11th Annual
Harriet L. Wilkes Honors College
Symposium for Scholarly and Creative Research

Featuring the
Robert Lee and Thomas M. Chastain
Honors Symposium Guest Lecture Series

Friday, April 12, 2013
9:00 a.m.—4:00 p.m.
Florida Atlantic University
John D. MacArthur Campus
Scholarly and Creative Research

Symposium Committee

Dr. Chitra Chandrasekhar, Co-Chair
Prof. Dorotha Lemeh, Co-Chair
Dr. Meredith Blue
Dr. Michelle Ivey
Dr. Shree Kundalkar
Dr. Wairimū Njambi
Dr. William O’Brien
Messages from the Deans…

Dr. Jeffrey L. Buller, Dean

I’m delighted to welcome you all to this year’s Wilkes Honors College Symposium for Scholarly and Creative Research. Developing each student’s ability to conduct original, innovative scholarship at a very high level is an important part of the Honors College’s mission. Each year, the Symposium gives us an opportunity to sample the fruits of our students’ efforts and to provide them with practical experience in sharing their research and creative activity with others. I think you’ll find each presentation and poster to be of extremely high quality and impressive in its scope. I know that I always learn something new every year. Feel free to ask questions about each participant’s project and to be inspired by what immersion in a 100% honors experience can produce.

Dr. Mark Tunick, Associate Dean

Research Day began in 2003, the year of the first Honors College graduating class of 46 strong. Mathematics professor Dr. Stephanie Fitchett and psychology professor Dr. Julie Earles took the lead in providing an opportunity for seniors as well as other HC students to present their research and creative work in a mini-conference setting. On April 11, 2003, 21 students gave oral presentations and fielded questions from the audience – the toughest ones coming from their fellow students – and 27 students contributed to 13 poster presentations. These numbers have skyrocketed as more students continue to take advantage of the tremendous opportunities for research and collaboration with faculty at the Honors College. In the first 10 years, there were over 597 presentations as well as over 59 visual art exhibits. Keynote speakers have reflected the same diversity of research interests that our students pursue, and have included Islamic philosopher Mustafa Abu-Sway, astronaut Tracy Caldwell, psychologist Theresa Reyes, historian and HC professor Chris Strain, economist Hans Czap, and novelist Ngũgĩ wa Thiong’o.
The 2013 Robert Lee and Thomas M. Chastain Honors Symposium Lecture presents:

*The Evolution-Creation Dispute: A Sibling Rivalry*

**Dr. Michael Ruse**

The Lucyle T. Werkmeister Professor of Philosophy and the Director of the Program in the History and Philosophy of Science at Florida State University

Dr. Michael Ruse is the author of many books, and has most recently edited the *Cambridge Encyclopedia of Darwin and Evolutionary Thought*. A Guggenheim Fellowship winner, a Gifford Lecturer, and a Fellow of the Royal Society of Canada, Professor Ruse still thinks the most important thing in his forty-eight year career as a university professor is the interaction between him and his students. He says that the day he stops teaching will be the day when he discovers if being an atheist was the Biggest Mistake of his life.
PROGRAM

Friday, April 12, 2013

8:00 – 9:15  Participant Registration  AD Bldg.

9:15 – 10:15 Session 1  AD Bldg.
Contributed Papers

10:15 – 10:30 Break

10:30 – 11:30 Session 2  AD Bldg.
Contributed Papers

11:30 – 1:00 Lunch Break

1:00 – 2:00 Chastain Guest Lecturer  AD
Dr. Michael Ruse  Auditorium

2:00 – 4:00 Session 3  HC Bldg.
Visual Arts Creative Research
Poster Session

Please join us for a reception in the
Honors College Atrium from 2:00 to 4:00 p.m.
Maxwell MacEachern  
*On the Moral Status of Intelligent Machines*  
Advisor/Professor: Dr. Amy McLaughlin

The development of more adaptive, autonomous technologies, for example those in military applications in which machine’s ‘choices’ can have fatal consequences, challenges traditional morality. Meeting these challenges requires reconsideration of moral systems, especially of the status they accord to intelligent machines. In this paper I consider two representative moral systems, Joel Feinberg’s and Peter Singer’s, each of which requires an entity to meet a minimal standard for moral consideration. I call this kind of standard a ‘threshold for moral privilege,’ which serves as an analytical tool for evaluating the sufficient conditions for moral privilege of any kind (e.g. consideration of interests, as in Singer’s view, or rights, as in Feinberg’s). I also consider what is required for something to count as an intelligent machine so as to determine whether intelligent machines cross the relevant threshold for moral privilege.

Alec Mishkin  
*Modeling Cancer Growth*  
Advisor/Professor: Dr. Terje Hoim

One of the most powerful tools in curing cancer is mathematical modeling. Using accumulated data we will take a look at different models for the growth of cancer cells, incorporating the positive effect of the immune system. Using these models we will try to find points of stability between cancer cells and effector cells.
Rosa Beltran

You’ve Got to Keep ‘em Separated: Characterizing Lagging Chromosome Prevention in Oral Cancer Cells

Advisor/Professor: Dr. Nicholas Quintyne

Mitosis is the separation of duplicated chromosomes into two daughter cells in order to create viable offspring. There are many checks in mitosis to ensure the inherited chromosome number is correct. Sometimes, these checkpoints are overcome and daughter cells inherit defects which can lead to cancer. One defect is the appearance of lagging chromosomes, the result of inaccurate chromosomal separation which leads to incorrect chromosome number termed aneuploidy. Aneuploidy is one of the defining traits of cancerous cells. The potential mechanism of lagging chromosomes in the cancerous cell line UPCI:OSCC070 is investigated in this study. siRNA-induced knockdown of KIFC1, a protein that is involved in the centrosomal clustering to prevent multipolar spindles, was used in the cells. Examining both levels of knockdown and time of exposure, we saw that the loss of KIFC1 led to a significant increase in lagging chromosomes, indicating this protein is critical to proper mitotic progression.

Lauren Martin

Unmaking White Supremacy: The Scientific Construction of Race and Learning How to be a White Ally

Advisor/Professor: Dr. Wairimũ Njambi

For many people the 2008 election of Barack Obama as President represented the United States as a “post-racial” society. The severe backlash from the political Right in 2010 and continued disproportionate suffering endured by minorities demonstrates the hegemonic structure of white supremacy is far from over. For the purpose of this presentation, I will examine the scientific construction of race and racism and the historical legacy of white supremacy. Based on the theory that “no one is free while others are oppressed,” I argue that situating oneself within structures of domination and counteracting systems of oppression is an effective way to dismantle the insidious power of white supremacy. I will then offer a comprehensive guide on how to be a white ally.
Kaitlyn Blum

**Madness and Mimetic Violence: Laughter and Language in Shakespeare’s “Twelfth Night”**

Advisor/Professor: Dr. Michael Harrawood

This presentation seeks to consider the malevolent humor of Shakespeare’s *Twelfth Night*, particularly in light of the philosophical position that literary critic Rene Girard posits about what he refers to as mimetic desire. Girard contends that much of the basis of human interaction is the mediation between desires to imitate, and desires to annihilate. Using Girard’s critical writings as a frame of thought, I am interested in the circulation of cruelty in which the characters of this problem play interact with one another. American writer W. H. Auden claimed “*Twelfth Night* is one of Shakespeare’s unpleasant plays,” and this presentation addresses the relationship of laughter and cruelty in *Twelfth Night* as the characters utilize comedy to negotiate between their simultaneous desires to imitate and destroy.

Leslie Williams

**Reparations, Repatriation, and Reconciliation: Negotiating Claims of Historical Injustice in the Case of the Herero Genocide**

Advisor/Professor: Dr. William O’Brien

Since 1955, the Herero living in modern Namibia have sought compensation for the genocide committed against them from 1904-1907, though Germany has denied any obligation to provide reparations. The reparations process has been hindered by German denial and Namibian politics. Germany maintains that genocide was not technically illegal at that time. However, they continue to pay large sums to Jewish victims from WWII. Historians point to extensive links between the Herero genocide and the Jewish Holocaust; concentration camps in South-West Africa developed extermination techniques, and victims’ bodies were used for scientific research. In 2012, a delegation of Namibians retrieved 20 skulls of victims from Germany. The repatriation of the skulls stimulated a resurgence of debate about reparations, motivating the Left Party to make a motion in German parliament that outlines an apology, repatriation, reparations, and continued partnership between the two nations. This history-based defense of Herero compensation reviews the ongoing debate.
9:30 – 9:45 a.m.

Megan McGuire  
**SynGAP Dysfunction Affects Neuronal Development and Activity in Mouse Models**
Advisor/Professor: Dr. Veljko Dragojlovic

Intellectual Disability (ID) is a common neurological disorder. It is diagnosed by an intelligence score under 70 along with the presence of two or more associated/adapted behaviors. A recent study showed that sporadic ID in humans was correlated with autosomal dominant de novo mutations in the gene SynGap1. In this study, we explored the effect of SynGAP1 knockdown on neuronal complexity in developing mice. We calculated the complexity of neurons in the Dentate Gyrus of mice at age P16 and we examined neurons in the somatosensory cortex of mice at ages P16, P21, P30, and P60 and calculated the average dendritic spine densities for the Hets and WT groups. Spine development SynGAP Hets prematurely peaked at age P21 compared to the WT who peaked at age P30. SynGAP knockdown may affect early learning due to spine development prematurely peaking and missing important connections in the critical time of brain development.

John Carney  
**Venus in Augustan Rome**
Advisor/Professor: Dr. Christopher Strain

This thesis examines the development of a goddess in the ancient Mediterranean. Popularly worshipped since at least the Paleolithic era, this goddess served as the cultural forbear of various goddesses throughout the region. The dominant religious culture of both the Paleolithic and Neolithic eras was emphatically matriarchal and contemporaneous societies mirrored this religious attitude with matrilineal customs. Over the course of many millennia, the goddess' identity and roles developed in different ways across the Mediterranean region. When Augustus came to power in Rome in the first century B.C.E., he adopted the tradition of his family and professed descent from Venus to lend divine credence to his claim to power. With the help of the poet Vergil, Augustus manipulated the character of Venus to embody and reinforce female roles desired in his burgeoning empire.
Lucas Ortiz, Danielle Savelle, Teresa Portone, Dr. Sharon Lubkin, Kishore Krishna

*Modeling Embryonic Tubulogenesis with Polarized Particles*

Advisor/Professor: Dr. Meredith Blue

Epithelial morphogenesis is driven by the formation, growth, and bending of thin sheets of cells with distinct interior (apical) and exterior (basal) sides. In this study we attempted to improve on past particle-based cell models to form a model of morphogenesis based on a two-particle polarized cell structure. We began by modeling a stable cyst-like structure. We then tested and calibrated the viscoelastic properties of our model by compressing the cell structure between two plates, which is comparable to real world data collected by Forgacs et al. (1998). We also simulated the growth of a hollow sphere into a tube-like structure using directed cell growth and a theoretical version of a basal lamina. With minimal refinement, this model should generalize to 3D.

