Editors:
Pamela Pippin Vaughan, Ph.D.
Director, Office of Undergraduate Research
Nicholas Noyes
Communication Arts Department

Event Organized By:
UWF Faculty ADVANCE Program
Office of Undergraduate Research
Office of Research and Sponsored Programs
The University of West Florida Graduate School
Women’s Studies Program
Northwest Florida Society of Women Engineers
UWF Society of Women Engineers
We would like to thank the following sponsors for the event:

Office of the President, Office of the Provost, Honors Program, Techsoft, iSpace.net, SGA, Northwest Florida Society of Women Engineers, UWF Faculty ADVANCE Program, Office of Undergraduate Research, Office of Research and Sponsored Programs and the Graduate School, and the UWF Society of Women Engineers.

We gratefully acknowledge the Office of Undergraduate Research Advisory Board and the Scholarly and Creative Activities Committees for their dedicated service in support of UWF’s research mission.

We would also like to thank the Symposium Planning Committee; Jane Caffrey, Zhiyong Hu, Tressa Kelly, Gian-Nguyen Nguyen, and Xuan Tran.

Additionally, we thank our volunteer judges and Johan Liebens for coordinating judging.

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Thank You
The Graduate School and the Office of Research and Sponsored Programs are delighted to welcome you to Scholars Week 2013 at the University of West Florida. Research is vital to UWF’s mission. Our faculty and students are actively engaged in helping solve research questions that are important to our region. The series of events this week illustrate that inspiring scholarship that our faculty and students engage in.

The Student Scholar Symposium in particular is a magnificent showcase of undergraduate and graduate student research, often conducted in partnership with faculty mentors. We extend a special acknowledgement to the faculty who mentor these students and introduce them to the exciting world of academic research. We also thank the UWF Faculty ADVANCE team for their leadership in supporting keynote speakers for Scholars Week 2013.

Richard Podemski, Ph.D.
Associate Vice President for Research
Dean of the Graduate School

One of our most defining features at UWF is the hands-on, high-impact experience our students can have working side-by-side with our researchers and scholars. The Student Scholars Symposium provides a great opportunity to go public with the process and the outcome of such learning experiences. It is great to see this event continue to grow as a showcase for all that’s best about UWF.

Congratulations to Pam Vaughan and the committee for reminding us all why we do what we do.

Jane Halonen, Ph.D.
Dean of the College of Arts and Sciences
Scholars Week Event Schedule

Tuesday, April 23

5:30 pm   NSF UWF Faculty ADVANCE Keynote Address
SSE Auditorium (bldg. 4, room 102)

Wednesday, April 24

10:00 am-6:00 pm Women's Studies Conference
Conference Center

Thursday, April 25

8:30 am - 1:00 pm Women in STEM Symposium: Discovering the Engineer Within
Conference Center

1:00 - 5:00 pm Student Scholars Symposium
Field House and Argo Athletic Club

5:00 pm    Awards Ceremony
Field House

Friday, April 26

8:45 am - 12:30 pm NSF UWF Faculty ADVANCE Annual Showcase
Conference Center

To all faculty and students participating in the University of West Florida’s Scholars Week, I extend my congratulations. As a Dean, I feel very fortunate to be a part of an institution that fosters collaboration between faculty and students in educational pursuits. This week showcases the exceptional educational experience offered at UWF.

Sincerely,
Ed Ranelli, Ph.D.
Dean of the College of Business

On behalf of the College of Professional Studies, I extend my congratulations to the faculty and students who are presenting their research at UWF’s Scholars Week. This week highlights the very best of faculty-student collaboration on creative and scholarly pursuits, and showcases the wonderful opportunities that UWF provides for students who seek to distinguish themselves beyond the classroom.

We encourage you to continue striving for excellence in your future academic endeavors and your careers. You should be proud of your hard work and achievements.

Pamela Northrup, Ph.D.
Dean of the College of Professional Studies
Welcome to the UWF Faculty ADVANCE Keynote Address and Annual Showcase! The UWF Faculty ADVANCE Program is a university-wide, systemic program supported by the National Science Foundation that focuses on enhancing a supportive and inclusive culture for recruiting, retaining, and advancing women faculty in STEM fields.

