



2016 Fall Fiat Lux

A showcase of Florida Southern College
student scholarship, creative works, and research.

Friday December 2, 2016

1:30 pm to 3:30 pm Christoverson Building

Fall 2016 Fiat Lux Abstract Book

Room	Time of Presentation	Title	Last Name	First Name
206	1:40 to 2:10	Jewish Identity and Polk County, FL: Internships, Summer Collaboration and Jewish Studies	Wellish	Mordechai
			Kirey	Hannah
			Beller	Sam
	2:10 to 2:25	Effects of Second Screen on Traditional Television Advertising	Hamrick	Emma
	2:25 to 2:40	Is your heart and mind into it? Physiological measures of empathy in emotionally graphic health care contexts	Bacharz	Kelsey
207	1:40 to 1:55	A Test of Neo-Fisherism; A New Keynesian model with money	Reichert	Corey
	1:55 to 2:10	Pensions: The Shift from Defined Benefit to Defined Contribution	Smith	Olivia
	2:10 to 2:25	Pseudomonas aeruginosa Biofilm Tolerance In the Presence of Antibacterial Agents	Sniffin	Christine
	2:25 to 2:40	Effect of Substrate Concentration and Various Inhibitors on the Rate of Reaction of ADH and Ethanol	Worcester	Ashlyn
206	2:50 to 3:05	The Urban Development of Post World War II Orlando	Sessums	Alex
	3:05 to 3:20	Aspects of the life cycle of <i>Apharyngostrigea pipientis</i> in central Florida wetlands.	Farrow	Abigail
	3:20 to 3:35	Social Trends in the Iterated Prisoner's Dilemma	Finocchiaro	Jessica
207	2:50 to 3:05	"Immigrants – They Get The Job Done": Pedagogy, Immigrant Literature, and Multi-Ethnic Literature of the United States	Taylor	Haley
	3:05 to 3:20	Visualization as a tool to "ad" knowledge of neurotransmitter function	Lutz	Alexandra

Fall 2016 Fiat Lux Abstract Book

Student: Bacharz, Kelsey

Major: Psychology

Faculty mentor: Smith, Patrick

Presentation type: Oral- single presenter

Presentation time: 2:25 to 2:40

Room: 206

Title: Is your heart and mind into it? Physiological measures of empathy in emotionally graphic health care contexts

Abstract: The purpose of this study was to investigate how level of empathy and caregiver status contribute to the participant's physiological response to positive, negative, and medical stimuli. There is very little literature on this topic, but some relevant studies have been conducted. One study looked at how caregivers who tend to avoid helping situations are physiologically affected by caring for another person. The results showed that caregivers who tend to avoid helping situations report lower life-satisfaction and have lower self-reported health ratings (Reizer & Hetsroni, 2015). This could indicate that there are physiological effects associated with being a caregiver. The results of this research will hopefully expand on the literature by indicating whether caregiver status (i.e., caregiver or non-caregiver) and empathy level (i.e., low or high) contributes to different physiological responses when viewing positive, negative, and medically salient stimuli. It is hypothesized that those who are caregivers will have stronger physiological responses to the medically salient stimuli compared to non-caregivers because of their experience in a medical environment. Similarly, it is hypothesized that those who are highly empathetic will have stronger physiological responses to negative and medically salient stimuli compared to those with low empathy levels because people with high empathy levels may be better at perspective-taking than those with low empathy levels.

Student: Farrow, Abigail

Major: Biology

Faculty mentor: Langford, Gabriel

Presentation type: Oral- single presenter

Presentation time: 3:05 to 3:20

Room: 206

Title: Aspects of the life cycle of *Apharyngostrigea pipientis* in central Florida wetlands.

Abstract: *Apharyngostrigea pipientis* (Trematoda: Strigeidae) is known to form metacercariae around the pericardium of anuran tadpoles in Michigan and other northern locations. Definitive hosts are thought to be wading birds, while the intermediate host is a freshwater snail. *A. pipientis* is not commonly reported from Florida, yet we have found several populations of snails (*Biopholaria havaensis*) and tadpoles, primarily the Cuban treefrog (*Osteopilus septentrionalis*) to host this trematode. We used experimental infections to elucidate the transmission dynamics and development of *A. pipientis* inside the tadpole host. Surprisingly, we found two types (species?) of cercariae being shed from *B. havaensis* that enter Cuban treefrog tadpoles to form seemingly identical metacercariae. Further, both of these develop into metacercariae inside the tadpoles over 5-7 days after wondering inside the host's body cavity as mesocercariae, and metacercariae are commonly concentrated around the pericardium cavity. However, they differ in entry mode, with one being ingested, whereas the other penetrates the skin.

