PRESENTATIONS 9:00-9:20

BSC 102W

You Have the Power: What it Takes to Maintain a Vibrant Digital Presence

Authors: Bryn Bassett, Anastasia Owen, Faridah Nalunkuuma, Alex Jester, Micaela Lewinson, Amy Laughlin, Melissa Barnes **Adviser: Professor Nell Ruby**

The inception of the Center for Digital and Visual Literacy began with a pilot program between a group of students and faculty sharing ideas on defining digital literacy and how it might impact the Agnes Scott Community. These initial salons sparked bigger conversations about maximizing technology and digital tools in the classroom to actively and explicitly create digitally literate citizens on our campus. At the end of the semester pilot, the project turned to looking at the way in which students, faculty, and staff could use their digital portfolios as a tool to show learning, reflect on relevant experience, and demonstrate skills and qualifications. In the fall of 2015 we launched *The Center for Digital and Visual Literacy*. Through first-year class workshops and upper level special sessions the D-Center tutors have been working with Agnes Scott students to establish web domains, build digital portfolios, and learn the Wordpress platform as a means to make the most of each educational experience through closely examining the *process* of learning. In this session we will tell you about the history of the center and the resources we provide to champion a digitally exciting campus.

BSC 103W

Water We Doing?

Authors: Theresa Do, Lenora Ealy, Johali Sotelo, Adrienne Williams **Adviser: Professor Laura Kollar**

The project will follow-up on the Agnes Scott water plan. We will do a synopsis of an Agnes Scott College alumna's 2012 proposed water goals to reduce ASC's water footprint. One way ASC planned to lower the water footprint was by educating the students on water-friendly behaviors. Our project educates students on reducing their water footprint, and thus works toward achieving the water conservation goals. Education is done via a communication campaign and informational session to improving water conservation practices within the Agnes Scott community. Our project covers the past by looking at how much water was used when the goals were proposed, present by examining the success of reaching our water conservation goals, and future by suggesting new initiatives and goals to further reduce our water footprint. Our education efforts will explore new challenges that encourage less water waste. We will report how we created our campaign and informational session, the information involved, and how we measured campaign success.

BSC 112W

Muslim Feminist Interpretations of the Qur'an: Conservative, Radical or in Between

Author: Tomi Akintade **Adviser: Professor Iqbal Roshan**

The Muslim feminism can be defined as promoter of women's rights, gender egalitarianism, and social justice established on an Islamic infrastructure. It is not clear if this Islamic feminist interpretation is rather radical or conservative. The importance of this subject is to determine if feminism within itself will always be radical, or if this egalitarian interpretation is reflective of the Qur'anic text. The specific text to be analyzed is 4:34-35 in the Qur'an, which discusses whether a husband has the right to beat his wife. The *Feminist Edges of the Qur'an*, by Aysha A. Hidayatullah, highlights various issues within the Muslim world when it comes to feminism and social change. Hidayatullah provides a convincing counter argument for her own feminist critiques by saying, "How is mine not an elitist intellectual endeavor that is wholly insensitive, and perhaps even harmful, to the goals of Muslim women for whom the pursuit of these ideas is much more than a theoretical inquiry?"; which sparks some thought about feminist interpretations. The outcome of this research is to find the shift of how feminist critiques are viewed and to better understand personal biases when interpreting the Qur'an.

BSC 209W-A

A Horizon Expanding Mine

Author: Jasmine Howard **Adviser: Professor Tracey Laird**

Music is its own domain of expression and allows us to make sense of the world. The often quoted poetical statement that "music is the universal language of mankind" is indicative of the communicative quality of music, and at the same time is indicative of the elusive and ambiguous nature of whatever it is that music communicates. Like most songwriters and composers, I am searching for this elusive nature of what I want to communicate to the world as an artist. This artist statement aims to discuss the purposes of my music and the journey I am taking to "find my sound." By discussing world influences–African and Brazilian music–and other genres, including French Impressionism and jazz, I will address my aesthetic concerns related to a selection of compositions and songs in my portfolio. This statement highlights the paramount importance of listening while making music. As I draw on a variety of musical examples by songwriters and composers, I will relate them to my own works: "Amanhecer" and "Aquamarine."

BSC 210E

AGAP1 Regulates Endosomal Trafficking and Spine Morphology Downstream of the Neurodevelopment Disorder Factor Dysbindin

Author: Miranda Arnold **Adviser: Professor Jennifer Larimore**

Arf1 GTPase activating protein (AGAP1) interacts with the vesicle associated Biogenesis of Lysosome Related Organelles Complex-1 (BLOC-1) and adaptor protein 3 (AP-3). In non-neuronal cells, overexpression of AGAP1 results in a buildup of endosomal content suggesting it regulates endosome-dependent trafficking. In GWAS studies, AGAP1 has been implicated two neurodevelopmental disorders, Schizophrenia (SZ) and Autism Spectrum Disorder (ASD). However, AGAP1's localization or function within neurons has yet to be reported. In this study, we demonstrate AGAP1 assembles with axons, dendrites, dendritic spines and synapses, and also localizes preferentially with markers of early and recycled endosomes. Through both down regulation and overexpression of AGAP1, neuronal endosomal trafficking and spine morphology are affected. Additionally, AGAP1 mRNA and protein exhibited a decrease in the hippocampus of mice lacking dysbindin, which is associated with risk of SZ. We propose that endosomal traffic contributes to the synapse morphology of neurodevelopmental disorders.

BSC 304E

Understanding the Process of Resettlement: NGOs Roles in Refugee Resettlement

Author: Briana Brown **Adviser: Professor Rachel Hall-Clifford**

This project highlights the roles of non-governmental organizations (NGOs) in the resettlement and integration of refugees in Clarkston, GA. In order to better understand services available for refugee resettlement, non-governmental organizations were interviewed to provide their perspectives of how their organizations are beneficial for helping refugees resettle and their assessments of the services that are necessary for refugees to live on their own and cope in the community where they have resettled. The goal of this research is to understand how NGOs make programmatic decisions about and deliver resources and services, such as housing, healthcare, and job skills, to refugees when they resettle in the community. This presentation will analyze the significance of NGOs and how they measure the success of their services offered to refugees. Specifically, this presentation will provide a detailed analysis of individual in-depth interviews with employees that were conducted at approximately five organizations. Clarkston census data will also be used to highlight the population in Clarkston and explore how place of origin, income, housing, and employment shapes the resettlement process of refugees. This presentation will apply postcolonial theory and will discuss the dynamics of conflict refugees face when they encounter cultural differences and how NGOs help them cope with the differences when they enter the U.S to resettle.

BSC 308

Potential Alien Contact

Authors: Sydney McClure, Jordan Lucier **Adviser: Professor Doug Falen**

Belief in alien life is looked down upon as a fringe science in part because it is an explanation of the universe that contradicts current scientific and religious definitions of the universe. However, the search for extraterrestrial life has struck the interest of many people around the world. There are speculations that extraterrestrial contact could have occurred in the past or has the potential to occur in the near future. In this literature review we explore writings and representations of possible alien contact in the past among the Dogon, Egyptian, and other cultures, as well as their religious significance. It will also explore predictions about possible future reactions to alien contact. By comparing possible alien contact to historical contact between humans, the review will argue that belief in alien life affects religion, philosophy, and modern technological thought in similar ways.

PRESENTATIONS 9:25-9:45

BSC 102W

Bill Viola's Martyrs: A Contextual Analysis

Author: Hannah Plank **Adviser: Professor Katherine Smith**

This paper explores Bill Viola's *Martyrs (Earth, Air, Fire, Water)* at St. Paul's Cathedral, London, where it becomes a place for discourse about spirituality in contemporary society. For Viola, the work has complex and dark themes, and, with the cathedral, engages viewers in ways that are neither pleasant nor comfortable, but that might induce personal reflection and growth. I argue that the architectural, religious, institutional, and historical contexts of Viola's *Martyrs* confirm the ways that the work and cathedral are mutually constitutive. At the same time, *Martyrs* seems to have a newer context, with another video installation by Viola at the Tate Modern, a connection that reveals additional possibilities for medium and meaning.

BSC 103W

"What Are You Really Wearing?": Neurotoxins, the Environment, and Effects on Public Health

Authors: Camille Pham-Lake, Claudia Mitchell **Adviser: Professor Laura Kollar**

Currently, there are over 80,000 different chemical contaminants present in the environment, some of which are routinely found in both human tissue and food. These kinds of environmental toxicants are known to contribute to the development of an array of diseases, but one family of flame-retardants (HBCDs) have shown not only significant carcinogenic effects but also a tendency to degrade the dopaminergic region in the brain. The result of this degradation is Parkinson's disease, which is neurologically characterized by a reduction the dopamine system. In addition to the particular severity of the damages these chemicals effect, they also present a high risk factor to the community due to the significant presence of these flame retardants in household

products--including children's clothing. This presentation will inform the community of the current research findings on this family of flame-retardants. In addition to informing the public about the health hazard, our project intends to present the possibilities for--and the benefits of--finding safe alternative products. As the effects and dangers of neurotoxicity are relatively unknown, in this presentation we hope to demonstrate the real health risks this issue poses to our community, by not only creating a global toxicant profile, but also a regional profile so the community members can see how their health is being affected.

BSC 112W

My Interfaith Journey

Authors: Ugonna Ume, Erin Prikle **Adviser: Professor Kate Colussy-Estes**

This presentation will examine my interfaith journey through becoming the president of the Interfaith Council, taking two directed reading courses under the mentorship of Chaplain Kate Colussy-Estes, attending the Parliament of World Religions conference in Salt Lake City Utah, and hosting interfaith events on campus. Our world today is in need of peaceful ways of resolving conflicts, there have been uncountable numbers of instances where religion has been a driving force in acts of violence, and have led to deaths of many innocent people. Through this course I have been able to highlight the thread of selfless compassion that undergirds all the major world religions, which, I hope, will ultimately lead to a safer and inclusive campus for students of faith/non faith backgrounds.

BSC 209W-A

Gatsby the Musical

Author: Sorena Campbell **Adviser: Professor Tracey Laird**

I am endeavoring to adapt the text of *The Great Gatsby* into a fully-fledged musical. I am employing traditional Broadway-style musical techniques as best I can, explaining said techniques via examples and excerpts from *Hamilton* and other shows. By using examples the audience may be familiar with, I hope to make my ideas more accessible. In writing *Gatsby The Musical*, I hope to make the characters more relatable. F. Scott Fitzgerald's novel features an array of deliberately two-dimensional characters, which is suitable for the novel, but I don't believe that this will work for the musical. By fleshing out the characters, I will make the audience care more. In reading the novel, one cannot help but feel a certain smug satisfaction at the misfortunes that befall characters, feeling as though it is merited in a way. While flinging a novel across the room in exasperation is an acceptable response, the author does not know this occurs and therefore is not affected by it. Walking out of a show in disgust, however, can affect the author, performers, and other audience members. Just as *Hamilton* has drawn scores of school child led by their US history teachers studying the American Revolution hoping to learn the subject matter in a manner that will make them actually care for a moment, I hope that *Gatsby* may draw school audiences led by English teachers hoping their students will finally understand and care about *The Great Gatsby.*

BSC 210E

A Comparison of Compensation Strategy in Chestnut-Backed Antbirds in Response to Road Noise in Carara National Park

Author: Alena Ja **Adviser: Professor Edgardo Arevalo**

Acoustics are a fundamental part of bird behavior and survival, and masking effects caused by anthropogenic noise pollution like road noise can have a particularly detrimental effect. For this study we explored Chestnut-backed Antbird compensation in response to road noise in Carara National Park, focusing on their total number of calls, call rate and call activity patterns throughout the day. We used song meters to record calls at ten sites, with five sites close to the road, labeled C sites, and five sites far from the road, labeled F sites. We found the total number of calls and average call rate in the C sites and F sites did not have a difference that was statistically significant, indicating that the individuals in our sample did not compensate in that way. However, we found that birds in C sites did shift their call patterns to correspond to traffic, indicating that individuals were affected by road noise masking and utilized this method of compensation. This reveals that Chestnut-Backed Antbirds are adapting to road noise, but further study is required to better understand the methods of compensation they utilize and the consequences they have.

BSC 304E

Student Experiences with Standardized Testing

Author: Saprea Figueroa **Adviser: Professor Rachel Hall-Clifford**

The value of standardized testing has long been debated. Opponents of standardized testing argue that too much importance is placed on scores which creates pressure on students to perform well. The purpose of this research is to explore the methods and strategies that students use to prepare for testing and explore ways to reduce feelings of pressure and stress felt by students. The data consist of short interviews and an online survey conducted with Agnes Scott students. The purpose of the survey is to gather basic quantitative data about student experiences with standardized testing. My analysis will explore methods in which students prepare for standardized test, ways to improve the overall test taking experiences, and what pressures, if any, are felt by students. The information gathered will be analysed through the lens of Marxist theory. Marxist analysis of education is based on seeing it as part of the larger socio-economic, political, and cultural whole, and I will argue that testing and assessment allow for social stratification to continue. The capitalist class stratification system needs criteria in order to assign people to specific places within the hierarchy. Marxists argue that school assessment in capitalist societies correspond to stratification along the lines of wealth, access, and overall power. I will draw on this approach to consider how schooling often reproduces the class stratification from which the students were born into.