Ana Rodrigues

*Using the Oral Cancer Cell Line UPCI: SCC078 to Purify NuMA Protein*

Advisor/Professor: Dr. Nicholas Quintyne

Formation of multipolar spindles is closely linked to increased genomic instability and tumor progression. Centrosome hyperamplification is insufficient to initiate this mitotic defect; centrosome coalescence must also be interrupted. Studies have indicated that cytoplasmic dynein is a key factor in preventing multipolarity, and overexpression of the NuMA protein is sufficient to mislocalize dynein from the spindle and abrogate the coalescence machinery. Because the mechanism by which NuMA can inhibit dynein is unclear, we are purifying NuMA to use *in vitro* studies, to better understand how NuMA blocks dynein activity. Purifying NuMA from recombinant sources has not been successful, therefore we are utilizing a native source. We are using the oral cancer line UPCI:SCC078 as the source because it has nine copies of the NUMA1 gene. With modifications to the protocols used previously, our goal is to yield sufficient quantities of NuMA for biochemical analysis with purified dynein.
Hina Shaikh  Room AD 202

*Post-9/11 Muslim American Identity Politics*
Advisor/Professor: Dr. Wairimũ Njambi, Dr. Mark Tunick

Many would argue that September 11, 2001 was another example of the incompatibility between the West and Islam. I argue that post-9/11 perceptions of Muslims and Muslim women are based on powerful and denigrating constructions of Muslim identities. I focus on scientific, media, and literary representations that have created and reinforced negative perceptions of Muslims as deviant and “Other.” I argue that contemporary governmental actions, through legislations and state actors, aimed toward racially profiling Muslims in the ongoing War Against Terror are unduly influenced by these scientific, literary, and media representations of Muslims and Muslim women. As a Pakistani Muslim American woman, I also address the importance of including narratives from Muslim women, who are usually silenced in western discourse, in order to represent a more complete contemporary Muslim identity. Finally, I show that all these denigrating constructions of Muslims and Muslim women can be challenged through education.

Lori Simmonds  Room AD 205

*Paradise Lost and the Purpose of Marriage*
Advisor/Professor: Dr. Michael Harrawood

In John Milton’s poem *Paradise Lost*, Adam and Eve experience a marriage based upon the Godly companionship described in Milton’s pamphlet, *The Doctrine and Discipline of Divorce*. The concept of compatibility in marriage and the decision to terminate such a union, according to Milton, is not just based upon adulterous behavior but also the fellowship of a conversing soul. While the wedlock between the first human beings does not warrant divorce, their bond functions as an example of the poet’s opinion of Godly matrimony. In this paper I will argue that Adam and Eve’s relationship in *Paradise Lost* represents central arguments within *The Doctrine and Discipline of Divorce* regarding marriage as a prevention of loneliness, the prohibition of divorce being against human nature, and that Biblical law is not meant to be taken word for word. This paper makes evident the importance of genuine companionship in matrimony.
Management of nonnative invasive species (NIS) frequently involves removing animals or plants from an area in order to conserve native communities. Methods of removing invasive animals include killing individuals, justified as a means of protecting broader ecological values. This management approach, however, is often controversial and highlights differences between discourses of environment (ecology) and animal rights. The former values life at a holistic level while the latter emphasizes the value of individual lives. Language both reflects and shapes belief and action. To assess these divergent views, I compare invasive species rhetoric of a prominent environmental organization with that of an influential animal welfare group. The goal is to identify the most prevalent themes in the different organizations’ characterizations, highlighting areas of convergence and divergence regarding such themes, and, ultimately, to find out if their rhetoric points to any viable suggestions for compromise.

9:45 – 10:00 a.m.

Sean Spiggle
Room AD 102

Bald Cypress Exclusions in the Loxahatchee Floodplains
Advisor/Professor: Dr. Jon Moore

This experiment involves fencing exclusions of *Taxodium distichum*, Bald Cypress, a conifer native to the southeastern United States, seedlings to determine the level of influence based on animal size in the northern loop of the Loxahatchee Floodplains at Jonathan Dickinson State Park. The two types of exclusion plots used, besides the control, are mesh fencing that prohibits larger animals from entering and a chicken wire fencing that prohibits all animals from entering. With a total of five sites each with the three different plots, data was collected from July, 2012 and is scheduled to continue through 2016. The data does not yet show any differences among the three exclusion types. However, one noticeable variable is the level of influence that weather has had on seedling recruitment and growth; the heavy storm and rain during the summer greatly decreased cypress seedling numbers in the floodplains.
Emily Smith
Room AD 103

Out of the Shadows and Into the Spotlight: Undocumented Students in Pursuit of Higher Education at Freedom University, Georgia
Advisor/Professor: Dr. Christopher Strain

Each year an estimated 65,000 undocumented immigrants graduate from American high schools. While the majority of their peers immediately enter college, only 5-10% of undocumented students enroll within a year of graduation, primarily due to financial obstacles that make entry into higher education exceedingly difficult for individuals without legal status. A handful of states in the Deep South have even gone so far as to ban undocumented students from enrolling in their universities, with Georgia being the latest to do so in 2010. This thesis examines a unique and previously unstudied educational initiative, Freedom University, that has emerged in response to the enrollment ban in Georgia. While students have been politically powerless in the state decisions that have denied their enrollment, Freedom University offers its students a rare and powerful sense of agency gained through the curriculum, camaraderie, and collective rallying against the ban that it facilitates.

Rey Carvajal
Room AD 104

Hohmann Transfer Orbit Applications: Spacecraft Approach and Interplanetary Travel
Advisor/Professor: Dr. Andrew Johnson

This paper analyzes and develops equations of motion for the transfer of spacecrafts from circular orbits to elliptical orbits with the intention of spacecraft approach. The approach technique that we model is based on the Hohmann Transfer. We found that projecting a safe approach requires that we know the new speed of the transfer spacecraft, the desired change in distance between the two spacecrafts, and the magnitude of the radius vector of the perigee for the elliptical transfer. The paper then ends with a model of how we can use the Hohmann Transfer as a means for interplanetary travel. We present a numerical example of how the same technique that we previously used to achieve spacecraft approach can be used in a method of patched conics to assist the travel of spacecrafts from our planet Earth to the planet Jupiter.
Amira Barghouthy, Dr. Donald G. Phinny, Siddaraju Boregowda

**The Impact of JNK on Mitochondrial Physiology**

Advisor/Professor: Dr. Paul Kirchman

C-jun N-terminal Kinases (JNKs) belong to the mitogen-activated protein kinase family. JNK activation and subsequent translocation to the mitochondria regulates reactive oxygen species (ROS) generation and cell survival. Recently, we demonstrated that bone marrow-derived mesenchymas stem cells (MSCs) are highly sensitive to oxidative stress but JNKs role in this process is undefined. Herein, we show that exposure of MSCs to atmospheric oxygen increased levels of p53, p-JNK and the apoptosis regulator p-BCL2 (B-cell lymphoma 2), resulting in increased cellular apoptosis. Treatment of MSCs with a small molecule (SR-3306) or peptide (TI-JIP1) JNK inhibitor blocked JNK phosphorylation and protected cells from oxidative cell death. We are now employing a peptide inhibitor (Tat-Sab\textsubscript{KIM1}) that blocks JNK translocation to the mitochondria to study JNK-mediated mitochondrial events without intervening with its nuclear functions. Selective JNK inhibition may enhance the therapeutic efficacy of MSCs by preventing oxidative stress-induced cell death following transplantation of cells in vivo.

Britni Hiatt

**Feminist Environmental Justice: Confronting Legacies of White Supremacy in Jupiter, Florida**

Advisor/Professor: Dr. Wairimũ Njambi

Despite pervasive claims that the United States is a ‘post-racial’ society, racial segregation did not end after Jim Crow and the Civil Rights movement. Today, environmentally racist zoning and land developments continue to determine which families are most exposed to risks of pollution and displacement, and which families will profit. Utilizing documentation of local history and research in Women’s Studies, Eco-Feminism, and Critical Race Studies, I examine the legacy of white supremacy in Jupiter, Florida, by charting the biotechnology ‘cluster’ encroaching upon the historical Limestone Creek community. In this feminist analysis are challenges to assumptions about race, gender, class, progress, and the environment. I emphasize accountability and dismantling of white privilege in solidarity with residents of color in order to prevent further racist exploitation.
Alden Sharp  
Room AD 205  
Arch Enemies: Filippo Brunelleschi and the Duomo of the Santa Maria del Fiore  
Advisor/Professor: Dr. Michael Harrawood

This presentation explores the aesthetics and politics associated with the design of 15th century Florentine architect-in-chief Filippo Brunelleschi for the Duomo of the Santa Maria del Fiore cathedral. The original plans for the Duomo, which Brunelleschi swore to follow, used a pointed Gothic arch called *quinto acuto*. However, Brunelleschi deviated from the plan with the rounder, shorter, *mezzo acuto* arch instead, violating his oath. Consequently, he faced accusations from other architects working on the project. Brunelleschi’s intentions in changing the Duomo’s shape remain unclear to us today. I will propose possible motives for the changes Brunelleschi made to the original design, and will argue that he was motivated primarily by his own sense of competition between the architecture of Florence and the architecture of Northern Europe. With these potential motives in mind, I will conclude by exploring the message of architecture and its contribution to cultural identity.

Lindsay Nelson  
Room AD 206  
“Double Sustainability” in Botswana and South Africa: The Case of the San in the Central Kalahari Game Reserve and Kgalagadi Transfrontier Park  
Advisor/Professor: Dr. William O’Brien

The question of land access rights for indigenous peoples is now a prominent theme in the management of large parks and game reserves in Africa. This comparative study addresses different government responses to this question regarding land dispossession of the San in Southern Africa. Ancestral lands of this unique and marginalized indigenous population had been rendered off limits by the creation of Khalagadi Transfrontier Park (KTP) in South Africa and the Central Kalahari Game Reserve (CKGR) in Botswana. In more recent years, the government of Botswana and the post-Apartheid government of South Africa have pursued quite divergent approaches to addressing the question of renewed San access rights in the parks. Central to the comparative analysis in this study is the degree to which South Africa and Botswana have embraced the concept of “double sustainability” in park management, which emphasizes the protection of biodiversity and people’s livelihoods at the same time.
10:00 – 10:15 a.m.

David Pick, Pasco Avery, Wayne Hunter, Charles Powell, David Hall, Steven Arthurs

*Entomopathogenic Fungus, Isaria fumosorosea (hypocreales: cordycipitaceae), and Aphid parasitoid, Lysiphlebus testaceipes, (Hymenoptera: aphidiinae) Compatibility for Managing Infestations of Brown Citrus Aphid, Toxoptera citricidus (Hemiptera: Aphididae)*

Advisor/Professor: Dr. Jon Moore

The impact of *Isaria fumosorosea* (PFR 97™) on parasitism and emergence of the aphid parasitoid, *Lysiphlebus testaceipes*, of brown citrus aphids, *Toxoptera citricidus* Kirkaldy (Hemiptera: Aphididae), was assessed under caged conditions. The fungal treatment did not reduce *L. testaceipes*’ parasitism rate, and no significant difference was observed in the emergence rate between fungal treated and untreated parasitoids. *Toxoptera citricidus* mortality rates were very high in both parasitoid treatments, nearing 100% towards the end of the experiment, indicating *L. testaceipes* was highly effective at parasitizing the aphids even in the presence of *I. fumosorosea*. The compatibility of entomopathogenic fungi with an aphid parasitoid demonstrates potential synergy for use in future IPM programs to manage aphid pests of citrus.

