagellated parasitic protozoan. Those infected are more susceptible to cervicitis, urethritis, bacterial vaginosis, cervical cancer and HIV. Current metronidazole and tinidazole treatments are becoming ineffective to prevailing cases due to the developing resistance in T. vaginalis. For this reason, the advancement of improved treatments with novel mechanisms is crucial. T. vaginalis is incapable of de novo biosynthesis for purine nucleoside bases, and therefore host nucleoside hydrolases must scavenge these bases. Since mammals lack these enzymes, they are excellent targets for novel therapeutics. The purpose of this research is to identify specific scaffold structures with optimal inhibition using 19F NMR spectroscopy. A fragment library of 1,963 fragments provided by AstraZeneca was screened to identify inhibitors of uridine nucleoside hydrolase. Acetamides, cyclic ureas, pyrrolidines, and pyridines demonstrated high inhibition. A total of 11 fragment-based scaffolds with low IC50 values (~10 µM) were identified as potential starting points for chemical design of new medication against the target enzyme. A collection of compounds selected based on their similarity to the most potent scaffolds are now being analyzed to delineate the exquisite molecular complementarity.

Name: Navindra David - Nexus First Floor Lobby – A38 – Section A: 9:00-10:00 A.M.

Co-Authors: Kirandeep Kaur

Faculty: Dr. Ivan D. Hyatt

Division: Undergraduate

Title: Synthesis of Asymmetrical Cycloheptatrienylidene Fluorophores

Abstract:

The goal of this project is to synthesize asymmetrical cycloheptatrienylidene fluorophores and to react them with a metal to monitor the aggregation induced emission. Previous attempts of synthesizing the cycloheptatrienylidene fluorophores were done intermolecularly but have not yet been successful. Current efforts involve synthesizing a molecule using Catellani reaction that will undergo an intramolecular reaction to obtain the desired ring motif. The product of the Catellani reaction is a palladium catalyzed reaction that intramolecularly reacts to form the precursor to the fluorophore. Once synthesized, the fluorophore will be reacted with various metals to monitor the effects of aggregation induced emission. It is predicted that aromatization of the cycloheptatrienylidene will cause aggregation and turn on the light emitting fluorescence as the molecule undergoes a restriction of intramolecular rotation. The long-term goal of this project will be to produce molecules that aggregate and emit light by fluorescence after coming into contact with metals commonly found inside the body, possibly helping to target malignancies.

Name: Rochile Khan - Nexus First Floor Lobby – A37 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Justyna Widera-Kalinowska

Division: Undergraduate

Title: Development of a novel biosensor for catechol using poly-indole and poly-indole-5-carboxylic acid films with modifications of tyrosinase and gold nanoparticles

Abstract:

Water quality is a global issue, which requires immediate attention. Catechol is a neurotoxic diphenol found as an impurity in water, often through the production of pesticides or fragrances. To detect catechol in water samples, a biosensor needs to be developed. Previous work has shown the effectiveness of using electroactive films in developing a biosensors. This project sought to measure the response of polymer films, specifically made from indole or indole-5-carboxylic acid, to different concentrations of catechol. These films were compared against the response of a bare glassy carbon electrode. Additional modifications to these polymer films with enzyme were studied to improve the detection limit. Tyrosinase oxidizes catechol to o-quinone. When added to the polymer film, this reaction occurs on the surface of the electrode and appears as a reduction current. Gold nanoparticles were also added to the polymer layer since they increase amperometric response due to the faster electron transfer. The data collected contributes to the development of a stable biosensor for the environmental monitoring of catechol, which will improve the health of people worldwide.

Name: Hanan Kabir - Nexus First Floor Lobby – A33 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Melissa Vanalstine - Parris

Division: Undergraduate

Title: Synthesis of 2,5,6-substituted benzimidazole derivatives for testing their inhibition on UNH

Abstract:

Trichomoniasis is a common sexually transmitted disease caused by the parasitic protozoan Trichomonas vaginalis. Trichomoniasis is typically treated with 5-nitroimidazole drugs such as metronidazole but the parasite has developed resistant strains against this drug and related drugs. T. vaginalis is unable to synthesize purine and pyrimidine rings that are required for replication and requires the enzyme uridine nucleoside ribohydrolase (UNH) to survive. Previous research reported that omeprazole, pantoprazole and rabeprazole inhibit UNH with micromolar IC50 values. One similarity between the structures of these inhibitors is the benzimidazole backbone, which provides the basis for novel anti-parasitic agents. The goal of this research is to synthesize several benzimidazole compounds and to test for their inhibitory effect on the enzyme UNH. Starting from commercially available diaminobenzenes, a series of benzimidazole derivatives were synthesized based on literature procedure. Using the Philips cyclocondensation, a variety of 4,5-disubstituted diaminobenzenes were reacted with commercially available carboxylic acids to form the benzimidazole core. These compounds were further modified with reactions such as methylation and oxidation. 4,5-disubstituted diaminobenzenes were reacted with methyl 2,2-dichloro-2-methoxyacetates to produce a benzimidazole ester in one step. The compounds were purified by column chromatography and were analyzed using NMR. The purified compounds were sent to Dr. Brian Stockman to test for their inhibitory effect on UNH and to report their IC50 values. Future work will involve the synthesis and testing of more benzimidazole derivatives that have substituents on carbon #2, 5 and 6.

Name: Jasleen Singh - Nexus First Floor Lobby – A4 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Assistant Professor Eugenia Villa-Cuesta

Division: Graduate

Title: Rapamycin's Effect on Glutamate Dehydrogenase mutants in Drosophila melanogaster

Abstract:

The Drosophila melanogaster is a model organism that is used to study the regulation of metabolism within the mitochondria. Among the several enzymes that regulate mitochondrial metabolism, it has been argued that organisms that maintain high protein diet use enzymes such as glutamate dehydrogenase. Glutamate dehydrogenase connects catabolic and anabolic processes in amino acid metabolism in all living organisms. It is known that amino acids control mechanistic target of rapamycin (mTOR). mTOR is a highly conserved protein that regulates growth and cell metabolism in response to nutrients and energy levels. The most established mTOR inhibitor is called rapamycin. Rapamycin is an immunosuppressant drug that is known to extend longevity in many organism, including the fly D. melanogaster. The significant and beneficial effects of rapamycin lie in its ability to improve mitochondrial performance (Villa Cuesta et al. 2014). However, it is unknown whether glutamate dehydrogenase is required for rapamycin beneficial effects. Thus, this study will explore the relationship between rapamycin and glutamate dehydrogenase, using D. melanogaster.

Name: Rebecca Ortega - Nexus First Floor Lobby – A36 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Andrea Ward

Division: Undergraduate

Title: Force production of Monopterus albus

Abstract:

Many fish are able to make terrestrial excursions and even breath and survive on land for short periods of time due to structures such as lungs, fins, and the axial skeleton. Axial elongation is a trait that influences locomotor behavior. Elongate fish species move on land using push points; they apply force with different regions of their bodies against the surfaces they come into contact with in order to move forward. We examined this locomotor behavior, introducing Monopterus albus to a peg array constructed of a series of vertical substrates that served as push points. Force production of Monopterus albus was quantitatively collected through the use of a peg array connected to force transducers. This study will allow us to examine the effect of body elongation on force production of Monopterus albus to make forward propulsion.

Name: Mankiran Kaur - Nexus First Floor Lobby – A19– Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Alexander Heyl

Division: Undergraduate

Title: Development of an Assay to Determine the Properties of Plant Hormone Receptors

Abstract:

Cytokinins are a type of plant growth regulators that have a critical role in plant development processes such as cell division, nutrient uptake, leaf senescence, and root growth. Cytokinins use a two component system for signal transduction. This type of signaling system is widely used in bacteria. The two component system consists of a receptor and a response regulator. Plants use a more complex system version of this signaling pathway, consisting of hybrid histidine kinases, phosphotransfer proteins, and response regulators. Cytokinin hormone binds to the receptor, which upon binding auto-phosphorylates which then activates downstream components of the pathway. In order to understand the evolution of this pathway, it is crucial to characterize the cytokinin receptors for many species. My research will focus on the cytokinin receptor ligand binding domain (CHASE). A test system will be created to produce a complementation assay in yeast to evaluate the ligand binding domain of different receptors.

Name: Irene Bertos - Nexus First Floor Lobby – A11 – Section A: 9:00-10:00 A.M.

Co-Authors: Marina Klappas, Kristina Kerolus, Sophia Chen

Faculty: Matthias Foellmer

Division: Undergraduate

Title: Does enhanced Batesian mimicry affect the predation of lady bugs by green tree frogs?

Abstract:

Aposematism is a warning coloration based on the ability of prey to indicate their unprofitably to potential predators. In many environments, color is a good indicator of the potential dangers present to other organisms. A specific invasive species, the Asian Lady Beetle, Harmonia axiridis, was originally introduced in many countries as a pest control agent. This organism displays a bright orange color which warns predators about its toxic nature as compared to the ordinary ladybug, Coccinellidae. A common predator of this ladybug is the Green Tree Frog, Hyla cinerea, which visually detects its prey. Its ability to detect Batesian mimicry will be analyzed by painting the ordinary ladybugs orange to mimic the toxic Asian Lady Beetle. From this, it is expected that the Green Tree Frog will tend to prey on the ordinary ladybug more frequently and a higher survivability of the Coccinellidae species.

Name: Michael Del Latto - Nexus First Floor Lobby – A2 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Aaren Freeman

Division: Graduate

Title: Predation Analysis of Native and Invasive Intertidal Crab Species of Long Island

Abstract:

Maintenance and management of marine ecological systems is an extremely important task. Figures by the National Ocean Service of the U.S. Department of Commerce estimate that in 2014 the US ocean economy contributed over $350 billion to the U.S. Gross Domestic Product (GDP) and maintained over 3 million jobs. One of the organisms that is an important part of this resource is the Atlantic Blue Crab, Callinectes sapidus. Across sections of the East coast of the North America, geographic distribution of C. sapidus overlaps with that of two invasive crab species – the European Green Crab, Carcinus maenas and the Asian Shore Crab, Hemigrapsus sanguineus. This experimental research examines the predatory interactions between these three crab species within the context of how their population distributions may be affected now and in the future.

Name: Joanna Gavras - Nexus First Floor Lobby – A16 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Michael D'Emic

Division: Undergraduate

Title: Tooth formation and replacement rates in the carnivorous dinosaur Majungasaurus

Abstract:

Dinosaurs are a diverse group of reptiles that are polyphyodont, replacing their teeth throughout their lives, unlike mammals, which are diphyodont. The rates at which an animal’s teeth grow and replace sheds light on their ecology. This study aims to estimate tooth formation rates of the carnivorous dinosaur Majungasaurus that lived in Madagascar around 72 to 66 million years ago during the Cretaceous Period. Estimation of tooth replacement rates for this dinosaur were completed by counting the daily-deposited incremental lines of von Ebner in teeth of Majungasaurus. Thin sections created for 13 teeth in addition to previously made sections were imaged at high magnification allowing incremental lines to be counted. Preliminary data have shown that a typical Majungasaurus tooth took approximately 175 days to form, and each tooth was replaced in under two months. Compared to other carnivorous dinosaurs, Majungasaurus replaced their teeth more often, suggesting that their teeth were not as durable or they consumed harder or more abrasive food. Majungasaurus is the only known cannibalistic dinosaur, and its tooth marks have been found on many of the bones of its conspecifics and contemporaries, suggesting that their elevated tooth replacement rates may have evolved in response to osteophagous behavior.

Name: Orvil Grunmeier – Nexus First Floor Lobby – A3 – Section A: 9:00-10:00 A.M.

Co-Authors: Kentaro Kolbert

Thomas Pascucci

Adrian Flores

Faculty: Matthias Foellmer

Division: Graduate

Title: The effect of iterative competitive events in Asian shore crabs (Hemigrapsus sanguineus)

Abstract:

Asian shore crabs (Hemigrapsus sanguineus) are an invasive species that are ubiquitous to Long Island beaches. Their abundance means that intraspecific competitive events are likely to occur multiple times within an individual’s lifetime. The goal of this study is to determine the outcome of initial competitive events and investigate their effect on subsequent contest outcomes. It was hypothesized that winning an encounter will increase the likelihood of winning subsequent encounters. Hemigrapsus sanguineus has endangered local crab populations, such as the Atlantic blue crab (Callinectes sapidus), which are vital to the crabbing industry on Long Island. Therefore, understanding how the aggressiveness of H. sanguineus impacts their fitness and ability to outcompete Atlantic blue crabs for limited resources could help efforts to limit the damaging effects of this invasive species.

Name: Cindy Lam - Nexus First Floor Lobby – A21 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Carolyn Bauer

Division: Undergraduate

Title: The impact of postnatal maternal stress on offspring play behavior in a precocial rodent

Abstract:

Recently, there has been increasing interest on aspects of offspring play behavior in many species. Defined as a range of voluntary and spontaneous actions, play is typically associated with recreational pleasure and enjoyment. However, an increasing number of studies have shown an important correlation between offspring play and development of social behavior. In addition, offspring play behavior may be influenced by several underlying factors, including maternal care and stress. The primary objective of our study was to observe impacts of postnatal maternal stress on offspring play in the Common Degu (Octodon degus), a precocial rodent. Play behaviors were observed from video recordings of a previous study that manipulated postnatal maternal stress, and we examined nine litters from stressed mothers and six litters from unstressed mothers. Video recordings were analyzed in random order and the observer was blind to maternal treatment. Preliminary data indicate that offspring social play behavior peaks at 2 to 3 weeks of age, but there is high variance in total play behavior across litters. Results will be discussed after complete analysis. Through these data, we hope to determine whether maternal stress significantly impacts offspring play behavior, which can further inform studies examining the quality of postnatal environments.

Name: Elizabeth Buccheri - Nexus First Floor Lobby – A12 – Section A: 9:00-10:00 A.M.

Co-Authors: Yostena Farag, Quan Ngo, Shavianne Malcolm

Faculty: Professor Matthias Foellmer

Division: Undergraduate

Title: The effects of temperature on male mating signals and female mate choice in Acheta domesticus and Gryllodes sigillatus

Abstract:

In many insect species, mating and overall function are dependent on temperature. With climate change altering air temperatures to drastic extents, it is important to evaluate how certain insects will react to changes in temperature and more specifically, how mating mechanisms will be impacted as a result of these external influences. House crickets, Acheta domesticus, and banded crickets, Gryllodes sigillatus are two of the many insects that initiate their mating rituals using vocalization. The frequency of these types of vocalizations is known to be affected by the size of the male, the presence of light and the temperature of the environment around them. While considerable research has been done to further examine the effects of temperature on the mating signals of male crickets, less has been studied considering the female mate choice as a result of this variation in mating signal and how these choices vary between species. Therefore, in this experiment, female mate choice was evaluated in two different species of crickets based on temperature fluctuations and consequential changes in male mating signals.

Name: Orvil Grunmeier - Nexus First Floor Lobby – A1 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Michael D'Emic

Division: Graduate

Title: Scaling of statically-formed osteocyte lacunae

Abstract:

Osteocytes are mature bone-forming cells that develop in two different ways, statically or dynamically. Both static and dynamic osteocytes occupy small chambers within bone called lacunae. These lacunae are often well preserved in fossil bone and provide an opportunity to answer biological questions about extinct animals. Lacunar volume is strongly related to osteocyte volume, and so lacunae are effective proxies for osteocytes. D’Emic and Benson (2013) investigated scaling relationships between lacunae volume from dynamically formed osteocyte lacunae of extant bird species with body mass, growth rate, metabolic rate, genome size, and red blood cell size. There were significant relationships with body mass, metabolic rate, and genome size, with the latter being the strongest. The goal of this study is to sample from the same dataset, but to sample the statically formed osteocyte lacunae. We hypothesize that the relationships with body size and genome size will be stronger and that the relationship with metabolic rate will be weaker. This would allow for more accurate reconstruction of genome size in extinct birds.

Name: Vashtidevi Mahadeo - Nexus First Floor Lobby – A5 – Section A: 9:00-10:00 A.M.

Co-Authors: Laura Fallon

Aaron Lee

Alisha Matharu

Faculty: Matthias Foellmer

Division: Graduate

Title: Foraging behavior of green lacewing larvae on aphids in the presence of predatory ants

Abstract:

The green lacewing larvae, whose predator includes ants, are a commonly used biological control agent against aphids. Their ability to be effective predators may be altered in the presence of predatory ants, which share a mutualistic relationship with the aphid prey. This experiment will test the lacewings foraging behavior in the presence of ants. We manipulate the number of predators present and measure the number of aphids eaten in a given amount of time. We hypothesize that the foraging behavior will be altered in the presence of the predator.

Name: Amanda Iacometta - Nexus First Floor Lobby – A17– Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Eugenia Villa-Cuesta

Division: Undergraduate

Title: The Metabolic Effect of Rapamycin on Drosophila melanogaster Mutants of Glutamate Dehydrogenase

Abstract:

Mammalian Target of Rapamycin (mTOR) is a nutrient sensing pathway functioning as the master regulator of a cell. This pathway recognizes the presence of nutrients and promotes cell growth and aging, making it necessary for survival. While excessive caloric intake can result in age-related diseases, a depletion in nutrients without malnutrition has been shown to prolong longevity by reducing mTOR activity and impeding on the aging process. Rapamycin is a selective drug that is able to mimic these effects of dietary restriction on organisms by suppressing the functions of mTOR. This study involved the administration of rapamycin treatment on a Drosophila melanogaster strain that is deficient in glutamate dehydrogenase (gdH). Glutamate dehydrogenase is classified as a mitochondrial enzyme that is an essential component in amino acid catabolism and controls autophagy by regulating mTOR signaling. By removing gdH in Drosophila melanogaster, it is hypothesized that the administration of rapamycin will prevent mTOR from decreasing metabolic rate, suggesting that there will not be a significant difference in the oxygen consumption of gdH mutant flies treated with rapamycin in comparison to gdH mutant flies treated with control food. A mild mutant strain, gdH 20165, was crossed with a homozygous lethal mutant strain, gdH 44743, to obtain a genotype of gdH 44743/20165. With both groups having a genotype of gdH 44743/20165, the control group was treated with a standard food medium while the experimental group was treated with 200 μM of rapamycin. After 10 days of treatment, the oxygen consumption of the flies was measured using stop flow respirometry. The results did not portray a significant difference in the oxygen consumption of rapamycin and control flies (p = 0.239), supporting the initial hypothesis. Further experimentation of repeated trials will be performed to obtain additional results.

Name: Danielle Grushkovskiy - Nexus First Floor Lobby – A18 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Eugenia Villa-Cuesta

Division: Undergraduate

Title: Transgenerational Effects of Rapamycin on Drosophila melanogaster

Abstract:

Epigenetics is the study of biological change in organisms caused by modification of gene expression rather than change of the genetic code itself. Transgenerational effects on health and development have recently come to light with gained information on epigenetics and its mechanisms. Since nutrition and dietary factors are vital in maintaining expression of proteins involved in metabolic function and aging, and since aging can be modified through epigenetic programming, age-linked epigenetic modifications could lead to new development in treatments to delay debilitating age-associated diseases. Rapamycin is an immunosuppressant that is known for inhibiting the mammalian target of rapamycin (mTOR) pathway and slowing down aging. Cellular aging is an mTOR dependent process, and since rapamycin inhibits the pathway, it slows the development of cells. Upon performing a series of titrations, we have recently discovered that 7 μM rapamycin delays development of Drosophila melanogaster larvae and increases the longevity of survival. Since nutrition is known to have transgenerational effects and rapamycin slows down development, the hypothesis that will be tested is that rapamycin-mediated treatment will affect gene expression in the progeny of Drosophila melanogaster and will delay the rate of larval development. Upon repetitions of this experiment, it was seen that rapamycin has no epigenetic effects on Drosophila melanogaster progeny, however it did affect rates of fecundity and showed lethality in the concentration used.

Name: isaac Donkor - Nexus First Floor Lobby – A31 – Section A: 9:00-10:00 A.M.

Co-Authors: Rakshim Yakubov, Ryan Almathhur, Catherina Suh, Dr Chakraborty, Sonjoy Chakraborty

Faculty: Dr Tandra Chakraborty

Division: Undergraduate

Title: Neuroprotective effects of estrogen on Alzheimer induced SH-SY5Y neuroblastoma cells and N38 hypothalamic neuronal cells.

Abstract:

Neuroprotective effects of estrogen on Alzheimer induced SH-SY5Y neuroblastoma cells and N38 hypothalamic neuronal cells

Rakshim XX, Ryan XX, Isaac XX, Catherina XX, Sanjoy Chakraborty and Tandra R. Chakraborty

Biology Department, Adelphi University

Department of Biological Sciences, New York City College of Technology/CUNY, New York, NY.

Alzheimer’s disease is a neurodegenerative disease characterized by neuronal cell damage and death, neurofibrillary tangle formation and cerebral plaques formed by beta amyloid peptides. Previous studies have shown that the hippocampus, a region of brain related to cognition and memory is mainly affected by Alzheimer’s disease. This study is designed to induce Alzheimer’s disease by treating SH-SY5Y neuroblastoma cells and N38 hypothalamic neuronal cells with synthetic beta-amyloid plaques under in vitro conditions. In the current study, we wanted to determine whether hypothalamus; a region involved in feeding, sleep, reproduction and energy balance is affected similarly as well. Hypothalamic cells were treated with beta-amyloid 1-42 to induce neurofibrillary tangles and plaque formation. The cell viability, toxicity and proliferation were determined using different bioassays like cell count, MTT and lactate dehydrogenase assay. Preliminary results indicated a significant loss in mitochondrial function when exposed to beta-amyloid. Cell damage and cellular toxicity were further analyzed by lactate dehydrogenase (LDH). Further, western blotting was done to determine the changes associated with biomarkers like P53 and Tau protein. Taking together the biochemical and molecular data, the neuroprotective effect of estrogen on beta amyloid plaque formation will be further analyzed.

Name: Mavis Ho - Nexus First Floor Lobby – A20 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Alexander Heyl

Division: Undergraduate

Title: Characterization of a key protein in plant hormone signaling

Abstract:

The signal transduction of cytokinin, a class of phytohormones that promotes development and plays a role in the response of biotic and abiotic stress in plants, is mediated by a two-component His-Asp phosphorelay transduction system, in which histidine phosphotransfer (HPT) proteins are key players in transferring a signal from the membrane of the endoplasmic reticulum to the nucleus. In order to understand the evolution of the cytokinin signaling pathway and its members, the HPT proteins of Physcomitrella patens, a moss that is the most basal plant for which components of the cytokinin signaling pathway is described will be characterized. We will investigate protein-protein interaction with its upstream and downstream components, which will be studied using the yeast two-hybrid assay. Furthermore, functionality will be tested by genetic complement of a mutant. Results from this data will provide a greater understanding of the mechanism of cytokinin in this model moss.

Name: Sabeen Siddiqui – Nexus First Floor Lobby – A10 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Andrea Ward

Division: Undergraduate

Title: Horizontal Force Production of Lepidosiren paradoxa During Terrestrial Locomotion

Abstract:

Elongate fish species inhabit aquatic environments but are also known for their ability to make

terrestrial excursions for mating or migratory purposes. These organisms laterally push off

various structures available in their saturated domains to enable this movement. The locomotory

behavior and force used by the amphibious fish, Lepidosiren paradoxa, to travel on a terrestrial

environment was studied. Trials were conducted using a peg array and an instrumented force

platform to measure the movement and force the species exhibits. This study examines how

elongate fish such as the South American Lungfish can utilize various parts of their bodies with

different amounts of force to progress along a terrestrial environment.

Name: Thomas Pascucci - Nexus First Floor Lobby – A6 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Michael D. D’Emic

Division: Graduate

Title: A Taxonomic Revision of the Theropod Dinosaur Deinonychus antirrhopus

Abstract:

The dromaeosaurid Deinonychus antirrhopus represents a historically important taxon in the non-avian to avian theropod evolutionary transition. Despite published accounts of morphological variation present among specimens, Deinonychus remains relatively unstudied. Fossils attributed to Deinonychus are found in strata of the Early Cretaceous (Aptian-Albian) from multiple rock units (V–VII) in the Cloverly Formation of Wyoming and Montana and one site from the Antlers Formation of Oklahoma. Both formations are generally considered to be contemporaneous (ca. 112 Ma), but neither has well constrained upper nor lower ages. Furthermore, recent research suggests that the Cloverly Formation spans at least twenty million years in age. Its broad morphological variation plus its long temporal range suggest that hidden taxonomic diversity might be present in our current sample of Deinonychus. This research aims to characterize the differences in individual Deinonychus through a combination of comparative anatomy and bone histology. Anatomical observations are being contextualized by visiting the dromaeosaurid collections at the American Museum of Natural History and the Yale Peabody Museum. Histological analysis of femoral and tibial thin sections of D. antirrhopus will be used to create growth models of individuals for comparison. Observed differences in growth curves that correspond to morphological or stratigraphic variation will be used as evidence for multiple taxa within Deinonychus.

Name: Luqian Chen - Nexus First Floor Lobby – A9 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Alexander Heyl

Division: Graduate

Title: Evolution of components of cytokinin signaling pathway

Abstract:

Evolution of components of cytokinin signaling pathway:

Cytokinin is a class of plant hormones with an adenine ring structure and isoprenoid or aromatic side chain. They play a vital role in promoting plant growth and physiological processes such as cell division, leaf senescence and apical dominance. Cytokinin signal transduction is mediated by a variant of the two component system through several mediators including histidine kinase (cytokinin receptor), histidine phosphotransfer protein, Type A and B response regulator (mediating signal output). Physcomitrella patens will be utilized as a query for investigating the phylogeny of four components of cytokinin signaling pathway across early diverging land plant and algae. First, genomic and protein sequence were collected from NCBI and ONEKP project. Then using BLAST and HMMER tools, similar sequence across different species will be identified. Next, the sequences will be compared by ClustW and MUSCLE algorithm, and the phylogenetic trees will be calculated through Bayesian and maximum likelihood statistic methods. At last, the results will be analyzed to study the evolution of cytokinin signaling pathway across early diverging terrestrial plants and algae.

Name: Kelly Bartley - Nexus First Floor Lobby – A7 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Alan Schoenfeld

Division: Graduate

Title: Determining the effects of atypical protein kinase c zeta type (PKCζ) on VHL cellular functions

Abstract:

Von Hippel-Lindau Syndrome (VHL) is a genetic disorder that is characterized by the formation of highly vascularized tumors. These tumors result in a variety of different cancers such as renal cell carcinomas, hemangioblastomas, as well as phaeochromocytomas. Normally, the VHL gene prevents the formation of these tumors by binding to and ubiquitinating HIF-α under normal oxygen levels. Mutations in the VHL gene render the VHL protein unable to ubiquitinate HIF-α, which results in the formation of tumors. In addition to binding to HIF-α, VHL has been shown to bind to atypical PKC isoforms. It is unknown why this binding occurs, but VHL and atypical PKC do share similar functions. These shared functions include aiding in the formation of tight junctions and cellular polarization, regulating the expression of certain integrins, and cell motility. We investigated whether the presence of the atypical PKC, PKCζ, was needed in order for VHL to carry out these functions. Results suggest that the absence of PKCζ expression does not affect the proper formation of tight junctions, cell polarization, expression of α5 and β1 integrins, and cell motility in the RCC10 cell line. In contrast, the absence of PKCζ does appear to affect the expression levels of HIF-2α. All of these results together suggest that both VHL and PKCζ may work together in order to regulate the expression of HIF-α, but they do not work together in regulating the other aforementioned functions.

Name: Patel Payal - Nexus First Floor Lobby – A22 – Section A: 9:00-10:00 A.M.

Co-Authors: Gavras Joanna

Panayotis Agelarakis

Faculty: Anagnostis Agelarakis

Division: Undergraduate

Title: Dental Anthropological Reflections on the Human Condition at Two Byzantine Sites in Thrace, Greece.

Abstract:

This paper presents bioarchaeological results with emphasis on forensic odontology, concerning two human population samples excavated from the archaeological site of Abdera/Polystylon, a provincial town of the Byzantine Empire, located in the Thracian shores of the Aegean Sea in Greece. Following the in-the-field physical anthropological analyses of the skeletal record, aiming to reflect on aspects of the human condition which prevailed between the chronological periods of the two sites, dated between the Early (sixth to ninth centuries AD/CE), and Middle (twelfth to thirteen centuries AD/CE) Byzantine periods, a representative sample of maxillo-mandibular components with dentitions preserved in situ were selected for in depth laboratory analyses. Subsequent research was conducted on 1,478 alveolar bone processes, clinical and anatomical dental surfaces, comprising an adequate representation of the demographic profiles of both population samples. Focus was placed on dental morphometric variability, dental epigenetic manifestations, dental functional modification traces of wear and attrition, acquired changes due to non-masticatory dental utilitarian functions in “third hand” tasks of habitual and occupational nature, as well as a roster of degenerative and palaeopathological changes. Results of the study substantiate matters of dental growth and maturation processes reflective of the overall biological growth processes of the individuals involved, and a range of systemic life stressors which in some cases stunned early post-natal development. Further, it was possible to provide assessments relative to conditions of dental hygiene-variability between genders among adult individuals, the range of pathological manifestations especially as it pertained to the quality of preparation and nature of dietary intake (heavily based on cereal components), and even traces of habitual/cultural tendencies ingrained in the dental record as non-masticatory labial dental changes.