BSC 308

An Introduction to a Career in Analytical Research: Using the Drosophila Neuromuscular Junction (NMJ) Model for the Study of Neurodevelopmental Disorder Susceptibility Genes.

Authors: Trishna Vadlamudi, Lais Brudey, Farida Abudulai, Daphne Brown, Martha Vorder Bruegge **Adviser: Professor Cortnie Hartwig**

As an undergraduate student begins to focus on her goals and next steps, experiences in her potential field of interest become invaluable encounters that can shape a path towards a more enjoyable and fulfilling career. 5 students from the Bio/Chem 275A course visited a lab in the Cell Biology Department at Emory as part of the Peak Week festivities. These students would like to share their experiences, including a description of protocols and data generated for the project as well as future plans. The outcomes may surprise you.

PRESENTATIONS 9:50-10:10

BSC 102W

A Voice from East Asia: Home of Harmony

Authors: Tiantian Zhang, Jamila Surpris **Adviser: Professor Anne Beidler**

This presentation will briefly assess the performance of Home of Harmony as theme house #124 during the school year of 2015-2016. Home of Harmony, the theme house with a mission of promoting East Asian cultures on Agnes Scott campus, has been maintaining its recognition and popularity by carrying out various cultural events on a monthly basis. Back in fall semester 2015, Home of Harmony invited the campus community to join for a fund-raising Pho making party in order to support Vietnamese peasantry via an international nonprofit organization. This semester, the House cooperated with two other student organizations and successfully held a dumpling making event in celebration of the Chinese New Year. In the same month, the house members gathered to build a Mongolian mobile home, known as the Yurt, on campus in faith to bring the sustainable Mongolian lifestyle. In April, the house is planning on celebrating the South Korean religious festival by inviting the campus community to build lanterns together. Being the first “themed” house resides in the former Eco House, all house members are committed to live an eco-friendly life in the house and carry out events that advocates for sustainability. The presentation is aimed to identify the highlights and concerns of living in a theme house as an organization, and is generously opened to questions from the potential theme house members for the next school year.

BSC 103W

Caught Green Handed

Authors: Amorette Aryee, Chantel Kodua, Shriya Bhattacharya, Amanda Vasi, Grace Ferguson **Adviser: Professor Laura Kollar**

This presentation examines the educational social media campaign, Caught Green Handed, that was started last year by a group of students and continued the following year. Objectives: The intended outcome of the campaign is to encourage the campus community to recycle by catching people "green handed" as well as to spread awareness by sharing the photos on social media. Methods: This year, five group members expanded the campaign by including recyclable electronic waste, such as headphones, chargers, and wire cables. The group also extended the campaign by including Facebook, SnapChat, and the Irvine in their outreach efforts. Incentives, such as green hand stickers and ice cream were also offered to encourage participation. In order to facilitate an electronic waste emphasis into the campaign, the group collaborated with the Informational Technology Service (ITS) Department of Agnes Scott College. Boxes were set up on various residence halls, Bullock Science Center, and Buttrick Hall to collect electronic waste from students and faculty. Results: The boxes were then collected at the end of the week and brought to ITS to record how much waste was collected as a result of the campaign, and the number of shares, likes, and comments on the photos were counted in order to evaluate the campaign's impact in comparison to the results of the group from the previous year.

BSC 112W

The Patriarchal Pillar of Post-Revolutionary Societies: Iran and the Soviet Union

Author: Lauren Goss **Adviser: Professor Gus Cochran**

Though the women of Iran and the Soviet Union participated heavily in the dissolution of their respective regimes, women were decisively disadvantaged in their post-revolutionary societies. Through a comparison of the 1979 theocratic revolution of Iran in conjunction with the 1991 collapse of the Soviet Union, I will provide explanations for the increasingly oppressive social locations for women in both Iran and the Soviet Union. A review of existing literature proves to have limited commentary on the status of women post-revolution. Because of this, my research is pertinent within current academic discussion to gain insight to the limitations of revolution, and understand why revolutions themselves continually engage with patriarchal tendencies and predetermine the social importance placed on the role of women in a new society.

BSC 209W-A

The Function of Music in "The Martian"

Author: Ashley Orage **Adviser: Professor Tracey Laird**

Film scholar Matthias Konzett suggests that science fiction films "project worlds of the future that are already with us but have not yet found full expression." Much like the field of science itself, science fiction films continue to push the boundaries of what is possible within their own genre. Ridley Scott's 2015 film *The Martian* is a sci-fi film that tells the story of a lone astronaut on Mars and the uniquely positive discourse surrounding his rescue. Rather than being a film that focuses on despair and isolation, the core of the story is that of positivity. The soundtrack to this film supports the overall story in portraying elements of humor, levity, and optimism. Composer Harry Gregson-Williams incorporates bright instruments and rising intervals to establish these positive themes throughout the film. This presentation will explore how the film incorporates various elements of music and sound to both establish *The Martian*'s place within the sci-fi musical canon, while also setting it apart as a unique and progressive sci-fi film.

BSC 210E

XBOX for Ameliorating Autism?: Adaptive Training Narrows the Temporal Window of Multisensory Binding

Author: Jamila Pitts **Adviser: Professor Jennifer Larimore**

In order to perceive the world in an accurate and meaningful way, the brain must have the ability to distinguish whether stimuli from different modalities come from one source. The brain's ability to bind auditory and visual stimuli crucially depends on the temporal structure of this information. Prior studies have used training paradigms that arbitrarily apply stimulus onset asynchronies (SOAs) regardless of an individual's initial temporal window size to investigate the plasticity of these binding windows. This present study investigates the malleability of the temporal window of multisensory binding using adaptive training; if the temporal binding window can be narrowed, this will allow more accurate and meaningful perceptions of the world. An adaptive training paradigm was used in which participants underwent a two-alternative-forced choice (2-AFC) audiovisual simultaneity judgment task with feedback. SOAs were used throughout the training trials at different levels based on the individual's initial pre-training judgment assessment. If the adaptive training administered in this study is indeed better than previous administered trainings, we hypothesize that there will be narrower binding windows after training.

BSC 304E

What Did You Say? How English Language Acquisition Influences Student Choices and Success

Author: Emily Finestead **Adviser: Professor Rachel Hall-Clifford**

Learning a non-native language can present many challenges for learners from all backgrounds. They must contend with the contrasts between daily slang and formal written language as well as idioms and grammatical quirks that can confuse even the most astute of learners. They must also grapple with how this language fits alongside their native language. In general, Americans tend to have high expectations of language perfection for non-native speakers, and these expectations extend to participation in higher education. Using Pierre Bourdieu's theory of symbolic capital to examine the high symbolic worth of Standard English, this research investigated how linguistic skill and competence affects educational objectives and social interaction for non-native English speakers who study at Agnes Scott College. This study used a mixed methods approach to investigate this phenomenon. First, international students were anonymously surveyed about their English language experiences at Agnes Scott College; second, individual interviews were conducted that provided additional qualitative data; finally, two key informants from the college were interviewed to provide an administrative perspective on the issue. This research is important for future language programs for non-native English speakers who come to study at Agnes Scott College. Non-native English speakers who attend Agnes Scott confront the higher symbolic value of English both now and in their future endeavors.

BSC 308

Discovery of a New Structural Class of Antibiotics to Treat Methicillin-Resistant Staphylococcus aureus (MRSA)

Author: Emaline Laney **Adviser: Professor Ruth Riter**

Staphylococcus aureus is a leading cause of antibiotic resistant bacterial infections. The need to address this public health issue is pressing. The wall teichoic acid (WTA) biosynthetic pathway is a possible target for the development of new antibiotics. From a high-throughput screen specific for WTA inhibitors, a potent anti-MRSA compound was discovered and a more potent analog was subsequently identified. The objective was to identify the target and mechanism of action of the compounds. An *in vivo* biochemical assay that measures lipid-linked cell wall precursors was conducted to confirm that the target is in the WTA pathway. Identification of resistant mutants provided genetic evidence for the specific target of the compounds in the WTA pathway. It was shown that a naturally resistant *Bacillus subtilis* strain becomes sensitive to the compounds when endogenous WTA genes are replaced with *S. aureus* genes encoding the proposed target. Treatment of *S. aureus* cultures with the compounds rapidly depleted the peptidoglycan precursor, consistent with inhibition of WTA biosynthesis. Resistant mutants had either null mutations in the first genes in the WTA pathway or point mutations in *tarG*, suggesting that *TarG*, the transmembrane component of the ABC transporter, is the target. Swapping *tagGH* for *S. aureus tarGH* sensitized *B. subtilis* to the compounds, confirming the transporter as the target. Co-treatment with a beta-lactam reduced the frequency of resistance to undetectable levels. We identified a new class of WTA inhibitors and its target as the *S. aureus* WTA flippase *TarG*. The compounds are promising new anti-MRSA antibiotics.

10:15-10:50

WELCOME FROM PRESIDENT ELIZABETH KISS
POSTERS, EXHIBITS AND REFRESHMENTS
WOOLFORD B. BAKER ATRIUM, BULLOCK SCIENCE CENTER

See poster abstracts beginning on page 32.

PRESENTATIONS 10:50-11:10

BSC 102W

The Effects of Anxiety and Depression on Global Competence

Author: Casey Arnold **Adviser: Professor Janelle Peifer**

Young people entering college face several changes and realities that can sometimes disrupt a person's mental health. Today's college students struggle with more mental health related concerns than ever before (Aselton, 2012). The current study examined students' levels of anxiety and depression and these variables' association with global competence. It also explored the association between students' GPA and their likelihood of choosing a long term study abroad. For the 179 incoming-first year women students, the results showed no relationship between levels of anxiety and depression and overall global competence. There was a negative correlation between the lower a student's GPA and global competence, such that higher GPAs were actually associated with lower levels of global competence. There was also a negative correlation between anxiety and depression and the likelihood of a student to choosing a long term study abroad. Implications for institutions undertaking global competence initiatives and students' mental health are discussed.

BSC 103W

AID Agnes: Spreading Knowledge, Not Ignorance

Authors: Anastasia Carter, Asia Jackson, Mishaal Khan **Adviser: Professor Laura Kollar**

This presentation examines the level of women's HIV/AIDS awareness on Agnes Scott College's campus. The goal of our campaign was to significantly increase the level of knowledge and measure its impact. Our campaign, titled "AID Agnes: Spreading Knowledge, Not Ignorance," aimed to inform students about the HIV/AIDS virus through informational session(s), a free AIDS testing day at the Wellness Center, and through the use of social media, specifically Snapchat as a tool to quickly reach our audience. The impact was measured using information gathered at our informational session(s), pledge responses indicating a promise to spread awareness received by community members, the number of HIV/AIDS testing participants and the interaction with the

campaign's social media following. The testing day was carried out at Agnes Scott's own Wellness Centre in collaboration with AID Atlanta where the campaign members distributed safe-sex packets and leaflets as well as explained the procedure of testing to participants. These aspects were all formulated to analyze the overall success of this project and it urges communities to dismantle the stigma that surrounds the HIV/AIDS virus, and instead focus on encouraging those affected, and loved ones of those affected, to seek support and help.

BSC 112W

Demographic Factors as Predictors of Hospice Utilization

Author: Rose Farrar **Adviser: Professor Patricia Schneider**

This presentation examines how demographic factors such as age, gender, race, and poverty affect utilization rates of the Medicare hospice benefit. The Medicare Hospice Benefit is regarded in economic health policy literature as a way to limit intensity of medical procedures, and therefore medical expenditures, in end-of-life care. End-of-life care, and in particular care in the last year of life, have remained incredibly high despite technological advances. In light of the volume of Baby Boomers who are beginning to receive Medicare, it is important to predict what patients are more likely to seek hospice care as a way of anticipating likely end-of-life expenditures. By utilizing panel data from the Center for Medicare and Medicaid 2007-2014 Geographic Variation public use file, this study tracts the change in hospice utilization rates through fifty states over time and analyzes the degree to which age, gender, race, and percentage of the population living in poverty are able to predict the states' utilization of hospice care.

BSC 209W-A

Compose Yourself

Author: Leandra Massei **Adviser: Professor Tracey Laird**

Have you ever wanted to write your own work, but didn't know where to start? Many music students turn their backs away from composition because they believe that only a handful of musicians have the ability to write music. On the contrary, any music student can write a piece even with little music theory knowledge. The important factor is creativity, the origins of which I will explain along with its effect on my composition process. By exploring the power of creativity, I will offer a general process of how to compose music. In addition, I set up a list of restrictions before composing a piece: 100 to 200 measures in length, ABA format, a beginning in Dorian mode, a modulation to a pentatonic collection and at most 50 accidentals. By setting a list of restrictions, it challenges my compositional capabilities and shows how versatile the brain is when it comes to problem solving.