Daniel Zengotita

*Camus and Sartre: Crisis, Confrontation, and Collapse*

Advisor/Professor: Dr. Christopher Ely

Albert Camus and Jean-Paul Sartre were the two most influential intellectuals in postwar France (1944). Their friendship began under the Nazi Occupation (1940 - 1944) as they were both “artists who resisted.” But after the Liberation, Camus began to become discontented with the Stalinist-Communist ideology that had come to pervade leftist intellectual circles in France. What worried him about this ideology was its legitimation of terrorism and violence to further its ideals. This concern led him to write *The Rebel* (L’Homme Revolte), a critique of Stalinist Communism. As a result of this publication, a public confrontation arose between Sartre and Camus. As a communist sympathizer, Sartre sharply criticized Camus, which led to their break. My thesis seeks to understand why these two intellectuals could not reconcile their differences and use their huge collective influence to the benefit of French society and politics.
Ricardo Wehrhahn  
*Determinants of Football Performance in Europe*  
Advisor/Professor: Dr. Keith Jakee, Dr. Terje Hoim

Football (soccer) performance is commonly believed to be based on player talent and franchise finances. However, there may be factors exogenous to football influencing a team’s performance. The aim of this study is to show that on-field performance is influenced not only by the usual factors such as player talent and franchise finances, but also by factors such as the wealth of the nation, the size of the population, the degree to which football is part of the culture, and taxation policies. Using regression analysis as the main method to substantiate my claim, this study will focus on the performance of leagues in comparison to their counterparts in other nations. I will limit the scope of the study to leagues affiliated with the Union of European Football Associations (UEFA).

Kristal Haze  
*Anchors Aweigh: Using shRNA to Map p150\textsuperscript{Glued} Functionality in Anchoring Microtubules at the Centrosome*  
Advisor/Professor: Dr. Nicholas Quintyne

Dynactin is a multisubunit protein complex required for proper functioning of the microtubules motor cytoplasmic dynein. Dynactin serves as a processivity factor for the motor as well as a cargo adaptor, allowing dynein to function in a wide array of cellular processes. Additionally, dynactin serves as a microtubule anchor. The p150\textsuperscript{Glued} subunit of dynactin is of particular importance to these processes, as it possesses dynactin’s microtubule binding sequences, termed the CAP-Gly and Basic domains. These domains have differential affinities for microtubules, with CAP-Gly binding to microtubules with a higher affinity than Basic. By testing a set of shRNA plasmids with antisense and sequences to the untranslated region of p150\textsuperscript{Glued} we have found effective knockdown of the protein in COS-7 cells; where future researchers can then introduce plasmids for p150\textsuperscript{Glued} lacking either the CAP-Gly or Basic domains, or both, potentially showing a differential effect on anchoring, dependent upon which domain is present.
Zoe Lewycky

A Critical Feminist Science Studies Critique of Pseudoscience
Advisor/Professor: Dr. Wairimũ Njambi

Using a Critical Feminist Science Studies perspective, I will examine how the term ‘pseudoscience’ rewrites science’s history, preventing science from being held accountable for its power structures and hierarchical narratives. Using Michael Shermer’s notion of pseudoscience as a case study, I will examine the historical and cultural origins of science, the figure of the scientist, and objectivity. Then, I will review the scientific experiments and theories that have occurred within this field of study, exploring science’s obsession with the body. Finally, I will apply critical feminist science studies to Michael Shermer’s usage of the word ‘pseudoscience’ in his book, Why People Believe Weird Things. My proposed solution is that we get rid of this term in order to hold science accountable for its problematic aspects and legacies, and adopt Donna Haraway’s concept of ‘situated knowledges’ to replace objectivity.

Rachel Hilsenbeck

Literal Divinations: The Misinterpretations and Misapplications of Tarot Cards in Twentieth Century Literature
Advisor/Professor: Dr. John Hess

An inspection of twentieth century literature reveals a routine misapplication of tarot cards as mere symbols and motifs throughout the works which include the deck. Beyond this fact, literature assigns false or incorrect meanings to each card employed, resulting in the diminishment of the tarot’s significance by demoting its function to that of a passive literary device. When approached as an active literary device, however, the tarot cards become a framework for recontextualizing twentieth century literature, especially authors such as T.S. Eliot, Italo Calvino, and Thomas Pynchon. After dispelling common misconceptions surrounding the tarot deck -- particularly with cards attributed to misfortune -- each work yields an alternate reading once viewed through the lens provided by tarot. The framework reconstructs the foundations of these literary works by entirely reassigning and realigning the symbolism included in each, resulting in new interpretations of the texts as a whole.
Elizabeth Johnson

“For the Unity of It”: Mutual Aid and Ethnic Solidarity in Tampa
Advisor/Professor: Dr. Rachel Corr

In this presentation, I explore why people in the Ybor City and Tampa area created mutual aid organizations, how these organizations have changed over time, and why members continue to join and participate. To learn more about individuals’ experiences with the mutual aid societies and other ethnically based organizations in the Tampa area, I conducted a series of six interviews with members of the Order Sons of Italy in America (OSIA) Lodge in Tampa. The results of these interviews, coupled with an understanding of the historical roots of mutual aid and ethnic organizations, create a rich image of how the Italian community has satisfied its dynamic needs. From my interviews with members of the OSIA Lodge, I have found that current ethnically based social organizations in Tampa attract members by providing a mechanism to access ethnic solidarity, cultivated through collective charity work, heritage events, and sharing food.

SESSION 2

10:30 – 10:45 a.m.

Richard Jones

Fire Ants Without Fire: Impact of Reduction Mowing on Invasive Fire Ants at Gopher Tortoise Burrows
Advisor/Professor: Dr. Jon Moore

The gopher tortoise has been in decline throughout its range primarily due to habitat destruction. Many species prey upon tortoises including the fire ant Solenopsis invicta. While human alterations to habitat have incited a decline in gopher tortoises, “disturbance specialists” like S. invicta often thrive on such changes. This study represents a culmination of three surveys of ants at gopher tortoise burrows before and after “reduction mowing,” the mechanical shredding and reduction of understory growth. The results of this study have possible implications of land management practices focused on both fire ant mitigation and gopher tortoise conservation.
Brooke Radaker

“Death is Nothing in Comparison to Dishonor”: Sarah Morgan’s Diary and Women’s Roles in Southern Honor
Advisor/Professor: Dr. Christopher Strain

In their studies of the code of honor in the Old South, historians such as Bertram Wyatt-Brown and Edward L. Ayers consider women incapable of possessing honor. However, the diary of Sarah Morgan, a young woman living in Baton Rouge and New Orleans during the Civil War, reveals the many ways that women actively engaged in the code of honor and even considered themselves to be honorable. In her diary, Sarah Morgan described her own reverence for any honorable gentleman and the ways in which women like her preached the ideologies of the code of honor to men. Women reinforced the code of honor by urging men to die rather than dishonor their family names, punished dishonorable men with their disdain while they celebrated their honorable heroes, and even adopted a feminized version of the code so that they too could possess honor.

Fred Jeune

Palm Beach County Property Taxes: An Example of the Leviathan Model
Advisor/Professor: Dr. Keith Jakee

During the past recession, house prices plummeted to record lows. However, empirical research found that, on average, property tax revenues for local governments have not decreased. “Perhaps surprisingly, property tax receipts continued to grow at a robust pace through the end of 2009, even though house values had plunged in the previous three years,” (Lutz et al, 2011: 307). My paper will attempt to explain this paradox by arguing that an information asymmetry exists in the process used by Palm Beach County, Florida, in assessing and taxing private properties. This information asymmetry, characterized by the lack of transparency in the property assessment and taxation process, is exploited by local government to conceal its revenue-maximizing behavior. The analysis of this behavior, captured through the lens of the Leviathan model, allows us to see the moral hazard at play whereby the local government seeks to maximize its revenues through ways unclear and confusing to the general public.
Disrupting Methamphetamine Associated Contextual Memory by Targeting Synaptic Dynamics
Advisor/Professor: Dr. Nicholas Quintyne

Methamphetamine (METH) is addictive and associated with a high rate of relapse. One relapse trigger is re-experiencing drug-associated contextual associations. Therefore it is possible that, by targeting METH-associated contextual memories, drug seeking behavior can be inhibited. Recent evidence has suggested that memory formation relies on actin polymerization, which allows dendritic spines to undergo structural and functional plasticity, key components of memory. To see if actin polymerization could be a target for the extinction of METH seeking memories we inhibited actin polymerization in animals that had been trained in either METH or food associated conditioned place preference. Pretest inhibition of actin cycling in the basolateral amygdala complex produced immediate and persistent extinction of METH seeking behavior. Additionally, inhibiting actin polymerization 24hrs before testing disrupted seeking behavior for METH but not food. These results indicate that METH-associated memories are selectively vulnerable to disruption through inhibition of actin dynamics.

Through the Google Glass: Wearable Computers and the Right to Privacy
Advisor/Professor: Dr. Mark Tunick

Google has recently released a product called Google Glass that allows users to manipulate data by interacting with a heads-up display. Because the device allows users to record (either via photograph or video) their surroundings to an unprecedented extent, the amount of personal information to which the corporation might be exposed by users will surely prove to be immense. Google’s privacy policies have a history of proving to be less than transparent, though, and set a precedent for privacy abuses whose potential for causing detriment to the user is greater than ever before. Broadly speaking, our group would like to investigate the privacy violations that we perceive to be invited by the existence of Google Glass, by first examining the ways in which Google has been accused of privacy violations in the past, and second identifying the characteristics making Glass a technology that is conducive to invasions of privacy.
Kathleen MacDonald

Lust, Love and Likeness: Incest and Desire in John Milton’s Paradise Lost
Advisor/Professor: Dr. Michael Harrawood

This presentation considers incest in relation to desire and pleasure in John Milton’s epic poem Paradise Lost (1674). I will contend with a broadly accepted critical consensus that the rape of Sin in Book II is a parody of the prelapsarian sexual intimacy of Adam and Eve in Book IV. Instead, I will argue it is part of an eroticized moral hierarchy within the poem. Milton’s sexual poetics are driven by mimesis, by a notion of sexual desire for a shared or a reduplicated or redundant image. This presentation will reference contemporary publications, sermons, broadsides, and religious tracts concerned with incest and desire. I will also discuss Michel Foucault’s History of Sexuality, in order to examine the motivation for the prohibition of incest in western society and explore the power dynamics of incestuous relationships. Through these lenses, I seek to establish a new discourse to sexual depravity in Paradise Lost.

Celeste Corrales

Of Free Markets and Caged Humans: Applying and Analyzing Ira P. Robbins’ Legal Doctrines in Private Immigrant Detention
Advisor/Professor: Dr. Timothy Steigenga

Privately operated facilities are quickly becoming the new hosts for many of the over 400,000 unauthorized immigrants detained annually in the United States. This thesis argues that privatized immigrant detention creates a perverse incentive structure that may lead to multiple problems, including greater risks for constitutional and human rights violations of immigrant detainees. I utilize Ira P. Robbins’ Legal Dimensions to Private Incarceration (1988) handbook in order to update and explore the relevance of two legal doctrines as potential challenges to the private immigrant detention industry.
David Pick

Survey of the Lepidoptera (Butterflies and Moths) of Laos
Advisor/Professor: Dr. Jon Moore, Dr. Catherine Meschievitz

As with much of the biodiversity of Laos, its Lepidopteran species richness, abundance, and distribution is largely unstudied. This study is needed not only for documentation of species new to science, but also as indicators of ecosystem health for Conservation Biology and public policy. This presentation gives the results of in-country pre-research, background on the Lepidoptera of Laos as obtained from an English literature search, and the goals and plans for proposed research to survey the Lepidoptera of Laos. This proposed project will start by focusing on ecosystems in areas scheduled to be flooded by the formation of hydroelectric reservoirs in order to collect and document these species and environments for scientific posterity. Along with the collection of Lepidopteran species, a major focus of this proposed research will be the integration of local knowledge, tradition, and language into scientific literature, and to form relationships among people producing ideas that create understanding and excitement about the environment for Lao and English speakers alike. The specimens obtained in this project will be used to produce a display of Lao Lepidoptera for Florida Museum of Natural History and a collection for a university in Laos to educate scientists and the public about species found in Laos.