The ADVANCE team is delighted to help coordinate the inaugural UWF Scholars Week. The ADVANCE Annual Showcase is an exciting opportunity to celebrate the contributions and accomplishments of the program, scholars, and partners. Congratulations to everyone who helped make the ADVANCE Program and Scholars Week a success!

Eman El-Sheikh, Ph.D.
Principal Investigator and Director, NSF ADVANCE Program
Associate Dean, College of Arts and Sciences

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### NSF ADVANCE Program Schedule

#### April 23
**NSF ADVANCE Keynote Address**
SSE Auditorium (bldg. 4, room 102)

- 5:30 pm Reception
- 6:00 pm Keynote Address
  - “That None Shall Perish”
  - Dr. Kelly Mack
  - Executive Director, Project Kaleidoscope
  - Association of American Colleges and Universities

#### April 26
**NSF UWF Faculty ADVANCE Annual Showcase**
Commons Conference Center

- 8:45 – 9:00 am Continental Breakfast
- 9:00 – 9:50 am Keynote Address
  - “Unearthing Potential: A Journey from the Farmhouse to the Presidency”
  - Dr. Judy Bense
  - President, University of West Florida
- 9:50 – 10:00 am Break
- 10:00 – 10:45 am UWF Faculty ADVANCE Program Highlights
  - The presentation will include:
    - an overview of the ADVANCE Program, including 2012-13 activities
    - recognition of the ADVANCE Scholars, award recipients, committees and partners
- 10:45 – 11:00 am Break
- 11:00 – 11:30 am Lunch and Informal Discussions
- 11:30 – 12:30 pm UWF ADVANCE Culture and Climate Survey Results
  - Lunch continues during the presentation.
Women Studies Schedule

Wednesday, April 24
9:45-10:00 am  Setup
10:00-10:10 am  Opening Remarks
10:15-10:30 am  Rebecca & Lauren Cleary: “Dog Days Are Over” Performance

Women in Politics
10:35-10:50 am  Natalie Kortus: “Does Women’s Partisanship Really Affect Politics?”

Women In-Between the Pages
11:15-11:30 am  Rebecca Raley: “My Fate Depends on Having Sons: Male Castration and Female Objectification in The Castle of Otranto”
11:55-12:10 pm  Ashley Rawlinson: “The Tragedy of Romeo and Juliet: Where Marriages Fail and the Decadence of Men Flourishes”
12:15-12:30 pm  Rebecca Namniek: “Great Hera!: War, Politics, and Wonder Woman”

12:30-1:40 pm  Lunch and Keynote Speaker (Recipient of Mary Rogers Faculty Award)

Artistic Expressions
1:40-1:55 pm  Zachary Giberson: “Maybelline”
2:00-2:15 pm  Morgan Arnett: “Rising”, “Predetermined” & “It Wasn’t Mine”

Women’s Cultural and Societal Issues
2:20-2:35 pm  Melissa Williams: “This Princess is NOT in Another Castle: Feminism’s Struggle for Survival within Geek Culture”
3:00-3:15 pm  Devin Blackmarr: “1960’s Suburban Revolution: The American Dream Façade”
3:55-4:10 pm  Break

Women Today
4:10-4:30 pm  Dani Berkowitz: “For Jewish Girls, Who Have Considered Kvetching When the Rainbow Was Enough”
4:35-5:00 pm  Maria Cristina Leite: “Gumbo Gallery: The Art of Sonja Griffin Evans”
5:00-6:00 pm  Closing Reception and Recipients of Outstanding Presentation Awards

Abstracts

1. “Dog Days Are Over”
Rebecca Cleary and Lauren Cleary
Department of English and Department of Communication Arts/Art

We were inspired by Florence + the Machine's “Dog Days Are Over,” as the song demonstrates the tenacity and fervor that are so imperative to feminist movements, an element that is quite apparent in the song's music video. Each verse, for us, embodies a new movement of feminism, as the first chorus begins, “with every bubble she sank with her drink, and washed it away down the kitchen sink”. By the end of the song, the speaker concludes “run fast for your mother, fast for your father, run for your children, for your sisters and brothers”. We find these lyrics an inspiring call to action for feminists today and we choreographed this piece to motivate those committed to the cause through this dance. Our dance is in the form of a lyrical contemporary duet.