BSC 210E

Living With Staph Aureus

Author: Nicole Langford **Adviser: Professor Srebrenka Robic**

Staphylococcus aureus is the leading cause of skin and soft tissue infections (SSTIs) such as abscesses, furuncles, and cellulitis. MRSA (Methicillin-resistant *Staphylococcus aureus*) is becoming more difficult to treat due to evolving resistance to current antibiotics. Everyone contains *Staphylococcus epidermis* on the skin, which is a part of normal flora. However, some people are also colonized with *Staphylococcus aureus.* The objective of this study was to observe children being admitted to the Emergency Department of one of the three Children's Healthcare of Atlanta hospital sites with a SSTIs in the form of an abscess to determine if the strains in their abscess matched other colonization site results. It was also the aim of the study to observe if subjects being enrolled in the study that tested positive for Staph aureus were infected with MRSA or MSSA (Methicillin-susceptible *Staphylococcus aureus*). After performing multiple tests and susceptibility results, it was determined that 26% of subjects enrolled tested positive for MSSA, while 45% tested positive for MRSA. 33% of subjects that tested positive for MRSA or MSSA in their abscess tested positive for this strain of bacteria in a colonization site on their body as well. The nasal cavity and oropharynx were the two colonization sites more prone to these bacteria. These results imply that since MRSA is becoming more prevalent in the community, there should be increased vigilance in the diagnosis and treatment of this infection.

BSC 304E

Decatur Coffee-lovers: Attitudes and Behaviors Towards Ethically Labeled Coffee

Author: Taylor Stewart **Adviser: Professor Rachel Hall-Clifford**

Coffee is the second most traded commodity in the world whose presence in the homes, coffee shops, and workplace make it a staple in the lives of many Americans. Globalization and an increasing awareness of social issues among the average American has increased the presence of ethical goods to meet people's attitudes, behaviors, and motivations. This research is based on data collected from surveys, interviews and participant observation at two Decatur cafes that sell "ethically" labeled coffee, and further interviews were completed with people knowledgeable about the process, perspectives and behaviors of consumers and business within the coffee world. This research explores the characteristics of coffee shops that sell ethical coffee, the attitudes and behaviors of ethical coffee consumers, the main sociodemographic of ethical coffee consumers, and the main motivations (i.e feminism, fair wage, environmental concerns) that characterize these consumers purchase of ethical coffee. This presentation will include analysis using two theories, postcolonialism and cultural materialism, in order to understand the attitudes and behaviors of consumers in the global north, specifically Decatur, Georgia. A postcolonial theoretical framework will be applied to understand existing dynamics of the consumers in the Global North and their relationships with farmers in the Global South. Cultural materialism will be used to contextualize the three waves of coffee consumption and *how* production factors of ethically labeled products affect *why* people consume ethically labeled coffee.

BSC 308

The Traditional Transgender Woman: Jennifer Finney Boylan and Panopticism

Author: Caroline Barkley **Adviser: Professor Nicole Stamant**

This presentation examines how transgender identity and panopticism function in Jennifer Finney Boylan's memoir, *She's Not There*. It argues the the author, Boylan, prioritizes performances that fit patriarchal expectations of gender in order to ensure her transition is safe and successful, illustrating how patriarchal structures that may have caused Boylan to feel it necessary to moderate herself and her memoir, and finally, how those moderations affect perceptions of the larger transcommunity.

PRESENTATIONS 11:15-11:35

BSC 102W

Prolonged Sedentary Occupational Behavior

Author: Stephanie Berry **Adviser: Professor Janelle Peifer**

Computer-based employees encounter types of work, including sending e-mail messages and entering data, that encourage them to engage in prolonged sedentary occupational behavior. Over time, this behavior can constitute a significant occupational health risk. This proposed presentation puts forward a literature review of research examining both the problems and solutions for prolonged sedentary occupational behavior. Risks associated with prolonged sedentary occupational behavior include musculoskeletal injury caused by repetitive strain, low energy expenditure, and other general health risks such as cardiovascular disease and diabetes. Possible solutions for prolonged sedentary occupational behavior include sit-stand desk, treadmill desks, ergonomic office chairs, and wellness programs. Research shows that all four of these solutions are effective ways to reduce future workplace injury. While replacing a standard office chair with an exercise ball has become a popular workplace modification to minimize the risks of sedentary behaviors, research has not supported its efficacy. The presentation will also explore the importance of translating research to practice and discuss ways that organizations can increase awareness of the risks of prolonged sedentary behavior and support initiatives that minimize these risks in the future.

BSC 103W

The Take Control Initive

Authors: Onix Silva, Tassia Drame, Anastasia Bennett, Kat Briere Adviser: Professor Laura Kollar

This presentation provides a breakdown of The Take Control Initiative implemented at a local middle school. The objective of the initiative was to host two women-empowerment sessions to encourage eighth grade girls to make healthy decisions in regards to dealing with peer pressure and healthy relationships.

The initiative followed a motivational interviewing style which allowed for a guided discussion on these topics. This presentation will review how the initiative was developed and implemented. The intended outcome was to get the girls comfortable with the decisions they make for themselves.

BSC 112W

Gender Effects on Portfolio Selection

Author: Kayleigh McCrary **Adviser: Professor Li Qi**

Investors do not hold optimal portfolios. In this experiment, design methods were used to isolate factors that compel individuals to hold optimal portfolios. We find that the most effective environmental factor that leads investors to hold optimal portfolios is a significant increase in variance cost from imbalanced portfolios. Aside from environmental factors, the variable that affected the level of imbalance the most was gender. We find that men were more likely to hold imbalanced (not optimal) portfolios than women. In addition, we find that a few other factors including risk tolerance and basic knowledge of economics and finance also affected investors' tendency to hold balanced portfolios.

BSC 209W-A

African Musical Elements in Classical Music by Composers With and Without African Descent

Author: Briana Robinson **Adviser: Professor Tracey Laird**

Many African musical elements, like call-and-response, syncopation, emphasis of percussive beats, and pentatonic scales, influence the music of composers with and without African descent. Yet, very few people know the history and significance of composers of African descent due to the lack of education on these subjects in today's music history courses. These elements will be examined in an analysis of *Afro-American Symphony* (1930) by William Grant Still, Dean of Afro-American Composers, as well as in sections of works by other composers such as Florence Price, Scott Joplin, and Antonin Dvorak.

BSC 210E

Pharmacology of Neurons Controlling Insect Behavior

Authors: Joanna Risby, Daija Dennis **Adviser: Professor Karen Thompson**

Central pattern generators are neural networks that can produce rhythmic motor patterns independently of rhythmic sensory or central input. The current project looks at the oviposition central pattern generator in grasshoppers, a mechanism that facilitates egg-laying. This central pattern can be induced by turning the nerve cord of the grasshopper. With the addition of the neurotransmitter histamine to a cut nerve cord, the newly-induced pattern is suppressed. After the histamine is removed from the nerve cord, the pattern reappears. The addition of histamine antagonists on an intact (not-cut) nerve

cord, ranitidine and gallamine, results in the induced pattern, as expected. This research seeks to characterize the effects of histamine and its antagonists on the activation of the oviposition central pattern generator.

BSC 304E

The Christian Commitment to Creation: Environmental Behavior in Atlanta Presbyterian Churches

Author: Celeste Whitman **Adviser: Professor Rachel Hall-Clifford**

What is the connection between religious institutions and environmental sustainability behavior? This research examines how Atlanta Presbyterian churches, as one example of religious institutions, incorporate sustainability initiatives into their beliefs and practices through enacted dominion theology and stewardship theology. Participants were gathered from two Presbyterian churches in the Atlanta area. Interviews with religious leaders, discussions with church environmental committees, participant-observation, and a survey of congregation members were analyzed to understand motivations for environmental actions and changes in environmental behavior. Spiritual ecology and environmental behavior change theory serve as theoretical lenses through which to understand environmental beliefs and actions from a religious standpoint in addition to psychological processes underpinning behavior change. Spiritual ecology showed that the participating Presbyterian congregations and Christian scholars did not separate their religious views from their identity and that religion is a way in which they interpret their care for the environment. This research shows that Presbyterian congregations are motivated by their personal background socialization, theological understandings of Creation.

BSC 308

Interdisplia

Authors: Jeannette Burkle, Tassia Drame, Estephania Hernandez **Adviser: Professor Mina Ivanova**

Agnes Scott College has multiple tutoring centers specifically aimed at tutoring content within disciplines. Our objective is to evaluate which techniques are the most effective within the tutoring centers, including our own, based on tutee satisfaction and information retention. We will record and compare sessions between different centers, interview tutors on their strategies and values, and survey tutees and tutors on the effectiveness of their session. Survey data of tutor and tutee reflections on their session will be analyzed through SPSS. Once we have evaluated effective techniques, we will teach them to tutors within the Center for Writing and Speaking and then shadow them through sessions to gauge improvement in their strength as a tutor. Not only will the research involved in this study give more insight toward student learning, but it will also improve the techniques of writing and speaking centers. The other benefit of this study is the communication this will foster between tutors on our campus. While our center learns and implements techniques from the other centers, we can share our techniques with them as well. Tutors from the economics and mathematics centers, for example, will benefit from our speaking tutoring techniques to prepare students for conferences in their disciplines. These inter-center dialogues will form partnerships that will encourage tutees to rely on all learning centers on campus for their academic needs.

PRESENTATIONS 11:40-12:00

BSC 102W

Is Competition Sufficient to Increase the Motivation to "Do Well"?

Authors: Ruoyuan Shen, Professor Andrei Popa **Adviser: Professor Andrei Popa**

In concurrent schedule procedures, humans exhibit lower sensitivity to reinforcement than non-humans (McDowell, 2013), possibly because points may not be as reinforcing for humans as food is for non- humans. We hypothesized that an environment that creates the impression of competition may increase the reinforcing value of points. Two groups of participants (competition vs. non-competition) responded for 18 minutes in a continuous-choice procedure that arranged concurrent, independent Random Interval (RI) schedule; the target classes were invisible to both groups. Preliminary analyses showed that sensitivity to reinforcement, contrary to our hypothesis, was not noticeably higher in the competition condition. These results showed that competition by itself may not be sufficient to increase motivation,. Several potential explanations are discussed, including the perceived relevance (or lack thereof) of the activity.

BSC 103W

#SAS: Scotties Against Stigma

Authors: Shaniece Wilson, Asha Bell, Bryn Higdon, Chelsea Cobb, Tosha Eruzah **Adviser: Professor Laura Kollar**

This presentation covers campaign results of students and faculty participation on lowering the stigma of mental illness. During the campaign, the campus community received quick facts via social media, spoke with professionals from the wellness center, pledged to erase stigma surrounding mental illnesses, and attended an informational session to raise awareness for suicide prevention led by Dr. Deb Stone. Dr. Stone; is the leading suicide prevention expert at the Centers for Disease Control and Prevention. Students and faculty also had the opportunity to participate with #SAS on the *iamascottie* Instagram page; they were encouraged to post informational pictures pertaining to the awareness of mental health stigma. Statistics about mental illness and the impact it has on college communities will be presented in conjunction with the campaign results.

BSC 112W

More Money? A Presentation Examining the Return on Future Income of Women's College Graduates.

Author: Nana Nimako **Adviser: Professor Patricia Schneider**

It is a known fact that, in the United States, there is a difference in pay amongst men and women. In fact, in 2014, women earned 79% of every dollar a man made. For decades, economists have been analyzing this phenomenon leading to the creation of over two thousand academic articles. While there have

been many articles that describe possible solutions to closing the gender gap, very few have examined women's colleges as a means to close the gap. This presentation examines whether women's colleges are the answer to narrowing the gender gap by using economic analysis. Using college scorecard data, I will show the effects that attending a women's college might have on future income. This presentation will also examine whether racial and socioeconomic diversity in a women's college setting will have a significant effect on future income.

BSC 209W-A

Performing Identity: Asian Americans Finding Belonging through Music

Author: Chloe Savannah Weeks **Adviser: Professor Tracey Laird**

Asian Americans search for inclusion and racial acceptance through different music-oriented activities, including participation and performance in both virtual and local communities. Dumbfounded, for example, is an underground rapper who defies sexual stereotypes of Asian males on his YouTube channel. Singer-songwriter David Choi uses YouTube to promote and release his music videos and song covers, giving the Asian American body visibility in the performance of pop music. Korean Americans assemble together to celebrate and enjoy their cultural heritage through P'ungmul and Samul Nori in college ensembles all over the nation. These music-centric outlets allow for the celebration and creation of alternative dialogues on the Asian American experience in the United States. Examining these case studies underscores the impact of Asian Americans on current U.S. society, where underrepresentation and misunderstanding in mainstream media make Asian Americans "perpetual foreigners." This work aims to add to the understudied field of Asian American studies with a particular focus on music practices.