Jaquelyn Guizerix

From Snow White to Brave: The Evolution of the Disney Princess
Advisor/Professor: Dr. Christopher Strain

This paper traces the evolution of the Disney Princess and critically evaluates the role of the Disney Princess icon in American history using a feminist perspective. The term Disney Princess refers to Disney’s ten animated female heroines who were either born royal or marry princes before the end of the film; collectively these princesses became iconic through the creation of the enormous Disney Princess marketing franchise in 2001. Since Snow White in 1937 and culminating with the 2012 film Brave, the Disney Princesses have undergone subtle developments in appearance, attitude, relationships, and
cultural heritage that have expanded the function of the Disney Princess as a contemporary role model. By organizing Disney Princess films into three classifications based on time period of film production, this paper evaluates the historical successes and shortcomings of the Disney Princess.

Stephen Jones  
Room AD 104  
*Security is but a Symptom: Understanding the Persistence of State Failure*

Advisor/Professor: Dr. Keith Jakee

Most international relations scholars focus on internal insecurity as the primary problem in a failed state. I disagree with that view and instead show that insecurity is created by rampant rule-breaking. Specifically, I argue that what I term “alegality” is the primary institutional structure of failed states. An alegal system is one in which rules have been made but are seldom if ever followed. Under such systems, rule-breaking has eroded reciprocal rule-following relationships, and this erosion removes constraints on behavior present in other societies. Under the assumption that leaders, bureaucrats, and individual citizens all seek to maximize self-interest, I will show that the individual interactions within an alegal system result in a Leviathan government that seeks to maximize revenue, which further erodes the state causing state failure to persist indefinitely.

Joseph Williams  
Room AD 119  
*Tracking Mitotic Defect via Time-Lapse Photography*

Advisor/Professor: Dr. Nicholas Quintyne

As tumors generate, there is a progression in genomic instability derived from chromosomal rearrangement and instability. Often, these manifest themselves as defects in mitosis, frequently as lagging chromosomes, multipolar spindles, and anaphase bridges. Lagging chromosomes are the result of inaccurate chromosomal division in mitosis, thus jeopardizing the genome of an organism’s offspring; they derive from several errors, such as failure of a chromosome to attach to the mitotic spindle. The goal of this project has been to characterize the mechanisms of lagging chromosomes in the cancer cell line UPCI:SCC103. Our laboratory’s work has shown that treatment with certain carcinogens increase the rate of mitotic defect. To further our understanding of these defects, we are monitoring the progression of lagging chromosomes in UPCI:SCC103 cells with live cell analysis, using GFP-tagging histone H2B to track their appearance and fate, so to distinguish between the possible causes and resolutions of this mitotic defect.
Vincent Scerbo, Jackie Goldstein, Parker McDonald, Celine Rodriguez

Email and Privacy Issues Under the Current Stored Communications Act (SCA)
Advisor/Professor: Dr. Mark Tunick

The South Carolina Supreme Court’s rulings in Jennings v. Jennings (October, 2012) held that emails opened and left in one’s inbox are not provided 4th Amendment protection under Section 2701(a) of the Stored Communications Act (SCA), which grants this protection to emails in “backup electronic storage.” The court concluded that an open email in an inbox does not constitute “backup electronic storage,” and thus no course of action is available to an individual whose email has been accessed without consent by a third-party. This ruling threatens the privacy of email in “cloud storage,” allowing states to decide the extent to which email should receive 4th Amendment protection against unreasonable searches and seizures. While Jennings has no valid 4th Amendment claim under the SCA, a parallel between the protections provided for privacy in one’s personal mail and email may have established a cause of action through the “intrusion upon seclusion” privacy tort.

Elizabeth Jellie

The Art of Mimesis: How Jealousy becomes Desire in Renaissance England
Advisor/Professor: Dr. Michael Harrawood

The purpose of the essay is to develop an understanding of Shakespeare’s Richard III and Marlowe’s Edward II, in terms of the contemporary social attitudes toward homosexuality. I will consider the plays alongside a number of works published between 1550 and 1650, including Richard Brathwaite’s The English Gentleman: Containing Sundry Excellent Rules. Additionally, I will build on work by present-day critics, such as Eric Auerbach’s Mimesis, Alan Bray’s Homosexuality in Renaissance England, and Rene Girard’s Mimesis and Theory: Essays on Literature and Criticism. The hypothesis I wish to pursue is that both Shakespeare and Marlowe use the concept of mimesis (whether knowingly or unknowingly) to express the cultural reasoning behind the cultural and political attitudes toward homosexuals in Renaissance England.
Stephanie Marie Lopez
Room AD 206

El Domínico-japonés: Expresiones Culturales de la Intentidad Japonesa en la República Dominicana desde Mediados de los Años 50
Advisor/Professor: Dr. Carmen Cañete Quesada

As a result of General Rafael Trujillo’s desire to “whiten” the Dominican society during his regime (1930-61), various immigration laws were placed into effect in order to attract white Europeans and Asians to the small country in the Antilles from the 1930s to the 1950s. In a period where Europe was ravaged by wars, numerous Europeans accepted the refuge offered by the small country. However, it was not until the mid-1950s when Asians, Japanese, specifically, accepted to migrate to the Dominican Republic. As a result of their migration, Trujillo accomplished colonizing the Dominican-Haitian border with people of non-African descent and growing the agriculture sector with the perseverance of the Japanese colonists. In 2012, approximately 550 Dominican-Japanese call the small Caribbean island “home,” and in my research I explore the process of assimilation and hybridization of this important community.

11:00 – 11:15 a.m.

Kaitlin Gallagher
Room AD 102

Examining Seasonal Effects on Bonamia spp. Infections in Bivalves from the Indian River Lagoon
Advisor/Professor: Dr. Jon Moore

Bonamia spp., a haplosporidian protistan parasite, was first reported in Florida in 2007 in oyster species cultured at Harbor Branch Oceanographic Institute in water from the Indian River Lagoon. Previous research (summer 2010 and 2011) evaluated prevalence and intensity of infections in IRL bivalve species. This study seeks to examine the seasonal effect on parasite prevalence and infection intensity. Bivalves from three sites in the IRL were sampled summer, fall, and winter 2012. Prevalence (general and species specific) was evaluated using PCR. Intensity of infection was evaluated using fluorescent in situ hybridization. Highest prevalence (31.9-48.9%) was seen at all three sites in the fall. Lowest prevalence was seen in the winter at two sites and in the summer at the third site. Lowest prevalence was 3.57% (summer) and highest prevalence was 48.9% (winter). Evaluation of infection intensity by in situ hybridization is currently underway.
Caroline Terry

The Political Influence of the Duchesse d'Angloueme on the Bourbon Restoration Period

Advisor/Professor: Dr. Christopher Ely

The Duchesse d’Angoulême, the last surviving child of Louis XVI and Marie Antoinette of France, was long considered politically unimportant to those focusing on the periods after the French Revolution. Her influence, however, was much more varied and profound than initially believed. This paper first examines the ways in which the princess transcended her traditional role as a lady of the court and became the sympathetic symbol of the court in exile, rallying those loyal to the monarchy around her. Later, after rejoining her French family, the Duchesse d’Angoulême became a political force and critical voice during the Bourbon Restoration period.

Ashlee Hawk

Singing All the Way to the Bank: An Empirical Analysis of Variables Influencing the Salaries of the Highest Paid Musicians over the Last Five Years

Advisor/Professor: Dr. Kanybek Nur-tegin

Rosen (1981) claims top performing musicians and other superstars deserve the high paying salary they receive in his phenomenon called the “superstar effect.” I have constructed an econometric model using various income factors in order to determine which variables hold statistical significance in correlation with superstar salaries. I have accumulated a list of 46 top ranking musicians based on the salaries over the last five years from Forbes’ “The World’s Most Powerful Celebrities.” Some of the variables that contribute to a musician’s salary are years in industry, number of albums sold, number of Grammy awards won, and number of top billboard hits.

Christina Turn

Keep it Together: Knockdowns of Dynactin Subunits Demonstrate Varying Levels of Importance in Dynactin Structure and Microtubule Organization

Advisor/Professor: Dr. Nicholas Quintyne

Dynactin, a multisubunit protein complex, serves as a processivity factor and cargo adaptor for the microtubule motor cytoplasmic dynein. Together, these proteins permit mitotic progression, intracellular trafficking, and endomembrane organization. Dynactin also independently anchors microtubules at the centrosome during interphase. In this study, we use
shRNAs to knock down expression of the p24, p27, p62, and Arp1 subunits of dynactin to determine those components’ roles in anchoring. Recent work has shown p62’s importance to dynactin integrity (Yet et al., 2012), and we confirm that its loss disrupts microtubule organization. The peripheral p27 and binding partner p25 seem to contribute to membrane selectivity and have little effect on dynactin structure and anchoring. We find that an intact dynactin complex is necessary to maintain microtubule organization via the anchoring complex. While not directly bound to microtubules, these subunits provide crucial structural support to facilitate interactions among dynactin and other centrosomal anchoring components.

Claudel Louis, Andrew Faris, Jared Rashkin, Tina Lack Room AD 202

The Radical Transparency of Facebook
Advisor/Professor: Dr. Mark Tunick

Over 800,000,000 people around the world are using Facebook. But these users are not aware of the fact that Facebook is dedicated to bringing about what they call “ultimate transparency” or “radical transparency” in social media and eventually the world, where everything is going to be seen, and that Facebook makes the personal data of users available to advertisers for its own commercial gain. Facebook and its business partners learn a lot about its users, but in general its users know far less about Facebook and how it is using the data provided by users. After conducting a literature review, we found that according to the law, Facebook's practice of radical transparency is immune from privacy rights violation claims. However, since Facebook also uses this radical transparency for its own commercial gain, the courts may recognize a cause of action against it for appropriation of user name and likeness.

Philip Olsen Room AD 205

Virginity and the Commodification of the Female Body in Christopher Marlowe’s Tamburlaine the Great, Parts I and II
Advisor/Professor: Dr. Michael Harrawood

This paper examines the significance of the three virgin emissaries in Act V of Christopher Marlowe’s Tamburlaine the Great, Part I. In this paper I argue that by having them executed, Tamburlaine violates a socially inculcated imperative to respect the virgins as the property of the patriarchally dominated culture from which they issue. Marlowe also deviates from a historically accurate
representation of Timur in an effort to suggest that the social scene against which the play is set espouses values regarding the commodification and ownership of women that would be familiar to an audience in Renaissance England. By framing Tamburlaine’s conduct as transgressive in its disregard for normative values that envision females as the property of their male counterparts, Marlowe suggests that his hero’s behavior does violence to a commodity-based conception of the female body that is both eternal and universal in its applicability.