Name: Rayan Almathhur - Nexus First Floor Lobby – A8 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Tandra Chakraborty

Division: Graduate

Title: Neuroprotective effects of estrogen on Alzheimer induced SH-SY5Y neuroblastoma cells and N38 hypothalamic neuronal cells

Abstract:

Alzheimer’s disease is a neurodegenerative disease characterized by neuronal cell damage and death, neurofibrillary tangle formation and cerebral plaques formed by beta amyloid peptides. Previous studies have shown that the hippocampus, a region of brain related to cognition and memory is mainly affected by Alzheimer’s disease. This study is designed to induce Alzheimer’s disease by treating SH-SY5Y neuroblastoma cells and N38 hypothalamic neuronal cells with synthetic beta-amyloid plaques under in vitro conditions. In the current study, we wanted to determine whether hypothalamus; a region involved in feeding, sleep, reproduction and energy balance is affected similarly as well. Hypothalamic cells were treated with beta-amyloid1-42 to induce neurofibrillary tangles and plaque formation. The cell viability, toxicity and proliferation were determined using different bioassays like cell count, MTT and lactate dehydrogenase assay. Preliminary results indicated a significant loss in mitochondrial function when exposed to beta-amyloid. Cell damage and cellular toxicity were further analyzed by lactate dehydrogenase (LDH). Further, western blotting was done to determine the changes associated with biomarkers like P53 and Tau protein. Taking together the biochemical and molecular data the neuroprotective effect of estrogen on beta amyloid plaque formation will be analyzed.

Name: Valerie Fiore - Nexus First Floor Lobby – A23 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Adjunct Professor Argiro Agelarakis

Division: Undergraduate

Title: Plant-Derived Alternative Treatments for Alzheimer’s Disease

Abstract:

Loved ones are continuously lost due to a class of diseases referred to as neurodegenerative disorders, a term which encompasses painfully-slow progressive diseases of high lethality and includes one particular disease that affects 50% of the U.S. population over age 85 (Alzheimer’s Association, 2011). Alzheimer’s disease (AD) is a progressive and irreversible form of elderly dementia that causes memory loss, difficulty in forming thoughts, and initiates modification in behavior as the result of atrophy in the brain, buildup of amyloid plaques, and tangled neurofibers (Decourt & Sabbagh, 2011). The onset of neurodegeneration is believed to precede clinical symptoms and by the time AD is diagnosed, the only FDA-approved prescription drugs are designed for palliative care. These drugs do not alter the final outcome of AD and are most efficient in the 1st few months of use. This analysis aims to identify three plant-derived alternative treatments for the potential prevention, low-cost high-availability improvement of symptoms associated with AD and provide rationale for the chosen treatments, evaluate the history behind the plant use, the cultural validity, chemical constituents of each plant, biological mechanisms upon recommended intake, and a literature review for each treatment on AD efficiency. The selected medicinal plants are as follows: Ginkgo biloba, Huperzia serrata, and Salvia officinalis. Selected plants are based on availability of data and specificity to AD. Trials have already been performed and published by respective authors.

Alzheimer's Association. (2011). 2011 Alzheimer’s disease facts and figures. Alzheimers Dement, 7, 208-244.

Casey, D. A., Antimisiaris, D., & O’Brien, J. (2010). Drugs for Alzheimer’s Disease: Are They Effective Pharmacy and Therapeutics, 35(4), 208–211.

Decourt, B., & Sabbagh, M. N. (2011). BACE1 as a Potential Biomarker for Alzheimer’s Disease. J Alzheimers Dis., 24(2), 53-59.

Name: Wen Li – Nexus 157 – Section B: 10:10-11:10 A.M.

Co-Authors: Yihao Kang

Faculty: Professor Laura Messano

Division: Undergraduate

Title: Women worth bettwe

Abstract:

Our central idea is that women should be equally as equal as men to education. To make gender equality, we must first achieve the equality of education. Women should not be ignored by a family. Women also have the right to have their own choices and lives, not dominated.

Name: Yostena Farag - Nexus First Floor Lobby – A24 – Section A: 9:00-10:00 A.M.

Co-Authors: None

Faculty: Dr. Melissa VanAlstine-Parris

Division: Undergraduate

Title: Synthesis of 5,6-dichloro-1-methylbenzimidazole derivatives to inhibit the enzyme uridine nucleoside ribohydrolase

Abstract:

Trichomoniasis, a sexually transmitted disease caused by the protozoan parasite Trichomonas vaginalis, affects 3.7 million people nationwide. Normally, it is treated with metronidazole or tinidazole; however, certain strains have become resistant to these treatments. Therefore, it is necessary to search for new therapies. Through previous research, it is understood that the parasite uses the enzyme Uridine Nucleoside Ribohydrolase (UNH) to survive in its host. From previous research, this enzyme has been inhibited by a group of proton-pump inhibitors, containing a benzimidazole backbone. Through the synthesis of benzimidazoles and the testing of their inhibitory effects on UNH, a crucial enzyme to the parasite’s functioning, it is possible to refine our understanding of the inhibition of this enzyme. Two series of compounds were synthesized, starting from either diaminobenzene or 4,5-dichloro-o-phenylenediamine which were then reacted with glycolic acid to synthesize the benzimidazole backbone. The backbones were then methylated at the nitrogen in the one position. The dichlorinated backbone was treated with DMP to oxidize the hydroxide group into an aldehyde. The aldehyde was then transformed into an amide. Future work will involve the synthesis of 5,6-dichloro-1-methylbenzimidazole derivatives, which will transform the amide into either mono- and/ or di-substituted; followed by the testing of the molecules’ inhibition of UNH.

Name: Peter Capanelli - Nexus First Floor Lobby – A25 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. David Parkin

Division: Undergraduate

Title: Studying Test Patterns to Help further Instruction for Professors and Students

Abstract:

Physiological Chemistry developer (Professor Parkin, Chemistry 109) proposes that a common final promotes the alignment of learning, independent of sections. Chemistry 109 uses a common set of Topic Learning Outcomes (TLO). Full-time professors are involved in the design of an externally vetted common final, since a standardized final is not available for Chemistry 109. Determining validity and reliability of the common final is essential since we will be attempting to associate student performance with student learning. This study encompasses Fall 2016 and Spring 2017 common finals. The first stage of this project is to analyze the multiple choice question objective section to determine the validity and reliability of each question. The alignment to the TLO and the difficulty of each question will be determined by polling the Chemistry 109 faculty. Section 109-010 (Professor Parkin) will be analyzed to determine how section 010 performs on each question when compared to the total population. An outcome of this study is to help professors make informed data-driven changes to the learning environment, when required, which would help promote a deeper understanding of the common course Topic Learning Outcomes. The second outcome of this project is to help create a concept inventory questionnaire that will be used to help determine how much chemistry is actually being learned in Chemistry 109.

Name: Cyrus Mowdawalla - Nexus First Floor Lobby – A26 – Section A: 9:00-10:00 A.M.

Co-Authors: Loma Dave and Kiet Pham

Faculty: Professor Ivan D. Hyatt

Division: Undergraduate

Title: Progress towards the Development and Optimization of the HIGES reaction

Abstract:

The formation of carbon (sp3) – carbon (sp3) bonds is an important area of interest among synthetic chemists. A major limitation of known methods of this coupling is β-hydride elimination, which results in numerous side products instead of the desired product. Using hypervalent iodine and metalloids presents a novel method of obtaining a product with carbon (sp3) – carbon (sp3) bonding. The reductive iodonio-Claisen rearrangement (RICR) highlights the reactivity of alkylated hypervalent iodine intermediates, which form into a new carbon-carbon bond. Similarly, the novel reaction in this project, Hypervalent Iodine Guided Electrophilic Substitution (HIGES), involves the synthesis of a highly reactive benzyl hypervalent iodine intermediate. A transmetalation step results in the hypervalent iodine intermediate acting as a guide in a selective electrophilic aromatic substitution. This methodology exploits the mechanistic differences of RICR’s ortho-selective product compared to HIGES’ para-selective product. The further development of the HIGES reaction can prove beneficial to the synthetic community as it presents a faster method of obtaining para-selective carbon-carbon coupling.

Name: Momoka Nagamine - Nexus First Floor Lobby – A27 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Justyna Widera-Kalinowska

Division: Undergraduate

Title: Synthesis, photocatalytic properties and Langmuir-Blodgett film photoelectrochemical behavior of CdS and CdSe nanoparticles of hydrophilic or hydrophobic organic shell

Abstract:

It is necessary to reduce greenhouse gas emissions to limit global man-made climate change. To achieve this goal, alternative energy sources to fossil fuels must be provided. Solar energy, especially quantum-dot-sensitized solar cells, has gained growing attention as one of the most effective renewable energy sources. In this research, cadmium sulfide (CdS) and cadmium selenide (CdSe) nanoparticles with varying stabilizing shell were successfully synthesized, providing them with hydrophilic or hydrophobic properties. The as-synthesized nanoparticles with those properties were studied by SEM, DLS, and FT-IR analysis. Aqueous suspension of the hydrophilic nanoparticles was used for band gap evaluations. The photocatalytic activity of the aqueous suspension was studied in the presence of methylene blue by means of UV-Vis spectroscopy. It is concluded that the synthesized nanoparticles catalyzed the degradation process of methylene blue under the UV light irradiation. In addition, hydrophobic nanoparticles were spread onto the free aqueous interface of the Langmuir trough with subsequent Langmuir-Blodgett transfer on the ITO surface. Photoelectrochemistry of such layers was then studied in relation to the number of transferred layers and compared to the drop-casted nanoparticle samples. The results showed the increase of the current density with the increase of the transferred layers of nanoparticles.

Name: Omar Hameed - Nexus First Floor Lobby – A28 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Melissa A. VanAlstine-Parris

Division: Undergraduate

Title: Benzimidazole formation and methylation as synthetic progress towards obtaining 1-(1-methyl-1H-benzo[d]imidazol-2-yl)-2-phenylethan-1-one

Abstract:

Trichomoniasis is a prominent non-viral sexually transmitted disease that increases patient risk of obtaining HIV, pelvic inflammatory disease and several cancers. Despite their being current drugs on the market for this disease, drug-resistant strains have developed which necessitate that a novel drug based on a different mechanism be developed. Uridine nucleoside ribohydrolase (UNH) is a salvage pathway enzyme that allows the causative agent of trichomoniasis, Trichomonas vaginalis, to obtain nucleobases from host cells. Through the incorporation of previous research on prazoles, a structural benzimidazole framework for a potential UNH inhibitor was obtained. The initial synthetic step was the formation of the benzimidazole using o-phenylenediamine and phenyllactic acid, which was followed by methylation of this benzimidazole. NMR analysis of the step one product confirmed benzimidazole formation and purity. NMR analysis of the step two product confirmed the presence of a methyl group. Future experimentation will involve oxidation of the step two product to produce the final product, 1-(1-methyl-1H-benzo[d]imidazol-2-yl)-2-phenylethan-1-one, and determination of the IC50 value of the final product on the enzyme UNH.

Name: Jeanhee Kim - Nexus First Floor Lobby – C5 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: Kayla Gonzalez, Alexander Leonce, Eric Wong

Faculty: Professor Clarilee Hauser

Division: Undergraduate

Title: The Effect of Music on Concentration and Communication in the Operating Room

Abstract:

Surgical procedures are highly intricate and delicate processes that require prolonged, focused attention as well as clear and efficient communication among operating room (OR) team members. It is well documented that noise levels in the OR are excessively high. Studies show that music is played a majority of the time during surgery, but music’s effect in the OR is not fully understood. The purpose of this study is to conduct a literature review of music’s effect on the communication and concentration of OR team members. The current literature does not fully agree on the effects of music, but a number of studies show that music can impair concentration and communication. Although compelling data on the negative effects of music have been produced, further data of music’s effects need to be gathered on a larger scale. Due to the long-standing culture of playing music in the OR, there may be some resistance to implementing any changes in this practice.

Name: Ashley Danseglio - Nexus First Floor Lobby – C4 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Karen Mancini

Division: Undergraduate

Title: Implementation of Suicide Risk Screening in Pediatric Emergency Rooms

Abstract:

Suicide, particularly in the pediatric population, is an under discussed topic in healthcare settings. With suicide being the second leading cause of death among those aged 10-24, it is clear that healthcare personnel need to better assess for suicide risk (Edwards et al., 2017). This review of the literature will cover some of the overarching themes regarding implementation of suicide risk screening, including limitations and common findings. Articles for this review of literature were found using the EBSCO host and PubMed databases. While many Emergency Rooms around the country have implemented a standard suicide risk screening within their regular EMR, many pediatric Emergency Rooms have yet to follow suit (Patient Safety Monitor Journal, 2017). In fact, there are very few existing standardized screening tools that are acceptable for use in pediatric populations, especially for those under the age of 14. Two of the most common tools used in Pediatric Emergency Rooms that have implemented screening is the ASQ, or Ask Suicide Screening Questions, and the RSQ, of Risk for Suicide Questions. Both tools are quick sets of questions that will allow the first clinicians who interact with the child in the ER to know if further escalation to psychiatric services is necessary. Both screening tools have been validated and indicated appropriate for use in children 8-20 years old. With the Youth Risk Behavior Survey noting that 17.7% of high schoolers reported thoughts of suicide in the year 2015, it is clear that interventions which allow quick and efficient screening of pediatric patients for suicide risk are needed. These questionnaires have the potential to identify children at risk who may have been otherwise missed, and refer them to needed services in order to prevent more deaths from suicide. More quantitative research is required to demonstrate the effectiveness of these interventions, which will promote more adoption by healthcare agencies.

Name: Karen Catalano - Nexus First Floor Lobby – C2 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: Michele Conrad

Jeon Noble

Faculty: Professor Charles Cal

Division: Graduate

Title: Enhanced Recovery After Surgery (ERAS)

Abstract:

Colorectal surgery has been associated with substantial morbidity and prolonged hospital length of stay (LOS). Research has shown that the implementation of an Enhanced Recovery After Surgery (ERAS) program results in reduced rates of morbidity, faster recovery, decreased LOS, quicker resumption of normal activities of daily living, decreased postoperative complications and readmissions, thereby increasing patient satisfaction scores and cost savings.

Name: Melanie Weiss - Nexus First Floor Lobby – C3 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: Ronald Moore

Faculty: Professor Charles Cal

Division: Graduate

Title: The Effectiveness of the Naltrexone Implant in the Treatment of Drug Dependence: A Literature Review

Abstract:

Abstract

Drug dependence is a worldwide problem, affecting people of various ages, sexes, and socio-economic statuses. To date, there has been no registered effective, non-addictive pharmacological treatment for drug dependence. Naltrexone is an opiate antagonist, which functions as an opioid blocker, and has been used as an oral medication for the treatment of alcohol and opioid dependence for decades. However, it has frequently proven ineffective due to poor patient compliance. The purpose of this paper is to explore the efficacy of the naltrexone implant, a subcutaneous sustained-release pharmacotherapy, for drug dependence. The O’Neil Long Acting Naltrexone Implant (OLANI) is one brand that was studied. A literature review of six studies was conducted. The results suggest that the naltrexone implant is more effective than the oral medication or placebo, is effective for Buprenorphine dependence, single and co-existing poly drug dependence of opioids (Heroin) and amphetamines, and has the potential to lower healthcare costs associated with drug dependence. These are significant findings for those afflicted with drug dependence and for the medical and nursing communities, at large. Additional research should be done to further explore the efficacy of the naltrexone implant, and to determine if the naltrexone implant is an effective treatment for other drugs of dependence.

Keywords: naltrexone implant, drug dependence, opioids, heroin, amphetamines

Name: Brianna Rider - Nexus First Floor Lobby – C14 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Ashwini Namasivayam-MacDonald, Ph.D., CCC-SLP

Division: Graduate

Title: A research proposal on swallowing in dementia patients: a safety or efficiency impairment?

Abstract:

Current research shows that 5 million people suffer from dementia in the United States. The prevalence of dysphagia (i.e. impaired swallowing) among individuals with dementia ranges from 84% to 93% (Affoo, Foley, Rosenbek, Shoemaker, & Martin, 2013). An effective swallow must encompass two things: (1) safe travel of the bolus (i.e. mixture of food and saliva) through the oropharynx and into the esophagus without entering the airway, and (2) efficient travel of bolus through the oropharynx and into the esophagus without leaving residue behind. In order to provide the most proficient care for patients with dementia, it is crucial to identify how the swallow is impaired in order to create effective therapy protocols. Through a retrospective analysis of video-fluoroscopy swallow studies (VFSS), the proposed study will determine if patients with dementia are more likely to suffer from safety or efficiency swallowing impairments. VFSS data from 50 dementia patients will be analyzed in duplicate by blinded raters to obtain anatomically normalized pixel-based measures of residue, as well as prevalence and severity of aspiration (i.e. bolus entering the airway). Frequency statistics will be used to determine prevalence of each type of impairment. Based on previous research in dementia indicating impairment of mechanisms that affect both safety and efficiency of the swallow (Londos et al., 2013, Feinberg et al., 1992, Suh et al., 2009, Humbert et al. 2010), it is anticipated that patients with dementia will present with more safety swallowing impairments. Therefore, it is likely that future studies should focus on swallowing interventions to improve airway protection in this population.

Name: Cassidy Comerford - Nexus First Floor Lobby – C12 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Dr. Ashwini Namasivayam-MacDonald

Division: Graduate

Title: Comparison of swallowing in patients with COPD and dementia: A Literature Review

Abstract:

Many studies describe swallowing impairments (dysphagia) in patients with chronic obstructive pulmonary disease (COPD) or dementia, however, these diagnoses are rarely compared. It is important for speech-language pathologists (SLPs) to understand the effects that COPD and dementia will have on a patient's swallow since they are common diagnoses in the acute care setting. Understanding these effects will allow SLPs to more accurately evaluate patients and provide better treatment options. The purpose of this study was to compare how COPD and dementia affect swallowing.

Medline and ProQuest databases were systematically searched to retrieve peer-reviewed journal articles that discussed swallowing in either COPD and dementia. Titles, abstracts and full-texts were reviewed in duplicate for relevance. Of the 562 articles found focusing on dementia and the 369 articles focusing on COPD, only 9 articles and 8 articles met the inclusion criteria, respectively.

A preliminary review of all studies revealed that both groups of patients are at high risk of dysphagia, and present with sensory impairments that contribute to swallowing difficulties. The 8 studies focused on COPD also reported delayed pharyngeal responses, decreased base of tongue retraction, reduced laryngeal elevation and overall discoordination between respiration and swallowing. The 9 studies focused on dementia discussed motor impairments, such as poor bolus control. In contrast to patients with COPD, patients with dementia were reported to present with more oral phase impairments, and were generally unaware of their swallowing difficulties due to cognitive impairments. It is anticipated that a more detailed review will reveal further similarities and differences, which will provide critical knowledge for SLPs working in acute care to create more effective dysphagia management plans.

Name: Amanda Lemke - Nexus First Floor Lobby – C22 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Ashwini Namasivayam-MacDonald, Ph.D. CCC-SLP

Division: Graduate

Title: The deciding factors for time to speech-language pathology consult post-extubation: A systematic review

Abstract:

Title: The deciding factors for time to speech-language pathology consult post-extubation: A systematic review

Author: Amanda Lemke and Ashwini Namasivayam-MacDonald, Ph.D. CCC-SLP

Purpose: Anecdotally, speech-language pathologists often delay a patient’s clinical swallow evaluation for at least 24 hours post-extubation. However, there is limited research supporting this protocol, as recently extubated patients are at a higher risk of dysphagia [swallowing impairments] (Macht et al., 2013). The purpose of this review was to analyze the literature regarding the timeliness of clinical swallow evaluations on these critically ill patients in order to determine how the results of the evaluations compare based on time to consult and the pre-extubation factors that may increase risk and severity of dysphagia.

Methods: Four databases, Medline, CINAHL, ProQuest, and PubMed, were searched to identify full-text, peer-reviewed studies that discussed clinical and/or instrumental swallow evaluations for patients who were recently extubated. Abstracts and full-texts were reviewed in duplicate to determine if they met inclusion criteria, and relevant data was extracted.

Results: The search resulted in 493 unique articles. After review, five were accepted. Interrater reliability was 81% at the abstract review stage. Overall, results support that a patient should receive a swallowing evaluation by a speech-language pathologist between 24-48 hours post-extubation. Factors affecting severity of dysphagia and the time to speech-language pathology involvement will be studied and compared.

Conclusions: There are multiple factors that can lead to dysphagia and the need for a speech-language pathology consult post-extubation, and the most pertinent factors will be identified within this review. Given the ambiguity of current speech-language pathology practice post-extubation, this information will help medical SLPs to develop appropriate, evidence-based evaluation protocols

Name: Alisa Machina - Nexus First Floor Lobby – C6 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Dr. Ashwini Namasivayam-MacDonald

Division: Graduate

Title: Do oral care protocols implemented in skilled nursing facilities reduce the incidence of aspiration pneumonia in residents?

Abstract:

Purpose: Aspiration pneumonia is a common cause of death amongst residents in skilled nursing facilities, and is an infection that can be very costly to our healthcare system (Langmore, 2002). Previous research has shown that poor oral hygiene increases the risk of aspiration pneumonia (Tada et al., 2012), and that using oral care protocols in nursing facilities can reduce oropharyngeal bacteria that may lead to aspiration pneumonia (Ishikawa et al., 2008). The purpose of this systematic review was to evaluate the literature to determine the efficacy of oral care protocols in skilled nursing facilities to reduce the incidence of aspiration pneumonia.

Methods: Two databases, ProQuest Central and Medline, were systematically searched to identify relevant, peer-reviewed studies that discussed the effect of oral care protocols on incidence of aspiration pneumonia for elderly individuals living in skilled nursing facilities. Articles with abstracts that met inclusion criteria were read in duplicate, and relevant data were extracted.

Results: The search of these two databases yielded 1,047 results. Once the titles, abstracts, and full-texts of these articles were reviewed, eight were accepted. Each of the articles reported that oral hygiene reduced the occurrence of aspiration pneumonia in residents skilled nursing facilities. The various protocols will be compared and the most effective protocol(s) will be identified.

Conclusion: There are many factors that play a role in causing aspiration pneumonia. This review will further demonstrate that interventions targeting oral hygiene in skilled nursing facilities decrease the likelihood of acquiring this lung infection. We can conclude that implementing strict oral hygiene protocols can make swallowing safer for nursing home residents by reducing the risk of aspirating oral bacteria.

Name: Michele Scannell - Nexus First Floor Lobby – C27 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Dr. Melissa Randazzo

Division: Undergraduate

Title: Explorations of the Neural Correlates of Audiovisual Integration in Aphasia: An EEG Research Proposal

Abstract:

TITLE: Explorations of the Neural Correlates of Audiovisual Integration in Aphasia: An EEG Research Proposal

Aphasia is a language disorder that is caused from an acquired brain injury. Aphasia can cause difficulties with comprehension, attention, speaking, reading, or writing. Speech processing includes integration of auditory and visual information, or audiovisual integration, of the information from the speech sounds and the mouth movements of a talker. Although speech-language pathologists often use orovisual cues (cues to the position of the parts of the mouth to make speech) to help patients with aphasia produce the words they want to say, it is still unknown whether this type of information is facilitative or alternatively information overload.

The use of electroencephalography (EEG) enables us to see brain activity when auditory stimuli is presented to a client when there is a lack of focus or attention. Utilizing EEG neural processes of sound differences can be studied with millisecond temporal precision with an event related potential (ERP) called mismatch negativity (MMN). Mismatch negativity (MMN) indicates recognition of change to stimuli and has been proven to be useful in studying other patient groups who have problems in attending stimuli, understanding instructions, or carrying out behavioral tasks. Previous studies in healthy populations have repeatedly shown audiovisual MMNs when participants were presented with incongruent auditory and visual information. We intend to examine the MMN for audiovisual information in patients with varying presentations of aphasia in order to determine profiles of audiovisual integration for speech processing. Implications of this pilot study can help us further understand if audiovisual integration is impaired in some subtypes of aphasia and ultimately if the orovisual cues we use in treatment are helpful or cumbersome for patients.

Name: Ayesha Nashurdeen - Nexus First Floor Lobby – C21 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: N/A

Faculty: Dr. Reem Khamis-Dakwar

Associate Professor and Chair

Department of Communication Sciences and Disorders

Division: Graduate

Title: A Sociolinguistic Profile of the Indo-Guyanese Population of Queens, New York

Abstract:

This poster presentation provides a review of current literature regarding demographic, linguistic and sociological background information specific to Indo-Guyanese immigrants to the United States. Additionally, it discusses implications for assessment and intervention services for individuals from Guyanese English Creole-speaking communities in the United States.

The Indo-Guyanese community is a small, unique population hailing from the West Indies. Its history originates in East India, during the British colonial period prior to its later partition into current Southeast Asian countries. The descendants of those East Indian indentured servants developed a new West Indian culture that integrated the remnants of their own culture along with that of the Africans, Chinese, Portuguese, other Europeans, and indigenous peoples there. Today, the Indo-Guyanese community speaks a Guyanese English Creole adorned with Hindi influences.

In the 1900s, Guyana saw increased emigration to North America, particularly to areas such as Toronto and New York City. A flourishing minority population there today, there is sparse research on their cultural and linguistic background. Moreover, there is even less research on the Indo-Guyanese as compared to their Afro-Guyanese counterparts, although these are the two largest ethnic Guyanese groups. Without adequate research, there is potential for overgeneralized clinical decisions as a result of limited information. Consequently, this presentation seeks to review current literature as a foundation for future sociolinguistic study by focusing on the following: Demographic background, linguistic and sociolinguistic information regarding diglossia, socioeconomic background, communication patterns and relevant rearing practices as well as contextualized speech pathology services and their significance for the Indo-Guyanese population in New York.

Name: Toni Abruzzino - Nexus First Floor Lobby – C20 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Doctor Susan Lederer

Division: Graduate

Title: Facilitating Emergent Literacy Skills through Shared Book Reading: A Checklist for Choosing Books

Abstract:

It is widely known that shared book reading is highly effective in enhancing the development of emergent literacy skills in young children (Kirshner, 1991; Ratner, Parker, & Gardner, 1993; Whitehurst et al., 1988). These skills include oral language (i.e., vocabulary, narrative skills, comprehension), phonological awareness, print knowledge, and alphabet knowledge (National Early Literacy Panel, 2008). While the literature offers general strategies for choosing books, in a recent Swedish study, Damber (2015) found that most preschool teachers choose books at random. Since reading aloud provides overall benefits, this approach is effective. However, choosing books consciously to facilitate specific emergent literacy goals seems a more efficient approach. For example, Schwarz et al. (2015) provided guidelines for selecting books to promote higher level verbal language. Treiman, Rosales, & Kessler (2016) offered tips on choosing books for print awareness training (e.g., print color, font size). Seeing that explicit instruction is recognized as a key to literacy success, metalinguistics is another important criterion for choosing books (Israel, Block, Bauserman, & Kinnucan-Welsch, 2005). Metalinguistic awareness is the ability to think about, talk about, and manipulate language (Tunmer, Herriman, & Nesdale, 1988). Books about reading books, rhyming books about rhyming, and illustrations that overtly highlight the print are all explicit instruction of these concepts. Therefore, the purpose of this presentation is to review the literature on the best practices in choosing picture books for shared book reading with an emphasis on identifying metalinguistic and metavisual content. A checklist for assessing picture books will be provided.

Name: Amanda Nagler - Nexus First Floor Lobby – C19 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: Melissa Ortiz

Faculty: Dr. Melissa Randazzo

Division: Graduate

Title: Development of an EEG Paradigm to Examine Preservation of Covert Speech in Nonfluent Aphasia

Abstract:

Internal speech, also known as covert speech, is defined as the silent production of words in one’s mind which is informed by phonological and categorical representations, as well as other linguistic concepts and understandings . A previous study used an overt rhyming task to test whether internal speech remained intact in post-stroke patients with expressive aphasia. Measures of internal speech for this population would help to further elucidate levels of processing between linguistic representation and speech execution. This study used the intact ability to determine phonological and orthographic rhyme in four conditions to enable a measure of internal speech through behavioral responses. Results indicated that internal speech may not be impacted in the same way that expressive speech is post-stroke. The current literature has only analyzed behavioral output measures, which may be confounded by concomitant motor impairments in this population.

We propose to use electroencephalography (EEG) to examine the neural correlates of covert rhyming across different orthographic and phonological conditions with high temporal resolution. Development of this study includes standardization of rhyming stimuli in an EEG paradigm with healthy adult participants in order to ascertain the cognitive-linguistic mechanisms involved in overt rhyming. The relationship between overt speech and ability to recognize and accurately identify overt rhyme as a marker of covert speech ability will be examined. Anticipated results of this study will further inform our understanding of the neural correlates of rhyming that may ultimately help to refine treatments that capitalize on internal speech to improve overt speech in aphasia.