BSC 210E

Sexism, Slurs, and Semantics: How Gendered Slurs Defy Linguistic Theory.

Author: Julia Miller **Adviser: Professor Jared Millson**

In the field of philosophy of language, there have been many attempts to produce a semantic theory that explains the function of slurs. However, sexist slurs such as "bitch," "c--t," "whore," and others all flout traditional functions of slurs. This implies that these slurs behave in a way that differs from other slurs, and that there may be a semantic reason for this difference. This presentation seeks to first identify the ways that sexist slurs differ, by both comparing them to other slurs and analyzing them through the lens of current semantic theory. The presentation will then offer some theories as to why sexist slurs act differently, which can stem from patriarchal conceptions, appropriation of slurs, and the difference between offense and derogation.

BSC 304E

Accessibility v. Availability: Perceptions of Disabilities at Agnes Scott College

Author: Ana Robledo **Adviser: Professor Rachel Hall-Clifford**

Students with disabilities make up 11% of the population in higher education. Much research has been done on perceptions, history, and accommodations surrounding this population, yet the voice of these students continues to be largely excluded in the literature. This study explores the accessibility of higher education for students with disabilities and the availability of services at Agnes Scott College. Additionally, this study analyzes the perceptions that students with disabilities have of the college campus as well as the college community's perception of these students. This study applies subaltern theory to examine the conditions of students with disabilities as a minority group and disability theory to explore disabilities as a product of culture and as a phenomenon that can only be deconstructed through the voice of those within the group. This study uses surveys of students with disabilities and the general student body in combination with interviews of administrators, students with disabilities, and faculty to explore the gaps in existing research and provide feedback from students with disabilities on the effectiveness of disability services. The collected data shows that there is a lack of training among Agnes Scott employees, which has led to unawareness and misconceptions among faculty and staff of disabilities and disabilities services. This research shows that there needs to be an expansion of disabilities services and opportunities for social engagement among students with disabilities.

BSC 308

Excerpts from "The Out of Body Collection" & "Conversations with The Inhumane: A Diseased Memoir"

Author: Latianna Nichols **Adviser: Professor Christine Cozzens**

"The Out of Body Collection" and "Conversations with The Inhumane: A Diseased Memoir" are psychological, physical, and spiritual explorations that creatively and intensively uncover the depths and horrors of having mental illness. My English Creative Writing Senior Seminar Presentation entitled "The Out of Body Collection" expressed through poetry and prose, stages of dissociations as well as societal stigmas associated in patients diagnosed with Bipolar Disorder. "Conversations with The Inhumane: A Diseased Memoir," serves as an extension to my senior seminar project that is cultivated into a Senior Thesis. The memoir challenges reader's interpretations of psychiatric trauma, human relationships, and self-identity. The memoir performs as a way for personal exchange of sensitive information. Themes such as depression, self-pity, ego, love, and anger are reemphasized over and over again throughout memoir. Writing both projects subjectively and objectively describes the natures and architectures of a delusional mind. It unconventionally alters the everyday human response when one discovers the truths and dark mysterious behind mental illness. The presentation will consist of a dialogue between the audience and me as we journey together through the mind and experiences of a Bipolar Patient. I will read six poems aloud to the audience and then take questions at the end.

12:00-1:20	**SCOTTIE MATH BOWL, EVANS HALL, TERRACE LEVEL**
12:30-1:30	**DANCE PERFORMANCE: Winter Theatre, Dana Fine Arts** This presentation consists of three original choreographic works created and performed by dancers from Agnes Scott Dance Department's Studio Dance Theatre. Exploring different concepts through movement, these works employ modern dance to visualize both abstract and physical ideas. **"Before"** is a solo which introduces the naivety of the body in a strange new world. This piece is choreographed and performed by Eliza Reese. "Auto" is a piece following the naive body as it encounters the immune system, and is also choreographed by Eliza Reese. **"Auto"** is performed by Josette Bisbee, Pamela Guinn, Pippa Marple, Rhiannon Matthews, Julia Miller, Nicole Solano, Katalin T. Stupek, and Diarra Webb. **"Feast,"** by Katalin T. Stupek, is a choreographic study of the relationship between the dead and living by exploring how death affects the community. From the initial shock through frenzied denial and cathartic resurrection, this piece traces the various ways we deal with death and what is left behind as well as the inner workings of a community struggling to handle loss. "Feast" is performed by Josette Bisbee, Chelsea Elders, Rhiannon Matthews, Julia Miller, Eliza Reese, Nicole Solano, and Diarra Webb. Lighting for all three pieces is designed by Cailin Laughlin.
1:00-2:00	**CHAMBER MUSIC ENSEMBLE: MACLEAN AUDITORIUM, PRESSER HALL** **(see page 47 for program)**

PRESENTATIONS 2:00-2:20

BSC 102W

What Qualities Help College Students Successfully Interact With Other Cultures?

Author: Carlette Jones Adviser: Professor Janelle Peifer

The purpose of this study was to determine the qualities that are needed to help college students effectively interact with other cultures (cultural intelligence). The study explored the association between four variables: cultural intelligence, family beliefs about diversity, cognitive empathy, and the relationship among them. This cross-sectional study involved 179 first year students at a small, liberal arts women's college, in the Southeastern United States. The results of the study found that there was a positive relationship between cultural intelligence and family beliefs about diversity. Individuals with higher self-reported cognitive empathy also had higher cultural intelligence. Lastly, cultural intelligence was the sole variable that predicted cognitive empathy; family beliefs about diversity did not. The information from this study expands on previous research that has been done on college students' global competence.

BSC 103W

Conchita Wurst and Gender Representation in the 2014 Eurovision Song Contest

Author: Ashley Orage **Adviser: Professor Gundolf Graml**

The Eurovision Song Contest is the longest running TV song competition, featuring member countries of the European Broadcasting Union. Each participating country has the opportunity to send one singer or musical group to perform an original song in the contest. In 2014 Conchita Wurst, a singer and drag queen from Austria, won the contest. This was Austria's first win since 1966, but the significance of Conchita's victory extends far wider than this. Her success in 2014 sparked both national and international discussion regarding her gender identity and presentation. This SpARC presentation will explore Conchita's performance of gender in the Eurovision Song Contest and the overall discourse surrounding her presence not only in the conservative culture of Austria, but in Europe overall.

BSC 112W

Who's Teaching Who? The Experiences of a Teaching Assistant in the "Hear a Story, Tell a Story, Teach a Story" Project

Author: Hannah Goff **Adviser: Professor Toby Emert**

Education 325 is a course that works in conjunction with the Global Village Project (GVP) to teach middle school refugee girls about digital literacy. This Education 410 project was designed to be part Teaching Assistant for Education 325 and part individual teacher research. Teacher Research is research that is focused on improving instructional techniques through systematic reflection and collection of data (often artifacts of learning). "Who Teaches Who?" was designed to examine the experience of a teaching assistant in an education class that they had already taken. While the students from the GVP were being aided in making short films by the Agnes Scott students enrolled in the course, this project was focused on teaching techniques and experiences. Data collection included observations, notes, vlogs, as well as meetings between Dr. Emert, the course instructor, and the teaching assistant. These data were compiled and analyzed and are represented visually as a short film, which will be shown at the presentation.

BSC 209W-A

STEM to STEAM: An Analysis of the Benefits of Curricular Integration and Collaboration

Author: Sydney Britt **Adviser: Professor Tracey Laird**

Outdated American education models currently serve the needs of an America that no longer exists. Rather than cultivating and encouraging the young minds of this generation, school systems attempt to create "cookie cutter" children who conform to old ideals. The modernization, overall improvement, and propulsion of our education system into the future results from an interdisciplinary, collaborative curriculum. STEAM education, when enacted properly,

provides an excellent example of successful curricular integration. Expanding the STEM pedagogy by including different forms of art and music, STEAM activates stark cognitive, interpersonal, and academic improvements in students compared to previous pedagogies that solely emphasize science and mathematics. STEAM emphasizes the belief that the teaching, understanding, and the overall appreciation of the various fields of academia: arts, sciences, humanities, and logics occurs more efficiently together than apart. The importance of music in education, particularly music's effect on cognitive function, makes it clear that introducing and integrating arts disciplines through STEAM education catalyzes an improved and more socially relevant academic experience for all children, no matter their intended vocation.

BSC 210E

Second-Order Linear Recurrence Relations and Periodicity

Authors: Denisse Saucedo, Katherine Brooke, Cassie Xu **Adviser: Professor Alan Koch**

A sequence, $\{S_n\}$, which follows a second-order linear recurrence relation satisfies $S_n = c_1 S_{n-1} + c_2 S_{n-2}$ for some constants c_1, c_2. For each positive integer *n*, we construct such a sequence with period *n*. By varying the initial values S_0, S_1, a given second-order linear recurrence relation can generate sequences with at most three distinct non-trivial periods, one of which is the least common multiple of the other two.

BSC 304E

Public Preparation: Examining the Typical "College Ready" Urban High School Student and Their College Transition

Author: Samara Freeman **Adviser: Professor Rachel Hall-Clifford**

Students coming from urban public high schools face disproportionate challenges in the transition to college. This research examines the experiences of "college ready" urban high school students. Research methods include surveys of local urban high school graduates, Agnes Scott students from urban public school backgrounds, and in-depth interviews with alumni and current faculty/staff of one Atlanta area urban high school. This research draws on the theoretical frameworks of conflict theory and critical race theory to discuss how and why minority groups within these high schools are frequently affected by major educational disparities. This research project and my findings display the insufficient efforts made to improve the secondary to postsecondary educational gap within urban high schools that are made within the educational system. My findings present the frustrations of many educators and their thoughts about the unrealistic expectations that are placed upon students of minority groups. It also presents the personal opinions of students who have been affected by these systemic issues. This presentation will present an in-depth analysis of my findings while exploring how historical implications of the educational system have had an effect on these contemporary experiences. Examining the preparation available to the typical college ready urban high school student is a persistent yet vital issue within American society that we need to address.

BSC 308

It's a Boy's World: The Depiction of Girlhood in Richard Linklater's *Boyhood*

Author: Lauren Rector **Adviser: Professor Willie Tolliver**

Released in 2014, critics of Richard Linklater's film *Boyhood* focused almost solely on the protagonist Mason's boyhood and the unprecedented nature of a 12 year production, ignoring the very problematic depiction of girlhood in the film. This presentation details the depiction of the sister Samantha's loss of voice and vitality in adolescence, examining the visible and implicit forces driving this development while asserting that girlhood within the film essentially functions as a microcosm of reality. It further explores the relationship between girlhood and boyhood in the film, looking at motherhood and the other girls present, contending that girls lose their voice so that boys may find theirs in a gendered space of their own.

PRESENTATIONS 2:25-2:45

BSC 102W

"Can You Hear Me?": The Effect of Language Proficiency on Absolute Detection Threshold

Author: Jeannette Burkle **Adviser: Professor Barbara Blatchley**

Much of the research in psycholinguistics have shown individual factors like genetic predisposition, environment, socioeconomic class, and musical experience affect detection of sound. There have been studies on the differences in monolingual and bilingual detection and neural processing of languages. Our research is interested in finding a way to measure the relationship of language familiarity and experience with absolute hearing threshold of universal phonemes and phonemes more exclusive to English. The study selected such phonemes and measured absolute hearing threshold through the method of limits. Our hypotheses are as follows: bilingual and trilingual speakers will detect universal phonemes at a lower hearing threshold than monolingual English speakers and monolingual English speakers will be able to detect phonemes unique to English and similar languages a lower hearing threshold. Through a one-way ANOVA analysis our results indicated bilingualism and differences in primary language have no significant effect on phonemical thresholds for detection. Future studies should look at the relationship between language background and phoneme recognition.

BSC 103W

My Town Has a Big Wall: The Lasting Effects of an Unknown History

Author: Victoria Schaeffner **Adviser: Professor Mary Cain**

This presentation will examine the treatment of Romani during World War II and in the present day, with the intention of demonstrating similarities between the two periods. The presentation will accomplish this by drawing comparisons between the treatment of Jews under Hitler and the current treatment of Romani by multiple governments. When the Romani come up in conversation, people tend to assume that someone has just mispronounced

"Romanian." People don't know that the term "Gypsy" is a slur, and when a group of people is only known by their slur it is indicative of a big problem. History fails to teach that, percentage wise, the Nazis got closer to killing all Romani (1.7% of the world's population) than all Jews during World War II. This lack of representation in history has led to present day under-representation, where there are horrible consequences. Examples of this include Roma children being put into special ed. schools, violent protests concerning Romani, and elected officials discriminating against Romani. The intention of this project is to demonstrate that in addition to the horrors the Jewish community has faced, the Romani also have a complex history of discrimination that has not received the attention and therefore the compensation befitting a group that has been mistreated.