Dawn Adolfson
Room AD 206

Para El Sur: Analyzing Contemporary Mexican Return Migration with a Case Study of Jupiter, Florida, Immigrants
Advisor/Professor: Dr. Timothy Steigenga

Recent data show that migration from Mexico to the United States has significantly decreased while return migration to Mexico has increased, producing a net reduction in the total number of Mexican migrants in the U.S. Some argue that the increase in immigration enforcement within the United States is the cause for this change because it has altered the cost/benefit balance enough to make migration less appealing and to encourage people to self-deport. The “self-deportation” hypothesis is based on the neo-classical theory of immigration. This case study offers an alternate explanation. Interviews with migrants in Jupiter, Florida, and returned migrants in Mexico suggest that the reasons for return are more complex. Family reunification, access to networks, and changing demographics are all important reasons driving the recent change in Mexican immigration. These findings suggest that the “self-deportation” approach to U.S. immigration policy may be misguided.
11:15 – 11:30 a.m.

Daniel Tracy

Room AD 102

*Examining the Relationship Between Rimonabant Rescue from Dauer State and E. coli Food Source in C. elegans*

Advisor/Professor: Dr. Matthew Gill

Under adverse environmental conditions Caenorhabditis elegans can enter an alternate developmental stage called the dauer larva, which allows it to survive longer in these conditions. It has previously been observed that an antagonist of the human cannabinoid receptor, Rimonabant, rescues worms from dauer inducing conditions. However, this effect is only observed when worms are fed E. coli OP50, and not on the RNAi feeding strain, E. coli HT115. OP50 and HT115 are derived from different parent strains, B and K12 respectively, with the B strain being dcm lon lamB negative with respect to K12. K12 and K12 derived strains did not respond to rimonabant, but B derived strains, as well as the LamB K12 knockout, did respond. However, the effect with LamB was highly variable and was thought to be due to differences in bacterial growth on the plates used for the dauer assays. The growth of each bacterial strain was examined and dauer assays were performed in parallel to determine the optimal conditions for assessing the effect of Rimonabant.

Natalie Harrison

Room AD 103

*The Richard Aoki Case: Was the Man Who Armed the Black Panthers an FBI Informant?*

Advisor/Professor: Dr. Christopher Strain

On August 20th, 2012, Seth Rosenfeld, a reporter for the San Francisco Chronicle, released an article stating that Richard Aoki, an activist in the Bay Area during the 1960s and 70s, had been an FBI informant. Immediately following the allegations, numerous Aoki supporters rose to his defense and accused Rosenfeld of snitch-jacketing—a term referring to the FBI practice of falsely labeling a prominent member of a threatening group as an informant to decrease their status and influence within the organization. This presentation is a historiographical examination of the FBI, COINTELPRO, snitch culture, Richard Aoki, and those who accused/defended him.
Caitlin Crook

Why Does Healthcare Spending and Quality Vary Between OECD Countries?

Advisor/Professor: Dr. Kanybek Nur-Tegin

Members of the Organization for Economic Cooperation and Development (OECD) have varied levels of healthcare expenditure per capita and quality of services. The discrepancy between expenditure and quality becomes even more apparent when comparing the determinants of public health spending across countries over time. A number of empirical studies find that national income explains a significant level of variation between countries’ aggregate healthcare expenditure per capita. To clarify the relationships between the type of healthcare system and level of expenditure, I focus on a disaggregated model of public healthcare expenditure. The main question addressed in my thesis is why do some countries spend more on healthcare than ours? I estimate the determinants of public healthcare expenditure per capita to examine the different levels of spending among OECD countries.

Rachel Turn

Live Analysis of Vesicular Transport in CAD Cells: Determining the Activity of Plus- and Minus-end Directed Motors

Advisor/Professor: Dr. Nicholas Quintyne

Movement of cargo along microtubules in cells relies upon two families of motor proteins. These motors use ATP to generate force to drive various cargoes around the cell in an anterograde or retrograde direction. Microtubules use two distinct classes of motor: kinesins and cytoplasmic dynein. CAD are mouse neuroblastoma cells that can be induced to grow axon-like projections which enable identification of retrograde and anterograde movements. A baculovirus system to deliver DNA to generate GFP-tagged markers for mitochondria, endosomes, and lysosomes and the fluorescent dye Nile Red to mark lipid droplets were used. Through tagging live CAD cells, the average velocities and processivities in plus- and minus-end directions as well as the percentage of vesicular movement were calculated. Data were obtained for controls and knockdowns of motor expression for KIF9 and KIF5A. The data were analyzed to determine trends in changes in motility when each motor is no longer functional.
Daniel Zengotita  
Room AD 202  
*The Insecurity, Crime and Punishment Paradigm*  
Advisor/Professor: Dr. Mark Tunick

I analyze the historical, legal, and economic scholarship that develops an ‘insecurity, crime and punishment’ paradigm as a way of understanding the ‘neo-liberal state’. It begins with the Civil Rights Movement and explores the development of the paradigm from the rise of Ronald Reagan and the ‘New Right’ through to its later expression in the policies of William Clinton and the Left. The project will conclude with a critical analysis of the ‘stop-and-frisk’ tactic as a modern technique of social control that is an extension of the discursive power of the ‘insecurity, crime and punishment’ paradigm.

Edward C. Doyle  
Room AD 205  
*The Creation of Narrative Identity in William Faulkner’s The Sound and the Fury*  
Advisor/Professor: Dr. Michael Harrawood

Critical readings of William Faulkner’s *The Sound and the Fury* (1929) often borrow the writer’s own description of his novel as his “most splendid failure” by either arguing the novel fails to unite the four different narrators of the text into a single, unified perspective, or that Faulkner successfully demonstrates such a unity is impossible. Concerned with what makes the narrators structurally distinct and identifiably separate from one another, I instead argue the three, first-person narratives of the Compson brothers constitute individual identities who essentially “narrate” in order to escape the decline of their family. Using a narratological and semiotic framework, I demonstrate how the Compson family and the text both function as a system of signs, generating the individualities of the narrators through difference while simultaneously preventing their escape because, like systems of signification, their identities depend upon juxtaposition against one another for definition.
Rachael Pilaski

*Belly Dancing: Praxis and Self-Identity*

Advisor/Professor: Dr. Jacqueline Fewkes

The history and problematic Orientalist contexts of belly dance within the United States has been discussed previously in academia; my work is a more ethnographic approach than many of these previous works. This particular study focuses on belly dance communities in South Florida to understand how the dancers, students, and instructors appropriate and re-appropriate the praxis of belly dance to fit within their own personal contexts. The communities studied have a variety of influences with dancers trained in certain schools, such as the Classical Egyptian style of belly dance. Many of these dancers and instructors are also well-versed in other dance forms such as ballet and sometimes fuse belly dance with other styles, such as flamenco. Through this work we see how contemporary belly dancing both challenges and reinforces Orientalist perspectives.

**SESSION 3**

**Visual Arts Creative Research and Posters**

2:00 – 4:00 p.m.

HC Building

Dawn Adolfson

*Florida Saw Palmetto, Serenoa repens*

Advisor/Professor: Dr. Dorotha Lemeh, Dr. Jon Moore

This scientific study illustrates the Saw Palmetto, *Serenoa repens*, which was found in the Abacoa Greenway. The rendering shows two palm fronds interconnecting and their natural bright green colors. The final illustration was completed using colored pencil with a layering and burnishing technique. This specimen was selected due to its symbolism as an iconic Florida species. Although it is constantly found across Florida, native Floridians may not place much attention on its presence. However, this illustration aims to earn the attention of the viewers so that its beauty can be admired.
Maria Aitken

*Pinus elliottii, Cones*

Advisor/Professor: Dr. Jon Moore

The Abacoa Greenway is the location of many native Floridian fauna and flora, one of which is the slash pine (*Pinus elliottii*). *Pinus elliottii* is one of the key elements in the pine forests of South Florida, and provides the only canopy in such habitats. The trees reproduce by wind pollination and thereafter spreading seeds by dropping their cones, which many Floridians have come across when walking in parks or preserves. The pine cones portrayed in this image were seen in the Greenway and are depicted in graphite pencil. They are a symbol of a fundamental part of Florida’s forest habitat and landscape, *Pinus elliottii*.

Tanya Bach

*Abstract Reflection*

Advisor/Professor: Prof. Dorotha Lemeh

My work consists of a scenic display of the lake and flora of the Jupiter Greenway, located behind the Florida Atlantic University John D. MacArthur Campus. I chose to do a full length scene instead of a single object because I felt that I wanted to represent all there was to the greenway in one painting. I used several different colors in order to emulate what I saw as a variety of shades in this depiction of nature that most would perceive as mundane. Thus, revealing the artist's (my) view of a seemingly simple landscape, as a window to my perception.

Arely Baugh, Britni Hiatt, Emilia Tautiva

*Geographical Beings*

Advisor/Professor: Prof. Dorotha Lemeh, Dr. William O’Brien

This project explores the physical and geographical interconnectivity of people using the body as the canvas representing physical ties amongst globalized individuals. Using the map as a point of departure establishes a meaningful physical connection amongst individuals thus uncovering the unseen interconnectivity that binds the subjects together. This project seeks to question boundaries and locate the common places and cultures shared through the discussion of ethnic and geographical backgrounds. Through the integration of actual people and their unique histories, this project depicts the geographical interconnections of people as representative of the
commonalities between us. The final project is presented in the form of a photograph. The essence of this work celebrates the belief that diversity and multiculturalism ultimately connect us all, both physically and geographically, on this one Earth.

**Bradley Bloom, Elizabeth Jellie, Sean Spiggle**  
*Mapping Out Different Perspective in New Orleans*  
Advisor/Professor: Dr. William O’Brien

As a major cultural center that has a large local population as well as a massive short term population for certain periods of the year (for example, Mardi Gras), New Orleans exhibits bipolarity between these two groups. These differences can be shown by mapping out areas of residence, entertainment, and dining that both groups inhabit. The project consists of two separate density maps (one for tourists and one for locals) and then a final map combining the two individual maps. The density maps use three different colors of varying darkness; one color for each individual variable (residency, entertainment, and dining). By using these three different maps in a linear sequence, we are able to visually determine the bipolarization that New Orleans exhibits during periods of high tourism, such as Mardi Gras.

**Gina Brockway**  
*Testudines*  
Advisor/Professor: Prof. Dorotha Lemeh

Comprised of ten individual art pieces representing different Florida turtles, this collective piece was created to bring awareness through art to the plight of these species, and to inform the public on how they can engage to improve these turtles’ and tortoises’ chances of surviving in the long term. The individual art pieces were displayed around the FAU campus in Jupiter, FL for a period of 3 weeks.
Gina Brockway  
**Osprey**  
Advisor/Professor: Prof. Dorotha Lemeh, Dr. Jon Moore

Ospreys (Pandion haliaetus), with their majestic appearance, melodious chirp, and sheer power, have always fascinated me; but I did not seek one out for my large drawing. Rather, this osprey came to me by serendipity. Walking through Abacoa’s Greenway, I stopped at a vantage point overlooking a lake. Directly across the way a twisting snag (a dead tree) caught my attention. Soon after, I noticed a beautiful osprey perched near the top of the snag, holding a freshly caught fish in his talons—I knew then that this bird would be the subject of my drawing. Florida ospreys, a State Species of Special Concern, face many threats: rapid development has decreased snags available for nesting and perching, and fertilizer runoff has polluted their hunting waters. My hope is that this illustration both highlights ospreys’ natural beauty, and brings attention to the need to promote conservation of these iconic birds.