Name: Iman Salam - Nexus First Floor Lobby – C18 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Dr. Reem Khamis Dakwar

Division: Graduate

Title: Diglossic Code-Switching in Children With ASD: A Case Study

Abstract:

The Arabic-speaking community is a diglossic community that integrates the use of two language varieties: spoken dialect and Modern Standard Arabic (MSA) (Ferguson,1959). Access to and code switching between the two varieties may have a facilitative role in the language development of children with Autism Spectrum Disorder (ASD) due to the formality of MSA use and its relatively reduced role in daily communicative interactions. The preliminary findings of recent studies indicate a need for expanding understanding functional code-switching in children with ASD; doing so may aid in enhancing services for this population. This poster presents pilot results from an investigation of pragmatic use of MSA in children with ASD in diglossic cases where two language varieties co-exist in complementary functional distribution.

Anecdotally, several parents and Arab speech-language pathologists report that Arabic-speaking children with ASD exhibit frequent use of MSA and/or early production of MSA words through functional echolalia. These reports are underscored by greater accessibility of MSA to children with ASD (in comparison to spoken dialect) due to its unique social status as a formal language which bypasses their core challenge in social communication and interaction.

This presentation highlights pragmatic analyses of 5 recorded speech samples that were collected from an Arabic speaking child with high functioning ASD as part of conversational engagements with routine dyadic sessions in different settings. Data was transcribed and coded for MSA using CLAN for later pragmatic analyses. Analysis showed that the child’s productions included both MSA and Palestinian spoken dialect usage. In addition, a qualitative analysis of the pragmatic functions used in MSA revealed systematic use of MSA for clarification and emphasis, making an appeal, and commenting on self-knowledge/state. Moreover, no direct or indirect echolalic quotations were observed in the child’s use of MSA.

Name: Amanda Nagler - Nexus First Floor Lobby – C17 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Program Chair Dr. Khamis-Dakwar

Clinical Supervisor Mrs. Friedman

Division: Graduate

Title: Screening for Input Dependency in Children with Language Delay

Abstract:

Input dependency, the level to which a child relies on input in their environment to produce utterances themselves, can be measured by calculating the percentage of children’s production overlap with productions of the source interlocutor in conversational discourse. Current screening procedures are primarily focused on detecting a delay or disorder, and seldom incorporate a prognostic measure that doesn’t involve grammatical analysis. We hypothesize that screening procedures incorporating input dependency may provide useful data to better distinguish between children with language delay (presence of pathology) and late talkers as well as serving as a prognostic marker to better plan intervention services. This poster presents a pilot study on the development of an input dependency screening protocol for children with language delay. The screening is a play-based observational screening wherein the child will be provided with toys. The clinician will observe the child's play and interact with the child to elicit expressive language. The child will be expected to produce 15 nouns and 10 verbs. The session will be recorded and transcribed to calculate MLU and the percentage of overlap between adult input and child’s productions. A screening form will be used to calculate a final score of overlap in the child's production based on the type of word produced (spontaneous, prompted, delayed model or modeled). Pilot data from the administration of the screening tool for children attending small group therapy sessions at a university clinic will be presented. The administration of the tool and its scoring as an index of level of input dependence will be outlined as a way to examine its correlation to child’s progress in the therapy setting. This protocol will be used for future examination of how the child’s level of input dependence can be used as a prognostic indicator of success in the therapy setting.

Name: Kayla Franks - Nexus First Floor Lobby – C16 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Dr. Ashwini Namasivayam-MacDonald

Division: Graduate

Title: The relationship between tongue strength and self-reports of swallowing difficulty in community-dwelling elders with neurological impairments

Abstract:

There is limited research examining the relationship between subjective complaints of swallowing difficulties and more objective assessments of swallowing (e.g. tongue strength screening tests). Prior research has shown that patients’ perceptions of swallowing function are not always reliable, and that diagnoses can go undetected if clinicians rely solely on self-reporting (Yael, 2007). Given that the tongue plays a critical role in swallowing (i.e. manipulation of the bolus during chewing and propulsion of the bolus into the pharynx), tongue strength measures are sensitive in predicting aspiration (i.e. food or drink entering the airway) (Butler et al., 2011). The purpose of this study is to determine if community-dwelling elderly adults (aged 60+) who have had a stroke, acquired brain injury, or diagnosis of Parkinson’s disease have an accurate perception of their own swallowing functions when compared to the results of a tongue strength screening test. Five community-dwelling elderly adults with neurological impairments will first be asked if they believe they have any difficulties swallowing. Next, the Iowa Oral Performance Instrument (IOPI) will be used to collect maximum anterior isometric tongue-palate pressures. Chi-square tests will be used to compare results of perception of swallowing difficulties and tongue strength screening results. It is anticipated that results will indicate that patient perception of swallowing function is not a reliable screener for dysphagia and that objective measures of swallowing, like tongue strength pressure, should be employed.

Name: Kayla Carasquillo - Nexus First Floor Lobby – C15 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: Alexandra Chill, Trisha Sooknanan

Faculty: Dr. Melissa Randazzo

Division: Graduate

Title: Neural Correlates of Speech and Non-Speech Sound Processing in Central Auditory Processing Disorder and Language Impairment: An EEG Research Proposal

Abstract:

Neural Correlates of Speech and Non-Speech Sound Processing in Central Auditory Processing Disorder and Language Impairment: An EEG Research Proposal

Current assessment of central auditory processing disorder (CAPD) does not yield objective results due to attentional, behavioral, and language-related confounds, leading to unreliable differential diagnosis. Furthermore, cutoff criteria for existing behavioral testing varies among diagnosticians (Shaikh, Fox-Thomas, & Tucker, 2016). Objective testing is needed to create a “gold standard” test for CAPD. Past researchers have studied the effectiveness of using complex auditory brainstem responses as a diagnostic criterion. Others have used EEG to determine impaired auditory processing in children with dyslexia (Maciejewska, Wiskirska-Woznica, Swidzinski, & Michalak 2014). Interestingly, the effectiveness of diagnosing CAPD with EEG technology has not yet been studied. MMN responses from electroencephalography (EEG) provide pre-attentional responses to oddball auditory stimuli, avoiding any confounding factors. This study will compare MMN responses to speech and non-speech stimuli in children with central auditory processing disorder (CAPD), language impairment (LI), central auditory processing disorder and comorbid language impairment (CAPD + LI), and typically developing children (TD) with speech and non-speech stimuli. Speech stimuli will include /ba/ and /pa/ while non-speech stimuli will contrast tones of different frequencies. It is expected that there will be an absent MMN in speech and non-speech stimuli for the CAPD and CAPD + LI group. In individuals with LI, an absent response is expected from speech stimuli. Typically developing children are expected to have present MMN tones for speech and non-speech stimuli. Findings that support our hypothesis will allow CAPD to be diagnosed objectively and uniformly across cases.

Name: Caitlin Walshe - Nexus First Floor Lobby – C7 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: Brooke Smith, Kieley Kling

Faculty: Dr. Melissa Randazzo

Division: Graduate

Title: Neural Correlates of Dichotic Listening and Interhemispheric Sound Processing in Central Auditory Processing Disorder: An EEG Research Proposal.

Abstract:

Central Auditory Processing Disorder (CAPD) is a pediatric disorder that purports to affect the processing of sounds in the absence of any functional hearing deficit. One diagnostic test for the disorder is dichotic listening which involves presenting the child with different speech stimuli in each ear to test auditory integration abilities. As the left hemisphere of the brain is specialized for language processing in typical individuals, most people show a right ear advantage in dichotic listening tests due to contralateral control between the brain and body. Previous research shows that children with CAPD may show a left ear advantage (LEA), indicating that they have mixed or right-lateralized dominance for language, thus contributing to their deficits in processing language in the auditory modality. In previous research, it was found LEA may be predicted by attentional or other supramodal differences as well as sensory deficits and therefore not specific to CAPD. The proposed study will use electroencephalography (EEG) to circumvent the confounds of attention in previous studies. The Mismatch Negativity (MMN) is a signature of brain response that indexes auditory processing in the absence of attention. In the proposed study we will utilize a passive dichotic listening paradigm to examine the interhemispheric processing differences of children with CAPD and typically developing peers in order to determine if the LEA as indexed by the MMN is a diagnostic marker of the disorder. The anticipated results of this study will further inform the diagnosis and treatment of CAPD.

Name: Kristina Karouzakis - Nexus First Floor Lobby – C13 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Assistant Professor Ashwini Namasivayam-MacDonald

Division: Graduate

Title: Evidence and usage of oral motor exercises for swallowing therapy: A systematic review

Abstract:

Oral motor exercises (OMEs) are commonly used to treat both swallowing and speech difficulties in clinical settings. However, the efficacy of OMEs in swallowing rehabilitation has been questioned by critics due to a lack of supportive rationales. If OMEs (e.g., range of motion exercises and stretching) address only the underpinnings of swallowing impairments and not the functional target of swallowing, then they are unlikely to be effective in improving swallowing abilities. OMEs may not be efficacious due the principle of training specificity in exercise science, where treatment should include the performance of swallow, not only addressing underlying impairments (e.g. strength). The aim of this systematic review was to determine the efficacy of utilizing OMEs as a form of swallowing rehabilitation in adults with dysphagia (swallowing impairments). It is hypothesized that OMEs will not be efficient in treating swallowing problems because OMEs do not require the actual function of swallowing. The review will determine if there is consistent improvement in swallowing outcomes across the literature as a result of using OMEs during treatment. A systematic search of MEDLINE, Cochrane, and ProQuest databases was completed to identify relevant peer-reviewed literature published in English adults in peer reviewed journal articles. Titles, abstracts and full-texts were screened in duplicate. Of the 1,226 articles reviewed, only three met the inclusion criteria. Based on a preliminary review of the literature, it is anticipated that the studies included in the review will suggest that oral motor exercises remain controversial. The results of this literature search and the implications to clinical practice will be discussed.

Name: Lynda Rahman - Nexus First Floor Lobby – C23 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: Ayanna Mays, Stefanie Burgio

Faculty: Melissa Randazzo PhD, CCC-SLP

Assistant Professor, Department of Communication Sciences & Disorders

Division: Graduate

Title: Neural correlates of attention and auditory processing in CAPD and ADHD: An EEG research proposal

Abstract:

Central Auditory Processing Disorder is a controversial diagnostic entity as testing for CAPD is confounded by attention and language, attributes that are already difficult for children suspected of having this disorder. The overlap in features of CAPD with other disorders such as ADHD and language impairment make differential diagnosis or determination of comorbidity difficult for clinicians. Electrocenphalography (EEG) allows us to look at neural signatures of brain responses with high temporal (timing) precision. In this study we will compare brain responses of children diagnosed with CAPD and ADHD in standard EEG tasks of attention in auditory and visual modalities. We will compare event related potentials (ERPs), or neural signatures of brain responses, on a 2-back task to elicit the auditory and visual event related potential (ERP). With this method, in comparison to a control group of typically developing age-matched peers, we expect that children with CAPD will show reduced ERPs to auditory but not visual stimuli, while children with ADHD will show reduced ERPs to both auditory and visual stimuli. An alternative hypothesis is that if CAPD is not a true diagnostic entity, children with CAPD will show reduced ERPs to both auditory and visual stimuli, similar to children with ADHD. These results could provide more objective, concrete testing in examining these populations, leading to more accurate diagnostic measures.

Name: Kimberly McNicholl - Nexus First Floor Lobby – C25 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Steven R. Cox, Ph.D., CCC-SLP

Division: Undergraduate

Title: The Effect of Noise on the Speech Intelligibility of Electrolaryngeal Speakers

Abstract:

The electrolarynx (EL) is a small, hand-held device that is used by individuals who have had their larynx removed due to cancer (Cox, 2016; Doyle, 1994, 1999). Many individuals who have their larynx surgically removed begin using an EL in the immediate, postsurgical period (Ward, Koh, Frisby, & Hodge, 2003). Unfortunately, EL speech is known to be poorly understood compared to when compared to normal, laryngeal speech. However, there is a dearth of research studying the effects of background noise and how it affects speakers with communication disorders. Specific to EL speech, little is known about the impact of noise on the intelligibility of EL speakers. The purpose of this study, then, is to understand how accurately EL speakers are understood by naïve listeners in two listening conditions: quiet and noise. Ten EL speakers will read 10 sentences that each contain five keywords. Twenty-four listeners will be asked to write the words they hear while listening to a total of 50 sentences collected from all of the EL speakers. The noise condition will be introduced into the signal by mixing EL speakers’ voice recordings with multi-talker babble in the background. Given recent findings involving individuals using another form of ‘alaryngeal’ speech (e.g., Eadie, Otero, Bolt, Kapsner-Smith, & Sullivan, 2016), it is anticipated that listeners will perceive ~15% more keywords in quiet than in noise. Findings will provide a better understanding about how well listeners perceive EL speakers in every day contexts, and assist speech-language pathologists to develop therapeutic techniques to improve EL voice and speech.

Name: Kathryn Ressa - Nexus First Floor Lobby – C11 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Dr. Melissa Randazzo

Division: Graduate

Title: Linguistic influences on cognitive load in people who stutter: An EEG research proposal

Abstract:

People who stutter (PWS) struggle to produce fluent speech, impacting their ability to communicate, reducing their quality of life. Previous research on stuttering has revealed that PWS are more vulnerable to demands on cognitive load and demonstrate right rather than left lateralization for language processing. The current study utilizes electroencephalography (EEG) and the Stroop task to examine neural correlates of inhibition as an index of cognitive load for PWS and control participants matched for age and handedness. In the Stroop paradigm, participants will complete a Stroop task with congruent and incongruent linguistic (color/word) and nonlinguistic (number/size) stimuli. EEG data will be compared between right and left brain hemispheres. Anticipated results include greater right hemisphere responses for incongruent linguistic stimuli in the PWS, while control participants will show greater left-lateralization. Moreover, we predict that brain responses to nonlinguistic numeric stimuli will be equivalent in PWS and control participants, indicating that cognitive load is more susceptible to language processing in PWS.

Name: Lauren Sustad - Nexus First Floor Lobby – C26 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Dr. Melissa Randazzo

Division: Undergraduate

Title: Neural Correlates of Changes to Audiovisual Integration Following Aural Rehabilitation

Abstract:

Audiovisual integration occurs during speech perception; a process by which we use the visual cues provided by the speaker along with the auditory signal from the speech sounds for accurate interpretation of speech. Due to aging, there are changes in the auditory system, and that can have great impact on the perception of speech. Speech recognition ability declines with age due to the loss of sensitivity in the peripheral auditory system with increased hearing thresholds.

Aural Rehabilitation is an intervention that utilizes the unimodal visual ability to compensate for the degraded auditory signal in hard of hearing (HOH) population. This proposed study will use electroencephalography (EEG) and stimulus-relevant event-related potentials (ERP) to examine brain activity related to speech stimuli, both before and after Aural Rehabilitation intervention over the course of 10 weeks. The McGurk Effect, a perceptual phenomenon that demonstrates an interaction between vision and hearing in speech perception, will be utilized to index an ERP called Mismatch negativity (MMN). MMN provides information about perception and change detection. A MMN response will be evoked using an oddball paradigm, where an occasional deviant stimulus is presented in a stream of more frequent standard stimuli. By comparing the MMNs via the McGurk effect in HOH individuals who received Aural Rehabilitation to HOH individuals who did not receive therapy (control), we aim to determine if aural rehabilitation therapy improves audiovisual integration capabilities.

Name: Xinyi Wang - Nexus First Floor Lobby – C10 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Ming-Husan Wu

Division: Graduate

Title: An Examination of Chinese Students’ Participation in Group Work Activities

Abstract:

Name: Xinyi Wang

Faculty Sponsor: Professor Ming-Husan Wu

Title: An Examination of Chinese Students’ Participation in Group Work Activities

Abstract

This research project investigates Chinese students participation in group work activities in a classroom for ELLs (English language learners). Data include the classroom observations in an international high school class that enrolls 20- 30 students and Chinese students made up nearly up 40% of the whole classroom. My analysis highlights that Chinese students lacked interaction with non-Chinese students in group activities in the class and some of them were reluctant to involve in the group activities. The finding demonstrates that cultural inherence is the main factor, which affects Chinese students’ participation in group work. I discuss various ways to promote Chinese students’ involvement, with cultivating one's self-confidence as the vital way.

Name: Yuxin Tang - Nexus First Floor Lobby – C9 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Stephen Rubin

Division: Graduate

Title: Use of Nature Therapy for Individuals with Autism Spectrum Disorders to Improve Social Skills

Abstract:

My research summarizes the extant literature on nature therapy and how it can support individuals with autism spectrum disorders. The focus of the paper examines how nature therapy could improve the social skills of school-age children and adolescents with autism. Due to a dearth of literature that directly links relationships among nature therapy, autism, and advancement of social skills; the paper seeks to draw a useful connection of nature therapy among the school-age autism population drawing a hypothesis to generalize its use to advance social skills. The paper will discuss nature therapy and its role, autism spectrum disorder, and analyze social skill development with nature therapy as a treatment.

Name: Aashaun Khedaru - Nexus First Floor Lobby – C8 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: Matthew Marra, Lauren Yanni, Jacqueline Pellecchia

Faculty: Professor Robert Otto FASCM, Professor John Wygand FASCM, Professor John Petrizzo

Division: Graduate

Title: The Acute Effect of Energy Shots on 5 k Run Performance

Abstract:

Caffeine (CF) is the most widely used psychotropic drug in the world and has wide spread use in sport performance. The benefit in short, powerful activities may be questionable, but the benefit to endurance performance is well studied. Generally this central nervous system stimulant is believed to delay the perception of fatigue and may improve performance. CF can be ingested in isolation or in combination with other substances. Energy shots (60-90 mL volume) with less sugar, carbohydrates, and carbonated water than traditional energy drinks are gaining popularity for CF delivery with less gastrointestinal distress. Purpose: The purpose of this study was to determine the effect of an acute ingestion of two types of energy shots on 5K treadmill time-trial run performance. Methods: In a double-blind crossover study, 17 recreational or intercollegiate runners (mean body mass [BM] 64.3 ± 16 kg, height 172.9 ± 4 cm, age 23.9 ± 3.6 yrs, run 40 ± 8 km/wk) performed three randomly assigned 5K trials preceded by abstaining from CF for 48 hrs and ingesting a matched fluid from an opaque container, 30 minutes pre-trial. Trials A and B both contained 5mg CF/kg, but A contained a popular energy shot, while Trial B contained naturally occurring CF derived from plants with additional minerals, vitamins, and anti-oxidants. Trial C (placebo) contained only the same lemon-lime taste in water absent of CF. Subjects performed their own consistent warm-up, controlled their pace throughout each trial, and were informed of splits at each mile. Statistical analysis by ANOVA (p<.05) were applied to these data. Results: Time trial performance for Trials A, B, and C were 1393 ± 274 sec, 1368 ± 287 sec, and 1403 ± 295 sec, respectively with NSD among all trials. T

Name: Brenna Martini - Nexus First Floor Lobby – C28 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Kevin Mercier

Division: Undergraduate

Title: Pre-Service Physical Education Teacher's Perceived Readiness to Address LGBTQ+ Issues in Educational Settings

Abstract:

In today’s society, educators, including physical education teachers play a crucial role in the inclusion or exclusion of LGBTQ+ individuals in and out of the school environment. Little research has been conducted that examines the readiness of educators to work with and teach LGBTQ individuals, but it is thought that the attitudes of those teachers will impact their teaching behaviors and their effectiveness. This research study examines a pre-service physical education teacher’s readiness to teach and interact with the LGBTQ+ population based upon four factors: gender, sexual orientation, age and community type.

Independent sample T-test were run to identify significant different between the following variables: gender (male/female), sexual orientation (heterosexual/LGBTQ), and age (21-25/26+). A one-way ANOVA was run to test the community type variable (urban/suburban/rural). By examining those tests, significant differences were found for gender and sexual orientation when it comes to attitudes towards gays, lesbians and transgendered individuals. There were no significant findings for the age or community type variable.

Results from this study show that male and female physical education majors have varying attitudes towards gays, lesbians and transgendered individuals. It would be beneficial to understand this difference and create learning experiences and environments within physical education majors’ programs to help males develop more positive attitudes. In regards to sexual orientation, it may be beneficial to increase the emphasis of the rights of LGBTQ individuals within physical education majors’ courses to possibly cultivate more positive attitudes. This study begins to bring attention to the attitudes of physical education majors and starts a much-needed conversation on how to prepare future educators to be caring, support, inclusive and effective teachers.

Name: Alison Schroeder - Nexus First Floor Lobby – A29 – Section A: 9:00-10:00 A.M.

Co-Authors: Kaylee Qiu

Faculty: Doctor Beth Christensen

Division: Undergraduate

Title: Impacts of Coral Bleaching from 2009 - 2017 in North Beach, Research Beach, and Shipwreck on Heron Island

Abstract:

Human activity has a significant impact on coral bleaching, the process in which corals lose their pigmentation through the expulsion of symbiotic microscopic algae living in their tissues (US Department of Commerce, National Oceanic and Atmospheric Administration, 2010). The overall increase in average ocean temperatures, related to human-induced climate change, has led to an increase in bleached-coral sightings (Pueschel, 2011). The goal of this experiment was to investigate the possible correlation between the degree of coral bleaching and various levels of human impact on Heron Island, Queensland, Australia. The hypothesis was that coral bleaching would be more prominent in areas with increased human influence than in areas with decreased human influence. Corals from protected and unprotected areas (Research Beach, North Beach, and the Shipwreck) were surveyed. The survey in the Shipwreck location was conducted by snorkeling to the site during low tide and identifying tagged corals from previous CoralWatch studies. The data for Research Beach and North Beach was obtained through walking out to the reef during low tides; no snorkeling was required. Varying results due to the amount of visible light during sampling was considered and resolved by surveying the corals in both sunny and cloudy weather. Corals were then evaluated based on their pigmentation with CoralWatch’s Coral Health Chart and compared with CoralWatch studies from 2014 - 2016. According to the results, the average color scores for the surveyed corals in the three areas generally followed the same trend from 2014 – 2017. Since the color scores at different areas followed the same trend, this suggests that human influence may not be a significant factor in coral bleaching on Heron Island. Therefore, the hypothesis was not supported.

Resources:

US Department of Commerce, National Oceanic and Atmospheric Administration. (2010, March 15). What is coral bleaching? Retrieved from https://oceanse

Name: Sarah Combs - Nexus First Floor Lobby – A30 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Michael D'Emic

Division: Undergraduate

Title: Coryphodon Evolution

Abstract:

Coryphodon was a genus that evolved after the extinction of dinosaurs and spread to occupy many habitats across the northern hemisphere. The genus lived through many episodes of dramatic climate change, including the well-studied Paleocene-Eocene Thermal maximum 55 million years ago. Coryphodon was the first mammal to evolve large-body size (up to 800 kg), but little is known about when, where, and how its body size evolved. Through the use of Google Earth and ArcGis, the locations of Coryphodon fossils found in the Big Horn Basin in Wyoming were mapped. The body mass and geologic age of each specimen were also plotted on the map to investigate how Coryphodon body mass evolved with respect to latitude and time. Today larger species tend to be found at higher latitudes, a pattern known as Bergmann’s rule. I hypothesize that Coryphodon first evolved large body mass at higher latitudes that then spread to lower latitudes.

Name: Elizabeth Buccheri - Nexus First Floor Lobby – A13 – Section A: 9:00-10:00 A.M.

Co-Authors: Stefani Ritter, Esther Wolf, Paul Langis

Faculty: Professor Matthias Foellmer

Professor Aaren Freeman

Professor Beth Christensen

Division: Undergraduate

Title: Variation in righting times of Holothuria atra, Stichopus chloronotus and Holothuria edulis in response to ocean warming on Heron Reef in the southern Great Barrier Reef

Abstract:

Sea cucumbers can mitigate some impacts of climate change through digestion of benthic sands and production of calcium carbonate. The projected ecological benefits of sea cucumbers in warmer, more acidic oceans are contingent on the capacities of various species to adapt to climatic changes. Therefore, the goal of this experiment was to evaluate the degree to which warming waters would impact three abundant species of sea cucumbers on Heron Reef in Queensland, Australia. To do this, we conducted a behavioral assay using three species of sea cucumbers, Holothuria atra, Stichopus chloronotus and Holothuria edulis. Individuals from each species were allowed to acclimate to three conditions mimicking current summer temperatures, current winter temperatures, and an elevated temperature consistent with future ocean warming by the year 2100. Sea cucumber reactions were evaluated using righting time as a proxy for their stress levels and overall tolerance of warming events. The three sea cucumber species reacted differently to water temperature changes: H. atra reaction rates declined with temperature, H. edulis increased with temperature and S. chloronotus had greater righting times at high and low temperature extremes. Our results suggest that each of these species might respond differently to ocean warming and the local diversity of sea cucumbers may provide a portfolio effect, buffering future climate change.

Name: Vincent Schinina - Nexus First Floor Lobby – C33 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Dr. Branden Stone

Division: Undergraduate

Title: Linear Programming and the Simplex Method

Abstract:

Linear programming is the process of taking an equation containing various variables and maximizing or minimizing it to obtain an optimal solution. This concept starts with an equation, typically called the cost equation, which will be maximized or minimized. To do this, the cost equation is put under constraint inequalities. However, these inequalities are made into equations and the optimal solution for the maximization or minimization is solved for using the simplex method. In this research, the foundation of the simplex method and the concepts of linear programming are brought together to program a fully functioning simplex method in the Macaulay2 programming language.

Name: Kristina Goncalves - Nexus First Floor Lobby – C41 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Doctor Lawrence Hobbie

Division: Undergraduate

Title: Catalyst to Change: Why Faculty Members Transform Their Teaching From Traditional Lecture to Active Learning

Abstract:

The traditional lecture style of teaching has dominated higher education since universities were first founded in the 11th century CE. However, within the past 50 years, studies have shown that active learning approaches to teaching yield a higher rate of student success than the traditional lecture approach. Active learning is particularly beneficial in the STEM field in which many careers require that employees actively problem solve and work collaboratively within groups. Although there is proof to support the use of active learning with higher education, it is often easier said than done when it comes to changing how one teaches. In this study, I explore what influences an educator’s choice of teaching style by interviewing science faculty within the Adelphi community, both those who teach primarily using lectures and those who teach using active learning approaches.

Name: Jennefer Maldonado - Nexus First Floor Lobby – C39 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: Mikaela Merolesi, Gerard Boniello

Faculty: Professor Salvatore Giunta

Division: Undergraduate

Title: Comparative Analysis of Cryptographic System Strength

Abstract:

We present a program that imports written works and encrypts and decrypts them using polygraphic substitution via matrix multiplication. This program has statistical capabilities to test the strength of these systems subject to frequency analysis. The strength of the system will be modeled as a function of the block size of the cipher, and the relative benefits of various block sizes will be discussed.

Name: Jua Son - Nexus First Floor Lobby – A39 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Alex Neitzke

Division: Undergraduate

Title: On the Normative Individualistic Model of Responsibility and Health Care System: Interdependence and Approach towards Care

Abstract:

I argue that the United States healthcare system is based on an individualistic model of responsibility for health as expressed in health insurance policies and in public advertisements. This individualistic model, however, does not reflect the interdependency and complexity of reality. Further, the systems that result from inaccurate models of responsibility are unfair because they hold persons accountable on the basis of an inaccurate representation of their influence or potential influence over their individual health. Social determinants of health and the social effects of the current health system demonstrate social connection and emphasize interdependence among the members of the society, rather than individual responsibility alone. Thus, I argue for a more collective, holistic approach that reflects interdependence in the health care system because the individualistic model of responsibility approach seems far from fair, comprehensive, and effective along with some repercussions to our society. If an individual is responsible for what is in her or his control and choice, then society as a whole should take responsibility for what is in their control.

Name: Sarah Liberti - Nexus First Floor Lobby – A59 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Heather Waters

Division: Undergraduate

Title: Abolishing The Wall: Variations on a Familiar Setting

Abstract:

In education and professional spaces alike, an invisible wall tends to be built between teacher/director and student(s)/performer(s). One space is reserved for musicians and a second for the leader. Through the use of photography, music education major Sarah Liberti observed the spaces in between performers and their director. Photographs were taken from above, below, among, and behind participants in rehearsal and concert gatherings at random points during the ensembles’ processes. Liberti based her research on the philosophy of contemporary composer John Cage. When referring to moments of rest and silence during music, as well as discussing the greater functions of music outside the realm of performance, Cage once stated “There is no such thing as an empty space or an empty time. There is always something to see, something to hear.” By using the medium of photography, Liberti was able to focus on visual aspects of rehearsal and performance, the “something to see” Cage referred to, and concluded that the teacher/director of any ensemble has much insight to gain from viewing their musicians in nontraditional perspectives. Additionally, music can be experienced in a vastly unique way when passive audience members are able to experience performance when not seated in their traditional area: a variety of timbres, balances, and moods are evoked from different points of view. Lastly, musicians are able to gain matchless insight when given the chance to rehearse and/or observe their fellow participants in nontraditional viewpoints: performers have increased opportunities to match pitch, blend, imitate, and feed from one another during improvisation.