BSC 112W

Building Personal Relationships with Middle-school Refugee Students through Digital Storytelling

Authors: Herin Kim, Monique Novoa, Jasmine Heath, Jennifer Marshall **Adviser: Professor Toby Emert**

Previous research has indicated that belief in luck has significant effects on performance in various tasks. Luck is directly connected to one's feelings of self-efficacy, optimism, and their locus of control. The belief in unluckiness has not been well tested. For our study we gathered participants and had them play a card matching game. One group of participants was told their deck was lucky, one group was told their deck was unlucky, and a third group was not told anything. This influenced participants to believe their card deck was lucky or unlucky. This study seeks to find how the manipulation of a subject's belief in good or bad luck affects their performance on a cognitive memory task. We hypothesize the perception of good luck will positively influence task performance and the perception of bad luck will negatively influence task performance. Our results may reflect the negative influence of bad luck due to reduced feelings of self-efficacy.

BSC 209W-A

West African Cross-Cultural Retentions in African-American Spirituals

Author: Kristina Lyles **Adviser: Professor Tracey Laird**

The traditional spiritual "Ain't No Grave Can Hold My Body Down," specifically its arrangement by Paul Caldwell and Sean Ivory, is a site for exploring West African retentions in African-American musical traditions. Elements such as polyrhythmic patterns, syncopations, physical body motion, religious text and purpose, emphasis on the off-beats, and filled musical space constitute shared characteristics. African-American spirituals exemplify many retentions of traditional West African music in general, and Ghanaian practices in particular. Analyzing similarities between these two cross-cultural musical regions recognizes and connects two distant regions that share significant musical practices.

BSC 210E

Recursive Sequences Modulo p2

Author: Biru Tang **Adviser: Professor Alan Koch**

The Fibonacci sequence mod 9 is 0,1,1,2,3,5,8,4,3,7,1,8,0,8,8,7,6,4,1,5,6,2,8,1,0,1,1,. . . , and is periodic with period length 24. Let p be a prime and let $\{S_n\}$ be a sequence of integers mod p^2 which follows the recurrence relation $S_n = c_1 S_{n-1} + c_2 S_{n-2}$, where c_1 and c_2 are integers and p divides c_2. Is $\{S_n\}$ necessarily periodic? The answer is no, but it is always eventually periodic. We will see that when p divides c_2 then $\{S_n\}$ is periodic. Furthermore, if $r^2 - c_1 r - c_2 = 0$ has at least two distinct solutions mod p^2 and p does not divide c_1, then the sequence $\{S_n\}$ is periodic and the period length divides $p(p - 1)$.

BSC 304E

From Dublin, Ireland to Riker's Island: Agnes Scott College Student Critiques the American Prison System

Author: Alexis Henry **Adviser: Professor Christine Cozzens**

During Christmas break of 2015, a senior spent two weeks in the beautiful, misty island of Ireland on an Agnes Scott College Global Awareness trip. Upon her return to the United State of America to complete her graduating semester, U.S Customs officers pulled her from a connecting flight at John F. Kennedy Airport in New York City where she later ended up in the Riker's Island Prison Complex. This student draws upon her jolting, traumatic, and infuriating experience with the New York Police Department and Riker's Island Prison Complex to illustrate how the current prison system of the United States of America is broken, dysfunctional, inhumane, and reflective of the ill regard that society has for the citizens residing in its margins.

BSC 308

Elizabeth on the Cliffs: Proto-Feminist Mise-en-scene in Joe Wright's Pride & Prejudice

Author: Lily Bailey **Adviser: Professor Willie Tolliver**

This presentation investigates the potential influence and power of mise-en-scene in a film adaptation. The adaptation in question, Joe Wright's *Pride & Prejudice*, utilizes film technique in conveying the novel's feminist narrative. In doing so Joe Wright not only exemplifies mise-en-scene's potential as a tool for communicating feminism, but also elevates the adaptation to on-screen art. Wright's ability as an auteur allows him to use color, setting, and clothing to create a free and sexual Elizabeth Bennet. This Elizabeth is both enhanced by Wright's film technique while still consistent with the character in Jane Austen's original text. The result is the finalized proto-feminist Lizzy as played by Keira Knightley. This presentation takes a new and unique look at feminist film and film adaptation.

PRESENTATIONS 2:50-3:10

BSC 102W

Anxiety Studies: The Effects of Imagery on Levels of Discomforts

Author: O'lisa Yaa Waithe **Adviser: Professor Andrei Popa**

This study examines the effectiveness of art by means of geometric and spatial relations as a means of therapy for anxiety-based disorders. Recent studies on the nature of trypophobia (fear of holes) suggest that specific geometrical arrangements, such as high contrast midrange spatial frequency images, may automatically trigger feelings of discomfort (Cole & Wilkins, 2013). The purpose of this study is to twofold: to replicate the findings reported by Cole and Wilkins (2013) and to explore the extent to which the phenomenon can be reversed. Participants will be exposed to similar stimuli as those used by Cole & Wilkins (2013) via a computer program. They will be asked to rate their level of discomfort and provide a short explanation of why. They will then be asked to manipulate the images using (i.e., re-arrange the elements) using the mouse until the level of discomfort decreases. Each resulting image, as well as the stroke paths, will be recorded and analyzed for concurrences of basic geometric shapes and/or arrangements that help reduce anxiety. The overarching goal is to be able to produce personalized visual stimuli that reduce anxiety, thus increasing the level of personalization and effectiveness of therapeutic approaches to anxiety.

BSC 103W

Developing a Monte Carlo Simulation for Time-Series Analysis of Radioactive Decay

Author: Victoria Wood **Adviser: Professor Nicole Ackerman**

This presentation describes the development of a script programmed in the Python language to simulate radioactive decay using Monte Carlo methods. This is to conduct analysis on the equilibrium behavior of a specific radioactive decay chain, replacing the traditional method of deriving a mathematical representation via differential equations. The resulting script produces a stacked histogram illustrating radioactive decay over time and more closely models the potential for irregularities in the natural phenomenon. The isotopes analyzed by the simulation are those of interest in nuclear imaging and medical physics.

BSC 112W

Hear a Story, Tell a Story, Teach a Story: Academic Confidence, Digital Literacy & Refugee Students

Authors: Madison Romero, Alexis Calderon, Amber Spencer, Catherine Both **Adviser: Professor Toby Emert**

In the Spring of 2016, Agnes Scott College students in Education 325 conducted qualitative teacher research on digital literacy with refugee students from the Global Village Project (GVP), an alternative middle school for refugee girls located in Decatur, GA. The presenters will exhibit artifacts collected throughout the project. The GVP students demonstrated growth in confidence through six core values: relationships, sense of importance, consistency, specific use of language, opportunity, and support systems. These values were observed during the "Hear a Story, Tell a Story, Teach a Story" project, in which the students had the opportunity to use various technologies to show their growth as English speakers, as all of the students did not speak English as their first language. The presentation will include sample videos, stories and artifacts written by the students.

BSC 209W-A

Interdisciplinary Arts

Author: Taylor Brooks **Adviser: Professor Tracey Laird**

As a student artist involved in both the disciplines of vocal music performance and dance performance I have discovered and experienced many situations inside and outside of the technique studios, in my individual practice time, and during a performance where music and dance can collaborate, or one can be applied to the other in order to reach the set of goals that lead to a successful performance. Over the course of my artistic journey, through personal case studies and outside research I am demonstrating that music and dance complement one another and have a presence in one another's domain. Through my research I am able to present this relationship and brief knowledge one three dance genres that specifically promote vocal performance, as well as vocal techniques that promote dance performance.

BSC 210E

Potayto Potahto: What do International Students Know about English?

Authors: Tiantian Zhang, Katalin T. Stupek **Adviser: Professor Mina Ivanova**

International students are an important part of our community and some of them are frequent visitors of the Center for Writing and Speaking. However, it is "commonly understood" that ESL (English as Second Language) students require different tutoring techniques than native speakers. But what if the tutor is an ESL learner too? In this presentation we will discuss the results of a study we conducted with Agnes Scott students, focusing specifically on the perspective of ESL tutors working with ESL students. Through a series of surveys and experimental tutoring sessions, we have evaluated the relative efficiency of ESL tutors. Unstructured, in-depth interviews were conducted with a third of the staff at the center, including both native-speaking tutors and

ESL tutors to examine their attitudes toward international students. Some of these results of our study were inconclusive, yet important questions arose - should ESL students be held up to different standards? Do we need ESL tutors in the writing center? Can native speakers learn from multilingual students? Is there a difference between potahto and potayto? This research was previously presented at the Southern Writing Centers Association's annual conference in February, 2016. The content of the presentation is adapted for the Agnes Scott audience, which is more diverse and inclusive than the former.

BSC 304E

The Intersectional Exploitation of Multiracial Women in the American Colorblindness Agenda

Author: Alena Ja **Adviser: Professor Yvonne Newsome**

Multiracial individuals are often thought of as evidence of a post-racial America, as the result of loving relationships, and as themselves unable to participate in racist systems as individuals mixed with both racial minority and white majority group ancestry. However, defining multiracial individuals as the result of a society that cannot see race is evidence of the colorblindness movement's exploitation of the multiracial identity as a means to perpetuate the status quo. The true multiracial history and experience is rarely given authority, and is in fact deeply entwined with race, particularly for the population of multiracial women whose very heritage often involves a violent racial power dynamic based in colonialism. This study examines the intersectional relationship of multiracial women with colorblindness ideology. It reveals how colorblindness as an ideology often obscures and opposes multiracial women's authentic experiences by erasing them from the social narrative and by symbolically utilizing their bodies to further a system-sustaining racial agenda. In particular, this study focuses on multiracial women's double exploitation, firstly as socially constructed racialized subjects appropriated for the colorblindness agenda, and secondly as women whose socially normalized objectification results in further vulnerability to the manipulation of their bodies and racial identities as determined through male perspectives.

BSC 308

Silent Violins and Watery Graves: The Transnational Ring of Asian Horror Films

Author: Jeannette Burkle **Adviser: Professor Christine Cozzens**

After "The Ring" successfully reached American audiences in its 2002 adaptation, recreating Asian horror films became the new Hollywood fad until 2008. The objective of this study is to explore the processes producers undertook to make these films more relatable to the American audience. In looking at what aspects of the movie were added or removed in translation, we understand Hollywood's perception of the essence of what it means to be American or Japanese: more often than not Japanese becomes synonymous with Asian. The symbols that remain in both adaptation and original in turn become representative of the core story. These symbols, created within Asian contexts, do not produce the same effects when removed from those contexts. Symbols such as long black hair, incense or prayer slips, as well as scenes with water do not have the same impact when shifted to an American context. Avid fans of the originals often condemn the adaptations as lesser films—quality is considered lost when something becomes a copy—and this aligns with the interpretation of relationship between original and adaptation as linear and appropriative. Horror and film are, however, a cyclical process of storytelling in which both Hollywood and Asian productions influence and shape one each other.

PRESENTATIONS 3:15-3:35

BSC 102W

Negative Reinforcement and Apathy

Author: M.K. Grissom **Adviser: Professor Andrei Popa**

The purpose of this study is to explore the effects of negative reinforcement on the frequency and variability of continuous choice behavior. The concurrent-schedule procedure was implemented via a computer program developed by the second author. Each participant starts with a fixed number of points. As time passes, the number of points decreases at a rate of 2 points per second. Responses (mouse clicks) on two target regions stop the loss of points for a small amount of time. The first specific aim of this project is to verify if escape behavior (stop the loss of points) becomes avoidance behavior (prevent loss of points). The second is to observe if avoidance behavior continues when it is no longer necessary. The third specific aim is to verify to what extent responding continues when it is no longer adaptive (i.e., when loss of points cannot be avoided). The fourth specific aim is to observe if responding resurges once its adaptive function - preventing loss of points - is restored.

BSC 112W

Linguistic Imperialism in Modern-day Morocco

Author: Leila Chreiteh **Adviser: Professor Jennifer Lund**

Morocco's history of occupation by the colonial powers of France and Spain has left a legacy of influence on the country's development of cultural norms, identity politics, and, most prominent today, language. The vast diversity of multilinguism present today in Morocco is predicated by this history of occupation which can now be retraced through studying the relationship between the active languages in any given region of the country. The hierarchy of languages once established by colonial power continues to be facilitated today by the state and formal education systems in Morocco, which both emphasize the importance of mastery in French and, more recently, English. For instance, although the official language of Morocco is Classical Arabic, the language of the government and business remains mainly French, while the indigenous Berber's language is an increasing minority behind speakers of Moroccan Arabic, French, and Classical Arabic. Beyond the government and business sector's lingua franca of French, public schools in Morocco teach students in both Classical Arabic and French, thus making them trilingual or quadrilingual upon formal education, and are now planning to expand to teaching in English in the next coming year as well. Ultimately, this linguistic trend indicates a perpetuation a phantom colonial powers' influence in modern-day Morocco, a subsequent Euro- and Western centric standard of legitimacy, and a linguistic imperialism that reiterates global powers through an institutionalized hierarchy of language.