David Brothers  
**Bracken fern: Pteridium aquilinum**  
Advisor/Professor: Dr. Jon Moore

The pictured fern’s common name is the bracken fern; however, its scientific name is *Pteridium aquilinum*. It is found on every continent except Antarctica, and grows everywhere with the exception of hot or cold deserts. I saw this specimen of *P. aquilinum* along the path inside the Abacoa Greenway. I chose *P. aquilinum* because of the way the light struck the leaflets, illuminating the xylem and phloem veins so they were easier to see and represent in this drawing. This image shows a close-up detail of the tip of just one leaf and is done in colored pencil.

Gerline Christophe  
**A Caged Environment**  
Advisor/Professor: Prof. Dorotha Lemeh, Dr. Jon Moore

The drawing of the Conifer Cones which are also known as “pine cones” comes from realizing that because of our own human activities, the environment at the Greenway area is not free to behave the way nature intended. Jupiter’s nature environment has been manipulated and caged to suit our society’s level of comfort.
Luca Cirino

*Untitled*

Advisor/Professor: Prof. Dorotha Lemeh, Dr. Jon Moore

*Ilex cassine* and *Lycopodiella cernua* are both plants native to bog environments, and are commonly known as Dahoon Holly and Staghorn Clubmoss, respectively. The Holly and Clubmoss are both native to Florida, with the history of club-mosses dating back some 300 million years, to the Paleozoic Era. The female Holly and Clubmoss depicted were found along the creek at the Abacoa Greenway, west of the lake area where cypress grows. Both plants were adjacent to one another, about three feet away from the still edge of the creek. The living and dead branches of the Dahoon Holly drooped over the view of the water, framing the Clubmoss dwarfed below it. Repositioned, the two specimens give a fair representation of this particular view at the water’s edge.

Shayna De Ruysscher

*Coalesce*

Advisor/Professor: Dr. Jon Moore

Scientific name: *Parmotrema perforatum*

Seen: Abacoa Greenway

Chosen: Beautiful, underappreciated organism

Materials: Pencil and Paper

Imarhia Enogieru

*A Slash Pine in Recovery*

Advisor/Professor: Prof. Dorotha Lemeh, Dr. Jon Moore

The Abacoa Greenway has been an experiment in preserving Florida’s natural plant and wildlife, including the Saw Palmetto (*Serona repens*), Slash Pines (*Pinus elliotti*), and the Gopher Tortoise (*Gopherus polyphemus*). Research has shown that an important aspect of the maintenance of the pine flatwoods in the Greenway is fire, which helps to ensure the understory does not become too thick. This particular slash pine was a victim of nature’s maintenance tool and is now in recovery from the fire. In order to depict the burned slash pine in the bed of saw palmetto, I used Staedtler water color pencils, Derwent Studio and Prismacolor pencils. I chose this particular subject because I appreciated the irony of the burned pine tree within the thick brush of saw palmetto, especially since the point of the fire was to thin out the saw palmetto.
Georgianne Hallam

Red Mangrove
Advisor/Professor: Prof. Dorothea Lemeh, Dr. Jon Moore

Mangrove trees are an important part of the Florida wetland ecosystem. They serve a myriad of important functions, from serving as home for a variety of species and their young to preventing soil erosion. In Florida, red mangroves (Rhizophora mangle) are the most common species found. This particular red mangrove was located at Coral Cove Park in Tequesta, FL. This specimen was chosen due to its easily accessed location, as well as the sharp contrast between its bright green, low-hanging leaves and dull sand. It was reproduced using watercolor as the second large project in the course Audubon’s Nature (IDS-3932).

Luz Stella Hernandez-Torres

Mapping Myself
Advisor/Professor: Prof. Dorothea Lemeh, Dr. William O’Brien

Representing my journey in life is like following an invisible line. This line connects moments and experiences that have built the person I am in the present time. I want to represent these experiences through a sequence of events, so any person is able to map my path in their minds. Since geography gives us a reference of location and guides us to follow steps, I decided to recreate my journey in a map represented in a dress I wore when I was a child. The dress represents me. This symbolic map is built from little pieces of fabric; they are sewn, and each one has a message. This map creates a random sequence of thoughts, experiences, decisions, mistakes, sadness, happiness; everything I consider to have marked my life in different situations. All together the pieces create a web whose center is where I am located.
Samantha Johnston  
**Callicarpa americana**  
Advisor/Professor: Dr. Jon Moore

*Callicarpa americana*, more commonly known as Beautyberry, is an exquisite Florida native plant. Its leaves are a velvety green while its berries provide a natural vibrancy to the green hues of nature with its vivid splash of magenta. Walking through the Abacoa Greenway, I saw this plant standing roughly six and a half feet off the ground and was instantly drawn to its beauty and the richness in color of the berries themselves. I remember learning about this plant as a child; seeing it on my walkthrough of the greenway reminded of the first time I was captivated by its splendor. I chose to use colored pencils, watercolor and markers to depict the Beautyberry plant in this multimedia recreation.

Tiffany Kaul  
**Whatcha Lookin At?**  
Advisor/Professor: Prof. Dorothea Lemeh, Dr. John Moore

Last summer during a hot, July day I crossed paths with an Egretta tricolor commonly known as a Tricolored Heron at the Green Cay Nature Park. In this south Florida wetland, I was reminded that I was the visitor in the unique and natural habitat of birds and reptiles. This thought was compounded when a heron directly looked my way as if I was the interesting anomaly in the environment. Fortunately, I had a camera to capture the moment and I chose to draw the photo using pencil, colored pencil, and watercolor to shed light on the importance of nature conservation. May we always remember that we are most often the visitor and to respect and protect those who share our environment.

Alexandra Kaye  
**Pteridium aquilinum (Bracken Fern)**  
Advisor/Professor: Prof. Dorothea Lemeh, Dr. Jon Moore

*Pteridium aquilinum* (common name-bracken fern) is an invasive, large-sized fern which is widely distributed in subtropical areas and typically grows in colonies. Its roughly triangular fronds contain many leaflets and pinnae (tiny leaves) that prevent smaller plant growth but provide shade. While exploring the Abacoa Greenway, I observed a bracken fern that I chose to illustrate because of its deceptive beauty. The common, lovely green hue of its leaves
and lack of thorns or ominous physical attributes conceal its danger. Although appearing harmless, it is poisonous and carcinogenic when digested by humans or large mammals. It benefits creatures such as foxes, mice, birds, and lizards, which find shelter under its fronds. To capture the fern’s light-colored essence, I used graphite pencils and watercolors. Using my photograph of the fern, I measured ratios of the fern’s parts in relation to each other and applied those ratios in my drawing.

Laura Kennedy  
Flight  
Advisor/Professor: Prof. Dorotha Lemeh, Dr. Jon Moore

Biological illustration provides us with an intricate dissection of the world. It puts a magnifying glass to aspects of nature that humanity is typically unable to see. The daily miracles that can be viewed through this medium came to fruition in this study of a Ring Bill Gull, *Larus delawarensis*, taking flight at Coral Cove in Jupiter. The artist took stills of the gull and compiled her watercolor and ink sketches into a flip book so that the audience could witness a visual description of a phenomenon that occurs too quickly in nature to be caught by the human eye. Through her work, the artist was able to deconstruct the magic in an intricate action that is often ignored as a simple, routine commonality.

Laura Kennedy  
What He Sees  
Advisor/Professor: Prof. Dorotha Lemeh

“What He Sees” is an investigation in artistic license and the way that water reflects light. Being a new watercolorist, the artist was concerned about this work, which posed many challenges for a beginner. She held a strict belief that her paintings should be photographic renditions, not exercises that depict the beauty envisioned in her mind. By combining wet and dry techniques the artist was able to capture the detail of the trees and water yet still portray the soft elegance of this river scene, found in the Abacoa Greenway. She also experimented with complimentary colors, contrasting the greens of the trees with the soft reddish hues found in the clouds. In short, by unbinding herself from her restrictive ideals the artist was able to experiment with many new techniques, thus enabling her to paint with a newfound freedom of movement and form. The results were surprisingly effective.
Allison Lamb  
**Earth Blues**  
Advisor/Professor: Dr. William O’Brien

News has been spreading about the Global Warming crisis and its effects. One very large problem arising from global warming is the melting of the ice caps and therefore the worldwide rising of water levels. Several scientists have created mathematical maps of what the world will look like when the ice caps have melted. For my GIS project titled, “Earth Blues,” I will use wax, canvas, and cardboard, to create an abstract map of the future world, illustrating a planet under water.

Ayla Langel  
**Swamp Fern**  
Advisor/Professor: Dr. Jon Moore

The swamp fern presented in my drawing is one of many native Florida species found in natural Florida wetlands. Scientifically, the fern is called *Blechnum serrulatum*, but is commonly referred to as the swamp fern because of its presence in moist, swampy areas. I specifically chose to draw the swamp fern located in the Abacoa greenway because of the way that the curvilinear veins, present in each of the fronds, captured the sunlight in many different directions, giving the fern multiple shades of greens and browns. To capture the array of colors present, I utilized colored pencils for this drawing.

Miguel Martini  
**Lionfish as Invasive Species**  
Advisor/Professor: Dr. Jon Moore

Lionfish is a marine fish native of the Indo-Pacific region. This organism has recently invaded the West Atlantic reefs causing troubling effects on the local ecosystems. This organism feeds on juvenile fish mostly at night causing population problems. Furthermore, it has poisonous dorsal and anal spines that make it a danger for recreational divers and fishermen. The aim of this project was to create a drawing that portrays the characteristics of lionfish for proper identification as well as to make a presentation with videos and pictures for the proper handling or, in case of emergency, to know what to do. The drawing was made with coloring pencils by using several personal photos as references.
Zachariah Merschdorf, Christopher Olbrych

*Under the Sea*

Advisor/Professor: Prof. Dorotha Lemeh, Dr. William O’Brien

The goal of this project is to artistically express in geographic terms the ocean ecosystems of South Florida and our experiences in them. To accomplish this, we have chosen to record data points, such as depth, temperature, location, dive time, as well as take visual data from an underwater camera. The spatial data will outline where we are in terms of depth and location, how we move, and the environment around us in absolute terms, while the visual data will relate our experiences by recording what we see. Combining this visual data with the spatial data, we will attempt to convey our underwater experience in both a visual and geographic sense.

Ian Moore

5

Advisor/Professor: Dr. William O’Brien

My artwork is a sculpture based on a 2012 report, *Levels and Trends in Child Mortality* published by UNICEF, World Health Organization, The World Bank, and United Nations. The report stated that 50% of all under-five deaths occur in only five countries. I made a sculpture to illustrate this point. It is a map of the world cut out of aluminum. The five countries in question; India, Nigeria, Democratic Republic of Congo, Pakistan, and China, are hollowed, so that a light can fade on and off behind the map. According to this report’s numbers, every five seconds a child under the age of five dies. The light will be timed to repeat every five seconds to symbolize the death of a child under five years old. There is a sound loop playing in the background of children crying, coughing and screaming.
Carina Morales

*More than Produce*

Advisor/Professor: Prof. Dorotha Lemeh

In this painting, I tried to compose a sense of stability and instability. The fruit served as the "stable" object that we know and can identify with and the scenes within them are the "unstable" that directly contradict our reality. The water pouring from the apple moves the eye forward and also wraps around the corner which creates a sense of depth to the table that the fruit are sitting on. Long strokes from the edge of the brush give the pouring water a flowing motion and the white space in between gives the impression of light within it. The lanterns in the back ground push the table of fruit forward and help identify the horizon line.