Name: Chloe Leigh Ong - Nexus First Floor Lobby – C38 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Matthew Wright

Division: Undergraduate

Title: Dosimetry Assessment of Head CT Scan Exposure

Abstract:

My current research involves the dosimetry assessment of radiation emission from head CT scans. It’s focus is on radiation safety, since I work under medical physicists. Our goal is to ensure that several of the x-ray scanners are accurately representing the amount of radiation that patients are exposed to. We want to ensure that a patient isn’t improperly exposed to extra radiation for the sake of a clearer x-ray image. Inevitably, we aim to find the best way to scan a patient with the clearest x-ray image, with the minimum amount of necessary exposure. We were able to achieve the first goal of our experiment: to analyze the difference between what the CT scan emitted compared to what the patient actually absorbed. This was done by using small dosimeters called nanodots. They are about 1x1mm in size and contain a small strip of aluminum oxide. Four nanodots were placed on participating head CT scan patients: entrance (between eyebrows), exit (back of the head, aligned with the entrance nanodot), outer canter, and thyroid. This layout was designed to examine CT exposure on focused points while measuring additional Compton scatter that may affect other parts of the body. We discovered that there’s at most a ±10% correlation of error between what an x-ray machine reads compared to what a person is exposed to. Due to the little amount of exposure these specific head CT patients receive, it is almost negligible. However, in other cases, this error may prove detrimental. We wish to continue more studies and increase our sample size to reach more conclusive results.

Name: Allan Delarosa - Nexus First Floor Lobby – C37 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: Muhammad Aziz

Faculty: Professor Sean J. Bentley

Division: Undergraduate

Title: High-Resolution Interference Patterns Using Nonlinear Absorption

Abstract:

We use thin films of CdSe nanoparticles as a multi-photon absorber in order to write interference patterns with two to three times the resolution that would normally be allowed by the diffraction limit for linear techniques. The nonlinear effects of the nanoparticles are measured using Z-scans in order to determine the visibility of the nonlinear effects. Using a patented phase-mask, nonlinear interference method developed in our lab, we will demonstrate the generation of arbitrary patterns with the higher resolution.

Name: Anthony Romagnolo - Nexus First Floor Lobby – C36 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: Colleen Williamsen

Faculty: Doctor Mathew Wright

Division: Undergraduate

Title: Toward Globular Cluster and Deep Space Observations

Abstract:

We have begun to re-initialize the observatory at Adelphi University. In the summer of 2017, the Adelphi Observatory was dissembled for roof repair. We will discuss our progress on toward making the observatory functional and developing Astronomy outreach activities on campus using the telescope. We have centered and aligned the telescope and have begun investigating objects in the solar system. We will also discuss our progress of doing digital photography with Deep Sky Objects.

Name: Lani Chau - Nexus First Floor Lobby – A14 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Justyna Widera-Kalinowska

Division: Undergraduate

Title: Development of Pt|Polyaniline|CdS Thin Film pn-Junction for Photocurrent Generation

Abstract:

Critical environmental issues such as pollution and climate change have driven the growth in research for cleaner energy, such as solar [1]. Accordingly, solar energy can offer the highest power output, given a total average solar flux of about 30,000 terawatts irradiate planet earth [2]. Many materials have been studied in the area of solar cells, such as crystalline silicon [3], to harvest light energy using a highly efficient method. However, thin-film solar cells are easier to produce and offer a low-cost solution. Through an international collaboration with Warsaw University, we built a novel hybrid pn-junction photovoltaic cell combining polyaniline (PANI) as an organic conductive polymer thin film, with inorganic CdS semiconductor thin film [4]. Our goal was to generate and optimize photocurrent. These thin-films are electrochemically deposited by cyclic voltammetry on top of a platinum disk working electrode. The first layer of the composite is the p-PANI layer, following next is the n-CdS layer deposition, to form a p-n junction hybrid. This hybrid system reduces recombination of electron-hole pairs, by promoting the separation of the electrons and holes to support electron transport out to the external circuit for maximized photocurrent output. Additionally, PANI's porous structure also acts as a protective layer against the photodecomposition of CdS film when under irradiation, attenuating any toxic exposure to the environment.

[1] I. Dincer, Renewable and Sustainable Energy Reviews, 4, 2 (2000)

[2] Electronic Nanomaterials. https://www.bnl.gov/cfn/research/electronic.php. Accessed November 06, 2017

[3] Crystalline Silicon Photovoltaics Research. https://energy.gov/eere/solar/crystalline-silicon-photovoltaics-research. Accessed November 21, 2017

[4] D.S. Dhawale et al., Room temperature LPG sensor based on CdS/PANI heterojunction, Sens Actuators B 145 (2010) 205-210.

Name: Fernanda Murillo Armijo - Nexus First Floor Lobby – A15 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Eugenia Villa-Cuesta

Division: Undergraduate

Title: Study of the effect of varying magnetic field conditions on Drosophila

Abstract:

Electromagnetic fields (EMFs) affect the aging, health, and reproductive success of different organisms. This work studies the effect of magnetic fields on the performance of the mitochondria using fruit flies as a model system, since mitochondria are imperative to all these biological processes. Three uniform and simultaneous magnetic field conditions (zero, high, and low) were created using 3D Helmholtz coils and placed in the same incubator. Previous experiments used a climbing assay to visually observe the health of the flies according to the effect of the electromagnetic field on the mitochondria. It was concluded that high magnetic fields are detrimental for climbing. This work measures metabolic rate using stop flow respirometry as a proxy for mitochondrial function. Understanding how EMFs affect health is important since we are constantly surrounded by electromagnetic fields, from Earth’s omnipresent field or artificial from our environment.

Name: James St. John - Nexus First Floor Lobby – C32 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: Tanner Grogan

Faculty: Matthew J. Wright

Division: Undergraduate

Title: The Chirpper

Abstract:

We are constructing an electro-optical device to generate rapid frequency chirped laser pulses. Recent experiments in our lab have demonstrated that we are able to generate 1 GHz sweep in 6 ns with a 3 ns pulse shifted at some large GHz detuning. We will discuss our progress toward enclosing all the technology components into one single inexpensive robust device that will ultimately simplify current research efforts and will lead to the possibility of transporting our capabilities to major research facilities.

Name: Kristen Oldja - Nexus First Floor Lobby – C31 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Matthew Wright

Division: Undergraduate

Title: Controlling Atomic Excitation with Frequency-Modulated Lasers

Abstract:

Pulsed, chirped, near-resonant laser light is an effective tool in adiabatically controlling the excitation of atoms between atomic electronic states. The ARP (Adiabatic Rapid Passage) occurs when an atom is illuminated by successive chirped laser pulses from opposite directions. The first chirp pulse causes the atom to absorb a photon pushing the atom. The second chirp pulse, from the opposite direction, causes the stimulation of a photon, causing a push in the same direction as the first pulse. We have begun exploring how this process can work in multi-level atoms by solving the density matrix equation in the rotating-wave approximation for a five level atom based on Rubidium.

Name: Basil Spanopoulos - Nexus First Floor Lobby – C30 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: Devan Cole

Faculty: John Dooher

Division: Undergraduate

Title: Development of a cold-flow visualization rig (C-FVR) for the Design and Modeling of Spouted Bed Reactors

Abstract:

The aim of our research is to develop and test a cold-flow visualization rig (C-FVR) for spouted bed reactors that simulate pulverized biomass as feedstock. Spouting fluidized bed reactors convert biomass energy efficiently. This program is a combination of experiment and theory designed to model the hydrodynamics of a spouted bed. This will allow an increase in efficiency of reactors for combustion and gasification of biomass. Using readily available material, a blower, clear tube and high-speed camera, we assessed the hydrodynamics of a spouted bed employing small diameter fluorescent particles. We have produced a laboratory-scale model of a conical spouted bed reactor, designed for mixing the beads, which simulate Geldart Group D particles, which are dense, large particles (d > 500μm). A major advance in biomass gasification technology is the use of the spouted bed in which the bulk of the mixing is provided by the injection of air, oxygen, steam or CO2 thru the center of the bed rather than the method of fluidization using distributor plates and sparges. This technique tailors the residence time for the required reactions to complete, allowing greater fuel throughput for the same sized reactor. Velocity profiles and radiation transfer can be evaluated, producing designs that minimize the amount of fuel used for exothermic reactions in the partial or total oxidation processes. We have investigated the movement characteristics of mixing beads illuminated by a UV light source. We monitored the path of a black bead, using it to measure the average recycle time of the beads, which was 11.44 seconds. Additionally, we explored the intensity as a function of the aperture height of spectrometer placement to evaluate propagation of the UV radiation. Using a hot wire anemometer, the air flow velocity profile was determined, correlating well with the Landau submerged jet solution of the Navier Stokes equation.

Name: Natasha Mohan - Nexus First Floor Lobby – C35 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Matthew Wright

Division: Undergraduate

Title: Accuracy of MV imaging for tracking prostate movement during volumetric-modulated arc therapy

Abstract:

The study explored the efficacy of using only MV imaging techniques to track delivery of radiation therapy to prostate cancer patients. The motivation behind the study was to mitigate the otherwise cost-prohibitive aspects of kV imaging techniques to seek a more affordable, yet viable alternative. More particularly, the goal of this study was to determine the accuracy of using only MV imaging techniques to track patient movement during volumetric-modulated arc therapy (VMAT). In order to track patient movement, 2-3 gold seeds (fiducials) are surgically implanted in the patient’s prostate. Analyzing MV images taken throughout the duration of the radiation session provides insight on the 3D position of the prostate (by tracking the fiducial movement). Involuntary movement of the prostate during VMAT (e.g., due to bladder filling, gas passing etc.) decreases the accuracy of the delivery of radiation and increases the risk of harm to non-cancerous tissue. Quick identification of prostate movement during VMAT and the subsequent pausing of radiation delivery as the patient is repositioned is paramount in decreasing any risks associated with radiation therapy. Given the clinical success using orthogonally acquired simultaneous MV-kV imaging techniques to track prostate movement, this study explores the accuracy of using only MV images to perform the same motion analysis. The sample for the study comprised of data pertaining to ~10 patients over the duration of their respective radiation therapy protocol. For each patient, approximately 36 frames of MV and kV images taken at specific gantry angles were analyzed per session (each patient underwent approximately 9 VMAT sessions).

Name: Carissa Giuliano - Nexus First Floor Lobby – C42 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Matthew Wright

Division: Undergraduate

Title: Developing a Community Outreach Program on the Physics of Smell

Abstract:

From the beautiful smell of roses to the harsh smell of bleach, have you ever wondered how your body is able to detect these scents? How is a scent molecule—an odorant—detected, and how does it go from being detected to transmitting signals to your brain? I will present our progress toward developing a public outreach program on the physics of smell to give to local high schools and museums. Researching and teaching others about the physics of the sense of smell will allow us to further understand the human body, as well as uncover possibilities for technological applications, such as creating artificial olfactory conduits and pathways.

Name: Kidan Tadesse - Nexus First Floor Lobby – C34 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Matthew Wright

Division: Undergraduate

Title: Control and Stabilization of Frequency and Intensity of an External Cavity Diode Laser

Abstract:

We are enhancing a magneto optical trap toward collision studies with ultra cold atoms using frequency chirped laser light. Toward this goal, we have developed an intensity servo feedback circuit to control the intensity of the incoming laser beam and a frequency-lock control system that results in stabilization of the laser's frequency to an atomic-line. We will discuss our progress in further improving the stability of our magneto-optical trap.

Name: Gabriella Thomaidis - Nexus First Floor Lobby – B2 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Errol Rodriquez

Division: Graduate

Title: The Impact of Homelessness on Adolescent Psychosocial Development: A Qualitative Study

Abstract:

The purpose of this study is to determine whether there is a direct correlation between adolescent’s self-esteem and living in a tier II shelter. The candidates included fifteen adolescent boys and girls from the age of eleven to seventeen who are currently living in a homeless shelter. To determine the adolescent’s self-esteem, we used Rosenberg’s Self-Esteem Scale. We then asked a series of questions regarding their experiences at the shelter, school, and outside of both. This data will allow us to better understand the issues that these adolescents face daily, and how it directly effects their self-esteem. Due to unforeseen issues with my IRB pending approval we were only able to obtain interviews of the fifteen candidates and are in the process of coding to provide more information on my study. There will be preliminary data presented at the conference if the results are not yet determined.

Name: LING ZHANG - Nexus First Floor Lobby – B3 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Kirkland Vaughans

Division: Graduate

Title: The Increase of Eating Disorder among Asian Women and Contrast to American Women

Abstract:

Recently, an increasing number of Asian women have suffered from eating disorders, such as anorexia nervosa and bulimia nervosa. Eating disorder is regarded as a severe mental illness. Prevalence and correlates of eating disorder will be described. Also, causes and factors will be examined in multicultural and feminist perspective in this study. A better understanding of these causes and factors is able to help people effectively avoid developing abnormal eating habits which may threaten their health and even their lives.

Name: Fallon Kane - Nexus First Floor Lobby – B4 – Section B: 10:10-11:10 A.M.

Co-Authors: Alyssa Conigliaro

Gina Lehr

Stephanie Dawber

Taylor Groth

Faculty: Professor Rita Mercante

Division: Graduate

Title: Dialectical Behavior Therapy Skills for College Students with Autism Spectrum Disorder: A Pilot Study

Abstract:

An adapted version of the adult Dialectical Behavior Therapy (DBT) skills group was introduced to a college support program for students who self-disclose with ASD. Over the course of one academic year the group completed the four skills modules of DBT: Mindfulness, emotion regulation, distress tolerance, and interpersonal effectiveness. Pre and post test outcomes were assessed.

Randomized controlled trials have demonstrated the efficacy of DBT in the treatment of many domains such suicidal and nonsuicidal self-injurious behaviors, substance abuse (Linehan et. Al., 1999), treatment retention, and emotion regulation (Robins & Rosenthal, 2011). However, there is a dearth of literature concerning whether DBT skills and mindfulness practices are effective techniques for reducing the emotional deficits associated with ASD. Some researchers (i.e., Mazefsky et. Al, 2013) suggest that poor emotional regulation may be at the heart of many of the socio-emotional and behavioral deficits seen in the population. DBT includes an entire module dedicated to emotion regulation skills, it could be highly beneficial techniques for persons with ASD.

Overall, it was found that those participants experienced an increase in mindfulness (a module of DBT), and also reported feeling less limited by their current emotional coping strategies (t(2, 13)= -2.935, p>.05, R= 0.62). Moreover, it was found that females reported significantly lower levels of having such limited strategies after the group than males (p>.05), a difference that did not exist in the pre-test. Overall this suggests that mindfulness can provide individuals with ASD with an emotional coping strategy that they may be lacking, and that females may respond better to mindfulness training than males. Clinical implications and suggestions for further research are discussed.

Name: Jazmin Henriquez - Nexus First Floor Lobby – B26 – Section B: 10:10-11:10 A.M.

Co-Authors: MONICA, GRAZIOSE

TARA, HENSHAW

YAQUELIN, IGLESIAS

AAIZA, KAUSAR

ANTHONY, LAROSA

JAMES, MCCULLOUGH

HEIDI, PENA ORTIZ

SHEILA, RIERA

PATRICK, SHEEHAN

KAROLINA, VELASQUEZ

Faculty: Carolyn M. Springer, Ph.D.

Division: Undergraduate

Title: Inquiring Minds: Student Projects from Practicum in Experimental Psychology (398-001) FALL 2017

Abstract:

In Practicum in Experimental Psychology, one of the capstone choices for undergraduate psychology majors, students independently design and carry out their own research study informed by knowledge and skills gained in prior classes. Students enrolled in Section 001 of this class in fall 2017 conducted research in the areas of health, sports, education, social relationships, personality and criminal justice. Students will present their research questions and hypotheses, methodology used, study findings and implications.

Name: Joanne Stasiak - Nexus First Floor Lobby – B22 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Dominic Fareri

Division: Undergraduate

Title: Dissociating the Value of Social and Non-Social Experiences

Abstract:

Social experiences serve various functions in life, from satisfying basic security needs and creating support systems, to providing opportunities for personal growth. The advantages of socially rewarding experiences throughout life inherently signify them as valuable and rewarding, and neuroimaging research suggests that the brain’s reward circuitry encodes their value similarly as non-social rewards such as food and money. However, the ways in which individuals subjectively value social experiences in relation to non-social experiences remains an open question. In the present study, participants completed a forced choice economic decision-making task in which they indicated their preferences for social and non-social experiences. Participants earned an endowment of money by first playing a computerized card guessing game in which they could earn monetary rewards for correct guesses. We then employed a Willingness to Pay (WTP) paradigm to examine how much of this money individuals would be willing to forego for varied types of social (e.g., ‘Going to dinner with friends’) and non-social (e.g., ‘Watching television by yourself’) experiences. Although subjects had the choice to preserve maximum profits by selecting the least costly options on each trial, we hypothesized that subjects would be willing to forego greater sums of money to experience socially motivated rewards, and that their choices would be moderated by individual differences in social abilities. Preliminary analysis revealed that participants (n=7) chose to spend more of their money on social experiences than on non-social experiences (t(242.36)= 2.4593, p=0.01, 95% CI: [0.0009, 0.007]). Upon completion of data collection, additional planned analyses will focus on quantifying participant-specific subjective social value functions and will examine the relationship between self-report assessments of social abilities and relative preferences for social and non-social experiences in the WTP task.

Name: Shoronda Matthews - Nexus First Floor Lobby – B6 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Nathan George

Division: Graduate

Title: What's A Book? Parents' Views on Traditional Books vs. Books Electronic Elements

Abstract:

Research shows that early experiences with books are predictive of later reading success and language development in young children. With the advancement of technology, the definition of a book has changed. It is more than just paper bound books. Now it can also be books with electronic elements. Research suggests that there is a difference in the quality of the parent-child interactions across different book formats. For example, parents reading a traditional book with a child were found to stimulate a more dialogic and content-focused reading experience, with the parent encouraging their child to play a more active role through questions that related the child's life to the story. With electronic books, parents were found to have more behavior-focused language (e.g. "Stop pressing the buttons"; Parish-Morris et al., 2013, p. 2). Since parents are the main consumers in purchasing books for their children, it is important to learn more about whether their views concerning the different book formats agree with the current literature.

Parents with children between the ages of 3 to 6, living in the United States were surveyed. In addition to demographic questions, parents were also asked about their opinions on different types of reading materials. In the preliminary analysis, we find that parents would rather purchase traditional books over books with electronic elements, ps < .05. Although parents report that their children enjoy all book formats equally, ps > .5, parents enjoy reading traditional books more than books with electronic elements, ps < .05. Parents also prefer traditional books because they view these books as more of a learning tool as compared to books with electronic elements, ps < .05. Parents overall are making purchasing choices that agree with the research on which book formats are the most beneficial for child learning. However, the factors that influence parents' choices are more complicated than just the quality of parent-child interactions.

Name: Yahan Fan – Nexus First Floor Lobby – B1 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Professor Nathan George.

Division: Graduate

Title: The Roles of Engagement and Practical Application in Language Instruction

Abstract:

In traditional models of teaching language, students tend to spend a lot of time and energy memorizing words and grammar to avoid making errors in a test, but struggle to communicate in real-life situations (Gao, S. 2009). This deviates from the original intention of people seeking to learn the language. Nowadays, teaching methods should emphasize communication and the practical uses of language. These new teaching methods pay more attention to the interaction between teachers and students and give students a leading role. Teachers' responsibilities are to help stimulate students' interests, so that students learn actively instead of through passive acceptance (Broughton, 1994). This research focuses on the influence of traditional and modern methodologies on second language learning, including the influence of engagement factors on people's learning motivation. The study will test population undergraduate students, divided into two groups. The first group will learn new words by the traditional teaching methods, in which they will see new words, based on Dutch, presented in one sentence descriptions of a picture. The second group will learn by modern teaching methods, which presents the new words in the same way, but in the context of making decisions about a fashion and sporting event. After learning, subjects will complete a fill-in-the-blank test. We predict that the modern teaching method will result in better learning than the traditional method as it teaches words in a practical and meaningful context. We also expect that students with higher interest in fashion and sports will perform the best in the modern condition. These findings will show that, compared with the traditional model of teaching students to learn new languages, the new teaching method is more efficient and attractive, and engagement occupies an essential role in the process of learning the language.

Name: YANG ZHANG - Nexus First Floor Lobby – B10 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Professor Carolyn Springer

Division: Graduate

Title: Factors that Impact the Level of Maternal Depression in the United States

Abstract:

Abstract

Maternal depression is considered a risk factor for the socioemotional and cognitive development of children. Maternal depression is a major public health problem in the United States, and it is estimated that 1 in 10 children experience growing up with a depressed mother in any given year. My research focus is to examine variables that might impact the level of maternal depression experienced by women living in the United States. A better understanding of these factors can lead to the development of appropriate interventions which can offset the detrimental effects of maternal depression on child development. This study involves the analysis of national data collected by the Center for Disease Control.

Name: Janae Cora - Nexus First Floor Lobby – B23 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Professor Jerry Gold

Division: Undergraduate

Title: A Correlation Study on Sleep, Depressive Symptoms, and Grade Point Average

Abstract:

Social and academic demands contribute to the occurrence of unhealthy sleep patterns and poor academic performance for college undergraduates. Students are responsible for attending classes, keeping up with daily course work, completing exams and writing scholarly papers. In addition to academic obligations students may hang out with friends, spend time with romantic partners, engage in sports or other extracurricular activities, and enjoy personal alone time. There is barely enough time left over in the day for adequate sleep. Research shows that reduced sleep leads to lethargy, dozing off, tardiness, inefficiency in work and a proneness to error. About thirty percent of the undergraduate college population can qualify for a sleeping disorder. On average, college students receive about two to three hours less of nocturnal sleep than advised. Those with poor sleep and poor cognitive functioning experience lower levels of academic performance. These students report having poorer studying habits, and trouble with punctuality and short-term memory. The purpose of the study is to replicate the findings made in previous scholarly literature and provide proof of the existing correlation between sleep, depressive symptoms and academic performance in undergraduate students. The participants for this study were selected from among the Adelphi University undergraduate population. Each participant completed a survey that combined the Beck Depression Inventory and the Pittsburgh Sleep Quality Index to assess psychological depressive symptoms and sleeping patterns. Based on the psychological literature it is predicted that there will be a significant correlation found between all three variables (hours of sleep, depressive symptoms and academic performance). These results will provide further evidence of the detrimental life style that many undergraduate students peruse while opening the door for future research in possible solutions for this phenomenon.

Name: Amanda Goodwin - Nexus First Floor Lobby – B15 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Laura Brumariu, Ph.D.

Division: Graduate

Title: Age of Trauma Exposure and its Relationship to Psychological Well-Being

Abstract:

Traumatic exposure has been shown to influence anxiety (Dückers & Brewin, 2016), resilience (Bonanno, 2004), and interpersonal functioning (Karatzias et al., 2017), however, few studies have examined whether the age at which a traumatic event occurs influences this relation. Some studies have shown that early childhood abuse has severe and negative outcomes (e.g., Grasso, Dierkhising, Branson, Ford, & Lee, 2016), whereas others have found that a traumatic exposure in childhood can lead to resilience in comparison to exposures in adulthood (Miller-Graff & Howell, 2015). This study examines the relations between trauma, age of exposure, and psychological well-being. The sample included urban college-aged individuals (N= 164) who self-identified as having been exposed to a trauma (n= 133), and a group with no history of trauma (n= 31). We first examine the differences in psychological well-being defined as: low anxiety, high resilience, and good interpersonal functioning across three groups – trauma-exposed individuals with post-traumatic stress symptoms (PTSS), trauma-exposed individuals with no PTSS, and healthy controls. Second, we investigate if the age at which an individual is exposed to a trauma was associated with psychological well-being in young adulthood. Psychology students from a local university, along with community participants, were recruited online for a larger study. Eligible participants were invited to complete a 45-minute online survey assessing demographics, trauma, and psychological well-being. Twenty-two participants were re-contacted via email to obtain the age at which they were exposed. Trauma exposure, anxiety, resilience, and interpersonal functioning were assessed through six measures. Data from participants will be analyzed with SPSS using 3X2 (group X age) ANOVAS. The findings will be discussed in order to further understand the complex relations between age of trauma exposure, anxiety, resilience, and interpersonal functioning.

Name: Esther Libby Frankl - Nexus First Floor Lobby – B7 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Professor Dominic S. Fareri

Division: Graduate

Title: Neural correlates of social reward processing during adolescence: An activation-likelihood meta-analysis.

Abstract:

Abstract

Neural correlates of social reward processing during adolescence: An activation-likelihood meta-analysis.

Frankl EL & Fareri DS

Adolescence is a time of heightened sensitivity to reward and increases in risky decision-making, with a number of studies demonstrating a heightened engagement of neural reward circuits in adolescents compared to adults. Coupled with the fact that neural reward circuits undergo massive change during this developmental window, it is critical to consider the context in which these behaviors are often observed, as adolescence is typically a time in which increased importance is placed on peers and the social environment. Any stimuli that are peer related may have an increasing value to an adolescent’s reward system, causing an increase in the reward value assigned to certain behaviors and stimuli. Previous developmental studies have shown that activation in reward related brain areas including the ventral striatum are elevated in adolescence compared to adults, however there have been mixed results regarding the response of these areas to social reward specifically during adolescence and in comparison to adulthood. This study will conduct an activation likelihood estimation meta-analysis of neuroimaging studies using GingerALE (brainmap.org) to identify regions of the brain consistently recruited during social reward processes in adolescence. We will also conduct an analysis to examine differences between regions recruited during social reward processes in adolescence and in adulthood. We expect greater activation of ventral striatum during social reward processing in adolescence compared to adulthood.

Name: Kim Blair - Nexus First Floor Lobby – B20 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Paul Rukavina

Division: Undergraduate

Title: School Administrators and Teachers’ Perceptions of Barriers and Facilitators to Promote School Physical Activity

Abstract:

Despite the health and cognitive development benefits of physical activity, children are not meeting the national recommended 60 minutes of physical activity (Troiano et al, 2008). Comprehensive school physical activity program (CSPAP) has the potential to promote physical activity through coordinating physical activity opportunities before, during, and after school while also fostering a physical activity school culture. Understanding the barriers and facilitators to school change is essential for interventionists to implement new physical activity opportunities for children. Teachers (n= 4) and administrators (n = 2) who are interested in creating physical activity opportunities for children from two school districts participated in individual semi-structured interviews. Each interview was transcribed using deductively-developed codes using Carson’s et al. (2014) school-based Physical Activity Promotion Framework. Themes were developed using constant comparison and analytic induction. Trustworthiness procedures of peer debriefing and member checks were enacted to ensure quality of the data. The findings indicate that there were much more barriers than facilitators making school change difficult. Barriers included administrator and teachers’ dispositions (i.e., not valuing the CSPAP coordination of components), lack of knowledge of CSPAP implementation and institutionalization, state mandates of required physical education time, lack of resources (i.e., budget, facilities), and school personnel not following wellness policies, the attendance of undocumented students, and lack of student interest. Facilitators were administrative support, budget, and invested school personnel willing to work beyond the regular school hours. Although there were many barriers, the implementation of school change seemed possible assuming that there were school personnel willing to run programs and administrators would engage in innovative scheduling to provide space for active child

Name: Juliana Genovese - Nexus First Floor Lobby – B19 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Errol Rodriguez

Division: Graduate

Title: The Effect of Achievement Pressure and Social Support on Alcohol Use Behaviors in College Students

Abstract:

In today’s society, alcohol consumption among American teenagers and college students is a problem behavior and public health concern. While just perceived as “harmless fun”, drinking impinges on our youth’s emotional well-being and normative behavior. Today, about 11 million U.S. teenagers drink regularly. Alcohol misuse has been heavily documented among college students and heavy-drinking habits are widely accepted among this population as it is a large part of social, party, and dormitory life while at college. Most research have focused on personality, social and environmental factors, and comorbid mental health influences on college-age alcohol use. Less is known about the impact of academic pressure and social support on alcohol use behaviors. This study focuses on the linkage between college student alcohol use behaviors and total academic achievement pressure combined with perceived social support. Students are simultaneously affected by their own internal achievement pressure, as well as the pressure they perceive from their parents. These two forms of achievement pressure result in a “total pressure” that student’s experience from which they may seek external relief via alcohol use. The current study surveys college students on their perceived social support, perceived parental academic achievement pressure, internal academic achievement pressure, and alcohol usage. Preliminary findings are anticipated to reflect an interaction between alcohol usage and the combination of low social support and high academic achievement pressure.

Name: Alexandra Marie Lomuto - Nexus First Floor Lobby – B14 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Lawrence Josephs

Division: Graduate

Title: Detecting Authenticity in Dating Partners

Abstract:

The purpose of this study was to assess how others perceive authenticity and inauthenticity and if participants act that way themselves. This study also examined what personality variables correlate with participants that act authentically and participants that act inauthentically. Data was collected from 83 participants all over the age of 18 through a survey. Through the results we were able to identify ten ways individuals perceive authenticity and ten ways individuals perceive inauthenticity. The results demonstrate that individuals perceive authenticity through honesty, trustworthy, emotional availability, etc. and perceive inauthenticity as the opposite, dishonest, untrustworthy, and not showing interest. Thus, individuals with higher of these ten qualities are perceived more authentically than those who are portray these qualities less.