BSC 209W-A

Is it a Choice?: the Role of Sex Work in Europe

Author: Caroline Barkley **Adviser: Stephanie Escobar**

This presentation examines how sex work has developed in Europe and seeks to understand the reasons that individuals choose to enter the field. It does not argue for or against sex work itself, but instead seeks to understand how governments and individuals can best aid people working in the industry. The presentation also includes a brief examination of the difficulties of distinguishing between sex work and human trafficking in Europe. It includes an overview of sex work in France and the Netherland, where the research took place, and compares how the two countries navigate this difficult field of work. Finally, it will examine how students can work change the stigmas around sex work and to make conditions better for sex workers.

BSC 304E

Motivations for Student Enrollment in Africana Studies Courses

Author: JaNaya Stacey **Adviser: Professor Rachel Hall-Clifford**

How does racial identity affect participation in the Africana Studies program at Agnes Scott College? Africana Studies is a relatively new discipline focused on African and the African diaspora history and culture. In recent years there has been a lack of student enrollment in Africana Studies courses in colleges and university across the U.S., which is particularly interesting at a time with discussions of race have become central to our national dialogue. Agnes Scott College, which offers a minor and major in Africana Studies, is also experiencing lower participation in Africana Studies courses. This research will examine the motivations of students in choosing to participate or not participate in Africana Studies courses. This research will examine if there is a correlation between students' racial self-identifications and why they choose their courses. This research is based on an online student survey with Agnes Scott students, interviews with Africana Studies faculty members, and interviews with students who both have and have not participated in Africana Studies courses. Through the lens of Critical Race Theory the information gathered will be analyzed to understand possible connections between race, cultural norms, power dynamics, and college course selection.

BSC 308

The Californian Simulacrum and Geographic Liminality in Thomas Pynchon's The Crying of Lot 49 and Inherent Vice

Author: Mary Bolton **Adviser: Professor James Stamant**

This presentation will examine California as presented in two of Thomas Pynchon's California Novels, *The Crying of Lot 49* and *Inherent Vice*, analyzing what we talk about when we talk about Southern California in the American cultural consciousness, and the implications of adherence to this specific set of

cultural identifiers. Written nearly 50 years apart, Pynchon returns to essentially Californian themes he established in 1965's *The Crying of Lot 49* in 2009's *Inherent Vice*, subverting and expanding on them, commenting on the contrived nature of California in the popular imagination. This "simulacrum of California" becomes dangerous because it idealizes California, erasing the dark histories of prejudice. Pynchon's work in this setting underlines the importance of moving beyond stereotypical cultural identifiers of California (or the Simulacrum) in order to highlight societal problems in America writ large.

POSTERS AND EXHIBITS

Higher Payoff or More Options

Authors: Ore Adekunle, Professor Andrei Popa **Adviser: Professor Andrei Popa**

Having multiple options is appealing in our everyday lives, arguably because it allows for a flexible future. Some studies, however, showed that people may be less satisfied when presented with multiple options. This project investigated whether people actually prefer to keep their options open (so to speak) by arranging an asymmetrical, continuous choice environment. It was hypothesized that people will work to keep their options open even if it limits acquiring the maximum number of points. Seven Agnes Scott students responded on concurrent Random Interval (RI) schedules of reinforcement. The overall rate of reinforcement was constant, but one target class delivered higher-magnitude reinforcers (5 points vs. 1 point). However, the target class with the lower reinforcer magnitude (1 reinforcer = 1 point) shrank in size when not selected for ten or more consecutive seconds. Every ten-second interval would reduce its size by one fourth of its original size and every new response would increase its size by one fourth (or, if at original size, reset the ten-second interval). Results showed preference for the shrinking class (b ~ 0.9), despite the fact that reinforcer magnitude on this class was five times smaller. This suggests that participants preferred to keep their options open, even if meant acquiring a lower overall payoff (less points).

Sankofa House

Authors: Ishara Agostini, Mary Harris, Sydney McClure, Faridah Maluunkuma, Zebib Gebretensae, Hamda Hussien, Avanti Lemons **Adviser: Daisy Bourassa**

This poster reports Sankofa Theme House activities for the 2015 - 2016 academic year. Our mission was to spread awareness and dialogue within the Agnes Scott community on the diversity of the African Diaspora. This included engaging the campus with connections between and amongst the diaspora. We achieved this through monthly events and collaborations with student diversity organizations like ASA, AWISA, and Witkaze. We hosted on campus events like Mixed Media, and Queens of the Diaspora, as well as events in the house. Our poster highlights the challenges and successes of our experiences throughout the year.

Investigating Time Urgency as a Moderator of Stress During Commuting

Author: Chanice Alexander **Adviser: Professor Jennifer Hughes**

Commuting to and from work can be stressful for some people but not others. More research needs to be conducted to investigate factors that lead to commute stress. Koslowsky (1997) proposed a commute model specifying time urgency as a moderator; thus, the goal of the current study was to test time urgency as a moderator of commute stress. The sample for this study consisted of 544 drivers who drove alone to and from work. Of those, 232 were males and 311 were females. A snowball sampling technique was used for this study. The study participants were asked for the average amount of minutes it took them to commute to and from work and the mileage each way. They also were asked about commute stress and time urgency. In order to be eligible for the online survey, commuters had to commute for 10 minutes or more and be employed. We found that women reported greater time urgency and higher levels of commute stress to work than men when driving to work but not from work. Further, whereas time urgency was found to be a significant predictor of commute stress both to and from work, we also found that commute length was not a strong predictor of commute stress. However, we did not find moderating effects of time urgency as proposed by Koslowsky (1997). This topic is important to research because commute stress has been linked to decreased driver performance and safety (Matthews Desmond, Joyner, Carcary, & Gilliland, 1997).

Using DNA Barcoding to Identify the Resident Invertebrates at Lake Agnes

Authors: Kimberly Becerra, Maliha Taufiq, Brigit McGuinness, Gingy Smith **Adviser: Professor John Pilger**

Traditional methods of identifying animal species, dating back hundreds of years, have been based on the physical features of the organisms. But that method does not distinguish between morphological features of similar origin (analogy), convergent evolution producing the same form in different species (homoplasy), or variation within a species. Molecular techniques that allow us to compare universal DNA sequences in an organism's genome and make species decisions has resulted in the new field known as DNA Barcoding. The process involves isolating a particular gene sequence from the organism and comparing it to a large and growing DNA Barcode database to determine or confirm species identity. The Invertebrate Biology class (Bio 270) has applied this system to the identification of invertebrate animals present at Lake Agnes in order to contribute to an emerging "field guide" to the resident invertebrates of the locality. Here they report on their progress.

Pay Attention!: Factors Affecting Covert Attention

Author: Professor Barbara Blatchley **Adviser: Professor Barbara Blatchley**

Several factors influence how we pay attention (focus our senses on the environment). Stress and anxiety result in increased attention to negative stimuli. In addition, some personal beliefs, like belief in luck, tend to result in stronger attentional control. Several frontal lobe neural networks control our attentional focus. Heart Rate Variability (HRV) is linked to these attentional circuits and serves as an index of the neural regulation and attentional control. High levels of HRV indicate a flexible and adaptable attention circuit. Low levels of HRV have been linked to higher risk of mortality from all causes. I examined the effects of belief in good luck, perceived stress, and HRV on attention task performance. I hypothesized that those students who believed themselves to be lucky, and who were relatively un-stressed, would have better frontal lobe mediated control of the focus of attention and would show higher HRV, and faster reaction times on the attention task than would those students who saw themselves as unlucky and/or who were experiencing high stress levels. I found that both belief in good luck and perceived stress levels were significantly correlated with HRV. As belief in being lucky increased, so did HRV, and as perceived stress level increased so did imbalance in the neural attention circuit. These results are discussed in the context of the function of the attentional control circuit proposed in Neural Integration Theory.

Choice Behavior With and Without Immediate Feedback

Author: Lizzie Booher **Adviser: Professor Andrei Popa**

The purpose of this study was to explore properties of choice behavior when the target classes that have the potential for reinforcement were hidden. Twenty-four Agnes Scott students were randomly assigned to two experimental conditions. In one condition an unpleasant sound was made contingent on each response that occurred outside a target region. In the second condition, extraneous responses were not signaled. In both conditions, reinforced responses resulted in one point and a pleasant sound. Target responses that were not reinforced were never signaled. We hypothesized that the condition with feedback 1) will elicit higher accuracy in locating the target classes and 2) will produce lower levels of behavioral variability. Preliminary results appear to confirm the hypotheses.

Annotation of Contig6 in Drosophila ficusphila

Authors: Purabi Das, Mary Eliza Reese **Adviser: Professor Srebrenka Robic**

This project aims to annotate Contig6, a specific region of the heterochromatic dot chromosome of fruit fly species *Drosophila ficusphila*. Two genes have been predicted within this sequence, whose similarities are compared to other *Drosophila* species, including the completely annotated *Drosophila melanogaster*. This data can determine which regions are coding and noncoding and analyze the functionality of this region. If the region codes for a protein, start and stop sites can be identified, as well as gene structure and the formation of reading frames, where the mRNA will be translated. Multiple types of data can be interpreted to detect where such features lie in the sequence, including experimental data, such as RNASeq; computational predictions; and homology data. By annotating portions of DNA in different *Drosophila* species, comparisons can be made to help infer their evolutionary relationships. Such an undertaking assists in broadening the understanding of the heterochromatic dot chromosome of fruit flies. This annotation will also contribute to the broader project of studying genome evolution as part of the Genomics Education Partnership (GEP), a multi-institution collaborative undergraduate genomics program.

Synthesis of New Phenanthroline-Based Ligands for Selective An/Ln Separation

Authors: Madeline Dekarske, Dr. Santa Jansone-Popova **Adviser: Dr. Santa Jansone-Popova**

Schemes for full nuclear fuel recycle include options for the separation and recycle of the minor actinides (Np, Am, Cm). Particularly important is the removal of the actinide americium—a strong alpha radiation emitter. However, separation of trivalent actinides from the other fission products is difficult, especially actinide/lanthanide separation due to their similar chemical properties. Our project focuses on synthesizing both highly stable and soluble ligands selective for trivalent actinides. The ligand of interest for this task was dialkyl-tetradecahydro-dimethanodiquinolino-phenanthroline-dione. We chose 2,9-dimethyl-1,10-phenanthroline as our starting material, as it is readily available. In just five steps, we converted the starting material into highly preorganized tetradecahydro-dimethanodiquinolino-phenanthroline-dione ligand. Various chemical transformations were required to complete the conversion, including oxidation, substitution, and C-H bond functionalization reactions. We hope that the new ligands will find use in making nuclear waste less hazardous and nuclear energy more viable as an alternative energy option.

The Role of Irf6 in Salivary Gland and Pancreas Development

Author: Megan Do **Adviser: Professor Srebrenka Robic**

Interferon Regulatory Factor 6 (*Irf6*) encodes for a transcription factor that regulates expression of interferons and other signaling proteins that are critical for proper immune functions and biological processes during craniofacial and ectodermal development. Mutations in *Irf6* cause Van der Woude Syndrome (VWS), characterized by lip pits, and contribute to non-syndromic cleft lip and palate which are associated with accessory salivary glands. The aim of this project was to determine if *Irf6* is expressed in submandibular salivary glands and pancreas and to analyze the pathology of both exocrine glands in *Irf6* null (*Irf6* -/-) mice. Phenotypic analysis was performed on newborn wild type and *Irf6 -/-* pups as well as histological and immunofluorescent staining for the transcription factors *Irf6*, *p63*, and *Twist1* in order to study gene interaction and localization. In *Irf6 -/-* mice, a lack of mucous cells were observed in the salivary glands and cellular disorganization was exhibited in both salivary glands and pancreas. Our findings indicate that Irf6 is critical in the development of salivary glands and pancreas. These results suggest that DNA variations in *Irf6* contribute to the risk of salivary gland and pancreatic disorders in humans. Our future goals are to understand the molecular role of *Irf6* and translate these findings into the clinic to identify genetic risk factors in salivary gland and pancreas disorders.

Role of Ets Family Transcription Factors in the Regulation of Human LAT Gene Expression

Author: Melissa Easley **Adviser: Professor Tim Finco**

The human LAT gene encodes a transmembrane adaptor protein that is crucial for the function of several cell types of the immune system, specifically T cells, mast cells, natural killer cells, and megakaryocytes. Previous studies in the lab identified two highly conserved putative binding sites for the Ets family of transcription factors within the LAT promoter. Sequential three base pair mutations were introduced to more precisely map the important regulatory elements within this region of the LAT promoter. Results support the hypothesis that these are Ets sites. Chromatin Immunoprecipitation (ChIP) experiments indicate that Ets1 and Elf1 bind to these sites in the endogenous LAT promoter of Jurkat T Cells. ChIP paired with quantitative PCR (ChIP-qPCR) reveals that another Ets family member, Fli1, binds the LAT promoter. In addition, siRNA mediated knockdown experiments for Ets1 and Elf1 showed minimal effects on LAT promoter activity. Since many Ets family members bind to similar DNA consensus sequences, one explanation for these results is a high degree of functional redundancy for Ets proteins in regulating the LAT gene. Moving forward, efforts will focus on evaluating the role Fli1 has in regulating LAT expression and pursuing other Ets family proteins potentially binding the LAT promoter.