Lindsay Nelson

*Singed Sabal*

Advisor/Professor: Prof. Dorotha Lemeh, Dr. John Moore

This sabal palm is in the pine flatwoods of the Abacoa Greenway. The suppression of fires creates an altered ecosystem, but is a necessary requirement for the safety of the nearby housing developments. However, fires do occasionally occur here, anyway. This particular palm tree trunk has charred branches that contrast with other portions of the tree that were not burned. The checkerboard type design of the trunk caught my attention as the unique beauty that remains after a fire. While sabal palmettos are a commonly found plant in South Florida, they are not frequently seen in the condition in the drawing.

Justin Odom, Catharine Thomas

*Mapping Internet Usage*

Advisor/Professor: Dr. William O’Brien

Our project maps the amount of time different categories of people spend on the internet and where they tend to spend the majority of that time. We wanted to look at the different ways age and gender might affect browsing time when it comes to time spent online. We will present the data as visual representations of time, types of websites, as well as the grouping of participants. This will be accomplished by created a multi-tiered projection of different colored graphs with varying hues and gradients to represent the density of time spent per category. Our end goal is to better understand the dynamic population of internet users and how they spend their time.
Jonnuel Ortega  
*A Tragic Fruit Story*  
Advisor/Professor: Prof. Dorotha Lemeh

One of the biggest challenges I face when working with any kind of paint is figuring out exactly what my subject will be. I can choose my subjects for drawings easily, but somehow I struggle with painting. It was no different with this project, in which the class would use fruits as subjects. I made a few sketches without any specific ideas in mind. Professor Lemeh saw that I was lacking in ideas. She suggested that I try telling a story. Once she told me this, I knew what I wanted to do: be silly. As a result, I created a series of three paintings called *A Tragic Fruit Story*, in which the fruits were made to seem like people.

David Pick  
*An Artistic Study of a Late Instar Azalea Caterpillar, Datana major, Found on a Rusty Lyonia, Lyonia ferruginea, in the Greenway.*  
Advisor/Professor: Prof. Dorotha Lemeh

Following the historic use of watercolor scientific illustration, I will be presenting an artistic study of a late instar Azalea Caterpillar, *Datana major*, found on a Rusty Lyonia, *Lyonia ferruginea*, in the greenway. The adult moth ranges from a light brown to a bright orange color with a wing expanse of 1 3/4 inches. In late spring, the female moth deposits eggs in masses of 80 to 100 on the underside of a leaf. A first instar yellow caterpillar with a black head hatches and after eating for 8-10 hours is 3/8 of an inch long. The late instar caterpillar is highly colored, about two inches long, with a dark crimson red head, prolegs and abdomen, warm yellow and black lengthwise stripes covered in white opaque hairs and a bright red first segment.

Rashida Polk, Emily Senderey  
*Cigarette Century*  
Advisor/Professor: Dr. William O’Brien

By integrating the fields of public health and art, we seek to explore the physical and material impacts of cigarette smoking in addition to exploring the evolution of societal values and cultural changes that have occurred throughout the twentieth century. Our goal is to create an installation that speaks to these challenges and conflicts, the areas that are navigated by consumers as they examine their own relationship to this commercial product.
Drawing on our personal experiences with smoking, both as a smoker and as a prospective medical school student, we are referencing the human body within a smoking lounge as the space for mapping the historical changes of cigarette smoking. The smoking lounge is a sensory experience that allows you to simultaneously observe a century’s worth of societal influence to smoke cigarettes via television programs, while listening to the spoken words of individuals affected by smoking.

**Katherine Shattow**  
*Osprey*  
Advisor/Professor: Dr. Jon Moore

I chose to draw an osprey because it is an extremely beautiful creature. I also wanted to capture this majestic creature’s essence. I spotted the osprey in the Abacoa Greenway across from the lake. The bird had flown into a dead tree. Ospreys in Florida do not stay here year round; however some ospreys do migrate to Florida for the winter. The scientific name for this bird is *Pandion haliaetus*.

**Heather Skanse**  
*“Sticks and Stones”*  
Advisor/Professor: Prof. Dorotha Lemeh

This painting was inspired by a gathering of rocks in the greenway. I decided to paint these rocks in abstract colors to match not only my mood, but also to match my personality. I used mostly the color drop technique. I picked this painting because I had fun painting this piece and it is my favorite.

**Michelle Strasberg**  
*Northern Comfort*  
Advisor/Professor: Prof. Dorotha Lemeh

By experimenting with different exercises that involved cool and warm color palettes as well as a variety of patterns and shapes, the final product is a representation of the different steps I needed to take to achieve a successful outcome. This piece was a learning process from the very beginning, and the paths that led me to it have taught me that in order to reach a goal successfully when delving into a new artistic adventure, it is necessary to step out of the comfort zone. By doing this and exploring the possibilities that the medium can offer, I was also able to discover my own abilities as an artist and push my limits to continue learning.
Daniel Tracy

*Great White Egret*

Advisor/Professor: Dr. Jon Moore

This is a drawing of the species *Ardea alba*, commonly referred to as either the Great White Egret, or simply the Great Egret. This drawing was done in graphite and colored pencil. The particular individual portrayed here can be seen regularly on the Scripps Florida Campus. The image captured here displays the egret’s nuptial feathers, which are the long ornate decorative feathers that are present only during nesting season. In this illustration, these feathers can be seen flowing around the tail. I chose to draw this bird because it’s a beautiful bird, and I always loved watching them fly as I grew up here in Florida. I particularly appreciate the location of the bird being a local resident at The Scripps Research Institute as it shows the relationship between science, nature, and biology in our everyday lives.

Guillermo Vasquez

*Untitled*

Advisor/Professor: Prof. Dorotha Lemeh

In painting I hope to accomplish two goals: expanding my artistic technique and repertoire, and to depict the beauty of everyday mundane items. Of particular concern is the further development of my layering and blending technique. With layering I had hoped to integrate several layers of color that would mesh well together and add a better sense of vibrancy and depth to the pieces. With blending I wanted to make changes in gradients smooth and seamless. In my artworks I also attempt to depict, and enhance, the aesthetic qualities of everyday simple objects. In rendering these pieces I maintain some semblance of realism, however; I also apply some creative license in order to enhance their unique qualities and to bring forth my own sense of what it means to be aesthetically pleasing.
Kayla Villanueva  
*Gopher Tortoise in the Greenway*  
Advisor/Professor: Dr. Jon Moore  

In this piece, I aimed to display *Gopherus polyphemus*, commonly known as the gopher tortoise, as it is seen in the Abacoa Greenway. This species is native to Florida and both the tortoise and its burrow are protected under state law. I chose this particular animal due to not only it being native to Florida, but also for its unique capability to burrow into the ground and create a shelter for itself. An example of a gopher tortoise burrow is featured in this piece. I used graphite and colored pencil to create this subject on paper, and focused on using bright green colors in the background in order to allow the deep grays and browns of the gopher tortoise to stand out.

Summer Westmoreland  
*Pelecanus occidentalis (in motion)*  
Advisor/Professor: Prof. Dorotha Lemeh, Dr. Jon Moore  

The Brown Pelican (*Pelecanus occidentalis*) is one of the best-known coastal birds in the Americas. It is a common sight flying over Florida’s beaches and diving into the ocean waters. This head-first dive, which creates a splash large enough to be seen from great distances, is unique to this and only one other species of pelican (the closely related Peruvian Pelican). The dive is an efficient hunting technique, allowing the far seeing bird to trap fish without being seen by its prey. This art piece attempts to capture the various flight patterns, wing movements, and diving techniques of the Brown Pelican as seen from Florida’s Coral Cove. It will be left as a series of nearly finished sketches to emphasize motion.

Chrystal Wong  
*Formations*  
Advisor/Professor: Prof. Dorotha Lemeh  

As an artist, I enjoy the interplay between shapes and colors collaborating to form images that are unforgettable and imaginative. I paint images of people in a raw and natural state that uncovers who they are as people, and as people interacting within their environment. Humans are shaped and changed by their physical, emotional, political, and mental surroundings on a very basic level; by attempting to strip them of these layers the viewer is able to see these influences. It is important to recognize both the individual as well as their layers to see the completed and complex vision of being human.
Robert Airapetov

*Conformation of the Existence of KAR, HAD, EAR, and PP in the Lipid Metabolisms of Chlamydomonas reinhardtii and Volvox carteri f. nagariensis*

Advisor/Professor: Dr. Paul Kirchman

The current search for an efficient form of alternative energy has put a large focus on algal biofuels. This biofuel is very efficient, environmentally friendly, and acts as a virtually inexhaustible resource. The major issue with algal biofuel is its vast consumption of space to store the large amounts of algae necessary for fuel production. This is why scientists are trying to figure out ways to make algal storage units, photobioreactors, and the algae itself more efficient. In order to do so, the lipid metabolism of algae needs to be mapped. Using pre-existing maps of algal lipid metabolism, the lipid pathways of *Chlamydomonas reinhardtii* and its close relation *Volvox carteri f. nagariensis* were inspected. The key proteins KAR, HAD, EAR, and PP, had not yet been confirmed. Therefore, using preexisting metabolism maps, BLAST, and predicted protein sequences, the existence of these proteins in the aforementioned algae has been theoretically confirmed.

Maria de Lourdes Aitken, Dr. Emmanuel Sturchler, Dr. Patricia McDonald

*Development of Cell-Based Assays to Screen for GABA\textsubscript{B} Receptor Allosteric Modulators*

Advisor/Professor: Dr. Nicholas Quintyne

Dysfunction of GABA\textsubscript{B} receptor (GABA\textsubscript{B}-R)-mediated synaptic transmission underlies various nervous system disorders including epilepsy, depression, schizophrenia, and addiction. Currently, only one GABA\textsubscript{B}-R orthosteric ligand is in clinical use. However, side effects such as sedation, tolerance, and motor impairment limit its use. A dissociation of the therapeutic effects from the side effects may be achievable with drugs enhancing the endogenous physiological cellular response. The development of GABA\textsubscript{B}-R allosteric modulators has provided new modes of efficacy that may facilitate the development of novel therapeutic agents. In the present study, we investigated the effects of newly identified GABA\textsubscript{B}-R allosteric ligands using an HEK-293 cell line expressing human/human subunits using a functional assay.
Harrison Ansley

*Anhydrous Reactions of Ruthenium Tetroxide*

Advisor/Professor: Dr. Veljko Dragojlovic

Catalytic Ruthenium tetroxide oxidation of organic compounds is a common and powerful method for oxidizing organic compounds quickly and in high yields. Ruthenium tetroxide is usually used in catalytic amounts for cost and safety reasons. Usually a ruthenium salt is oxidized *in situ* using an oxidizing agent such as sodium periodate to oxidize the ruthenium to ruthenium tetroxide. Reactions are usually carried out in aqueous solution to dissolve the ruthenium and periodate salt. Ruthenium tetroxide has already been used as a reagent in oxidation reactions that yield aldehydes, but not in high yields. Our goal was to conduct similar reactions under anhydrous conditions. Under anhydrous conditions the oxidation is expected to yield aldehydes after the double bond has been cleaved. Ruthenium trichloride and periodic acid were dissolved in dimethyl carbonate or t-butyl alcohol instead of water.