Name: Danielle Faber - Nexus First Floor Lobby – B33 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Carolyn Springer

Division: Undergraduate

Title: The Impact of Dance on Preschool Children

Abstract:

This study examines the relationship between participation in dance activities and the socio-emotional development of young children. Prior research has shown that physical activity improves a child’s bone and cardiovascular health, cognitive skills, and levels of concentration. These changes can have positive impacts on children’s academic performance and parent-child relationships. However, the majority of research on the impact of physical development has been conducted on older children, so the purposed study fills a gap by focusing on younger children. Case studies of children aged three to five, which are comprised of assessments from parents and teachers will be presented. Data collected will include information about the child’s relationship to their peers, parents, and other adults, as well as the child’s behavior and emotions. In addition, data will be collected on the child’s temperament in terms of activity level, how the child handles negative feelings, and self-regulation, and a measure of positive and negative affect.

Name: ERIKA ANDRADES - Nexus First Floor Lobby – B30 – Section B: 10:10-11:10 A.M.

Co-Authors: BENJAMIN, ATTISANI

ARIEL A, CATALANOTTI

SATYAM, DAVE

JUSTINE, DELUCA

LAUREN, DONAHUE

JULIA, EVANS

PHILIP, GUARIGLIA

EMILY, HASSETT

WILLIAM S, JOHNSON

KOURTNEY, KEELEY

LANDON, KESSLER

SOFI, KISS

ERIN, LERNER

GABRIELLE, NASTASI

MARIA, PAPA

Faculty: Carolyn M. Springer, Ph.D.

Division: Undergraduate

Title: Head Cases: Student Projects from Practicum in Experimental Psychology (398-004) SPRING 2018

Abstract:

Practicum in Experimental Psychology is one of the capstone options for undergraduate psychology majors. In this interactive class, students use their prior knowledge of research methodology and statistics to independently design and conduct their own research study. This poster presents the on-going research projects of students enrolled in Section 004 of this class in spring 2018. Students will discuss their progress to date in the design, implementation and analysis of data from their research studies which target diverse areas in the field of psychology including development, social issues, education, personality, health and cognition.

Name: Dánice Jones - Nexus First Floor Lobby – B8 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Carolyn Springer

Division: Graduate

Title: Trials and Dance Relations

Abstract:

This research study will explore the thought processes and emotional well-being of individuals while they are in motion. Physical activity has a positive impact on one’s health. The President’s Council on Fitness (2017) found that activity promotes physical and mental health for individuals of all ages, backgrounds and abilities. Some long term health benefits are increased energy and self-esteem, relieve stress, and prevent chronic diseases such as heart disease, cancer, and stroke. Healthy People 20/20 (n.d.) found that regular physical activity can also lower an adult’s risk of depression. The study investigates how the average individual benefits or does not benefit from physical activity, and what effect that plays on one’s mood or body awareness. Participants will be college age students, who range between 18- 25 years old who are athletes involved in dance and/or sports, or individuals who are physically active regularly. The participants complete a mood and body awareness survey prior and after the physical portion of the study which involves learning an African dance routine. Participants will also complete an on-line survey of demographics, personality measures and psychological well-being.

Name: Jessica Herbst - Nexus First Floor Lobby – B12 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Professor Michael Moore

Division: Graduate

Title: The Impact of Social Media on Symptoms of Depression

Abstract:

Over the past decade, the use of social networking sites (SNS) has continued to increase among the young adult population (e.g., Rosenthal et al., 2016), more than 90 percent of young adults currently use SNS (Moreno et al., 2011). Studies have found that greater SNS interaction is associated with psychological distress (Chen & Lee, 2013; Kraut et al., 1998). Unfortunately, the literature on SNS use has utilized, almost exclusively, subjective measures of SNS use. In other words, participants have been asked to retroactively recall how often they have used SNS within a given time frame (Chen & Lee, 2012; Jang, Park, & Song, 2016; Przybylski et al., 2013; Vogel et al., 2014). In the present study, we are examining the relationship between SNS usage among college students and symptoms of depression by using an objective measure (via an app that participants download to their cellular phones). In addition, the current study also measured other variables relevant to use of SNS and symptoms of depression, such as upward and downward social comparison, fear of missing out (FoMO), and perceived and actual social support. We hypothesize that SNS use, upward social comparison, and FoMO will be positively correlated with symptoms of depression. The sample consisted of 249 participants that completed the questionnaires, 172 of those participants also completed the objective SNS measure. Data cleaning and analyses are still in progress and results are forthcoming. However, data collection is complete.

Name: Sheila O'Sullivan - Nexus First Floor Lobby – B28 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Damian A. Stanley

Division: Undergraduate

Title: The Role of Implicit Race Attitudes in Competency Estimations

Abstract:

Every day, without realizing, we implicitly assess the competency of the people with whom we interact. These competency evaluations are critical to the functioning of both one-on-one cooperation and larger scale organizational hierarchies. Previous studies have shown that race-related implicit evaluations are one factor that contribute to estimations of trustworthiness, trust decisions, and judgments of fairness. Here, we seek to extend these findings by determining whether implicit bias is a factor in calculating competency estimations. We employ the Affect Misattribution Procedure (AMP) as a method for assessing the implicit biases of the participants. For study 1, we investigate whether or not the AMP can predict explicit trustworthiness ratings with the same efficacy of the Implicit Association Test (IAT), and we predict that the two tests will produce similar results. Study 2 follows with explicit surveys of trustworthiness and competency ratings in order to determine if implicit biases are an input into competency ratings. We hypothesize that it does not because the formation of competency estimations accesses a different function in the brain. These data will help to clarify the role of implicit evaluations in everyday estimations of competence.

Name: Dietra Hunter - Nexus First Floor Lobby – B16 – Section B: 10:10-11:10 A.M.

Co-Authors: Colleen Bucci

Faculty: Dr. Laura Brumariu

Division: Graduate

Title: Maternal teaching strategies and children's intrinsic motivation in middle childhood

Abstract:

Intrinsic motivation is a key factor related to children's learning and achievement as well as overall school adjustment (Ryan & Stiller, 1991). Theory suggests that intrinsic motivation may be enhanced or destabilized by parent and teacher practices (Ryan & Deci, 2000). Most studies evaluated these ideas in early school years, and thus, we know very little about the link between parental teaching strategies and intrinsic motivation in middle childhood.

The goal of this study is to evaluate how observed maternal teaching strategies relate to intrinsic motivation in children ages 10-13 years old. Participants (N=93) completed an adapted WISC-V Block Design task for 15 minutes, in their mothers' presence. The task was later coded for four maternal teaching strategies: 1) Positive comments and modeling; 2) Positive feedback or encouragement; 3) Negative comments and intrusion; and 4) Discouragement. Children also completed the Intrinsic Versus Extrinsic Motivation in the Classroom questionnaire (Harter, 1981). The results showed that mothers showing greater levels of positive encouragement in their interactions with their offspring had children who reported greater preference for challenging over easy work (r=.31, p<.05), and greater curiosity and interest in tasks over pleasing the teacher/getting good grades (r=.37, p<.05). They also had children reporting greater internal criteria for success/failure over external criteria (r=.31, p<.05), and greater overall intrinsic motivation (r=.35, p<.05). Analysis also showed a positive and significant correlation between maternal positive comments and modeling and children's curiosity and interest in task over pleasing the teacher/getting good grades (r=.26, p<.01). No significant relations emerged for negative parental teaching strategies. Results suggest that children expressing higher intrinsic motivation benefit from positive maternal teaching strategies that encourage autonomy and competence. Our findings are consistent

Name: Heidi Pena Ortiz - Nexus First Floor Lobby – B35 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Nathan George

Division: Undergraduate

Title: Perceptions of Bilingual Assessment

Abstract:

The early years of life are critical for language development. Thus, language assessments conducted by certified professionals are important to identify language delays early and establish a plan of action. One population for which it may be difficult to identify language delays is the bilingual population, who often face difficulties with educational placement. The assessment models which they are given may not always capture whether a child is delayed in language learning or if the difficulties they face are related to performing in two different languages (Conti-Ramsden & Durkin, 2012). With the increase of bilingualism as a result of globalization, it is important that we support bilinguals in traditional English educational environments. Here, we look at college age students because those who have experienced assessment are now able to reflect back on it with more in depth perspective, and those who have never been exposed to it provide an understanding of outside sentiments towards bilingual assessment. Monolingual and bilingual college students will complete a survey regarding their views on bilingualism, including a reflection on different models of assessment. Our results seek to show that bilinguals will have more nuance in their understanding of issues within assessment, in part due to first hand experience with the models’ strengths and weaknesses. For those without personal experience, knowledge of bilingualism facts is predicted to lead to more advanced perspectives on assessment and also provide greater understanding of their pre-existing misconceptions of bilingualism. Collectively the results aim to see which framework has the most perceived level of success, in attempts to open further discussion about the kinds of bilingual assessments children are exposed to. We also seek to help encourage future research on the effects of reforms to bilingual assessment models and to promote change in the public perception of these issues.

Name: Janell Traylor - Nexus First Floor Lobby – B11 – Section B: 10:10-11:10 A.M.

Co-Authors: Joanna Hurley, Dietra Hunter, and Colleen Bucci

Faculty: Dr. Laura Brumariu

Division: Graduate

Title: Maternal Parenting Teaching Strategies and Regulation of Positive Emotions in Middle Childhood

Abstract:

Emotion regulation is a key factor for children’s academic and social competence (Hutko, 2016) and good health outcomes (Brackett & Solovey, 2004). Parenting approaches are thought to partially contribute to children’s emotion regulation because parents who are more emotionally supportive and responsive to their children’s needs may provide opportunities for teaching and socializing effective emotion regulation strategies in their children (Thompson, 2011). Empirical studies have demonstrated that aspects of parenting such as modeling positive behaviors and supportive responses are associated with children’s emotion regulation. However, there is a paucity of research examining the associations of observed parenting teaching strategies and emotion regulation in middle childhood in general, and regulation of positive emotions in particular (Morris, et al., 2017; Jabeen, Haque, & Riaz, 2013). The goal of this study is to evaluate the relations between maternal teaching strategies and children’s regulation of positive emotions during middle childhood. Our sample included 93 children ages 10-13 and their mothers. Children completed an adapted WISC-V Block Design task, with their mothers’ support, and the Difficulties in Emotion Regulation Scale; DERS-Positive questionnaire (Gratz, 2002). Results show that mothers rating higher on encouragement in interactions with their children had children who reported lower levels of difficulties with controlling behaviors when experiencing positive emotions. Further, mothers who rated higher on discouragement had children who reported higher levels of non-acceptance of positive emotions. Finally, mothers showing greater intrusion and negative comments had children who reported higher levels of difficulties controlling behaviors when experiencing positive emotions. This study advances the literature by showing unique associations of maternal teaching strategies with children's positive emotion regulation during middle childhood.

Name: Christina Schiavone - Nexus First Floor Lobby – B29 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Joel Weinberger

Division: Undergraduate

Title: Attitudes Toward Mental Illness

Abstract:

Attitudes towards mental illness strongly influence the way mental health patients are cared for in regards to accessibility of care, and resources offered. Previous research has shown that mental health patients compared to physically ill patients are more likely to be stigmatized. However, it is unclear why. The purpose of the present study is to further examine the nature of both implicit and explicit attitudes towards mental illness. Additionally, we are interested in the influences of education level on such attitudes. We will address the following questions: First, what is the relationship between implicit and explicit biases towards mental illness (i.e., are they correlated or independent)? Second, how does education level influence both kinds of attitudes towards mental illness? Participants will fill out a brief demographic form. Implicit biases will be assessed through participants’ responses to vignettes as well as an IAT regarding attitudes towards mental illness. Explicit biases will be assessed using an altered and shortened version of Cohen & Struening’s (1962) Opinions Towards Mental Illness Scale (OMI). We predict that individuals who score high in explicit bias will also score high in implicit bias. However, we also predict that individuals with low explicit biases may still have high levels of implicit biases. Finally, we predict that education level will interact with both implicit and explicit attitudes (i.e. higher education will lead to lower implicit/explicit biases and vice versa). This study could help us understand mental health stigma and may suggest ways to reduce it.

Name: Philip Marino - Nexus First Floor Lobby – B32 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Professor Michael Moore

Division: Undergraduate

Title: Attributional Style and Anxiety

Abstract:

Attributional style can be defined as the habitual way that an individual assigns causes events in their life, whether positive or negative. Research into attributional style has found it to be linked to a wide variety of psychological, health, and achievement outcomes. Attributional style has been frequently investigated as a risk factor for depression. The relationship between attributional style and depression was found to be strong and heavily supported. Despite the volume of this literature,it is unclear if attributional style is related to the experience of anxiety. This is particularly important given the high comorbidity between depression and anxiety. The purpose of the current study is to examine whether there is a link between attributional style and anxiety, independent of symptoms of depression. Data was collected from 105 college age students who attended a large public university in the midwestern US. Results demonstrated that, while attributional style was significantly correlated with symptoms of depression, but not for anxiety, the magnitude of those correlations was close to identical. A similar pattern of results was obtained when the accuracy of attributions were examined; accuracy was negatively and significantly related to symptoms of both depression and anxiety, but the magnitude was slightly larger with depression.

Name: Stephanie M. Waslin - Nexus First Floor Lobby – B24 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Robert F. Bornstein

Division: Undergraduate

Title: Criterion Referenced Validity of ICD-11 Personality Impairment Ratings: A Meta-Analytic Review

Abstract:

The current proposal for assessing overall level of personality dysfunction in the International Classification of Diseases, 11th edition (ICD-11) requires the clinician to rate severity of impairment on a 5-point scale ranging from 0 (No Personality Impairment) to 4 (Severe Impairment). Because the ICD-11 proposal represents a significant shift from the DSM-5 framework, which operationalizes personality dysfunction in terms of impairments in self and interpersonal functioning, it is important that evidence regarding the validity and clinical utility of the ICD-11 impairment rubric be evaluated before it is implemented in vivo. This study used meta-analytic techniques to quantify the relationship between ICD-11 personality impairment ratings and scores on external indices of psychological functioning, integrating results from all published studies examining this issue. Subjects included both clinical and community samples. An exhaustive review of the literature yielded 18 separate effect sizes.

Overall N of participants was 9,168. Meta-analytic methods were used to derive indices of effect size (r’s), as well as Combined Z values and significance levels for each outcome criterion. The overall correlation (r) between ICD-11 impairment ratings and external indices of functioning, collapsing across all moderating variables, was .244, a small to medium effect size.

Large effect sizes were obtained when impairment ratings were used to predict quality of life (QOL) (r= .657), depression (r = .600), personality disorder diagnoses (r = .549), anxiety disorders (r = .429), or Five Factor Model (FFM) trait ratings (r = .418). More modest effect sizes were obtained when impairment ratings were used to predict social functioning (r = .174), conduct disorder (r = .247), or health service use (r = .203). These results offer preliminary support for the validity and clinical utility of the proposed ICD-11 personality impairment criteria.

Name: Joanna Troyanos - Nexus First Floor Lobby – B25 – Section B: 10:10-11:10 A.M.

Co-Authors: Joanna Hurley

Faculty: Professor Laura Brumariu

Division: Undergraduate

Title: Marital conflict and maternal depressive symptoms: Links to mother-child attachment security in middle childhood

Abstract:

Mother-child attachment security (AS) in middle childhood is linked with children’s adjustment including lower levels of behavioral problems, and better social relationships. Therefore, it is essential to identify factors associated with AS at this age. Although studies identified marital conflict and maternal depression as precursors of AS at earlier ages (De Wolf & Van Ijzendoorn, 1997), little is known about these relations, particularly in middle childhood (Davies & Cummings, 1994). Mothers experiencing higher marital conflict or depressive symptoms may exhibit difficulties being involved with their children and therefore are less attuned or sensitive to their children. We investigate whether marital conflict, maternal depression, and aspects of maternal sensitivity, are associated with parent-child AS in middle childhood. We evaluate whether maternal sensitivity explains these relations. Participants are 75 mother-child dyads and data collection is ongoing. Mothers reported their marital conflict (O-Leary & Porter, 1980) and maternal depression (Radloff, 1977); children rated AS with their mothers (Kerns et al., 2001) and key aspects of maternal sensitivity (maternal acceptance and monitoring; Barber, 2005). Although trends were in the expected directions, initial analyses revealed no significant associations between marital conflict or maternal depression with AS (marital conflict r= -0.11, maternal depression r= -0.07). However, both sensitivity dimensions were significantly associated with AS (acceptance r= 0.72, monitoring r=0.37). Further, aspects of maternal sensitivity explained approximately 49% of variance in children’s AS. Consistent with findings based on younger samples, results reveal that children’s perceptions of maternal sensitivity relate to AS. Given preliminary trends, we expect that our second research question will be confirmed as our sample size increases.

Name: Fallon Kane - Nexus First Floor Lobby – B5 – Section B: 10:10-11:10 A.M.

Co-Authors: Gina Lehr

Faculty: Mitch Nagler

Division: Graduate

Title: A Meta-Analytic Review of Alexithymia and Autism Spectrum Disorder

Abstract:

Individuals with autism spectrum disorder (ASD) experience deficits in social-communication and social relating, which can impede on the ability to understand the mental states of others. This lack of insight contributes to impairments in emotion functioning. Several studies have indicated a high prevalence of alexithymia in individuals with ASD. Alexithymia is a personality construct characterized by difficulty identifying feelings and distinguishing between feelings and bodily sensations of emotional arousal; difficulty in describing feelings to others; and externally oriented thinking. This meta-analysis attempted to elucidate the relationship between ASD and alexithymia and any potential moderators through both self-report measures and emotion-labeling tasks.

Overall, a total of 80 studies, and 89 effect sizes, were found examining the relationship between ASD and alexithymia (Total n= 5,361). Collapsed across all studies, a significant, strong correlation was found between ASD diagnosis and/or symptomatology (r= 0.291, Hedges Z= 12.143, p<.0001, Fail Safe N= 16,555). However, the effect size of the alexithymia-ASD relationship is significantly stronger when examining only studies where alexithymia is measured via self-report (r= 0.430, Hedges Z= 11.046, p<.001) than when it is measured by an facial emotion labeling task ( r= 0.222, Hedges Z= 5.1157, p<.001) or a task where participants had to label to emotion being expressed verbally ( r= 0.197, Hedges Z= 6.1884, p<.001). Therefore, it appears that those with ASD performed better in emotion-labeling tasks than they perceived that they would, based on self-report. Furthermore, the effect size is significantly stronger for studies that utilized the most recent iteration of the DSM to define autism (r= 0.338, Hedges Z= 8.8007, p<.001) than those that utilized the DSM-IV definition (r= 0.231, Hedges Z= 7.7486, p<.001). Clinical implications and implications for further research are discussed.

Name: Rheba Sam – Nexus 158 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Eugenia Villa-Cuesta

Division: Undergraduate

Title: The role of rapamycin in reducing lethality of D. melanogaster homozygous sdhA mutants through mediation in reactive oxygen species levels

Abstract:

Deficiencies in succinate dehydrogenase (sdh) are particularly devastating and have been associated with various brain diseases in humans such as Parkinson’s. Homozygous mutations in the gene which encodes for Subunit A (sdhA) of this enzyme cause lethality during early development and have been implicated to cause neurodegeneration which may be related to an excess buildup of reactive oxygen species (ROS). The drug rapamycin has been shown to not only decrease ROS levels in wild-type Drosophila melanogaster adults, but also increases lifespan of homozygous sdhA mutants. However, the mechanism by which rapamycin accomplishes this extension of survival is not known. This study aimed to investigate whether rapamycin would palliate the lethality of homozygous sdhA mutants by reducing ROS levels. In order to accomplish this, rapamycin was administered to transgenic homozygous sdhA adults, and heterozygous sdhA larva. It was hypothesized that rapamycin would reduce ROS levels in both transgenic homozygous sdhA adult retinal cells and heterozygous sdhA larva. Rapamycin treatment did not reduce ROS in affected retinal cells, though current trials are investigating whether rapamycin may reduce ROS in heterozygous sdhA larva.

Name: Emma Ryan – Nexus 158 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: Katherine Alvarado, Frances Fan

Faculty: Professor Eugenia Villa-Cuesta

Division: Undergraduate

Title: Rapamycin as a potential treatment for succinate dehydrogenase deficiency in a Drosophila melanogaster model

Abstract:

Already emerging as a potential medicinal therapy, the macrolide rapamycin operates as an inhibitor of the mTOR pathway, regulating cellular activities such as metabolism, longevity, and proliferation. This ability to modulate organismal metabolism, although not fully understood, is seemingly reliant on rapamycin’s communication with mitochondria. This suggested relationship has been evinced through studies conducted on Drosophila melanogaster, where exposure to rapamycin elevated oxygen consumption and succinate dehydrogenase activity while simultaneously reducing the incidence of reactive oxygen species (ROS). In consideration of these salubrious effects, rapamycin has been proposed as a mode of treatment for various debilitating mitochondrial disorders present in conditions such as Leigh or NARP syndromes.

The objective of this study is to determine whether rapamycin is a viable treatment for deficiencies in the enzyme succinate dehydrogenase (SDH), the second complex of the mitochondrion’s electron transport chain (ETC). To achieve this, D. melanogaster mutants with defects in subunit B of succinate dehydrogenase (SDHB) were exposed to rapamycin and evaluated on climbing performance, oxygen consumption, SDH enzymatic activity, and longevity. While several aspects of the mitochondrial pathology persisted, rapamycin was successful in mitigating some of the complications resulting from the defective SDHB. The results obtained suggest that, although more investigation is necessary, rapamycin may be utilized as treatment for mitochondrial disorders.

Name: Adrian Flores – Nexus 158 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Michael D'Emic

Division: Graduate

Title: Dichotomous Growth Trajectories in the Late Jurassic Theropod Dinosaur Allosaurus

Abstract:

Allosaurus is a large bodied dinosaur from the ca. 150 million-year-old Late Jurassic Morrison Formation of the western United States. It is the most abundant theropod dinosaur from this time. Allosaurus displays dichotomous growth trajectories within the genus, one being a large fast-growing variant, the other a small slow-growing variant. There are three hypotheses that attempt to explain this growth dichotomy: sexual dimorphism (Bybee et. al., 2006), separate species (Myhrvold, 2013), and intraspecific variation (Prondvai, 2016). The goal of this study is to test each hypothesis and determine which one best explains the growth dichotomy seen in Allosaurus. The hypothesis of this study is that the different growth curves represent different species of Allosaurus. This hypothesis will be tested by making thin sections of Allosaurus femora. Then, lines of arrested growth (LAGs) will be measured and counted to create an age ~ mass curve. A preliminary growth analysis of 11 Allosaurus specimens shows that the smallest slow-growing variant reaches an asymptotic mass of ~250 kg by age 17, while the largest fast-growing variant reaches a mass of ~2,000 kg in a similar amount of time. More sampling from various Allosaurus species from different localities and layers within the Morrison Formation will allow me to test the three hypotheses put forth to explain dramatic differences in growth in this taxon.

Name: Katya Garashchenko – Nexus 158 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Dr. Jonna Coombs

Division: Undergraduate

Title: The effects of heavy metals on the growth and respiration of microbial isolates obtained from potentially exposed New York and New Hampshire estuaries. Abstract

Abstract:

Heavy metals are metals known to have fairly high densities and atomic weights. Heavy metals are often present in the environment in relatively low quantities. However, in higher quantities some of these metals can cause serious adverse health effects to humans and other organisms such as heavy metal poisoning, cancer, organ damage, and respiratory problems.Heavy metals can enter the environment due to anthropogenic activities such as industrial production, mining, smelting, and waste products. The heavy metals analyzed in this study include nickel, lead, cadmium, zinc, and copper. This research seeks to investigate the metal resistance capabilities of strains of bacteria isolated from estuaries located in New York and New Hampshire in an effort to determine their levels of resistance. Resistance was measured using disc inhibition assays and minimal inhibitory concentration (MIC) assays. Three of the ten isolates tested demonstrated resistance to more than one heavy metal and gram testing indicated that two of the isolates were gram-negative while one was found to be gram-positive. These isolates were further investigated to determine the effects of metal on respiration and the natural functioning of the bacterial cells. Microorganisms contribute to plant growth through various functions in soil and it is important to determine the ways in which the biotic environment is being affected by increased heavy metal pollution to determine the impacts being made on the ecosystem. Future research will focus on identifying mechanisms for resistance.

Name: Alexus Haddad – Nexus 126 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Dr. Andrea Ward

Division: Undergraduate

Title: Fish out of water: How environment impacts body propulsion in an elongate fish (Erpetoichthys calabaricus)

Abstract:

The environment an organism travels in is dependent on the type of locomotion it performs. There are several species of highly elongate fish that can inhabit an aquatic environment while also making terrestrial excursions. In this study, we investigated substrate use in Erpetoichthys calabaricus (ropefish) during aquatic and terrestrial locomotion. Like other elongate fishes, E. calabaricus is known to push against a substrate through their precaudal region in terrestrial environments and uses their caudal region to produce propulsive force in aquatic environments. The pushing force of five individuals of E. calabaricus was measured between the two environments using a pegboard array spaced at 5 cm with one peg instrumental with two uniaxial strain gauges. Force was recorded using Acqknowledge software. From this study, I found a difference of force production between the terrestrial and aquatic environments. This study will allow us to determine how certain fish are able to move out of water using only their axial skeleton.

Name: Catherina Suh – Nexus 126 – Section C: 11:20 A.M.- 12:20 P.M.

Co-Authors:

Faculty: Dr. Tandra R. Chakraborty

Division: Undergraduate

Title: Effects of Beta-Amyloid 1-42 on the Growth of Alzheimer’s Disease Biomarkers in N38 Hypothalamic Neuronal Cells

Abstract:

Neuroprotective Effects of Estrogen on Alzheimer Induced SH-SY5Y Neuroblastoma Cells and N38 Hypothalamic Neuronal Cells

Catherina Suh and Tandra R. Chakraborty

Biology Department, Adelphi University

Alzheimer's disease is a neurodegenerative disease characterized by neuronal cell damage and death, neurofibrillary tangle formation and cerebral plaques formed by beta amyloid peptides. Previous studies have shown that the hippocampus, a region of brain related to cognition and memory is mainly affected by Alzheimer's disease. This study is designed to induce Alzheimer's disease by treating SH-SY5Y neuroblastoma cells and N38 hypothalamic neuronal cells with synthetic beta-amyloid plaques under in vitro conditions. In the current study, we wanted to determine whether hypothalamus; a region involved in feeding, sleep, reproduction and energy balance is affected similarly as well. Hypothalamic cells were treated with beta-amyloid1-42 to induce neurofibrillary tangles and plaque formation. Western blotting was done to determine the changes associated with biomarkers like P53 and Tau protein. Initial results showed differences between N38 cells treated with beta-amyloid and those not treated.

Name: Jennifer Huntley - Nexus First Floor Lobby – B27 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Professor Lawrence Josephs

Division: Undergraduate

Title: Relationship Quality and Academic Performance

Abstract:

Many different factors such as study time, study management, rising tuition, procrastination etc. may contribute to the outcome of academic performance. Research also indicates that romantic relationships may play a role. This study examines whether the quality of romantic relationships impact academic performance and whether personality variables associated with good relationship outcomes are also associated with higher GPA. Data (N=150) will be collected from online sources. In addition to asking about GPA and relationship quality, four personality measures will be administered. The 12-item Experiences in Close Relationship Short Form Scale (ECR-S) that’s used to assess attachment style. The 28-item Brief-Pathological Narcissism Inventory Scale (B-PNI) that assesses both grandiosity and vulnerable narcissism, and the 22-item Authenticity in Relationships Scale (AIRS) that assesses intimate risk taking and the unacceptability of deception. The 20- item Procrastination scale that measures the frequency with which people postpone performing everyday activities was also used.

Name: Nixza Sabalier Lebron - Nexus First Floor Lobby – B13 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Lawrence Josephs

Division: Graduate

Title: Be Yourself: Authenticity in Dating

Abstract:

The purpose of this research project is to examine how people behave authentically when trying to date someone, when trying to have a casual sexual relationship, and when being in a serious long-term relationship. The purpose of this study would be for participants to rate themselves on how authentic they are when trying to date someone seriously, when looking for casual sex, and when in a serious relationship and see how that correlates with the other personality measures such as attachment style and pathological narcissism. The findings of this study show that when people are being themselves in serious, casual dating and long-term relationships they openly express their availability and interest. Being yourself in serious and long-term dating was associated with avoidance attachment. Long-term dating was negatively correlated with vulnerable narcissism. Being yourself in causal dating was associated with grandiose narcissism and intimate risk taking.