2. Does Women’s Partisanship Really Affect Politics?
Natalie Kortus
Department of Diversity Studies

This essay addresses the gender-gap, gendered institutions, and partisanship of women, and if it really affects policies with the lack of women's representation. The essay will explore historically how far women have come and how much they have really influenced change. Women in Congress are a main focus, because they regard themselves as stationary in their careers once they are elected; therefore, the women are willing to be more liberal. Through analyzing many studies women tend to consistently be more liberal than men, but collectively there are many variations within political groups of women. Comparing women to men in politics has a wide gap, but decreases within parties and within geographical regions. There are many theories about why women vote certain ways and why the gender-gap exists. By exploring these theories it gives a better understanding of where women are coming from and their ideologies. Women were excluded until recently from political survey's, since about the 1980s studies have shown the difference in voting trends between men and women. Many women believe it's an issue of equity to have more women representation, leading to more feminized in policies and politics. By differentiating between women and men partisanship and politics it helps determine if women really are influencing politics. Since women are the majority of the population, yet still treated like a minority it's interesting how little women get into higher offices and how few women actually serve on the congress and senate. How women affiliate with a certain political party also determines a lot about their voting patterns. I hypothesize that women even though tend to vote more liberal and take up a woman's agenda there isn't enough representation for women to affect policies.

Women do not have a substantial amount of representation and even though less than 100 years ago women couldn't even vote they still haven't gained enough political power to shift to a woman's agenda. In recent elections they have had a great increase in women's representation, but haven't the same increase in political processes and policies. Many feminist and other scholars believe with a shift in women's representation will lead to an overall change in politics.

3. Social and economic correlates of rates of abortion in the Russian Federation and the United States
Kyone Zenobia Johnson
Department of Health, Leisure & Exercise

Social and economic conditions can affect health status in a many different ways. Depending on the quantity and quality of these conditions improvement or deterioration in health status can occur. In the 1990s middle-class Russians were pushed below the poverty level. American men and women have faced these same challenges albeit more recently in the 2000s. The present study explored the relationship between social and economic variables and several indices of abortion. The variables included were divorce, rates of contraceptives prevalence, number of OB/GYNs, health expenditure per capita, female unemployment, and gross domestic product per capita. The indices of abortion were the numbers, rates and ratios of abortion for women aged 15-49 years and for women of all ages, respectively, in both countries for each year from
4. “My Fate Depends on Having Sons”: Male Castration and Female Objectification in The Castle of Otranto
Rebecca Raley
Department of English and World Languages
In Horace Walpole’s novel The Castle of Otranto, female characters are virtuous, vulnerable, and completely dependent on male authority figures. Significantly, Otranto was written during the Industrial Revolution, a time of rapid social change, when it was feared the patriarchal system cripples itself and demonstrates that it is fundamentally flawed. Ultimately, however, the patriarchal system cripelles itself and demonstrates that it is fundamentally unsound.

5. “Blueberry Hill” Monologue
Christine House. Shannon Hemmings
Department of Student Transitions Programs
This piece comes from the book A Memory; a Monologue, a Rant, and a Prayer by Christine House. This monologue is about a young woman who goes out to have a sexual relationship, which is being compared to the male form is the actor who is portraying Juliet on stage, and the female form is the character that Shakespeare uses as the character in the play, while the male form is the actor who is portraying Juliet on stage. However, since there is no female virtue on stage because there are no women on the stage, a male actor cannot imitate feminine virtue. Therefore, a power struggle emerges between the men portraying Romeo and Juliet, presenting Juliet as a victim of male-on-male violence through Romeo’s domination over Juliet as the male actor. However, Romeo, as a male character, and Juliet, as a female character, are involved in a heterosexual relationship, which is being compared to the homosocial bonds Romeo shares with his male peers. Since Shakespeare’s Verona is a masculine world, Romeo’s honor triumphs the erotic love he shares with Juliet because masculine honor rests on the homosocial relationships between men. In leaving the heterosexual relationship Romeo shares with Juliet, he proves himself masculine, and thus achieves masculine honor, which is consistent with women becoming the victim in the masculine honor code that men of all economic statuses must follow to be perceived as masculine by their peers. As a direct result to masculine honor, constant competition is constructed between the men in multiple forms, namely the struggle to be portrayed as masculine, which primarily consists of violent tendencies. In the play, men’s relationships are derived from violence (toward both male and female characters) that enables men to view sexual bonds with women as a form of threat because these acts take away from the homosocial bonds men experience with one another. Violent tendencies of male aggression focus on both the male characters and male actors of the Shakespearean play, as well as the lack of female actors. Romeo is exercising vengeance from the fear of Mind objectifying women, and killing Matilda for embodying female autonomy. Ultimately, however, the patriarchal system cripples itself and demonstrates that it is fundamentally unsound.