Human Choice Behaviors Before and After Extinction

Authors: Victoria Forbes, Professor Andrei Popa **Adviser: Professor Andrei Popa**

One way to eliminate behaviors form an organism's repertoire is to identify and remove the reinforcing contingencies that maintain them. This procedure is referred to as extinction. Extinction is known to be accompanied by a short increase in behavior frequency, intensity, and variability. In this project, we examined various properties of choice behavior before and after extinction was implemented. Preliminary results showed that the frequency of both target and extraneous (non-target) responses increased during the extinction phase. The effect was more pronounced for extraneous responses, possibly for their exploratory potential. Future analysis will focus on various measures of variability before and after reinforcement is withdrawn.

Characterization of a Putative Enhancer for the Human LAT Gene

Author: Ghida Ghanim **Adviser: Professor Tim Finco**

The *LAT* gene encodes a transmembrane adaptor protein required for the function of immune system cell types, including T cells, mast cells, and natural killer cells. Transcription is the first step in converting information stored in DNA into functional proteins. Transcription is mediated by promoters and enhancers which bind transcription factors to help carry out the transcription process. To better understand transcriptional regulation of the *LAT* gene, the lab sought to identify and characterize enhancer elements. Data available through the UCSC Genome Browser was assessed to identify genomic regions displaying features consistent with enhancer elements such as DNA sequence conservation, DNase hypersensitivity, and specific post-translational histone modifications. Identified regions were PCR amplified and tested for enhancer activity using transient transfection assays in Jurkat T cells and HMC-1 mast cells. Results indicated that a 1500 bp region located ~17 kb downstream of the *LAT* gene functions as an enhancer element when paired with the *LAT* promoter. Subsequent deletion analysis narrowed enhancer activity to a 300 bp region which contains two Ets and two GATA transcription factor binding sites. Point mutations within these sites significantly inhibited enhancer activity. Also of note, the identified enhancer region appears specific for *LAT* as it was unable to augment gene expression when paired with the promoter for *SPNS1*, a gene which lies adjacent to *LAT*. Collectively, these results identified a putative 300 bp enhancer specific for *LAT* which appears to function in part through Ets and GATA transcription factor binding sites.

Evaluating the Neuroprotective Effect of Ginger in a Cellular Toxicity Model

Authors: Brittaney Howard, Professor Stacey Dutton **Adviser: Professor Stacey Dutton**

Epilepsy is a neurodegenerative disease characterized by recurring seizures that interrupt normal brain activity. Studies have shown that excessive amounts of glutamate, the primary excitatory neurotransmitter found in the central nervous system, causes hyperactivity, ultimately leading to cell death. Ginger is a natural pain reliever, has antioxidant and anti-inflammatory properties. Further research suggested that a constituent of ginger, specifically 6-gingerol, plays a cytoprotective role against cellular toxicity. Ginger has neuroprotective properties and has been used to treat various neurodegenerative diseases such as Alzheimer's, dementia, and neurological disorders associated with memory loss. In this experiment, the neuroprotective effects of ginger were examined in Pc12 cells in the glutamate toxicity model. Specifically, Pc12 cells were differentiated into neurons, pretreated with 25 µg/mL of ginger, and then subjected to the glutamate toxicity paradigm. The neuroprotective effects were evaluated by measuring apoptosis and neurite outgrowth. We identified various alterations in the neuroprotective effects, suggesting the potential use of ginger as a treatment for epileptic seizures.

The Synthesis and Characterization of Water-Insoluble β-Cyclodextrin Polymers for the Absorption of Perfluorinated Compounds

Author: Kaelon Jenkins **Adviser: Professor Ruth Riter**

Perfluorinated compounds (PFCs) are bioaccumulative molecules due to their C-F bonds, and they have proven difficult to remove from wastewater. Inclusion complexes have been observed between PFCs and β-Cyclodextrin (β -CD), a cyclic sugar that can participate in host-guest interactions. These complexes are very stable and are promising for remediation of PFCs. In this study, an environmentally friendly method of polymerization was employed with citric acid as the cross-linker and either polyvinyl alcohol (PVA) or polyethylene glycol (PEG-400) as a backbone. The characterization of the polymers were observed by means of IR, UV-Vis, and NMR to verify the completion of the polymerization, quantify the amount of CD available for binding, and determine the ratio between CD and citric acid in both polymers. In the PEG-400 polymer, the ratio of CD to citric acid was 5:12, whereas the ratio of CD to citric acid was 1:6 in the PVA polymer. IC was used to observe the β-CD polymers' absorption capacity of PFCs by measuring the concentration of PFCs in solution with the polymers and comparing to a control.

Predicting Role Overload: Job Involvement, Work Stress, Work Hours, and Children

Authors: Avery Kiesling, Daquanna Alexander, Professor Jennifer Hughes **Adviser: Professor Jennifer Hughes**

Role overload can have many detrimental effects on employees, such as job dissatisfaction, lack of organizational commitment, and an overall negative psychological health. Identifying what aspects are more detrimental to role overload will allow employees to decide why they are experiencing role overload and how they could possibly change it. This study investigates if job involvement, work environment stress, work task stress, work hours, and children predict role overload. A total of 663 employees completed the study, 498 were female and 165 were male. Participants were asked to complete a survey that asked for information about demographics and their employment (i.e. role overload, job involvement, work hours, work environment stress, work task stress, and children). We found that work environment stress, work task stress, and children predicted role overload. Learning about what predicts role overload is the first step to avoiding role overload. Employees can make changes in their daily routine to decrease role overload and increase psychological health, job satisfaction, and organizational commitment.

Examining the Neuronal Protection of Curcumin in Pc12 Cells

Authors: Sorena Lo, Professor Stacey Dutton **Adviser: Professor Stacey Dutton**

Traumatic brain injury (TBI) is a major cause of death and disability. It is caused from external forces, such as violent blows or jolts to the head or body, that results brain dysfunction, deterioration of brain cells, torn tissues, bleeding, and inflammation that leads to long-term complications or death. Milder forms of TBI are treated by stabilizing the patient, providing oxygen, and monitory blood pressure. Because more severe forms of TBI are associated with an increased risk of developing epilepsy, patients are treated with antiepileptic drugs (AED) or coma-inducing medication. AED can affect cognitive functions like attention, psychomotor speed, and vigilance by suppressing excitability or enhancing inhibitory neurotransmission. Long-term uses of coma-inducing medication include delirium and posttraumatic stress disorder. Because of the harsh effects from the available pharmacological treatments for TBI, there is a need for the development of alternative treatment options. Turmeric is a spice used in cooking. It also used in some preventative measures in eastern medicine for irritation, antimicrobial, and carminative actions. Curcumin, the active component of turmeric, has been shown to prevent cell death and decrease inflammation in patients with various health conditions, including arthritis, inflammatory bowel disease, and certain types of cancer. In this study, we examined the neuroprotective properties of curcumin. We pretreated differentiated Pc12 cells with 2 µg/ml of curcumin and subjected them to the glutamate toxicity paradigm. The cells were then evaluated for death and neurite outgrowth. We found varying degree of neuroprotective properties in cell death and neurite out growth. These findings may indicate that curcumin can be used in future treatments for patients who experienced traumatic brain injury.

FOXP2 and its Effects on Ultrasonic Vocalizations in Mice

Author: Brigit McGuinness **Adviser: Professor Jennifer Larimore**

Mice are known to produce ultrasonic vocalizations (USVs) to communicate amongst each other. The term USV can be a broad term to refer to different types of ultrasonic sounds produced by the mice but can be subdivided into different kinds by the type of structure or if they are produced during certain stressors. USVs can be produced in male mice courtship songs towards females and in pups when isolated or during other stressors. The gene FOXP2 is a gene that has been linked to speech and language development. A mutation to this gene has been shown to disrupt the development and function of speech production in animals, including mice. Many pups that have any sort of disruption in this gene have a high mortality rate not surviving into adulthood. Presently, this paper reviews, via a meta-analysis, the progression of the FOXP2 gene as it is being more thoroughly researched to discover its definitive role as a gene involved with language focusing on USVs in mice and how FOXP2 affects their USVs specifically.

Hacking the "Dot": Motifs in the "Dot" Chromosome of D. ficusphila

Authors: Jamila Pitts, Nicole Langford **Adviser: Professor Srebrenka Robic**

Genomics Education Partnership (GEP) is a multi-institution collaboration dedicated to providing undergraduates with opportunities to engage in genomic research projects. Previous projects where undergraduates were expected to sequence and annotate the "dot" chromosome or F elements of several different species of fruit fly Drosophila within 40 million years of evolution have already been completed. The "dot" chromosome is the fourth chromosome in Drosophila and is unusual in that it appears to be completely heterochromatic, or densely packed making it harder to be read. GEP's goal this year is to improve and annotate these chromosomes of species that shared a common ancestor with *D. melanogaster* in the last 10 million years as a proxy measure of comparison between euchromatic (lightly packed) and heterochromatic genes based on sequence characteristics. To assist in facilitating such an aim, we are annotating Contig 54, a 39 kb portion of the "dot" chromosome of *D. ficusphila.* With bioinformatic tools such as GENSCAN, BLAST, and RNA-seq, we will discuss highlighted genes and genomic features (such as the transcription start sites, repeats, and non-coding RNAs) found in our assigned region. The results of this project in conjunction with the findings of fellow GEP collaborators will allow comparative analysis necessary to find conserved motifs that would lead to novel understanding of the nuances of the "dot" chromosome's genetic function.

Relative Reinforcer Rates and Magnitudes and Concurrent Choice Using McDowell's Evolutionary Theory

Authors: Ingrid Rall, Professor Andrei Popa **Adviser: Professor Andrei Popa**

McDowell's evolutionary theory (McDowell, 2004) instantiates populations of behaviors (abstractly represented by numbers) that are allowed to evolve from generation to generation, animated by low-level Darwinian processes. The outcomes produced by the evolutionary theory were shown to be in agreement with those produced by live organisms under similar experimental conditions. The purpose of this study is to further test the model's robustness by recreating a key set of experimental conditions from the live-organisms literature (Elliffe, Davison, & Landon, 2008). The authors arranged concurrent-schedule procedures and showed that sensitivity to reinforcement rate was affected by changes in reinforcement magnitude, and vice-versa: sensitivity to reinforcement magnitude was affected by changes in reinforcement rate. Our aim is to arrange a functionally-similar environment and compare the results produced by the evolutionary theory to those reported by Elliffe, Davison, and Landon (2008). The findings will have important theoretical implications for quantitative descriptors of choice behavior (e.g., the matching law) and for McDowell's evolutionary theory.

Computers as Enrichment for Sun Bears

Author: Hannah Rudolph **Adviser: Professor Bonnie Perdue**

Malayan sun bears (Helarctos malayanus) are found in tropical climates throughout Southeast Asia and their populations are threatened by habitat destruction and hunting (Fredriksson, Steinmetz, Wong, & Garshelis, 2008). Zoo Atlanta houses two sun bears and educates the public about these issues and the animals themselves. Any animal housed in captivity should be carefully monitored and studied to ensure that optimal welfare is a priority. Traditional forms of enrichment geared towards this effort include toys, food enrichment, and training. Another possible form of enrichment involves computers. Computers can provide an increasingly challenging and constantly adapting source of enrichment, whereas traditional sources are often subject to habituation with continued exposure. The sun bears at Zoo Atlanta were trained to use a touchscreen computer system to earn food rewards for interacting with the device. We collected data before and after introducing the computer to observe differences in on-exhibit behavior, predicting that stereotypic behaviors, such as pacing, would decrease after the computer was introduced. Focal-animal data were collected using instantaneous and all-occurrence sampling between 1000-1200 and 1400-1600. Data is currently being collected for comparison with the data collected prior to the computer enrichment; the results of these comparative analyses will provide insight on the efficacy and impact of the enrichment program. We also conducted a preference test to establish whether subjects would choose to interact with the computer or with a traditional enrichment device. Overall, subjects preferred to interact with the computer, suggesting the viability of this as a long-term source of enrichment for these subjects.