Name: Denise Pascullo - Nexus First Floor Lobby – B34– Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Dana Boccio

Division: Undergraduate

Title: Community Residents’ Attitudes Towards Persons with Intellectual Disabilities Living in Nearby Group Homes

Abstract:

The purpose of the present study was to update research on the attitudes of neighbors that live near group homes and how they feel about having individuals with intellectual disabilities in their community. Previous research has documented the existence of stigmatizing attitudes and behavior toward individuals with disabilities, including those living in residential communities. However, much of the data is dated and may not reflect the impact of recent efforts to promote a greater understanding of this population. For example, efforts have been made to reduce the stigma attached to intellectual disabilities, such as 2010’s Rosa’s Law, which required replacement of the term “mental retardation” with intellectual disability” in federal health, education, and labor policy. Other initiatives include targeting discriminatory practices in healthcare and reducing health disparities, promoting self-determination in transition services, improving employment opportunities, fostering social inclusion and community participation and tailoring habilitation and educational services to the specific needs of persons with intellectual disability so as to optimize their functioning and well-being. The present study aimed to obtain a more current understanding of how people living in neighborhoods including residential group homes felt about sharing their community with individuals with intellectual disabilities. Participants included a random sample of 200 residents on Long Island living within one mile of a residential facility housing individuals with intellectual disabilities. Participants were mailed a 15-item survey, the Attitudes Towards Individuals with Intellectual Disabilities Scale (AIIDS). The survey utilized a multidimensional conceptual framework for the assessment of stigmatizing attitudes and included items related to the cognitive (stereotypes), emotional (prejudice) and behavioral (discrimination) dimensions that characterize individual’s reactions to persons

Name: Kim Blair - Nexus First Floor Lobby – B21 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Katherine Fiori

Division: Undergraduate

Title: The relationship between facebook use and mental/physical health outcomes with attachment style as a moderator

Abstract:

Research on the health effects of social media use among adolescents and emerging adults is inconsistent; some research shows benefits, whereas other research indicates that excessive social media use may be detrimental, in particular to mental health (e.g., increased depressive symptoms, loneliness). These inconsistent effects may be due in part to the possibility that the health effects of social media use differ for individuals with varying characteristics. The purpose of the present study is to examine attachment styles (anxiety and avoidance) as moderators of the association between Facebook use and both mental and physical health outcomes (depressive symptoms, life satisfaction, loneliness, and overall health) among first year college students. We hypothesized that Facebook use would be more positively linked with health (e.g., lower levels of depressive symptoms) among individuals high on attachment anxiety than those low on anxiety. We also examined attachment avoidance as a moderator, but in an exploratory way given a lack of prior research. Using a sample of 113 first year college students, we conducted a series of hierarchical linear regressions to test our hypotheses. We found that although attachment anxiety did not moderate the association between Facebook use and health outcomes, attachment avoidance did moderate the association for three health outcomes: life satisfaction, loneliness, and overall physical health. Specifically, individuals high on attachment avoidance seemed to benefit from Facebook use in terms of both mental and physical health, whereas individuals low on attachment avoidance did not. Our results imply that avoidant individuals may use the more impersonal nature of online social interactions as a way of compensating for a decreased desire for face-to-face interactions. Future research could take a more nuanced approach by examining categorical styles of attachment (e.g., secure, dismissive, etc.) as a moderator of the association be

Name: Nicholette Lewis - Nexus First Floor Lobby – B18 – Section B: 10:10-11:10 A.M.

Co-Authors: Joanna G. Hurley, Kathryn M. Graham

Faculty: Laura E. Brumariu, PhD

Division: Graduate

Title: Maternal Emotional Role-Confusion, Depressive Symptoms, and Emotion Socialization Strategies: Links with Preadolescent Empathy

Abstract:

Empathy in preadolescence is associated with key developmental outcomes such as self-esteem (Laible, Carlo, & Roesch, 2004) and externalizing behaviors (Miller & Eisenberg, 1988). Maternal emotional experience is theoretically linked to preadolescent empathy in that it may influence her abilities to teach a child how to respond to individuals in distress (e.g., Bariola et al., 2011). Little is known about how maternal emotional role-confusion (i.e., role-reversal) with her family of origin and maternal depressive symptoms, two constructs that capture key maternal emotional states, are related to preadolescent empathy. The current study evaluated whether: 1) maternal emotional role-confusion and depressive symptoms are related to preadolescent empathy; and 2) maternal emotion socialization strategies (encouragement of children’s expression of emotions and encouragement of emotion-focused strategies) mediate these relations. A unique finding of this study is that indirect paths explained by expressive encouragement emerged from maternal emotional experiences to children’s empathy.

Name: Megan Parmenter - Nexus First Floor Lobby – B17 – Section B: 10:10-11:10 A.M.

Co-Authors: N/A

Faculty: Dr. Katherine Fiori

Division: Graduate

Title: Attachment as a Moderator of the Association between Social Interactions and Life Satisfaction in College Freshmen

Abstract:

Social network research is often focused on size and quality, with acknowledgement that large and supportive networks can buffer against stressful life transitions. Since not all social interactions are positive, more researchers are beginning to examine how the type of exchange impacts psychological health and well-being. The transition to college is a particularly challenging time for young adults, during which social interactions with others may play a prominent role. However, it is not known whether certain key individual difference variables (e.g., attachment), might moderate this association. In the present study, we conducted a series of hierarchical linear regressions using longitudinal data from 113 first-year college students to test whether attachment anxiety and avoidance act as moderators of the association between positive and negative social exchanges and life satisfaction (at the end of the first year). After controlling for a number of variables, our findings indicate that although positive social exchanges are associated with increases in life satisfaction across the first year of college among individuals low on avoidance, there was no association between positive social exchanges and life satisfaction among individual high on avoidance. In contrast, whereas there was no association between negative social exchanges and life satisfaction among those low on avoidance, there was an unexpected positive association among those high on avoidance. It is possible that individuals high in avoidant attachment perceive social exchanges as more negative, evoke more negative responses from others, or find negative exchanges to be reinforcing. Although more research is needed, this is the first study of which we know to examine attachment style as a moderator of the association between social exchanges and psychological well-being. Results indicate the relevance of attachment for understanding the role of social exchanges during the college transition.

Name: Benjamin Warach - Nexus First Floor Lobby – B9 – Section B: 10:10-11:10 A.M.

Co-Authors: NA

Faculty: Professor Lawrence Josephs

Division: Graduate

Title: A Structural Equation Modeling Analysis of Infidelity Predictors

Abstract:

This study examined how disrupted attachment, personality pathology, self-serving attributions, and infidelity victimization jointly predict sexual infidelity. Participants in our study were asked to read a vignette in which their hypothetical significant other had been sexually unfaithful, and in which the participant had thereafter been sexually unfaithful in retaliation. Participants then responded to questions assessing self-serving attributions with respect to their role in the hypothetical retaliatory infidelity. We

developed a structural model describing various pathways to sexual infidelity perpetration based on these responses, questionnaires assessing attachment disruption and personality pathology, and participant histories of sexual infidelity perpetration and/or victimization. This model confirmed our hypothesis that self-serving attitudes mediate certain pathways to infidelity but not others.

Name: Samantha Stein - Nexus First Floor Lobby – B37 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Elizabeth Palley

Division: Graduate

Title: The Emotional Implications of Pregnancy Discrimination

Abstract:

Current pregnancy discrimination law aims to protect pregnant women in the workforce who are still capable of working. However, current legislation fails to adequately address reasonable accommodations and other less overt forms of discrimination. This study is a secondary analysis of qualitative data based on several women’s experiences of pregnancy discrimination. This analysis consists of 22 interviews, that examine each individual’s experiences and perceived discrimination. Data was collected voluntarily from women who contacted the researcher after she posted requests for interviews on list serves. The interviewees all came from the New York city metro area. The interviewees worked in a variety of professions, and came from various socioeconomic, racial, and ethnic backgrounds. The interview data was recorded and transcribed. It was then analyzed to develop descriptive analysis and theory, and emotional experiences were coded accordingly. The range of emotional experiences and reactions suggest that perceived discrimination is often multi-faceted, and that pregnancy discrimination is just one of the many forms of discrimination impacting women. This study suggests a need for further research and understanding of women’s experiences in the workforce, as well as greater legal protection.

Name: Joseph De Gearo - Nexus First Floor Lobby – B36 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Elizabeth Palley

Division: Graduate

Title: Title IX Implementation at the Student Affairs Level

Abstract:

This poster summarizes a session presented at the 2017 international meeting of the Law and Society Association in Mexico City. That session introduced a paper titled "Title IX Implementation Challenges at the Local Level: Bridging the Criminal Justice System, Student Development, and Societal Expectations."

Both the United Nations and the World Health Organization recognize gender-based violence as a global health problem (Breiding, 2014; Nasrin, 2013). There are several challenges to addressing gender based violence including the lack of clear definitions of violence and the operationalization of definitions within local culture, national law, or situational context like conflict zones (Walby, 2013). If we believe that knowledge is contextual and affected by interactions, (Takacs, 2003) then it is important to create bridges between individuals, communities and nations. With regard to gender based violence, this requires the inclusion of all stakeholders in the discussion so as not to revictimize victims. It is also important to understand the implementation of gender based violence in multiple contexts. This poster will focus on the implementation of Title IX gender based violence rules on college campuses in the United States.

Some have suggested that the practices that respond to federal regulation may be irreconcilable with accepted practice in student development and conduct management (Koss, 2014). In order to better understand the challenges of implementing Title IX this poster uses May's implementation theory to summarize vagaries of Title IX legislation, present challenges facing local level college administrators responsible for policy development and implementation, and explore implications. The development of these ideas may improve future implementation of Title IX thereby advancing strategies to create positive social change, address a global problem and provide a possible anchor point for a bridge between theory and practice.

Name: Ekaterina Chernyavskaya – Nexus 155 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Ryan Lee James, PhD, Department of Communication Sciences and Disorders

Division: Graduate

Title: Are minority children disproportionately represented as having speech-language delays or impairments under IDEA?

Abstract:

Name: Ekaterina Chernyavskaya

Faculty: Ryan Lee James, PhD, Department of Communication Sciences and Disorders

Title: Are minority children disproportionately represented as having speech-language delays or impairments under IDEA?

Purpose

The purpose of this review is to determine the current state of the literature on disproportionate representation of minority children in IDEA for Early Intervention (Part C) and Special Education (Part B). We addressed the following three research questions:

Are minority and language-minority children disproportionately represented on Early Intervention and Special Education caseloads in the category of speech-language delays or impairments compared to White children?

What are the factors that contribute to receipt of speech-language services among minority and language minority children?

What can speech-language pathologists (SLPs) do to work toward making participation in IDEA more equitable?

Method

Using a list of keywords, the following databases were searched to locate relevant articles: Academic Search Complete, MEDLINE Complete, EBSCO, CINHAL, PsycInf, and Google Scholar. We restricted our search to include peer-reviewed empirical articles that disaggregated data for children receiving speech and language services.

Results

The literature search resulted in 6 articles that met the criteria. Additional data were obtained from the National Center for Educational Statistics (NCES). Overall, the literature base is inconclusive though most recent studies report evidence of under-representation of minority children--a finding that challenges long-standing views of minority over-representation. A host of factors contribute to receipt of services include socioeconomic status, school-level demographics, English language proficiency, parent involvement, and access to quality healthcare. Increasing presence of SLPs in the community, healthcare reform, and professional development for practitioners and teachers focus

Name: Mary Ellen Diaz – Nexus 155 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Jacqueline Johnson, Ph.D.

Division: Undergraduate

Title: Role of Race in Who We Hang Out With

Abstract:

Race-based homophily has been studied as a measure of self-segregation on college campuses. In this small study I draw on Goffmans theory of homophily: the tendency to hang out with those similar to us, to understand patterns of observed racial segregation in the cafeteria of a private nonsectarian university in the northeast region. After four different days of observation, I found consistent patterns of racially-based homophily in public settings. White and black students were more likely than other groups to sit in with members of their own race. There were some exceptions such as being on a team or affiliated with a Greek organization. Of the groups that had white and minority mixed, a majority of the students in that group were white. The white students more than all other races, sat with other white students. This study reveals that racial self-segregation is commonplace on college campuses and sheds light on the role of race on shaping contemporary social interactions.

Name: Margaret Hardiman – Nexus 155 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Professor Jacqueline Johnson

Division: Undergraduate

Title: If You Slip Between Her Thighs, Be Sure to Condomize: The relationship between Alcohol and Consent during Hooking Up Encounters on Campus

Abstract:

College party scenes are thought of as being wild and out of control. Research shows that alcohol, widely viewed as a “social lubricant,” is used by men and women to feel more comfortable at social gatherings. Yet, higher levels of intoxication among men and women are also known to confuse communication regarding consent. This study examines literature based on experiences that assess the impact of alcohol consumption on decision-making regarding sexual consent among college students. Research findings are mixed in terms of how college students explain the role of alcohol in sexual decision-making. While some studies show that college students see alcohol as a form “liquid courage” that they consume in order to engage in risky behaviors that they may not while sober, other studies find that alcohol is not a key factor in sex-related risk-taking behavior. In other words, students who engage in high-risk sexual behavior would do so whether or not they consumed alcohol. I conclude that the greater number of evidence points to the liquid courage argument. That is, alcohol lowers the inhibitions of college students and in ways that promotes their engagement in sexual risk-taking beyond what they would do if sober. Moreover, alcohol consumption has particular implications for women, who are more often than men to express confusion or regret after alcohol-fueled sexual encounters than their male partners. The sociological and psychological implications of these findings are discussed in detail.

Name: Laura Rojas – Nexus 156 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Dr. Kathryn Krasinski

Division: Undergraduate

Title: Ethnicity in Archaeology: an investigation of ethnic identity through study of foodways

Abstract:

Archaeological excavations at the Swan Point site in the Tanana Valley of Alaska show a continuous occupation from the end of the ice age to the historic era. To date no researcher has determined which culture produced the historic material. To discern which ethnicity was responsible, European or Dene (Native Alaskans), scholarly research was conducted on ethnicity theory and applied to the archaeological record with an emphasis on ethnic food ways. A faunal assemblage was uncovered that comprises animals native to the area. Given the taphonomic damages found on the faunal remains, my analysis demonstrates that Dene most likely created the assemblage. For example, butchering methods and bone tools were found within the assemblage which have been historically identified as cultural marker that are indicators of Native Alaskans presence.

Name: Allen Barbarovich – Nexus 159 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Professor Brian J. Stockman

Division: Undergraduate

Title: Structural homology modeling of uridine nucleoside ribohydrolase from the Trichomonas Vaginalis parasite for the design of synthetic inhibitors

Abstract:

Uridine nucleoside ribohydrolase (UNH) is one of the key enzymes by which the glycosidic bond between uracil and ribose is cleaved in the nucleoside salvage pathway used by many protozoan parasites. The sequence derived from the Trichomonas vaginalis parasite was aligned with the sequences of other ribohydrolases with known crystallographic structures. The structure was predictively modeled based on the most closely aligned sequences, and the average atomic coordinates derived from the appropriately selected comparative structures. This structural model will be optimized with molecular dynamics, starting from the active site, for both the endogenous uridine substrate as well as the Ca2+cation and several experimentally identified fragment inhibitors. The static docking of ligands and gradual, radial relaxation of residues allows for controlling of the degree of freedom with which the tertiary and quaternary structure is adjusted for amelioration of steric and electronic hindrance.

Initial modeling and energy calculations demonstrate the active site of the enzyme lines up with other ribohydrolase enzymes across the phylogenetic spectrum. Solvent accessibility calculations have predicted this zone sequestered within the enzyme, and active site comparisons between UNH and similar enzymes yield homology upwards of 87%, and overall homology on the order of 30%. Ligand binding site calculations predict 74% confidence for a nucleoside base substrate, and a 46% confidence for the expected calcium ion ligand. Gene ontology studies suggest that there is a >98% confidence that the predicted structure evolved for the pyrimidine ribonucleoside catabolic process, and >96% confidence for pyrimidine ribonucleoside metabolism in general. These structures, with their refined scaffolds, will then be used to study the catalysis pathway and identify possible inhibition mechanisms for this enzyme, as well as guiding the rational design of synthetic organic inhibitors for the UNH enzyme.

Name: Shannon Auletta – Nexus 159 – Section B: 10:10 -11:10 A.M.

Co-Authors: Wagma Caravan

Julia Persaud

Faculty: Dr. David Parkin

Dr. Brian Stockman

Division: Undergraduate

Title: Identification of ligand-efficient inhibitors of Trichomonas vaginalis uridine nucleoside ribohydrolase using NMR-based fragment screening

Abstract:

Trichomoniasis is the most prevalent, non-viral sexually transmitted disease. It is caused by the parasitic protozoan Trichomonas vaginalis. The parasite has shown increasing resistance to the current 5-nitroimidazole therapies indicating the need for new therapies with different mechanisms. T. vaginalis is an obligate parasite in that it is incapable of the de novo synthesis of purine and pyrimidine rings. It must scavenge nucleosides from host cells and then use salvage pathway enzymes to obtain the nucleobases. The first step in this pathway is the hydrolysis of nucleosides to release the nucleobases. The uridine nucleoside ribohydrolase enzyme was screened against a 2,000-compound diversity subset of the AstraZeneca fragment library using an 19F NMR-based activity assay to monitor the reaction using 5-fluorouridine as the substrate. Six series of inhibitors with emerging SAR were identified including scaffolds based on acetamides, cyclic ureas or ureas, pyridines, and pyridones. A number of potent singleton compounds were identified as well. Included among the active fragments were 11 compounds with IC50 values ~ 10 uM, eight of which have ligand efficiency values of 0.5 or better. The chemical templates identified differ substantially from 5-nitroimidazoles. They are presently serving as the basis for medicinal chemistry efforts aimed at discovering compounds with nM potency that can be tested in vitro for target validation against both 5-nitroimidazole-sensitive and 5-nitroimidazole-resistant T. vaginalis strains.

Name: William James Antonisamy – Nexus 159 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: Sara Irani, Kezhi Dai, Laraib Ijaz

Faculty: Prof. M. Mahmood Husain and Dr. Eugenia Villa-Cuesta

Division: Graduate

Title: MicroRNA-30c deficient mice have low plasma triglyceride levels

Abstract:

MicroRNAs (miRs) are endogenous, non-coding small RNAs that interact with 3´-untranslated regions of mRNA to reduce protein synthesis via translational arrest or mRNA degradation. High plasma lipids are major risk factors for diabetes and cardiovascular disease. We have shown that overexpression of miR-30c reduces plasma cholesterol and atherosclerosis without affecting plasma triglyceride and glucose levelsin different mouse models. In humans and mice, there are two independent genes on different chromosomes that produce miR-30c. To study the role of endogenous miR-30c, we generated miR-30c double gene knockout (miR30c-DKO) C57Bl6J mice using specific transcription activator-like effector nucleases (TALENs). Sequencing revealed 15 and 4 nucleotide deletions in the Mir30c1 and Mir30c2 genes, respectively. To determine age-dependent effects of miR-30c gene ablations on plasma lipids, wild type and miR30c-DKO male mice werefedad libituma chow diet and fasted for 16 h before blood collection at 8, 10, 12, and 28 weeks. The fasting plasma triglyceride levels were significantly reduced in miR30c-DKO mice at all-time points compared to wild-type mice, but the fasting plasma cholesterol and glucose levels and body weights were not different.We next studied the effects of long-term fasting and re-feeding on plasma lipid levels in 10 week old, malead libitum chow fed mice. The plasma triglyceride levels remained significantly lower after fasting for 0, 24 and 48 h and then re-feeding for 4 hin miR30c-DKO compared to wild-typemice. Again, plasma cholesterol and glucose levels as well as body weight were not significantly different. These studies showed unexpectedly that endogenous miR-30c plays an important role in maintaining plasma triglyceride levels and that long-term fasting and re-feeding has no additional effects on plasma lipids. Molecular studies should reveal novel molecular mechanisms involved in the regulation of plasma triglyceride by miR-30c.

Name: Pradeep Yadav – Nexus 159 – Section C: 11:20-12:20 A.M.

Co-Authors: Phensinee Haruehanroengra, Sarah Irani, Jia Sheng

Faculty: Professor M. Mahmood Hussain and Dr. Eugenia Villa-Cuesta

Division: Graduate

Title: Novel Synthetic MicroRNA-30c (miR-30c) Analogs Reduce Apolipoprotein B Secretion in Human Hepatoma Cells

Abstract:

High plasma lipids pose major risk for cardiovascular diseases and diabetes. Compounds that lower plasma lipids have been used as blockbuster drugs to reduce atherosclerosis. Our published studies using lentiviruses and miR-30c/lipid complexes provided the proof of concept that miR-30c can be a potential agent to lower plasma lipids and atherosclerosis. Lentiviral delivery to humans for therapeutic use may be formidable due to safety concerns. Further delivery of miR-30c as lipid emulsions requires intravenous injection and cost prohibitive. Hence, the aim of these studies is to chemically synthesize nuclease-resistant, cost effective, novel miR-30c analogs that can be administered via subcutaneous injections, similar to delivery of insulin by diabetics, to curtail diet-induced hyperlipidemias and atherosclerosis.

MiR-30c is a double stranded RNA with an active sense and a non-active passenger strand. The sense strand binds to miRISC complexes and interacts with target mRNAs to enhance their degradation or reduce their translation. In order to synthesize miR-30c analogs that are resistant to RNAses we synthesized the passenger strand containing 2'-fluoro, 2'-O-methyl nucleotides. To avoid the use of lipid emulsions and deliver analogs through receptor-mediated endocytosis, we attached a carbohydrate ligand (galactosyl N-ethanolamine) for asialoglycoprotein receptor to different nucleotides. We have identified two novel analogs that reduced apoB secretion in human hepatoma cells without affecting apoAI secretion. These novel analogues can be tested in mice and other organism for their ability to reduce plasma lipid levels.

Name: Juliana Gonzalez – Nexus 159 – Section B: 10:10-11:10 A.M.

Co-Authors: Vital Sapojnikov, Abinash Kaur

Faculty: Dr. Brian J. Stockman

Dr. David W. Parkin

Division: Undergraduate

Title: Emerging SAR for several series of Trichomonas vaginalis adenosine/guanosine preferring nucleoside ribohydrolase inhibitors derived from fragment analog screening

Abstract:

The adenosine/guanosine preferring nucleoside ribohydrolase has been identified as a druggable target for developing novel antitrichomonal therapeutics. New therapies are needed because the infectious parasite, Trichomonas vaginalis, is becoming increasingly resistant to existing treatments based on 5-nitroimidazoles. We previously screened this purine salvage pathway enzyme against a diversity subset of the AstraZeneca fragment library using a 1H NMR-based activity assay to monitor substrate hydrolysis. Three classes of inhibitors with IC50 values < 10 μM and ligand efficiency values greater than 0.5 were identified: bis aryl phenols, amino bicyclic pyrimidines, and aryl acetamides. These initial hits were then used to select ~ 160 fragment analogs for further testing against the enzyme. A number of fragment analogs were discovered with improved activity compared to the parent fragment, including several with five- to ten-fold improvements in potency. Just as importantly, a significant number of the fragment analogs had diminished activity compared to the parent fragment, suggesting synthetic modifications to avoid. Several counter screening methods were performed on the fragments to ensure that they were active against the enzymatic target, and not a result of colloidal aggregation, and to characterize their patterns of inhibition. The data reveals an emerging SAR that is guiding our medicinal chemistry efforts aimed at discovering compounds with nM potency that can be tested in vitro for target validation against both 5-nitroimidazole-sensitive and 5-nitroimidazole-resistant T. vaginalis strains.

Name: Sujith Rajan – Nexus 159 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Eugenia Villa-Cuesta

Professor M. Mahmood Hussain

Director of Obesity and Diabetes Research Center,

Winthrop Hospital

Division: Graduate

Title: Chronic insulin exposure reduces expression of microsomal triglyceride transfer protein in adipocytes, but not in hepatocytes

Abstract:

According to World Health Organization, 9.4% of US population (30.3 million people) have diabetes and is estimated to rise exponentially. Insulin resistance, the major cause of type 2 diabetes, is a pathophysiological state in which cells fail to respond to high insulin concentrations resulting in increased blood glucose levels. The major organs involved in glucose homeostasis are liver, muscle and adipose tissue. Adipose tissue secretes more than 600 different proteins, adipokines, to affect functioning of other organs and plays an important role in glucose homeostasis. Moreover, excess energy consumed is stored in adipose tissue in the form of triglycerides, leading to increase in fat mass or obesity. Clinical and experimental evidences suggest strong correlation between insulin resistance and obesity.

Microsomal triglyceride transfer protein (MTTP) is a molecular chaperone involved in the biosynthesis of lipoproteins. MTTP is mainly expressed in the liver and intestine and to a lesser extent in adipose tissue, but not in the muscle. Aim of this study was to find out tissue specific changes in MTP expression after chronic insulin exposure (CIE). Mouse adipocytes, 3T3L1 cells, and human hepatoma, Huh-7 cells, were exposed to insulin (500 pmol) for 3 days. CIE caused insulin resistance as measured by decreasing phosphorylation of Akt and AS160 in both cells. CIE decreased MTTP activity, protein and mRNA levels in 3T3L1 cells, but not in Huh-7 cells after 72 h. These studies indicate that MTTP expression is regulated in adipocytes but not in liver derived cells after CIE highlighting tissue-specific transcriptional regulatory mechanisms. Further studies are ongoing to understand the regulation of MTTP in insulin resistant adipocytes.

Name: Hrishikesh Deshpande – Nexus 158 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Professor Matthias Foellmer

Division: Graduate

Title: Population Genetics of Argiope Aurantia

Abstract:

Due to habitat isolation, populations can experience gene depression. A way to counter this is migration between the populations. The orb-weaver spider Argiope aurantia experiences population isolation, as they are mainly found in old-successional habitats: open fields that are separated by forestland. This study analyzes the population genetics of 192 A. aurantia individuals, to see if there is presence of gene flow through migration. Microsatellite markers were created and used to analyze the genome of the population. However, only 2 markers successfully amplified. Hardy-Weinberg analysis was conducted on these two markers, and reasons for the unsuccessful amplification of the 4 markers are discussed.

Name: Shazrah Syed – Nexus 158 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Andrea Ward

Division: Graduate

Title: Varying locomotion of the American eel (Anguilla rostrata) across distinct substrates may provide evidence of species decline

Abstract:

The American freshwater eel (Anguilla rostrata) populations have been severely in decline since the 1980s. The species is threatened by habitat deterioration and overfishing. American eels have commercial and environmental importance. The lifecycle of the American eel is such that the species must undergo two major migrations in its lifetime. After spawning in the Sargasso Sea, the larvae develop into elver eels and migrate through ocean currents up freshwater rivers. Elver eels develop into yellow eels which remain in freshwater environments for a number of years before developing into silver eels and migrating to the sea to reproduce. During migration to freshwater rivers, elver eels often venture on land to navigate around dams and developments. The material comprising the land may influence the success of the elver eels in reaching the freshwater river, and thus have significance in the large decrease of the Anguilla rostrata population. American eels utilize undulatory locomotion in terrestrial and aquatic environments using their axial musculoskeletal systems. The purpose of this study is to observe and record the locomotion patterns of Anguilla rostrata individuals on various substrates to ascertain which substrate is ideal for movement. The study utilizes seven American eels (Anguilla rostrata) individuals on wet sand, fixed rock, and loose rock substrate. Ten movements across each substrate were digitally recorded on high speed for each individual and analyzed through the MATLAB program for distance ratio. Based on previous research, it is expected that of the three substrates being analyzed, the eels will have the greatest locomotor success on coarse wet sand which allows the formation of grooves for external resistance in propulsion.

Name: Jason Shah –Nexus 158 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Jonna Coombs

Division: Graduate

Title: Investigating the iridescent phenotype of a novel Tenacibaculum spp. using transposon directed mutagenesis.

Abstract:

Iridescence occurs when light interacts with geometrically aligned structures causing a scattering of light waves resulting in visible light. This property has been observed in many animals including birds, fishes, and insects. It was first reported in bacteria in the 1950’s, however the ecological role of iridescence in bacteria is unknown. Bacteria are a highly diverse group of organisms with the genetic capacity to thrive in harsh environments. One example of an extreme condition is a high-salt environment. Bacteria that can survive in this type of environment are called halophiles. In this research, bacterial colonies were isolated from sediment samples collected from a high-salt environment. The soil was collected from an area characterized as the upper salt marsh, approximately 60 meters from the shoreline. Bacteria from the sediment samples were isolated on Seawater Complete (SWC) medium. A subsample of 0.1g of sediment sample was found to contain 20,500 colony forming units/ml. The colonies isolated had diverse morphologies. Our focus was on a colony which had iridescent characteristics. The iridescent isolate was further examined, and through the characterization of the 16S rRNA gene the isolate was identified as part of Tenacibaculum genus and part of flavobacterium family. Previous research has indicated that some bacteria belonging to the flavobacterium family such as Cellulophaga lytica have iridescent morphologies. We are currently using a transposon to identify the gene(s) responsible for iridescence. The transposon randomly integrates into the genome resulting in the interruption of genes, creating mutant strains. Mutant strains that have lost the iridescence phenotype will be subjected to DNA sequencing to identify the genes involved and will be used further to investigate functional aspects of the iridescence.

Name: Delaina Best – Nexus 126 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Andrea Ward, Professor Mica Mccarty-glenn

Division: Undergraduate

Title: Force Production by American Eel During Locomotion

Abstract:

Locomotion of animals depends on many factors, such as type of environment, as well as the size and shape of the fish. In this experiment, the species Anguilla rostrata (American eel), locomotion will be observed in both terrestrial and aquatic environments. The methods used to analyze the species force production was a peg board apparatus. The calibrated peg board consisted of seventy seven pegs evenly spaced, and one peg that was connected to a two uniaxial strain gauges. We collected force measurements of animals moving in both environments. The results will help us understand how animals use substrate to demonstrate forward propulsion.