Ashley Rawlinson
Department of English
This essay proposes an analysis of William Shakespeare’s The Tragedy of Romeo and Juliet by using key terms such as “masculine honor” and “competition,” acknowledging that the male Shakespearean characters are projecting one’s masculinity onto both male and female genders. Masculine honor is viewed as an honor code that men of all economic statuses must follow to be perceived as masculine by their peers. As a direct result to masculine honor, constant competition is constructed between the men in multiple forms, namely the struggle to be portrayed as masculine, which primarily consists of violent tendencies. In the play, men’s relationships are derived from violence (toward both male and female characters) that enables men to view sexual bonds with women as a form of threat because these acts take away from the homosocial bonds men experience with one another. Violent tendencies of male aggression focus on both the male characters and male actors of the Shakespearean play, as well as the lack of female actors. Romeo is exercising vengeance from the fear of Mind objectifying women, and killing Matilda for embodying female autonomy. Ultimately, however, the patriarchal system cripples itself and demonstrates that it is fundamentally unsound.

7. “Great Hera!”, War, Politics, and Wonder Woman
Rebecca Nannick
Department of English
This analysis will establish how issues of gender and nationalism are embedded in the legendary comic Wonder Woman as a result of the women’s liberation movement during the latter half of the twentieth century. Wonder Woman, who is portrayed as an icon of American feminism, depicts a rare kind of heroine that arose during American wartime. By examining instances of engendered nationalism during wartime and its effect on Wonder Woman physically and sexually, I contend that Wonder Woman serves to excite feminism by channeling old fears, it is constantly met with overwhelming antagonism from mass culture. Similar to the reception of anti-war efforts, feminism was largely patronized by American men whose manhood was routinely challenged by the presence of a gender-amalgamated superhero. Wonder Woman’s unsurpassable strength and tantalizing beauty threatened hegemonic masculinity and the gender hierarchy altogether. Many women, too, felt threatened by what Wonder Woman symbolized, which was, among other things, a disruption in the home that effected, in one way or another, the lives of all members of the nuclear family as well as society at large. Although limited to the scope of the latter half of the Golden Age and well into the Bronze Age, this analysis will reveal how Wonder Woman is still dictated by a predominately male authorship whose goal is to preserve and reaffirm American masculinity while simultaneously subordinating women and feminism entirely. In sum, this analysis explores the misogynistic politics embedded deep within the pages of Wonder Woman and unearths the unequivocal relationship between Wonder Woman and feminism.

Second-wave feminism was a product of America’s political divide on issues concerning the Vietnam War, regulation of birth control, bans on abortion, and the social deprecation of the new career woman as all were matters of contention for feminists that served as debate between the liberal left and the conservative right.

8. “Maybelline”
Zachary Giberson
Department of Art
“Maybelline” takes the work of an advertisement and subverts its intent by highlighting the sexuality of original work. Featured in several editions of the magazine Better Homes and Gardens, this advertisement for Maybelline brand make-up features a woman in ecstasy. I used a scanner to manipulate and distort the image, highlighting the sexual objects, namely the parted lips and half-closed eyes, and touched the reinterpreted piece up in Photoshop. It is up to the viewer of the remade piece to determine the meaning, as either condemnation or celebration of the sexualization of a woman for financial gain. The fractured nature of my reinterpretation illustrates the difficult debates that advertisements for images that sexualize women are met with. The object of the advertisement is to sell make-up to women, and the fact that this image appears in a magazine geared towards those same women exacerbates the sexual nature of the piece. Have women finally exposed their sexuality from being defined by men, and is this advertisement proof? Has make-up been reclaimed from heterosexual men’s fantasies about what a “true,” “proper,” and “desirable” woman should look like? Should the sexualization of women in advertisements be celebrated as a progressive move in a society that is largely anti-woman? Is sexualization with the end result of financial gain on the same level as sexualization through self-expression? Or is the opposite true, and is this advertisement intended to arouse male readers of Better Homes and Gardens with a product that is intended for women?