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Student: Finocchiaro, Jessica

Major: Mathematics

Faculty mentor: Mathias, David

Presentation type: Oral- single presenter

Presentation time: 3:20 to 3:35

Room: 206

Title: Social Trends in the Iterated Prisoner's Dilemma

Abstract: In this work, we investigate the influence of culture on decision making and character. Through a simulation using the famous Prisoner's Dilemma, we model a population of "people" whose measures of success vary. People generally want themselves and others to succeed, but after so long, maybe one grows weary and changes their motives so they are the only person they are concerned about succeeding. In the thesis, we aim to discover a pattern of convergence in the population of the most common pairs of objectives sought through simulation implemented by using Genetic Algorithms.

Student: Hamrick, Emma

Major: Communication- Advertising and Public Relations

Faculty mentor: Bradford, Beth

Presentation type: Oral- single presenter

Presentation time: 2:10 to 2:25

Room: 206

Title: Effects of Second Screen on Traditional Television Advertising

Abstract: In the media saturated society present today, the process of multitasking between devices often results in information overload for media consumers. As a result, television viewers frequently tune-out traditional television advertising and instead allocate their attention to mobile devices and social media. This use of second screen is determined by viewers in order to fulfill their perceived media needs. In terms of live sports broadcasts, social media provides a secondary source for statistical information while also functioning as a communication hub that connects sports fans globally. These social sharing platforms enable users to gain insight into other viewer's opinions and share those of their own. This research presentation outlines the effectiveness of traditional television advertising and the likelihood of engagement with brands over social media platforms in conjunction with game viewing.

Fall 2016 Fiat Lux Abstract Book

Student: Lutz, Alexandra **Major:** Psychology

Faculty mentor: Smith, Patrick

Presentation type: Oral- single presenter

Presentation time: 3:05 to 3:20

Room: 207

Title: Visualization as a tool to “ad” knowledge of neurotransmitter function

Abstract: There is an ever increasing effort to help students grasp complex biological concepts in classes. Since textbooks are mundane and often times dry, psychologists and educators alike have investigated different forms of media as a tool in learning. This study focused on advertisements and their effectiveness at conveying information in an educational setting. Participants were shown a video that described sixteen different neurotransmitters. Following the video, eight stimuli, varying by condition, were shown in twenty second increments. The three experimental conditions are comprised of 1) advertisements which contain both visual and written content, 2) pictures used in the advertisements without the written content, and 3) paragraphs detailing the function of these neurotransmitters without the visual content. It is hypothesized that the condition with the combined effect of visual content with words will allow a greater understanding and retention of the content presented, than the conditions with the pictures or the paragraph descriptions alone. It is further hypothesized that participants will have better memory retention for the eight neurotransmitters that were supplemented over the eight that were presented in the video alone.

Student: Reichert, Corey

Major: Economics and Finance

Faculty mentor: Bias, Peter

Presentation type: Oral- single presenter

Presentation time: 1:40 to 1:55

Room: 207

Title: A Test of Neo-Fisherism: A New Keynesian Model with Money

Abstract: Neo-Fisherism, the theory that monetary authorities should expect inflation rates to be positively and causally related to targeted nominal interest rates, is tested using a standard off-the-shelf New Keynesian consensus macroeconomic model, but augmented by explicitly including money, open market operations, and an equation of exchange constraint. We find that the usual predicted Neo-Fisherism behaviors no longer arise and therefore contend that it would be a mistake to implement interest rate targeting based solely on Neo-Fisherist theory.

Fall 2016 Fiat Lux Abstract Book

Student: Sessums, Alex **Major:** History

Faculty mentor: Vause, Erika

Presentation type: Oral- single presenter

Presentation time: 2:50 to 3:05

Room: 206

Title: The Urban Development of Post World War II Orlando

Abstract: The built environment of Orlando exhibits a unique form of urban kinetics. This essay contains a partial exploration of some key events associated with the development of Orlando, Florida after 1945. This presentation will present these historical events in a chronological manner to arrive at an explanation of why Orlando is the way it is today. I will further argue that the economic development and housing model of Orlando is environmentally destructive and that the overall wellness of Orlando is hindered by its landscape because of the way it violates the principles of 'new urbanism.' The "city beautiful," as its slogan goes, is hardly a cohesive landscape but rather is an archipelago of loosely connected neighborhoods and bland suburbs. Indeed, the spatial orientation of Orlando shows few distinguishable characteristics of a traditional city as miles of asphalt connect strip malls, shopping plazas and fantasy theme parks. Many of these strange attributes of Orlando's development can be traced to the end of World War II where rapid population growth, a curtailment away from traditional urban planning principles, racial politics in the urban core and a car exclusive transportation infrastructure inevitably created a sprawling suburban landscape. In addition, the 'Disneyfication' of Central Florida has been a drain on Orlando's urban resources and has subsequently perpetuated the problem by creating a low wage economy where affordable housing is a problem.

Student: Smith, Olivia **Major:** Accounting

Faculty mentor: Clements, Lynn

Presentation type: Oral- single presenter

Presentation time: 1:55 to 2:10

Room: 207

Title: Pensions: The Change from Defined Benefit to Defined Contribution

Abstract: Since the rise of 401(k)s in the 1980s, defined benefit pensions have been replaced by defined contribution pensions. Employers have put the burden of retirement saving on the shoulders of employees. This presentation discusses the advantages and disadvantages of each and how the shift in pensions has affected newer and older employees. This presentation also delves into what people, especially college students, can do now to be proactively involved in their retirement and better their retirement status.