Name: Romaine Dawkins – Nexus 158 – Section B: 10:10-11:10 A.M.

Co-Authors: N/A

Faculty: Eugenia Villa-Cuesta

Division: Graduate

Title: Understanding neuropsychiatric systemic lupus erythematous through a systems neuroscience approach

Abstract:

Lupus is an inflammatory disease where the immune system attacks its own tissues. Lupus antibodies are known to target highly dividing organs, with high DNA expression. Symptoms of lupus include fatigue, joint pain, rash, fever, and cognitive impairment. Currently, our research is focused on understanding how the brain reacts to systematic lupus. A systems neuroscience approach was used to study cognitive impairment in a lupus model of mice. We examined the CA1 region of the hippocampus where lupus antibodies have been shown to bind to neural tissue. Lupus mice (DNRAB+) were generated by immunizing mice with MAP-DWEYS expressing antigen, while control mice (DNRAB-) were immunized with MAP-Core protein. Single unit activity from both groups of mice were recorded to study place cells firing properties of mice during an Object Place Memory task. Results of the in vivo electrophysiology study indicate that DNRAB+ mice have impaired spatial encoding, with larger place fields areas. This systems neuroscience approach is a promising model to study the effects of lupus on cognitive impairment, which may elucidate what happens when lupus antibodies bind to neural tissue.

Name: Ashley DeSena – Nexus 157 – Section B: 10:10-11:10 A.M.

Co-Authors: Ashwini Rambrich

Jasmine Singh

Faculty: Professor Laura Messano

Division: Undergraduate

Title: Minority Representation In Movies Reels In Profits

Abstract:

Recently, Black Panther dominated the box office making it one of the most successful superhero movies of all time. There was a lot of hype revolving around the movie, but what really is all this fuss about? Blank Panther is a movie whose main character is black and this is the first Marvel movie to have a black character play a leading role. During its first week in the box office, it has already broken records, making more than $235 million in the US alone.

Black Panther shows new standards and cultural representation for superhero movies because usually when we watch Superhero movies we see the main character is white and he saves the world. It shows more inclusion through a different way of storytelling. This shows how the movie industry is growing to a new level. Also, it makes the viewers watching the movie feel like they can do anything and they don’t have any limits.

As a team, we plan to research how movie/media representation benefits both the viewer and the entertainment business. We will look at recent movies that feature minorities who are rarely depicted on screen as main characters and see how well said movie did in the box office as a result of this inclusion.

Name: John Weber – Nexus 157 – Section B: 10:10-11:10 A.M.

Co-Authors: Uyen Nguyen

Faculty: Professor Laura Messano

Division: Undergraduate

Title: Violence in the NHL

Abstract:

We will be researching the topic of violence in the National Hockey League. The amount

of NHL players that fist fight on the ice during a game has increased over the years, especially in games against division rivals. We will explore the roles of the players, coaches, referees,

commissioner, and spectators. Although the rules of the NHL include penalizing the players for

fighting; it is common for referees to hesitate and break up the fights only when the players fall

to the ground (ice). The increased fighting has led to hockey games resembling boxing matches. We will explore the answers to the question, “Why are some coaches benching players for fighting while others are turning a blind eye to violence on the ice?”

Name: Tian Li – Nexus 126 - Section B: 10:10-11:10 A.M.

Co-Authors: Cyrus Mowdawalla, Faiz Ahmed, Loma Dave, Kiet Pham, Kirandeep Kaur

Faculty: I. F. Dempsey Hyatt

Division: Undergraduate

Title: Hypervalent Iodine Guided Electrophilic Substitution Reactions: Progress Towards sp3-sp3 Cross-Coupling

Abstract:

Carbon-carbon bond formation has been, and continues to be, of interest to organic community. During the past sixty years, reactions like the Wurtz reaction, Pd-cross coupling, and Photoredox cross coupling have allowed chemists to make the crucial carbon-carbon bonds needed to form complex molecules. Mechanistically, due to the side reactions associated with -hydride elimination the selective formation of sp3-sp3 carbon bonds has been a challenge. Progress towards this goal is discussed as well as the development of the hypervalent iodine-guided electrophilic substitution (HIGES) reaction. In this specific project, hypervalent iodine and a metalloid alkyl transfer reagent are utilized to create a coordinated ring system. After electrons transfer, the hypervalent intermediate proceeds through re-aromatization to allow the hypervalent iodine guided electrophilic substitution. The resulting product is a net reaction of para-selective electrophilic aromatic substitution.

Name: Zaafir Dulloo – Nexus 126 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Melissa VanAlstine-Parris

Division: Undergraduate

Title: Synthesis of 2-substitutedbenzimidazole derivatives to test for their inhibitory effect on the enzyme uridine nucleoside ribohydrolase

Abstract:

Trichomoniasis, the most common curable sexually transmissible disease in the United States, is becoming resistant to commercially available drugs metronidazole and tinidazole. Trichomoniasis is caused by the one-celled protozoan Trichomonas vaginalis. In order to grow and replicate, this parasite requires the enzyme uridine nucleoside ribohydrolase (UNH) to scavenge for uracil from its host. Omeprazole, pantoprazole and rabeprazole are known to inhibit UNH. The similarity between these three proton-pump inhibitors is a benzimidazole backbone. Castillo et al. reported that different substituted benzimidazoles inhibit T. vaginalis. The aim of this research is to synthesize similar benzimidazole derivatives as Castillo et al. and to test for their inhibitory effects on the enzyme UNH. The benzimidazole scaffold was formed by reacting o-phenylenediamine derivatives with either glycolic acid or lactic acid. The nitrogen at the one position was methylated and the hydroxyl group on the second carbon was oxidized to the corresponding aldehyde or ketone. Aldehydes were then converted to primary amides, which were then methylated to form secondary and tertiary amides. The synthesized benzimidazoles were purified by column chromatography and characterized by NMR. The products were sent to Dr.Stockman’s laboratory where they are tested for UNH inhibition and IC50 values are generated. The reported IC50 values are used to look for any possible trend between the inhibitions of UNH and that of T. vaginalis. Any observed trend would provide insights on the mechanism of novel antitrichomonal agents.

Name: Ourania Katehis – Nexus 239 – Section B: 10:10-11:10 A.M.

Co-Authors: Denise Dejesus, Christine Varghese, Adel Basic, Priyanka Nair, Aleah Jones

Faculty: Professor Edmund Pajarillo

Division: Undergraduate

Title: Many Countries Use Kangaroo Care. Why not in the U.S.?

Abstract:

Background: Kangaroo Care (KC) was first used in Colombia in 1979 as an alternative to incubator care of premature infants. KC is skin-to-skin contact between mother/father and infant, by carrying the baby wrapped inside a snug cloth hanging across the parent’s torso. It promotes the health of infants by reducing stressors and increasing their ability to thrive. Evidence shows that it helps premature infants gain weight, breastfeed and decrease stressors that are critical to their survival.

PICO Question: Does kangaroo care help premature infants thrive better and decrease their levels of stress?

Significance: Caring for premature infants in intensive care, including incubators, costs $10,000/day. KC reduces this cost and the length of hospital stay by 4.64 days, yet it’s hardly used in the U.S. The literature review revealed that KC is not widely used in America due to a lack of knowledge of its benefits and its advantage of minimizing mortality rate for premature babies.

Methodology: The research design is quantitative, comparing two groups of 100 premature infants each. One group will receive incubator care and the other group will receive KC. Two hospitals in New York City will be asked to participate. The administrators and staff of both hospitals will be educated in terms of the uses and benefits of KC. Only parents who receive education about KC and volunteer to be part of the study will comprise this KC group. Patients in both groups will be compared in terms of the infants’ ability to thrive as evidenced by effective latching, breastfeeding, and weight gain. Infants’ stress will be assessed via cortisol levels obtained by mouth swabs and their amount and frequency of crying.

Outcomes & Conclusions: Expected outcomes include significant increases in weight, latching and feeding among babies receiving KC, decreased levels of stress and improved quality of sleep. It is anticipated that KC babies will spend less days in the hospital and incur less costs.

Name: Pamela Carstens – Nexus 239 – Section B: 10:10-11:10 A.M.

Co-Authors: Edwin Alburquerque, Ayisha Allen, Thomas Maurice, Sarah Schmitt, and Farah Sookdeo

Faculty: Professor Edmund J.Y. Pajarillo

Division: Undergraduate

Title: Intimate Partner Violence: To Ask, or Not to Ask

Abstract:

Background: Intimate Partner Violence (IPV) is a major health problem worldwide. 1 in 4 women will be victims of IPV in their lifetimes & annually 18,500,000 people visit healthcare facilities for mental health care due to IPV. Routine screening of IPV in Emergency Departments (ED) can identify IPV victims. PICO:In EDs, will the use of verbal questioning be more useful in identifying IPV among female patients when compared to a written questionnaire? Significance:Abused women use health services frequently due to emotional issues that might be IPV-related such as depression, anxiety, & suicide. Victims of IPV prefer to be asked direct questions. When IPV is identified, the violence can be curtailed, including other potentially dangerous outcomes. Review of Literature:A search of the databases (MEDLINE,ProQuest,CINAHL & EMBASE) revealed many tools used for IPV assessments in EDs. Keywords are domestic violence,IPV,Intimate Partner Violence,women,ED,ER,& mental health, yielding over 603,973 documents. Using other delimiters, 36 articles met the research criteria & 10 were most relevant. Many tools are used in EDs, but none are considered best. The review showed that verbal questioning leads to more patients willing to identify as IPV victims. Methodology: This research will use a quantitative paradigm, with 2 groups of 100 female patients in 2 EDs in NY. Each patient will be randomly assigned to either verbal questioning (X1) or a written questionnaire (X2) for IPV assessment. The number of patients identified as IPV victims (Y) will be compared between X1&X2 at 0.05 level of significance.Expected Outcomes:Based on current evidence, patients identify as IPV victims using verbal questioning rather than a written questionnaire. A demographic profile of IPV victims will be developed which can be used for future research.Conclusion:Identifying IPV victims may lower the resulting complications of abuse and they can then be seen by other professionals for further treatment.

Name: Okwuchi Ukegbu – Nexus 239 – Section B: 10:10-11:10 A.M.

Co-Authors: Casey Olsen

Nataly Castillo

Carmen Matthews

Sangeeta John

Suresh Sagar

Faculty: Edmund Pajarillo, PhD, RN BC, CPHQ, NEA BC

Division: Undergraduate

Title: Injection Rejection: The Nurses' Role in Easing Pain Associated with Immunizations.

Abstract:

Background: Childhood immunizations are mandatory for school-aged children. Injection pain is a major barrier for non-compliance to immunizations Research shows that pain related to injections can be eased through various distractions. Distractions lower the pain scores of pediatric patients during immunizations. This current research will compare the effectiveness of toys, electronics, and music as distractions to lower the level of pain.

PICO Question: Among school-aged patients, what type of distraction (toys, electronics, or music) will lower the pain associated with immunizations?

Significance: The purpose of this research is to identify which of these distractions will promote safety and lower the pain experienced during the process.

Review of Literature: An extensive review of the literature was done using EBSCOHost, ProQuest, Google Scholar, OneSearch, Cochrane, and CINAHL. Using the key words distractions, immunizations, and pain yielded a total of 34,307. Limited to the last 5 years, full text, peer reviewed scholarly articles, and English only, 14 results were viable. The journals we used in the study demonstrated that they lowered pain.

Methodology: Our research is a quantitative design measuring pain on a 0-10 scale at 100 doctors offices. The pain scale tool was used after many years of doctors struggling to measure pain and administer medication. We used three stratified groups of 100 school aged children that were blindly given the randomized independent variables. The Z-test was used to compare the percentage of the benefits of each group. According to (Saharan, K. 2017) the studies show that the effects of the moving toy significantly improved the child’s pain score after injections.

Anticipated Outcomes: While all three types of distractions have already proven to be good distractions during the child immunization process, we anticipate that our study will statistically reflect degrees of effectiveness.

Name: Alexandra Sessa – Nexus 126 – Section A: 9:00-10:00 A.M.

Co-Authors: Bharrat Sookdeo

Marissa Doody

Daniella Bozzomo

Faculty: Professor Laura Messano

Division: Undergraduate

Title: How Nutrition Impacts Student Productivity

Abstract:

Have you ever wondered whether or not skipping breakfast actually makes an impact on your day? Have you eaten all of the suggested fruit and vegetable servings for the day? Our team will answer to these, and many more questions in our research project entitled, “How Nutrition Impacts Student Productivity”. As four students in college, we have experienced the late nights and early mornings, skipping meals to spend more time in the library, and drinking countless energy drinks to stay up to get that last hour of studying in. Many people don’t consider the real effects of skipping meals or replacing breakfast with a granola bar that has nine grams of sugar in it, or how detrimental energy drinks really are for our health. With this project, we hope to raise awareness for the importance of eating right for students across all campuses.

Name: Fatima Doumbia – Nexus 126 – Section A: 9:00-10:00 A.M.

Co-Authors: Avion Henry

Faculty: Professor Korede Adegoke

Division: Graduate

Title: Factors that Promote the Support for Female Genital Circumcision in Cote D’Ivoire: Identifying High-Risk Women Subgroups

Abstract:

Context: Despite the ban on female genital mutilation (FGM) in Cote D’Ivoire, the prevalence of FGM remains relatively high. FGM is a harmful practice that is associated with several health risks such as severe pain, reduction in sexual satisfaction, and increased perinatal mortality. The purpose of this study was to examine the characteristics of the women at high risk for supporting the continuation of female genital circumcision in Cote D’Ivoire.

Methods: The individual recode dataset of 2012 Cote d’Ivoire Demographic Health Survey was analyzed (N=8921). Exhaustive Chi-squared Automatic Interaction Detection, a classification tree analysis, was conducted to identify subgroups of women with high likelihood to support the continuation of FGM.

Results. In the study sample, 14.5% of the respondents were in support of the continuation of female genital circumcision (FGC). Being circumcised, followed by knowledge of the legality of FGC were the most significant predictors of support of the continuation of FGC. The highest risk subgroup was women who were circumcised, believed that FGC was legal or did not know if it was legal or not, and who believed that female circumcision was required by their religion. In this subgroup, 81.0% of the respondents supported the continuation of FGM.

Discussion: We identified subsets of Ivorian women are at higher risk for supporting the continuation of female genital circumcision. Our results show that interaction of cultural, religious, and policy factors predicts the support for the continuance of FGM. To achieve the sustainable development goal (SDG 5) of eliminating all harmful practices, multilevel interventions based on the identified predictors and targeted towards the high-risk sub-groups are required. There is also a need to raise awareness of the illegality of FGM in Cote D’Ivoire and enforce the policy ban.

Name: AVION HENRY – Nexus 126 – Section A: 9:00-10:00 A.M.

Co-Authors: Fatima Doumbia

Faculty: Professor Korede Adegoke, PhD

Division: Graduate

Title: Determinants of stunting among Ivorian children

Abstract:

Background

Undernutrition is an important cause of morbidity and mortality among children under five years in Africa. Stunting, an index of chronic malnutrition is a huge problem and costs the continent approximately $25 billion annually. In Cote D’Ivoire, a country in West Africa with high rates of malnutrition, no study has investigated the determinants of stunting. In this study, we aim to identify maternal and child factors associated with stunting among Ivorian children.

Methods

A secondary data analysis using cross-sectional data from the 2012 Demographic Health Survey of Cote D’Ivoire was conducted. Analyses were restricted to children between the ages of 4 to 24 months (N = 1324). Stunting was defined and dichotomized based on height and age using Z scores ± 2 standard deviations. The data were described using descriptive statistics, and multivariate logistic regression was conducted to identify factors associated stunting.

Results

Overall, 25.2% of children in the study were stunted. The most significant predictor of stunting was exclusive breastfeeding (EBF); mothers who did not exclusively breastfeed their babies were three times more likely to have stunted babies than mothers who exclusively breastfed (OR = 3.00, 95% CI: 1.73, 5.21). Compared to male children, their female counterparts were 50% less likely to be stunted (OR = 0.50, 95% CI: 0.35, 0.71). Mothers older than 20 years had lower odds of having stunted children compared to teenage mothers.

Discussion

In Cote D’Ivoire, the main determinant of stunting in children less than 2 years of age was exclusive breastfeeding. Other significant factors related to this index of chronic malnutrition were male gender and low maternal age. Interventions are required to promote EBF and educate mothers of the benefits. Programs targeted towards teenage mothers are also required. Future studies should explore the reasons for gender differences in stunting.

Name: Vladyslav Verba – Nexus 239 - Section A: 9:00-10:00 A.M.

Co-Authors: N/A

Faculty: Kees Leune

Division: Undergraduate

Title: Ramifications of Widespread Consumer Adoption of Personal Digital Assistants Using Speech Recognition Technologies

Abstract:

This research project focuses on the risks and benefits of personal digital assistants (PDA) in the lives of consumers. We focus specifically on the modern era of speech activated personal digital assistants such as Alexa and the Google Home. These have proven to be popular amongst consumers. However, we want to see if the possible risks of these devices outweigh the benefits.

Firstly we explore the background of these products. Here we conduct literature research in order to look at current applications of the technology, how many products are sold and trends that these technologies are taking. We then look at how speech recognition actually works from a technical point of view, this way we can understand how these products operate and relay data. This research is important in order to understand the risks and benefits that may come with these devices.

We then build upon our initial research to address the risks and benefits of these devices, specifically in the lives of consumers. Here we look at case studies and analysis of current speech activated PDAs. Through this research we explore the potential of this technology while also considering the possible risks that may arise through its development.

We will then conduct an experiment, which addresses a major possible risk of these devices. While Google and Amazon claim that no information is being transmitted when the device is not on, we want to test this. In this experiment we will set up a system which will be able to detect if Alexa and Google Home are transmitting what is being said in the room under various conditions. We will explore ambient sound, regular conversation, when the trigger word is spoken and for how long information is transmitted.

We will analyze our findings from the experiment and determine if speech activated PDAs genuinely pose a large threat in the lives of consumers. This will help us address the potential risks and understand what we can do in the future to mitigate them.

Name: Jennifer Willard – Nexus 158 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Jonathan Cristol

Division: Undergraduate

Title: Why Do Women Join Al Qaeda?

Abstract:

Why did women join Al Qaeda before the 9/11 attacks? While Al Qaeda had a history of successful attacks, it was not the global household name that it is today. Much has been written both about women joining the so-called Islamic State, and about men joining terrorist groups of all stripes, but the focus on women in Al Qaeda is an understudied phenomenon. Did women join out of a sense of revenge? Was it to gain a feeling of empowerment over their lives? Or could it have been a response to peer pressure? These possibilities, among others, will be closely examined in this paper.

Name: Jai Punjwani – Nexus 239 – Section A: 9:00-10:00 A.M.

Co-Authors: Mateusz Gembarzewski

Faculty: Dr. Kees Leune

Division: Undergraduate

Title: Understanding Blockchain and Its Potential Applications on Electronic Voting Systems

Abstract:

While everyone is caught in the hype surrounding Bitcoin, relatively few people know about its underlying technology, blockchain. Blockchain is a database of records that are stored in blocks that build on top of one another. Each block contains a link to the previous block and is cryptographically signed, effectively forming a chain that is difficult to tamper with. Blockchain is also decentralized and distributed, meaning that it does not have a central governing party and is instead controlled by everyone in the blockchain network. This removes the common single point of failure that is present in traditional applications and provides a visible audit trail that can be used to validate the ledger at any point.

Our project aims to explore the use of blockchain in electronic voting (e-voting) systems. We believe that blockchain can bring transparency to the casting, collecting, and counting of votes and ultimately bring trust to voters using e-voting systems. To carry out our research, we plan on designing, implementing, and testing a blockchain-based e-voting system, in which we focus on the casting and counting of votes. We are hoping that with our system, we can demonstrate the merits of using blockchain for voting, and contribute to current research in this field.

Name: Alessia Merritts – Nexus 158 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Jacqueline Johnson

Division: Undergraduate

Title: Familicidal Men: What drives men to murder their families?

Abstract:

On April 20, 2009, Garden City, New York would never be the same. The father of one of the city’s most beloved families had killed his wife, two daughters and, soon after, himself. This story shed light upon a newly researched category of murder: familicide. This study is a comprehensive review of the empirical literature on male-driven familicide. My research question is: Is there a strong correlation between familicide and financial strain? Current research reveals that familicide is subsequently broken down into two main categories: murder by proxy and suicide by proxy. The key difference between the two being the motivation for the killing and whether or not a suicide or suicide attempt occurred alongside the murder. Financial strain may be one contributing factor among a much larger series of casual mechanisms that lead to male-driven familicide. According to the Trajectory Theory, there is no one simple answer for why this type of crime occurs. That is, different people choose different paths to the same crime.

Name: Lauren Baron - Nexus First Floor Lobby – C29 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Dr. Melissa Randazzo

Division: Undergraduate

Title: TITLE: Neural Correlates of Central Auditory Processing Disorder and Language Impairment: An EEG Research Proposal

Abstract:

Central Auditory Processing Disorder (CAPD) is a controversial diagnosis and it has been debated in the literature whether it is a true diagnostic entity. Children with CAPD have difficulties of understanding speech in the presence of background noise, following directions, and discriminating between similar speech sounds. Signs of CAPD overlap with other developmental disorders such as a specific language impairment, dyslexia, learning disorder, attention-deficit hyperactivity disorder, and autism spectrum disorders. Diagnostic testing for CAPD is largely confounded by language and attention. Electroencephalography (EEG), allows us to look at brain responses to auditory stimuli in the absence of attention. The Mismatch negativity (MMN) is an event related potential (ERP), or signature of brain response, that signifies detection of change to the auditory stimulus. This study will compare children with CAPD and Language Impairment (LI) while listening to minimal pair speech sounds (/pa/ and /ba/) and nonspeech sounds (high frequency tone and low frequency tone) in a passive MMN paradigm to circumvent the confound of attention. If CAPD is a true diagnosis of auditory processing, children with CAPD and LI will show differential brain responses to auditory stimuli as indexed by the MMN. We anticipate that children with language impairments would show only reduced MMN to speech and not tones. Children with CAPD will show reduced MMN to both speech and tones.

Name: Angela Polloni – Nexus 156 – Section A: 9:00-10:00 A.M.

Co-Authors: Kristina Karouzakis

Faculty: Dr. Melissa Randazzo

Division: Graduate

Title: EEG Research Proposal: Using EEG to Investigate the Relationship Between Audiovisual Integration and Phonemic Awareness

Abstract:

Reading difficulty (RD) in alphabetic languages is associated with deficits in phonemic awareness (PA), the metalinguistic understanding that spoken words are composed of phonemes. Reading requires the coordination of audition, vision, and PA. Individuals with RD demonstrate decreased audiovisual (AV) integration of graphemes and phonemes. In this study we utilize electroencephalography to examine the influence of orthographic consistency on AV integration and PA in five pilot participants. This study analyzed event related potential responses in adults given rhyme judgement and elision (PA) tasks. Preliminary results indicate differences in brain activity between rhyming and modality related conditions. This ongoing pilot study will be used to standardize stimuli for future investigations regarding AV integration in dyslexia.

Name: Alia Danilo – Nexus 156 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Professor Kelly Swartz

Division: Undergraduate

Title: Septimus the Everyman: Mourning after the Great War

Abstract:

This research focuses on the character of Septimus Smith from Virginia Woolf’s Mrs. Dalloway who, near the end of the novel, throws himself from a window to his death. To explore this idea I looked at the works of several analysists of Woolf’s writing who discuss various aspects of both traditional mourning processes and the impact of the First World War on Woolf’s novels. Following Freud’s description of how melancholia manifests itself as opposed to a healthy experience of mourning, I conclude that Septimus’ suicide is not so much murdering himself, but rather murdering the part of his brain that identifies itself as his dear friend Evans, who was lost in the Great War; furthermore, his suicide is also the frustrated result of attempting to navigate through conceptions of how individuals should mourn. Traditional conceptions of mourning were thrown into question after the horror of the Great War and Septimus serves as an individual example of what appears to be a national pathology.

Name: Caterina Russo – Nexus 158 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Ana Isabel Simón-Alegre

Division: Undergraduate

Title: Promoting Multilingualism

Abstract:

Promoting Multilingualism

Speaking more than one language is always seen as an advantage, for example, in the 21st century. But you would be surprised by how many people tend to overlook the possibility of having more job opportunities and, because of this, people only learn another language for four years and then stop because they have fulfilled their required credits. The language community is already growing, but there isn’t enough awareness as to what can be offered in international and government businesses, or any business, for that matter, or how we can build our own cultural identity and see things from a different perspective. But there is plenty of time to turn this fact around. In this advancing world in terms of global communication and infrastructure, multilingual speakers are culturally, academically and politically aware, creative, are able to adjust in certain societies, and they have a wonderful appreciation of languages. Languages are used to communicate with one another and it is important to work with people who share this passion, whether it is your mother tongue or another language entirely. And there are many benefits that come with knowing more than one language. The purpose of my presentation is that I have found, by speaking more than two languages, there is greater knowledge of the world we live in. We can already see that languages and the communities that have been created, both official and unofficial, celebrate the unification of multiple cultures. And that is the type of awareness that we need to spread, to broadcast, to show that we can work together.

Name: Supanut Puengtonpaisal – Nexus 156 – Section A: 9:00-10:00 A.M.

Co-Authors: Tianyu Tong

Zechao Zhang

Minglu Liu

Faculty: Professor Ching-Ching Lin

Division: Graduate

Title: Re-imaging Culture in a cross-study of love and marriage

Abstract:

Is it true that romantic love is mostly manifested in western cultures while collectivist cultures like China and India don’t put much stress on romantic love? This study questions the view that family values no longer have a strong influence on how individuals conceptualize love in modern, individualistic societies. The author will interview young people from diverse cultural backgrounds. and explore their perspectives on romantic love. The authors hope to show that cultures and love are inextricably intertwined. We also argue that a more complex concept of culture is needed to understand young people’s vision of romantic love in a changing, global context.

Name: Lexiao Zhao – Nexus 156 – Section A: 9:00-10:00 A.M.

Co-Authors: Ching-Hao Hu

Qing Wang

Jing Wu

Faculty: Professor Ching-Ching Lin

Division: Graduate

Title: The impact of family values on love and marriage: a cross-cultural study

Abstract:

The family environment we grew up and the family values thereby instilled within us may profoundly impact our views of love and marriage. The purpose of this study is to explore the influence of family structure in different cultural backgrounds on young people’s perspectives on love and marriage. We will explore different perspectives on love and marriage by interviewing young people of diverse cultural backgrounds. This cross-cultural study aims to provide a more detailed and in-depth description and analysis of the forms and functions of love and marriage in global contexts.

Name: Jiayi Liu – Nexus 156 – Section A: 9:00-10:00 A.M.

Co-Authors: Tien Yaul

Luodi Zhang

Jiao Chen

Faculty: Professor Ching-Ching Lin

Division: Graduate

Title: Turn Left, Turn Right, to Marry or Not to Marry

Abstract:

To marry or not to marry is a question for many marriage-age young people. Nowadays, psychological needs such as security, life satisfaction and subjective well-being seem to loom large in young people’s attitudes about love and marriage. Recent studies suggest that more and more young people seem anxious about the prospect and uncertainty of marriage and have chosen cohabitation (living together) over marriage. Using interview as a data collection method, this study interviews young people across diverse cultural contexts and explores how psychological needs figure in their attitudes towards marriage.

Name: Christopher Horton – Nexus 156 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Professor Edward Reno III

Division: Undergraduate

Title: The Impact of Italian Commercialism on the Fourth Crusade and Its Diversion to Constantinople

Abstract:

The Fourth Crusade (1202-1204) began as a mission to retake the Holy Land and ended with a French Conquest of the Byzantine Capital of Constantinople. This comes as a comparison to the First Crusade (1096-1099) when Eastern and Western Christians appeared to be allied against Muslim Turkish forces in Jerusalem. It was now the Byzantine Christians who now became the target of the Crusade. This shift in viewing the Byzantine Christians as enemies rather than allies was due to Venetian Italian interests to gain lucrative trade deals in the Eastern Mediterranean. This paper will focus on the Italian influences on the Fourth Crusade and how it impacted the diversion to the Byzantine Capital. The Fourth Crusade is the beginning of a larger trend in Crusading where the religious motives toward warfare gave way to commercial and secular motives.

Name: Laura Jacobsen – Nexus 156 – Section B: 10:10-11:10 A.M.

Co-Authors:

Faculty: Dr. Michael Christofferson

Division: Undergraduate

Title: Annihilation and Propagation: How Nazi Policies Targeted the Female Reproductive System to Achieve its Racial Goals

Abstract:

This presentation explores how Nazi policies targeted the female reproductive system in order to achieve its racial goals. This agenda necessitated not only the annihilation of the “impure,” but also the propagation of the “pure.” Through methods of both extermination and sterilization, scores of women were violated and abused during the Holocaust, while others were prohibited from using any form of contraception and from having abortions. The presentation traces the evolution of German family policies through the Wilhemine, Weimar, and Nazi regimes and focuses on three categorizations of women: "pure" German women, marginalized German women, and Jewish women. The differentiation of these groups allows for a nuanced interpretation of how and why Nazi policies targeted each group differently, to what extent each group was able to defy these policies, and finally, to get a sense of how the reproductive aspect of the Nazi racial agenda uniquely affected women as childbearers and mothers. By manipulating the family and dictating who was worthy of having one, the Nazis oppressed women of all races, religions, and cultures in that they denied them their right to have (or not have) a family on their own terms.