Arely Baugh

*Age-related Differences in Unconscious Plagiarism*

Advisor/Professor: Dr. Julie Earles

Rates of unconscious plagiarism (UP) differ with age. McCabe, Smith, and Parks (2007) demonstrated that older adults were more likely than younger adults to provide [new] examplars that had already been presented to them. Kersten and Earles (2010) showed that a similar process results from binding errors in memory. We propose that age-related increases in UP are due to age-related decreases in ability to bind together event-features. In the first session, 32 young adults and 30 old adults saw 64 objects. For half the objects participants watched someone else perform actions with them. The other half and their actions were presented as sentences. A week later, participants were presented with the same 64 objects and asked to generate new actions (different than the first session). We expect that older adults will exhibit more UP than young adults and that this rate will relate to working memory and source monitoring errors.
Kristi Beroldi

*The Elephant in the Room: Why is it Difficult for Hospice Workers to Discuss Death with their Terminally Ill Patients? The Effects of Death Anxiety, Avoidance, and Interpersonal Issues.*

Advisor/Professor: Dr. Julie Earles

Death is a large aspect of hospice workers’ lives. They encounter it daily, and one would assume that they are comfortable with the topic given their chosen career. It is intriguing that some find it exceedingly difficult to discuss death with patients and their families. I was interested in seeing if this was due to workers’ own death anxiety. I examined whether or not there are significant differences between hospice workers and their level of death anxiety based on occupation (chaplain, registered nurse, etc.). I hypothesized that hospice workers that have more direct contact with patients (i.e., those that provide patient care) would indicate a higher level of death anxiety than those who have less contact. I found statistically significant correlations between job type and death avoidance, as well as fear of death, and neutral acceptance of death. Fear of death and death avoidance were also highly correlated.

Barbara Cody

*Turtle Talk: The Importance of Sea Turtle Conservation on Nesting Trends of Sea Turtles Along Florida’s Atlantic Coast 1981-2012*

Advisor/Professor: Dr. Jon Moore

Sea turtles have been an important factor of the world’s oceans for millions of years. Until about 100 years ago, they were not protected at all, and in the last 40 years they have received greater protection. This increase in protection, along with conservation efforts of organizations around the globe, has contributed to increased nesting trends for at least Florida’s three main species of sea turtles Loggerhead (*Caretta caretta*), Green (*Chelonia mydas*), and Leatherback (*Dermochelys coriacea*). These three species have all had a positive increase in nesting activity along Florida’s Atlantic Coast since 1989. This rise in nesting activity can be positively correlated to the increased conservation efforts.
Thomas Dombrowski  
*Diels-Adler Reactions in Fluorous Solvents*  
Advisor/Professor: Dr. Veljko Dragojlovic  

The Diels-Alder reaction is one of the most energetically favored methods used to form a six-membered ring in organic chemistry. A procedure that allows the use of dicyclopentadiene directly would have important practical advantages. The purpose of this experiment is to develop a procedure for the isolation of either the exo or endo adduct produced in the Diels-Alder reaction between cyclopentadiene and maleic anhydride. Different hydrocarbon and fluorous solvents will be used in order to perform the reaction for stereoselectivity. Either the kinetically favored adduct, endo, or the thermodynamically favored adduct, exo, is the desired product but not a racemization of the two.

Georgianne Hallam  
*Denial is Not Just a River: Relationships Between Experiential Avoidance, Personality, and Relevant Outcomes in Hospice Workers*  
Advisor/Professor: Dr. Julie Earles  

Is there a relationship between Experiential Avoidance (EA) and Five Factor Model personality traits? One hundred and one South Florida VITAS Hospice workers completed a survey packet measuring personality, experiential avoidance, burnout, interpersonal problems, religious preference, and death attitudes to test this hypothesis. A secondary goal consisted of constructing a model of experiential avoidance from the study variables. The data did not support a relationship between personality factors and experiential avoidance. However, relationships between EA and other relevant factors were supported. Significant correlations between EA and burnout, EA and interpersonal problems, EA and neutral acceptance of death and EA and years in position were found. Using multiple regression, years in position and emotional exhaustion best predicted Experiential Avoidance.
Christopher Holmquist
Development of a Low Cost HPLC Controller
Advisor/Professor: Dr. Eugene Smith

The purpose of this project was to develop a low cost, easy to use, controller for a high pressure liquid chromatography (HPLC) system. HPLC, an instrument used routinely by chemists, uses a technique to separate mixtures in the liquid phase. The differences in affinities of various molecules in a mixture between a stationary and mobile phase is the basis of separation. The controller developed in this project was used to establish the flow rate of the mobile phase, detect and collect samples. An mbed microcontroller, programmed in C++, used different input/output (i/o) functions, such as digital analog, and serial, to control all three parts of the HPLC (UV-detector, and fraction collector). The pumps were controlled directly via serial communication. The fraction collector and detector were successfully set up and tested with coding to function properly. The mbed microcontroller will make HPLC a more viable and readily accessible tool.

Tiffany Kaul, Matthew Gill
Characterization of the CFA Synthase Gene Ortholog F13D12.9 in Caenorhabditis elegans
Advisor/Professor: Dr. Paul Kirchman

The nematode Caenorhabditis elegans (C. elegans) survives environmental stress during development by entering a diapause state called the dauer larvae. A combination of temperature, nutrient availability and pheromones produced by the animal influence the decision to enter diapause. Worms feed on bacteria that use the enzyme CFA synthase to produce cyclopropane fatty acids (CFA) which help bacteria resist environmental stress. A C. elegans ortholog of bacterial CFA synthase, F13D12.9, was identified and was hypothesized to play a similar role in worm stress resistance. This study investigated the role of the worm CFA synthase gene on normal development and dauer phenotypes. It was found that expression of the F13D12.9 gene changed with the developmental stage and was down-regulated in the absence of food. The absence of CFA synthase in bacteria promoted dauer recovery in worms while extra copies of F13D12.9 inhibited exit from dauer. These data suggest that CFA and worm CFA synthase may also affect stress resistance in the nematode.
William Kissner

Halosulfites as Leaving Groups in Organic Synthesis
Advisor/Professor: Dr. Veljko Dragojlovic

My research entails developing new leaving groups for the synthesis of organic compounds. The goal of this research is to design leaving groups that can be replaced by weak nucleophiles, for this to happen a good leaving group is necessary. Alkyl chlorosulfinites in my experiments have been shown to perform as good leaving groups for producing the corresponding halide of the halogen salt used, with notable success when using ZnCl₂ (which has ~90% yield of the chloride containing compound). I have also researched alkyl bromosulfinites and alkyl florosulfinites with limited success for producing the corresponding halide of the halogen salt used with alkyl bromosulfinites (~60% yield) and no success in producing the corresponding halide of the halogen salt used with alkyl florosulfinites.

Morgan Levy, Melissa Stiksma

Right Mindfulness Leads to Right Livelihood: Exploring the Connections Between Mindfulness, Stress, Religiosity, and Personality
Advisor/Professor: Dr. Laura Vernon

Mindfulness refers to the ability to think in the present moment and to be cognizant of one’s own thoughts and physical state. We examined whether openness to experience and religiosity affected the experience of mindfulness. Undergraduate college students underwent a 40-minute session learning about mindfulness techniques and various meditations such as body relaxation mediation, a nature meditation, and a guided imagery meditation. After completing the session, participants completed post-treatment questionnaires, and one week later they completed follow-up questionnaires. We expect that mindfulness will increase immediately following the session and will be maintained one week later. Additionally, openness to experience and religiosity are expected to be positively correlated with dispositional mindfulness, mindfulness experienced during the session, and mindfulness experienced one week later. We expect stress will decrease immediately following the session and one week later. The findings and their implications for college student mental health will be discussed.
Hannah Norcini  
**Memory of Criminal Events**  
Advisor/Professor: Dr. Julie Earles

This study aimed to investigate the own-age bias within the context of criminal events. We hypothesized that older adults will more accurately recognize older adult faces, while younger adults will accurately recognize both younger and older adult faces. Thirty-two female undergraduates and 32 female older adults participated in this study during two sessions. Each participant viewed 17 brief films depicting benign criminal and neutral events in Session 1, and returned one week later to complete a line-up identification task and confidence ratings. Older adults showed more accurate recall for older adult actresses, while younger adults showed a similar proportion of correct responses for younger and older adult faces.

Melissa Stiksma, Morgan Levy  
**An Examination of Immediate Outcomes Following a Single-Session Meditation Training**  
Advisor/Professor: Dr. Laura Vernon

Mindfulness involves a strong cognitive focus on the present moment. Higher levels of mindfulness are positively associated with adaptive psychological outcomes, such as emotion regulation (Hill & Updegraff, 2012), and negatively associated with maladaptive outcomes, such as reduction of stress through mindfulness-based techniques (Chiesa & Seretti, 2009). The effects of a single 40-minute mindfulness meditation session comprised of psychoeducation and meditation were examined in an undergraduate population. Questionnaires to measure participants’ levels of mindfulness, emotion regulation, perceived stress, and social relationships were administered pre-session, post-session, and at a one week follow-up. It is hypothesized that mindfulness reported during the session is expected to be positively correlated with reappraising emotion regulation and perceived quality of social relationships and negatively correlated with suppression emotion regulation and state anxiety at one-week follow-up. Statistical results and implications for mindfulness-based treatment will be discussed.
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Cydney Tornopsky
*Effects of Technology on Math Testing*
Advisor/Professor: Dr. Julie Earles

Many public schools are now using computers as a testing medium for their students. The goal of this study is to determine whether students perform better on these computerized tests or on traditional written tests. This project will ascertain if there is a difference between these mediums and if the school district is justified in using computers for testing. We found that there were individual differences. Some students did drastically better on paper and some did drastically better on the computer. We need to conduct more research to be able to predict which students benefit from each type of testing.

Guillermo Vasquez
*Chlorination of Organic Compounds using Trichloroisocyanuric Acid*
Advisor/Professor: Dr. Veljko Dragojlovic

We have developed a new method for chlorination of organic compounds under mild conditions. Current methods of chlorination utilize such reagents as chlorine, thionyl chloride or phosphorous trichloride which are extremely corrosive and hazardous. Trichloroisocyanuric acid is an agent used for swimming pools and many inexperienced, or poorly trained persons, have utilized it without any major accidents. The experiment method was successful with cyclohexene, cis-stilbene and trans-stilbene which produced a chlorinated produced in good yield. However, camphene, diethyl fumarate, trans-cinnamic acid, 1-ethynyl-1-cyclohexanol and diphenyl acetylene were less successful and do not react readily with trichloroisocyanuric acid.

Javier Zaglul
*Analysis of Duquenois and Froedes Colorimetric Tests*
Advisor/Professor: Dr. Eugene Smith

Colorimetric testing is frequently used to identify unknown substances in the field. These tests are composed of a solution which changes colors in the presence of certain drugs. Each solution can yield a variety of colors, and responses are typically instant. The speed of colorimetric analysis has made it ideal for onsite preliminary drug tests. In particular, the Froehdes solution can identify stimulants, hallucinogens, and narcotics; and the Duquenois-Levine test can identify cannabinoids. Our research in these two tests is ongoing. The solutions are being tested against a set of drugs at various ratios to record each solution’s reactivities.
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Symposium for Scholarly and Creative Research

Featuring the
Robert Lee and Thomas M. Chastain
Honors Symposium Guest Lecture Series

Friday, April 12, 2013
9:00 a.m.—4:00 p.m.
Florida Atlantic University
John D. MacArthur Campus