Fall 2016 Fiat Lux Abstract Book

Student: Sniffen, Christine **Major:** Biology

Faculty mentor: Gasper, Brittany

Presentation type: Oral- single presenter

Presentation time: 2:10 to 2:25

Room: 207

Title: *Pseudomonas aeruginosa* Biofilm Tolerance In the Presence of Antibacterial Agents

Abstract: Because antiviral and antibiotic resistance is such a major concern in the medical community today, it is necessary to continue aggressively studying the biophysical properties of bacterial biofilms so we may be able to suggest effective treatment amalgamations using antibiotics and therapeutic agents. Currently, antimicrobial cationic peptides provide strong example in antimicrobial chemotherapy; therefore, we can expand their anti-biofilm characteristics and test for synergism in eliminating attachment of clinical isolates of Gram negative bacteria such as *Pseudomonas aeruginosa* with current antibacterial drugs. For example, by determining the minimum inhibitory concentrations (MIC), minimum bactericidal concentration (MBC) and minimum biofilm eradication concentrations (MBEC) through a microbroth dilution technique and performing a checkerboard analysis, we can propose an effective combination of antibiotics and antimicrobial peptides to effectively inhibit biofilm formation and maturation. After studying the effects of anti-biofilm agents against multi drug resistant strains, the possibility of eliminating preformed biofilms and inhibiting the further development of future infections may become more apparent and applicable for current medical treatment options.

Student: Taylor, Haley **Major:** English

Faculty mentor: Bravard, Rebecca

Presentation type: Oral- single presenter

Presentation time: 2:50 to 3:05

Room: 207

Title: "Immigrants – They Get The Job Done": Pedagogy, Immigrant Literature, and Multi-Ethnic Literature of the United States

Abstract: As anyone who has sat through lectures on Hawthorne, Thoreau, or Hemingway can attest, a traditional American literature course too often functions as a tour of history's greatest, whitest men. While the works of these authors is certainly not without their own merits, teaching American literature with a focus on their perspective is not only an incomplete literary history but one that actively perpetuates systemic oppression. The goal of a multi-ethnic approach to literature of the United States (or MELUS) is to correct this approach, but the challenge, of course, comes in trying to put this theory into praxis. Throughout this presentation, I propose teaching the literary history of America through the lens of immigrant literature as this approach addresses the gaps in history created by a strictly canonical approach and highlights immigrants' unique ability to comment on America and American-ness from the liminal space of both outsider and insider.

Fall 2016 Fiat Lux Abstract Book

Student: Wellish, Mordechai

Major: Psychology

Faculty mentor: Eskin, Catherine

Presentation type: Panel- multiple presenters

Other presenters: Kirey, Hannah and Beller, Sam

Presentation time: 1:40 to 2:10

Room: 206

Title: Jewish Identity and Polk County, FL: Internships, Summer Collaboration and Jewish Studies

Abstract: Our panel will discuss a wide range of experiences we all have had in the past year during our experience working with Dr. Catherine Eskin and the Temple Emanuel Archives. We have all worked together on building the archives, as well as on a panel hosted last semester on campus, Our Jewish Communion. We have each worked on differing aspects of this panel as well as differing aspects of the archives. Our differing and mutual experiences have resulted in three distinct yet similar experiences as detailed in our individual papers. While we each come from differing fields (Business, Education, and Political Science/Psychology), we all found this experience to be educational and enlightening to our respective fields.

Student: Worcester, Ashlyn

Major: Chemistry

Faculty mentor: Shelby, Shameka

Presentation type: Oral- single presenter

Presentation time: 2:25 to 2:40

Room: 207

Title: Effect of Substrate Concentration and Various Inhibitors on the Rate of Reaction of ADH and Ethanol

Abstract: Enzymes are a type of protein responsible for increasing the rate at which various reactions occur in biological pathways. They bind to substrates to execute the reaction and ultimately form a product and regenerate the unbounded enzyme. This project investigates the enzyme alcohol dehydrogenase (ADH), a protein that catalyzes the reaction of an alcohol substrate to a ketone or aldehyde product. If present in high concentration, alcohol is toxic. ADH is found mainly in the liver and metabolizes ethanol so it may be more easily processed by the body, making this enzyme extremely important. It's high efficiency and specificity for ethanol make it an optimal choice for the conversion of ethanol to a less toxic acetaldehyde. This project investigates the effect of ethanol concentration on the rate at which ADH metabolizes it. Comparison of the data for varying ethanol concentrations indicates that the reaction rate increases directly proportional to the amount of alcohol in solution. However, the enzyme appears to be saturated and no longer increases the rate of reaction significantly when the ethanol concentration is above a certain threshold. The mechanism is further investigated by testing the effect of various inhibitors on the activity of ADH in solution.