Name: James Taglienti – Nexus 156 – Section B: 10:10-11:10 A.M.

Co-Authors: N/A

Faculty: Prof. Reno

Division: Undergraduate

Title: Jefferson v. Napoleon: The Case of the Louisiana Purchase

Abstract:

When Napoleon came to power after the overthrow of the directory, he sought to expand the French empire, and was able to reclaim land that France had lost to the Spanish: the Louisiana Territory. This transaction gave Napoleon a large piece of land in North America and contributed to Napoleon’s goal of significantly expanding the French empire. However, the slave rebellion in Saint-Dominique—later know as the Haitian revolution—hindered Napoleon’s imperial ambitions. Therefore, Napoleon had to shift focus to the Caribbean, which took soldiers and resources. Napoleon, in order to quickly acquire more money, signed a treaty with President Thomas Jefferson that gave the entire Louisiana territory to the United States for about 15 million dollars; this was significantly low for the amount of land acquired. Even though it seemed like an American victory, there is debate regarding the role of Jefferson as a diplomat and his power to influence the purchase. This paper will examine which country—America or France—not only emerged with the better deal, but also played the most decisive role in influencing the purchase. Comparing the motives—and subsequently the circumstances surrounding Jefferson and Napoleon—will serve as the standard for assessing who had the “upper hand” and initiated the deal based on their own terms. This paper will examine if Jefferson, through his actions and writing, primarily influenced Napoleon or if Napoleon had power over the entire transaction, and made his decision irrespective of a potential American threat. The motive for this paper pertains to how the Louisiana Purchase changed American federal policy, impacted the course of French expansion and is an early example of a significant foreign policy matter.

Name: Gabriella Chirafisi – Nexus 156 – Section C: 11:20 A.M.-!2:20 P.M.

Co-Authors: Gabriella Cicio

Faculty: Professor Laura Messano

Division: Undergraduate

Title: Italian Culture of Communications and Medicine

Abstract:

Hello, our names are Gabriella Cicio and Gabriella Chirafisi. At the Adelphi University Research Conference on April 24th, we will present our research on Italian Culture of Communications and Medicine. Through a PowerPoint presentation, we will present how business communications and medicine apply in the Italian culture. We will take our research and knowledge from what we know about the American culture in order to compare and contrast our research of Italian culture in various aspects. We will be researching in depth how business in Italy and Sicily is achieved within their culture. In addition to the business aspect, we will be researching the difference in healthcare systems and how this affects medicine positively and negatively in Italy and Sicily.

Name: Amanda Opromolla – Nexus 156 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Nicole Rudolph

Division: Undergraduate

Title: American Consumption of French Wine 1965-2015

Abstract:

This research focuses on American consumption of French wine from 1965 to 2015. The United States has become the largest wine consumer in the world, outpacing the traditional wine countries of the world, France, Spain and Italy. France has been a leading global producer of wine since the 1800s. Understanding the history of French wine consumption in the American market is crucial in predicting the path of the future. This paper this focuses on examining the specific consumption of French wine in the U.S.

Combining a synthetic study of the history of French wine consumption with contemporary market research and personal interviews I am conducting with industry actors will piece together the trajectory that French wine consumption has followed in the United States. I will analyze changes in consumer patterns, such as who drinks wine, what influences their choices and what would make a person choose French wine over that of another country. The original prediction for the consumer is that French wine is favored by those who have some knowledge of wine and an above average income. The study will conclude with some specific recommendations to French wine producers who wish to increase American consumption of French wine in the 21st century.

Name: Angelica Calabro – Nexus 239 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Shilpi Sinha

Division: Undergraduate

Title: Student Connectedness

Abstract:

"One effect of attending school is being able to develop social skills that prepare students to have healthy relationships throughout their lives. The ability to connect with one’s peers and teachers has shown to have many academic and emotional benefits. Students’ grades improve and they are less likely to suffer from emotional issues. This theory is the fuel behind the emerging trend of Social-Emotional Learning pedagogy and design-specific programs utilized in schools across the United States. One program that many schools adopt is a Team structure, where the entire grade of students is divided into several sections. I chose to conduct my research at Oceanside Middle School (OMS) #9M in Oceanside, New York. They have been awarded the New York State Essential Elements: School To Watch award for several years. One of the Essential Elements is Organization and Structure, which the Team structure program falls under. Therefore given this information, the question this research aims to answer is: how does a Team structure affect student connectedness in an “effective” middle school? Using an action research method, student connectedness was evaluated with a certified Questionnaire. At the end of the questionnaire, I included a few questions specifically about the students’ views on how Teaming has benefited them at OMS. This was given to 342 students on three different teams, two teams of 8th graders and one team of 7th graders. The results are expected to show a high level of student connectedness and a positive view of the Team structure.

Name: Tania Goncalves – Nexus 155 – Section A: 9:00-10:00 A.M.

Co-Authors: Payton McCarthy, Yue Zhang

Faculty: Professor Laura Messano

Division: Undergraduate

Title: Exotic Harmony: Music and culture around the world

Abstract:

A glimpse into music around the world. Our presentation includes the various forms of music from select regions, such as the United States, Australia, East Asia and Latin America, and the way it is celebrated and used in different traditions. Music is a huge part of self expression and culture. Music is what brings us together, in a world suffering from hate and violence it is especially important to celebrate life and come together.

Name: Luke Sullivan – Nexus 155 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Paul Moravec

Division: Undergraduate

Title: Spanish Nocturne

Abstract:

Presentation of “Spanish Nocturne”

Composed by Luke Sullivan ’19, representative of the Department of Music

Performed by Trio Solisti on March 2, 2018

For the presentation, I will be playing a recording from the recent premiere of my piece “Spanish Nocturne” performed by Trio Solisti. I will then discuss the background of the piece, the “inspiration,” the instrumentation, as well as other details that take a piece from an idea to a final work. Overall, it will be an analysis of the creative process in music and composition.

Name: Samantha McEvoy – Nexus 155 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Heather Waters

Division: Undergraduate

Title: The Kodály Approach in American Music Education

Abstract:

In today’s music classrooms, there are many possible methodologies that teachers can follow. In order to create great musicians, educators must choose an approach that develops the whole child. The Kodály approach, created and inspired by Zoltán Kodály, facilitates the musical development of the whole child in both challenging and engaging ways, and successfully shapes young students of all ages into skilled musicians. Music is a prevalent part of life and influences every individual in a unique way. Kodály was passionate about incorporating folk songs from students’ unique cultural backgrounds into their musical education to teach concepts such as pitch, rhythm, movement and coordination, and full body engagement. The Kodály approach develops musicianship through the use of hand signs, the singing of folk songs, and the experiences teachers provide for their students. Kodály emphasized the development of the whole musician, and along with other teachers in modern education, believed that all of mankind should have a basic understanding of music and appreciation of their musical selves. The approach has positively affected modern music education through sequential development of music literacy, connections to folk songs and students’ musical experiences and traditions, and through active music making. Through an examination of historical and related research, this presentation will describe the impact Kodály-based approaches have had on American music education.

Name: Muhammad Aziz – Nexus 239 – Section A: 9:00-10:00 A.M.

Co-Authors: Allan Delarosa

Faculty: Dr Sean J. Bentley

Division: Undergraduate

Title: Illustrating the differences between a Superposition and a Mixture of States

Abstract:

This experiment is a quantum eraser experiment that makes use of a path type

entanglement. Since pairs of photons are generated, the goal is to generate a double-slit

interference pattern from one half of a momentum entangled photon ensemble by performing a local transformation on the other, and subsequently detecting the entangled pairs. A classical system was also prepared to mimic the quantum entangled system where we did not have entangled photons and the two paths were attenuated to a single photon level. It was found that in a mixture, unlike a superposition, there is no way to erase the which-slit information and generate a double-slit interference pattern.

Name: Luke Colle – Nexus 158 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Traci Levy

Division: Undergraduate

Title: The Negative Income Tax as the Optimal Solution to Poverty & Inequality

Abstract:

This project proposes adding a negative income tax bracket to the U.S. federal tax code to solve the legitimate problems of poverty and inequality. The bracket would be largely financed by replacing the 83 overlapping means-tested federal welfare programs, which constitute $746-billion of the federal budget. To give this idea weight, the project demonstrates that: targeted welfare is superior to universal welfare; welfare-to-work requirements are counterproductive; and cash benefits are superior to in-kind benefits. Moreover, it shows that, compared to our current welfare system, a negative income tax system: implements more preferable marginal tax rates, is more market-friendly, and is more efficient. Finally, it touches upon some positive effects of such wholesale poverty eradication, as they may lead to self-financing in the long-term.

Name: Jacqueline Fretwell – Nexus 239 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Joel Weinberger

Professor Errol Rodriguez

Division: Graduate

Title: Explicit and Implicit Attitudes Towards Heroin Use

Abstract:

Explicit and Implicit attitudes towards heroin use will be examined through self-report and emotional Stroop tasks. Heroin users are commonly described using negative terms such as being morally wrong, ending up in prison, being weak-minded, having no future, being uneducated, being dishonest, and generally making people angry. Though these descriptions have been commonly associated with heroin users, as heroin use has been on the rise across the country, it is possible that people’s attitudes towards these individuals have changed. Whether or not people’s attitudes have improved or gotten worse is not known. It is possible people’s attitudes towards heroin use has gotten worse because of the coverage it has gotten in the media. Also, people may be unaware of the thoughts they have towards heroin users. This study will further elucidate the unconscious thoughts people may have towards heroin use. Unconscious attitudes often predict behavior in ways that conscious attitudes do not so this research will importantly add to our understanding of how people think about and are likely to act towards heroin users.

Name: Michael Carrera – Nexus 239 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Dr. Nathan George

Division: Graduate

Title: The Mind-Muscle Connection: The Role of Attention in Weight Training

Abstract:

To be successful in golf or basketball, one must be focusing on the pin or rim to ensure the accuracy of their shot. This so-called external focus of attention is beneficial for promoting movement efficiency, which facilitates consistency (Wulf, et al., 2007). Alternatively, an internal focus of attention on one’s body promotes more muscle activation than an external focus. While not ideal for tasks reliant on movement efficiency for success, internal focus is beneficial when the body is the target, as in body building (Zachry, et al., 2005). Being mindful of which type of focus one is using during an exercise is important and may affect whether people will achieve their desired results. This study compares fitness professionals and novices in their awareness of the role of focus in weight training. Both groups were asked to perform two sets of 10 repetitions of the leg curl, leg extension, and bicep curl exercises. Each set differed in their verbal instructions. In an internal instruction condition, participants were to focus solely on the muscles being trained. In an external instruction condition, participants were to focus solely on moving the pad or bar from the starting position to the end position of the exercise. Upon completion, participants rated their experience from both sets of instructions. Preliminary results show that experts rated the internal focus as having a better mind muscle connection, felt it was the best way to perform the exercise, and would utilize this method in the future compared to an external focus, ps<.05. Novices are predicted to rate the external focus to be more helpful, as their goals center more on establishing a foundation for repetition, as opposed to the maximally effective technique. Adopting an internal focus during training is the most beneficial method to build muscle. This study suggests that weight training expertise may be defined, in part, by an awareness of how internal focus maximizes muscle activation.

Name: Erika Andrades – Nexus 159 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Carolyn Springer

Division: Undergraduate

Title: Social Media and Self-Esteem

Abstract:

Social media has become part of our lives, most of us have different social media applications and as we might not know this affects our self-esteem and our well-being. As college students, we are always on social media to have a sense of belonging; we want to know what our friends are up to. Research shows that keeping up to date with what everyone is doing can lead us to compare our own lives and if we don’t have what our other friends have, this lowers our self-esteem. This study looks at the factors that social media has in lowering one self-esteem. Students will be surveyed on how much hours they spend on social media a day, the amount of attention they receive, jealous/envious of one’s friends, and comparison of one’s life with their friends.

Name: Marina Weiss

Co-Authors: N/A

Faculty: former Professor Denise Hien

Division: Graduate

Title: Innovation in Mental Health Care Access and Correlates of Trauma in Superdiverse Survivors of Intimate Partner Violence and Sex Trafficking in the South Bronx

Abstract:

Surviving intimate partner violence and sex trafficking increased rates of psychiatric comorbidity. Models were tested to assess predictors of and associations between mental health sequelae of trauma including PTSD, depression, substance use disorder, and suicidality. Associations were found between PTSD and substance use disorder and between substance use disorder and suicidality.

Name: Moriah Rastegar – Nexus 159 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. Jonathan Cristol

Division: Undergraduate

Title: Islamic Insurgents and Rebel Rabbis: A Comparison of Hamas and Neturei Karta

Abstract:

Anti-Israel extremist groups like Neturei Karta and Hamas play on individuals’ fears and vulnerabilities. The Neturei Karta is a group of Hasidic “rebel rabbis” based in London who believe that the state of Israel should not exist until the Messiah comes, whereas Hamas calls for the total destruction of Israel as a political entity and would like to destroy the Jewish people’s presence in the state of Israel. This paper examines the strategies and tactics used by both groups to undermine and attack Israel. These strategies and tactics may appear to be different on the surface, but what explains that difference? Capacity? Motivation? What? And because Israel is not going away, what is the endgame for these groups and can their goals ever altered? And how should Israel deal with these groups?

Name: Brianna Campbell – Nexus 159 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: M. Joy McClure

Division: Undergraduate

Title: The Parallels Between Political Dissimilarity and Friendship Violation

Abstract:

Over time and with the advent of social media, political view have changed from privately held ideologies, to more publicly performed ones. As a result, political opinions are becoming more important to social identity and social sphere construction, and political partisanship interpreted by others as being linked to an individual’s worth and morality. This has significant implications for friendships, where perceptions of similarity underpin feelings of closeness and trust. In this study we aim to observe how party lines might affect affect friendship dyads. Participants will be recruited from a university research participation pool as well as via snowball sampling on Facebook. Participants will complete a websurvey: First, they will answer questions about demographics and interpersonal security. Then they will be asked to think of a close friend that they interact with regularly on social media. They will report on the demographics of their friend, and answer questions about the closeness, similarity and trust in their friendship. They will then be randomly assigned to visualize one of three vignettes about seeing a post from the friend on social media: a post that shows a friendship violation (i.e. falsely cancelling plans), a post that shows an an incongruence of political ideology (i.e. attending a rally for a politician the participant disagrees with), or a neutral control (i.e. posting about a family event). The participant will then be asked about their feelings, attributions of blame, potential for forgiveness, and changes in closeness, similarity, and trust. Participants will also report on state interpersonal security. We hypothesize that political conflict will elicit reactions similar to friendship violation, and that this may be worse for people who are interpersonally insecure.

Name: Eleni Spyrou – Nexus 159 - Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: M. Joy McClure

Division: Undergraduate

Title: The Whys and Hows of Social Media

Abstract:

Social media is ubiquitous. But how is it shaping human experience? Previous research has shown that social media influences human behavior and emotions; however the particular mechanisms linking social media use and individual outcomes are still being explored. This study aims to understand how social media use affects emotions, and particularly whether individual differences in interpersonal security (e.g. self-esteem, attachment) will predict different motivations for and feelings about social media use. Participants for this study are adults 18 years of age and older, who are active on a minimum of one social media platform. Participants will be recruited via a university research participation pool as well as Facebook snowball sampling. Participants complete a web survey, beginning with measures of self-esteem, attachment anxiety and avoidance. They will then report on their social media use, including their motivations for using social media: Are they approaching rewards (e.g. having fun, making connections) or avoiding threats (e.g. being left out, disagreements). Lastly, the participants will report their emotional response when using social media. The researchers hypothesize that individuals who are more insecure will be more sensitive to social threats (low self-esteem, high attachment anxiety) and insensitive to social rewards (high avoidance). They will have more avoidance than approach goals. Accordingly, they will have more negative emotional responses. If we know more about when and how social media has positive or negative influences on our emotions, then we can develop healthier strategies for using these social tools. Implications for mental and physical well-being will be discussed.

Name: Natasha Saini – Nexus 157 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Chrisann Newransky

Division: Graduate

Title: Gun Violence, Hegemonic Masculinity, and Policy Implications

Abstract:

This paper analyzes the relationship between gun violence and hegemonic masculinity using empirical data that links hegemonic masculinity to violence to prove one’s masculinity. The goal of the paper is to further draw the connection between masculinity and violence and to suggest relevant social work interventions at the individual, community and policy levels. The methods used in this paper are literature review. It has been found that there is a positive relationship between gun availability and homicide rates, and that men tend to be the owners of firearms and perpetrators of violence. It is also been found that the cost of gun violence is infringing on the freedom from violence of American citizens, disproportionately affecting marginalized groups, and costing taxpayers billions of dollars. The paper purports that there needs to be a social policy change and an implementation of two programs. First, the policy change requires communities to switch from a “shall issue” to “may issue” right to carry (RTC) laws. Second, a program to encourage gun owners to sell their excess firearms to reduce gun availability in the community is proposed. Finally, a program to encourage male youths and their parents to develop an alternative masculinity will reduce the need to inflict violence is proposed.

Name: Cristino Chavez – Nexus 157 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Dr. CarolAnn L. Daniel

Division: Graduate

Title: More than Diversity: Women of Color in Leadership Positions and the Empowerment of Youth of Color

Abstract:

Despite academic credentials and professional experience, women of color face an array of barriers including racial biases, unequal salaries, and gender-bias stereotypes when competing for leadership roles compared to their male colleagues. Despite existing gender and racial biases, women of color continue to excel in their careers, successfully reaching their desired leadership roles and are recognized by their fellow colleagues and communities. Their advancement not only promotes diversity in the organization, but provides aspiring leaders from diverse communities and youth with role models. By breaking the glass ceiling in leadership positions, women of color empower youth of color to engage academically in their desired fields of interest and to excel.

Name: Elizabeth Greaney – Nexus 157 – Section A: 9:00-10:00 A.M.

Co-Authors: Timothy Allen, SUNY New Paltz

Faculty: Anne Rochelle (SUNY New Paltz)

& Ohiro Oni Eseleh (Supervised Independent Study) / oni-eseleh@adelphi.edu

Division: Graduate

Title: Responses to the Influx of Unaccompanied Minors in the Hudson Valley

Abstract:

In June 2014 approximately 10,000 unaccompanied minors migrated to the United States from Central America. By the end of 2014 a total of 51, 705 children crossed the southwest border of the Rio Grande. The initial influx of child migrants into the Hudson Valley created a humanitarian crisis. The overwhelming majority of kids spoke either Spanish or only their indigenous language and many were traumatized by the journey. There were no services in place for these minor children or for their sponsors. Service providers, educators, and immigration lawyers were caught off guard and scrambled desperately to find solutions to the complex problems associated with the unprecedented arrival of unaccompanied immigrant children. This research examines how federal immigration policy impacted child migrants at the local Hudson Valley level and the collective response by service providers, educators, activists, and immigration lawyers to effectively deal with the crisis. Through twenty-five qualitative interviews, obtained via snowball sample, we present the voices of those on-the-ground individuals who responded to the lack of support for these kids, and attempted to organize an interconnected web of local services, in the context of federal immigration policy. In addition, we present alternative policy recommendations formulated by service providers and immigration advocates based on their experiences working with unaccompanied minors and their family members. Finally, we present policy suggestions of our own, based on our fieldwork and our combined expertise.

Name: Christopher Perez – Nexus 157 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Todd Vanidestine

Division: Graduate

Title: Nassau County’s Runaway and Homeless Youth (RHY) Risk and Protective Factors

Abstract:

Each year, New York State Office of Children and Family Services (OCFS) releases an annual report of Runaway and Homeless Youth (RHY). Although OCFS examines the risk and protective factors among runway and homeless youth on a state level, it is imperative for each county to study their data to create and implement prevention services. This study investigates Nassau County’s RHY risk and protective factors based on data collected from Nassau County’s emergency youth shelter Nassau Haven. This study is aimed to help gain understanding of the population of Runaway and Homeless Youth who receive services at Nassau Haven.

Name: Natalie Brooks Wilson – Nexus 157 – Section A: 9:00-10:00 A.M.

Co-Authors:

Faculty: Professor Subadra Panchanadeswaran

Division: Graduate

Title: Parallel Relationships: Exploration of Foster Care Supervision

Abstract:

Parallel Relationships: Exploration of Foster Care Supervision

Abstract

Natalie Brooks Wilson

BACKGROUND

Though there are many empirical studies that uncover the prevalence and impact of poor supervision in foster care (Barak, Travis, Pyun & Xie, 2009; Hopkins, Cohen-Callow, Jung Kim & Hwang, 2010; Auerbach, McGowan, Ausberger, Stolin-Goltzman & Schuduich, 2010), there are little to no studies that provide data on the perceptions of birth and foster parents and how they interact with foster care workers. Furthermore, there is no evidence of studies that explore the relationship between foster care workers' supervisory experiences and birth/foster parents' interactions with workers within organizations. It is imperative for social work researchers to not only gain a greater understanding of the barriers and obstacles to foster care worker retention and other foster care outcomes but also to explore the quality of interpersonal relationships within the system and how these factors are connected.

METHODS

In this initial examination of literature, the researcher utilized several search terms including child welfare supervision, foster care worker supervision and impact on foster care services and reviewed meta-analyses sources in an effort to gain a broad understanding of existing research. Databases utilized for this review include the Children's Bureau, the Child Welfare Information Gateway. Several journals used for the search include Children and Youth Services Review, Social Service Review, and Child Welfare. Literature between 2008 and 2018 was included for review for the current project.

FINDINGS

Though multiple sources in the literature highlight strengths and limitations within the existing supervisory practices within child welfare, no studies demonstrated an effort to correlate foster care workers' perceived quality of supervisory relationships with birth and foster parents' perception of the quality of connection with their foster care workers.

Name: Cassie Berman – Nexus 157 Section C: 11:20 A.M.-12:20 P.M.

Co-Authors: None.

Faculty: Professor Johnson

Division: Undergraduate

Title: Is Peace Possible? An Examination ofViolence, Fear, and Corruption Through the Lens of Gandhi, Hooks, King, and Kyi .

Abstract:

How have well known peace advocates examine the impact of violence in society? What are their recommendations for society to achieve non-violence and ultimate peace? These questions are addressed by examining the work of four major thinkers: Gandhi, Hooks, King and Kyi. He examines the relationships between fear, power, and violence and explains four different kinds of corruption of violence. Hooks brings his perspective of racism, explaining that racism, rooted in fear and power, is itself is a form of violence and a cause to further violence. Both of these scholars draw on the work of Gandhi and King to advocate non-violent approaches to problems caused by fear, power, and violence. An analysis of these approaches is examined in detail. Scholars agree that peace is possible but only if people understand the root of fear and power and how they are associated with the continuing relevance of violence. In order for people to understand violence, fear, and power must be addressed at not only a state level but also an individual level as well. This requires major rethinking of ideologies of power and a change of fear-based policies and practices.

Name: Brianna Delzell – Nexus 157 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Jacqueline Johnson

Division: Undergraduate

Title: The Demand for Slaves: A Modern Day Crisis in the United States

Abstract:

The United States government estimates that somewhere between 14,500 and 17,500 people are trafficked into the U.S. and sold into slavery each year. Some of these victims are used for manual labor in businesses, in homes for involuntary servitude, or for forced commercial sex. In this comprehensive review of the empirical literature, I examine the recruitment practices that traffickers use to lure victims into the United States. Research reveals that traffickers often take advantage of economic vulnerabilities in under-developed countries. Many victims are promised employment, educational, and economic opportunities that are unavailable in their home countries. However, once they arrive in the United States, they are held captive, physically and emotionally abused, and are paid little or sometimes nothing at all. Demand theory argues that the demand for forced labor in the United States is a key factor that drives traffickers and victimization. While demand theory focuses on market forces, I argue that this theory can also explain why there appears to be an seemingly inexhaustible supply of potential victims who fall prey to criminal enterprises that involve the trafficking of humans across U.S. borders. I conclude with a discussion of possible deterrence strategies that include policies and victim support services.

Name: Seth Noboa – Nexus 156 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Ana Isabel Simon Alegre

Division: Undergraduate

Title: Sports Translation: A New Frontier

Abstract:

As a big sports fan, it surprised me that something like translation, which seems crucial in the sports world, due to the number of athletes that come from all sorts of different countries and cultures, is still a relatively new subject in that area. What especially surprised me is that this isn’t just something prevalent in the major North American sports, but that even for the Olympics, the world’s foremost sports competition, translation has still not been properly explored. For an event that has needed upwards of 10,000 interpreters, that less than 1.3% of the 15,000 professional translators/interpreters in the 2004 Sydney Olympics were found to be competent in sports work is startling. On top of that, the lack of promotion for this position, as well as preparation for the translators there, is a problem as well. The translators were the ones being contacted for this position, and when they got there, the workshops that were supposed to help them prepare for their role in the Olympics were so lacking in detail and information that they had to use the internet to help them prepare instead. You can be competent in sports and be fine as a translator, but for sports fans, the knowledge of post-game interviews, what to ask at press conferences, etc. comes as second nature. So I conclude that the best way to explore and improve upon the still-new subject of sports translation is to promote translation itself to sports fans as a career path. Not only would they excel in this area, but they would also be greatly needed in order for sports translation to be able to blossom into something resembling its fullest potential.

Name: Walace Kierulf-Vieira – Nexus 126 – Section B: 10:10-11:10 A.M.

Co-Authors: Alex Aragon

Faculty: Justyna Widera, Tomasz Lecki, Magdalena Skompska

Division: Undergraduate

Title: N-doped TiO2/CdS Nanohybrid System for Photocatalytic Degradation of 4-Chlorophenol

Abstract:

Titanium dioxide (TiO2) is a semiconductor widely used for photocatalytic applications. Its most notable limitation is a wide optical bandgap (Eg~3.2 eV) that restrains its functionality to UV-irradiation. In order to narrow TiO2’s bandgap and shift it to the visible light range, the semiconductor can be doped with nitrogen and/or coupled with a semiconductor of a narrow bandgap, such as cadmium sulfide (CdS; Eg~2.42 eV). Nevertheless, during the process of photocatalysis, CdS undergoes photo corrosion contaminating the water source. Using PDACz film as a protective layer would decrease of the photo-corrosion significantly. A new hybrid system was fabricated by depositing N-TiO2 on a fluorine doped tin oxide plate via sol-gel, CdS nanoparticles deposited via SILAR method, and poly(1,8-diaminocarbazole) (PDACz) film deposited on top of the CdS nanoparticles. The developed N-TiO2/CdS/PDACz hybrid system had a 2.26 eV bandgap found via UV-vis spectroscopy. When performing photocatalysis of 4-chlorophenol, the reaction rate constant was 72% higher for the new hybrid system when compared with the standard TiO2 system. These findings indicate that the N-TiO2/CdS/PDACz hybrid system may be a suitable option for future practical applications.

Name: James Hicks – Nexus 157 – Section B: 10:10-11:10 A.M.

Co-Authors: Michael Payton and Tyler O’Brien

Faculty: Messano

Division: Undergraduate

Title: The Effects of Social Media and Technology on Younger Generations

Abstract:

There has been an increase in availability for younger generations to use social media and technology as most of the population has multiple devices that can access the internet. Profound statistics, and reports have surfaced from reputable sources that indicate that our youth not only has easy access to these devices; but are finding traces of addiction and decline in social skills due to the ease of accessibility. There are many different sites that offer social media, games, and other forms of “entertainment” that younger generations can use, and in recent history has caused these effects on our youth. Our in-depth research that includes quantitative data and articles, pin points the different sources that has caused this negative impact. This issue is not one that younger, and future generations will outgrow, and the long-term effects are not to be over looked.

Name: Daniela Agudelo - Nexus First Floor Lobby – C24 – Section C: 11:20 A.M.-12:20 P.M.

Co-Authors:

Faculty: Professor Laura Koenig

Division: Undergraduate

Title: Nasality Data in Greek-speaking Children with Cochlear Implants

Abstract:

Children with hearing impairment tend to have unusual nasality patterns due to lack of velopharyngeal coordination. Cochlear implants (CIs) have been known to improve nasality patterns. Previous research suggests that speech differs between children with CIs and those with normal hearing (NH); however, we are unsure as to precisely how children with CIs differ from children with normal hearing (NH). The current study uses Greek data to investigate the word duration and nasalance differences between children with CIs and children with NH. Using a nasometer device, which separates oral and nasal acoustic energy in speech, we are observing sections of these measures that correspond to single words. This study is unique in that it analyzes word-by-word data rather than entire reading passages. We believe that our data will give us more detailed insight into the nature of velopharyngeal control in children with CIs. We predict that children with CIs will have longer word durations and greater nasalance than children with NH. Understanding how children with CIs produce sounds differently than children with NH can inform clinical methods aimed at improving speech sound production in the pediatric CI population.