Correlates of Recidivism in Women Currently and Recently Incarcerated

Authors: Joi Rumph, Professor Barbara Blatchley **Adviser: Professor Barbara Blatchley**

The incarceration rate for women is reaching crisis proportions. Between 1977 and 2007 the number of incarcerated women rose 757%, which is nearly twice the growth rate of male incarcerations (Talvi, 2006). In 2007 there were over 200,000 women doing time. Women entering the justice system are more likely to have experienced poverty, histories of trauma and other forms of victimization. The purpose of this research study is to examine exposure to trauma and traumatic experiences, violence, alcohol and drug addiction, restraint levels and distress levels in an effort to predict recidivism. The hypothesis is that incarcerated women who have histories of trauma including sexual or physical abuse, drug and alcohol addiction and low restraint and high distress levels will be at a greater risk of re-offending. Thirty women currently incarcerated in the Julia Tutwiler Prison in Wetumkpa, Alabama as well as women recently released from prison in Alabama, completed the Weinberger Adjustment Inventory, the Alcohol Use Disorders Test, the Drug Use Disorders Identification Test, the Trauma Checklist and questions regarding their own histories of criminal offending and re-entry. Multiple regression analysis was used to establish and evaluate potential correlations. The hypothesis was supported by the data. Potential underlying causes were identified which when addressed and treated could lead to lower rates of recidivism and offending in the female correctional population. There is potential to establish more effective treatment plans for women offenders in addressing problem areas not currently considered.

Mapping Autochthonous Transmission Potential of Chikungunya Virus in the United States

Author: Nicole Solano **Adviser: Professor Lock Rogers**

Chikungunya virus (CHIKV) is an arbovirus endemic to Africa and South and East Asia, that is transmitted to humans by the bite of an infected mosquito — primarily *Aedes aegypti* or *Aedes albopictus*. Since its identification in Tanzania in 1952, CHIKV has spread around the globe, making itself a very prevalent infectious disease. To date (23 March 2016) there have been twelve reported cases of autochthonous transmission in the U.S. (in Florida). Since its introduction into the Americas, concerns have been raised about which areas in the United States are most vulnerable to importation of CHIKV. We examined the correlation between human West Nile Virus (WNV) cases and human Meningitis and Encephalitis cases. A strong correlation was observed (p-value $< 2.2^{-16}$) informing us that Meningitis and Encephalitis is a good predictor of WNV infection. Given this, we wanted to know which socio-economic covariates were important to consider when thinking about exposure to a disease. A regression analysis helped us identify age and poverty level as the most important covariates. Presence of *Aedes albopictus* and relative exposure per county was mapped to depict which counties are most vulnerable for onward Chikungunya virus transmission.

The Fandom Impact Theme House

Authors: Rebecca Stairley, Anastasia McCrary, Taylor George, Ryland All, Anastasia Rogers, Courtney England

Adviser: English Department

The Oxford English Dictionary defines "fandom" as "the fans of a particular person, team, fictional series, etc., regarded collectively as a community or subculture." A fandom is just that: a group of people with a shared interest, usually in some type of entertainment media. Since the Agnes Scott community has large groups of students who share interests in a variety of fandoms, the Fandom Impact Theme House seemed like a natural response to pool those interests into one safe space for all. The goals of the Fandom Impact Theme House are to establish the house as a safe place for all fandom members to be able to participate in activities and express their interests. Furthermore, the goal was to create a new environment that was always open for a different social experience away from the more specialized campus organizations and regular meetings. This is most helpful for people who don't enjoy the typical "college party" or club experience and want a more relaxed atmosphere that doesn't exacerbate anxieties, while still being enjoyable and fostering friendships. To accomplish this, our events ranged from large, formal events to informal gatherings, intermingled with service-oriented projects. We celebrate a range of fandoms and channel that energy into community productivity by gathering donations for local food banks and bringing together like-minded peers to encourage new relationships. This presentation aims to outline the positive effect the Fandom Impact Theme House has had on the Agnes Scott community and how fandoms have brought students together.

Human Behavior Dynamics: Concurrent Schedule Reinforcement with Different Size of Targets

Authors: Xian Tang, Professor Andrei Popa

Professor Andrei Popa

The purpose of the study was to explore basic properties of choice behavior when the target classes varied in size, in low-discriminability conditions (invisible target classes). 24 Agnes Scott students responded in environments that arranged symmetrical, concurrent, Random Interval (RI) schedules of reinforcement. The target regions (or classes) were hidden. In one condition (N = 12) the target classes were small (about 4% of the experimental area). In the second condition the target classes occupied approximately 20% of the experimental area. Sensitivity to reinforcement was larger when the classes were small (a ~ 0.70) than when they were large (a ~ 0.19). The same was true for spatial variability, but not for temporal variability, which was larger when the target classes were small.

Anxiety, Depression, Income, and Travel Abroad Among First-Year College Students

Author: Jessica Vaughan **Adviser: Professor Janelle Peifer**

Travelling abroad for the purposes of academics, research, or internships is increasingly becoming the norm for American college students. However, programs may be implemented without consideration of barriers which college students face that may affect their abilities to benefit from the experience or even participate at all. In order to investigate the factors influencing the chances of students travelling abroad prior to college, information from an incoming first-year class was examined. In particular, their previous travel experiences were compared to their score on the Patient Health Questionnaire (PHQ-4), a scale of depression and anxiety, with consideration for income as an extraneous variable. A comparison of means showed that students who travel abroad had lower levels of anxiety than students who did not travel abroad; however, length of time spent abroad appeared to have no effect. Travel abroad was negatively correlated with anxiety and depression, but positively correlated with income. These results indicate that both mental health and income are variables that should be considered by college administrations and study abroad coordinators when arranging programs and discussing options with students. These professionals should consider implementing financial and mental health programs for students who are planning on travelling abroad.

Global Journeys

Authors: Junia Washington, Alaysia Robinson, Arianna Pullin, Margaret Poore, Marianne Danneman, Nathalie Paul, Nicole Williams, Nicole Gilkeson, Samantha Mooney, Summer Bosley, Maisha Era, Elizabeth Kell, Rachel Steinberg, Emily Duncan, Kelsey Perkins, Waverly Findlay, Mahek Dodhyani, Alice Edwards **Adviser: Professor Regine Jackson**

The highly personalized process of self-discovery is spurred by cross-cultural engagement and opportunities to discuss artifacts created during travel deepen their meaning. This interactive, digital poster features a map of “tiny stories” about the learning experiences of all the first-year students who participated in the Journeys course in spring 2016. We examine our experiences of interacting with cultures unlike our own. Each student enrolled in GBL 102 has chosen an image that is somewhat representative of an important moment from her travels. These images demonstrate that critical reflection is a powerful tool that aids the process of developing intercultural understanding.

The Efficacy of Progesterone on Glutamate Toxicity in a Cellular Model

Authors: Adeia Williams, Professor Stacey Dutton **Adviser: Professor Stacey Dutton**

Epilepsy is a neurological disorder characterized by the recurrence of unprovoked seizures. Studies have found that there is a higher prevalence of epilepsy in men and they are more susceptible to seizure-associated brain damage. In addition, more men are diagnosed with generalized epilepsy while more women are diagnosed with localized epilepsy. Previous studies indicate these differences can be attributed to the varying concentrations of hormones found in the male and female systems. Specifically the hormone progesterone has displayed neuroprotective properties in women with epilepsy. Progesterone is an antiepileptic hormone with a dose-related sedative, hypnotic, and anesthetic affect. It facilitates the conversion to extremely potent metabolites that potentiate GABA transmission and the action of the powerful inhibitory substance adenosine. The purpose of this experiment is to determine the efficacy of progesterone on neurotoxicity prevention in a cellular model. Differentiated Pc12 cells were pretreated with a complete RPMI solution containing 15 ng/ml of progesterone. The cells were exposed to the glutamate toxicity paradigm and evaluated for alterations in cell growth and neurite length. Our results suggest differences in the response to glutamate depending upon the concentration of progesterone pretreatment applied. The results from this study implicate that the hormone Progesterone has neuroprotective properties that can be used to treat epilepsy.

The Impact of Foreign Culture Exposure on College Students' Global Competence Development

Author: Tenzin Yangchen **Adviser: Professor Janelle Peifer**

This study accentuates the need for students to have immersive foreign culture experiences in order to function effectively in today's competitive arena. Educational policies are currently underway to help college students develop cross-cultural skills, substantive knowledge on global issues, and an understanding of how to thrive in a globalized world. The study utilized the Global Perspective Inventory and mini-International Personality Item Pool to examine levels of global competency and personality patterns (i.e., openness and extraversion) of students who have been exposed to foreign cultures. The study also assessed outcome measures of individuals who have been exposed to foreign cultures under a direct setting and their counterparts, who have been exposed to foreign cultures in their home country. Participants were 179 incoming first year undergraduate students from a small liberal arts college for women in the Southeastern United States. Results substantiated the hypothesis that students who had direct exposure to foreign cultures displayed higher levels of global competency as opposed to students who had indirect exposure to foreign cultures. As hypothesized, students who have been exposed to foreign cultures exhibit stronger intellectual curiosity and willingness to learn. Nonetheless, the findings posited no sufficient evidence to conclude that people who have been exposed to foreign cultures are more extroverted. This might indicate that extroverts have no advantage over introverts when it comes to being globally competent. The positive effects of direct exposure to foreign cultures suggests that educational initiatives consider expanding the total number of college students studying abroad by making various forms of scholarships that promote direct global study amongst students.

An Examination of Control as a Moderator of Commute Stress

Authors: Tenzin Yangchen, Laura Higdon, Meng Yu **Adviser: Professor Jennifer Hughes**

Commuting and the stress it produces have become endemic in numerous workplaces and in adult daily lives, which explains the increase in the commute stress literature over the past few decades. This study tests Koslowsky's theory (1997) that control of the commute is a moderator of commute stress. The sample for this study consisted of 544 automobile commuters of both sexes between the ages of 18 and 66 years from diverse racial/ethnic and socioeconomic backgrounds. Participants who commuted for at least 10 minutes were voluntarily recruited through snowball sampling to take an online survey. We found that women reported less control and higher levels of commute stress to work than their male counterparts when driving to work but not from work. This could mean that women worry more about possibly being late to work, but more research needs to be conducted to investigate this. We also found that commute length was not a strong predictor of commute stress, whereas control of commuting situation was found to be a significant predictor of commute stress both to and from the work. However, we did not find moderating effects of control as proposed by Koslowsky (1997). The results of this study suggest that stressed commuters should assess their feelings of control in order to reduce their commute stress.

Travel-Based Exposure, Intellect/Imagination, and College Students' Global Competence

Author: Meng Yu **Adviser: Professor Janelle Peifer**

The concept of global competence has attracted more and more attention as the world increasingly becomes culturally diverse. Thus, this presentation is about a study that was conducted to explore the associations between studying abroad, individual characteristics such as intellect/imagination, and respectively, students' global competence; an additional purpose of the study was to examine and measure the differences between short-term and long-term travel-based exposure in relation to overall global competence. A hundred and seventy-nine female first-year students from Agnes Scott College participated in the study by completing an online survey that includes scales for assessing the variables. A Pearson's correlation and independent samples t-test were run to analyze the data collected from the survey. Results showed that both prior study abroad experiences and intellect/imagination were positively correlated with students' overall global competence. Students with long-term travel experience were also found to have higher global competence compared to students that only travelled abroad short-term. This study supported the prior literature on the examined variables and implicated the importance of higher education institutions to consider students' personal characteristics and build programs for developing globally competent students.

ASC Chamber Ensemble Concert

Maclean Auditorium, Presser Hall – 1:00 pm

String Chamber Ensemble

Qiao Chen Solomon, Director

"Der Spiegel" Duet (Mirror Duet) — Wolfgang Amadeus Mozart (1756-1791)

Karina Leung and Anner Harris, Violin

18 Petite Duos, Op.38 No.1 — Jacques Féréol Mazas (1782-1849)

I Allegro Maestoso

II Romance Andante

III Rondo

Karina Leung and Anner Harris, Violin

Piano Duet & Wind Ensemble

David D'Ambrosio, Director

Andante — Ignaz Pleyel (1757-1831)

Maya Brooks and Hannah Plank, clarinet

Petite Suite — Claude Debussy (1862-1918)
II. Cortège

Vera Wang and Ruoyuan Shen, piano

Dolly, Op. 56 — Gabriel Fauré (1845-1924)
Berceuse

Leandra Massei and Angela Hong, piano

New Spanish Dances, Op. 65 — Moritz Moszkowski (1854—1925)
II. Andante con moto

Helen Chang and Ruoyuan Shen, piano

Sonata in F Major, K. 497 — W. A. Mozart (1756-1791)
Allegro

Jiawen Wang and Megan Do, piano

String Chamber Ensemble

Piano Trio in C Major, Hob.XV:21 — Joseph Haydn (1732-1809)

I Adagio Pastorale-Vivace assai

Briana Robinson, Violin Sorena Campbell, Cello

Jiawen Wang, Piano

Piano Trio in G Minor — Clara Schumann (1819-1896)

I Allegro Moderato

Briana Robinson, Violin Sorena Campbell, Cello, Jiawen Wang, Piano