Morgan Arnett.
Department of Art
The first piece “Rising” is a photographic transfer print that illustrates the idea of growth and the evolution of women. I interpret it as an emergence of women from the backdrop of society, the “rising” of feminism and a continual flow of transformation inspired by women through time.

My second work “Predetermined” is a pen and ink work was inspired by cellular forms and encapsulates the idea that what is expected and what is appropriate for a person of female gender is predetermined, and from our earliest development we are expected to dress, behave, and appear according to our gender identity. My last piece “It Wasn’t Mine” is a painting of abstracted breasts, addressing the preoccupation of sexual features in the media, and the emphasis many place on the physical features of a woman. I also consider it homage to early female essentialist artists, and more specifically to the revolutionary installation of the 1970s, “Woman House”; conceived by female artists such as Judy Chicago and Miriam Shapiro.
10. This Princess in NOT in Another Castle: Feminism’s Struggle for Survival within Geek Culture
Melissa Williams
Department of English

"Hey! Quasi-Pretty-NOT-Hot-Girl, you are more pathetic than the REAL Nerds, who YOU secretly think are REALLY PATIENT, but we are onto you. Some of us are aware that you are ever so average on an everyday basis. But you have a couple of things going your way. You are willing to become almost completely Naked in public, and yer even skinny...or you have Big Boobies, " ranted Tony Harris, a comic book illustrator and nominee for 5 Eisner Awards, on his Facebook page in November of 2012. Most people responded to his misogynistic description of women in costume at comic book conventions with outrage and disgust but almost just as many men rose up to congratulate Harris on his tirade, telling their own stories of falling prey to the "fake geek girl."  

Geek, or nerd (the names have become almost interchangeable), culture has become something of a novelty in recent years with the popularity of comic book franchises and social fixation on the development of science and technology. This alternative culture was formed as a safe haven for those dubbed geek, nerd, (once more insulting titles), loser, basement dweller, who just wanted to play tabletop games, read comic books, study hard, work on computers, or do any sort of activity not wholly accepted within societal norms without being threatened or teased. So it becomes problematic when an entire group forms their own subculture, and social problems following childhood abuse (Dube, Anda, Whitfield, Brown, Felitti, Dong, & Giles, 2005). Given the contradicting body of existing research the current study set out to examine whether differences exist between genders that were and were not exposed to childhood maltreatment (e.g., physical and sexual abuse). Based on the findings of Larsen, Sandberg, Harper & Bean (2011) that found similar rates of childhood sexual and physical abuse, we hypothesized that (H1) there would be no significant difference between the genders in either trauma symptomology or social anxiety in those not subjected to childhood maltreatment; and (H2) these non-significant results between the genders would hold constant in those who were subjected to childhood maltreatment. Self-report questionnaires were administered to 440 undergraduates: 353 women and 87 men. 14. 1960s Suburban Revolution: The American Dream Façade
Devin M. Blackmarr, M.Ed.
Department of Diversity Studies

The suburbs were more than just nuclear families living in newly built homes in newly developed neighborhoods with white picket fences and a golden retriever; they were a new middle and upper class American Dream. In the late 1940s when World War II was coming to an end, the shift of family life grew ever-increasingly important, and those who were not already married before the war soon found themselves looking for love (Miller, 1996). The notoriety of the nuclear family lifestyle came as a need for stability and comfort. The men that had been at war missed mamá’s home cooking and the women who might have tried working or college found themselves only wanting to take care of a husband and children (Friedan, 2001). The urgency of the suburbs grew with the surge of this coveted lifestyle. Soon suburbs were popping up in the outskirts of bustling cities from coast to coast. The so-called American Dream, which included suburbia, was not always what it seemed. There were many factors behind the scenes that played crucial roles in how suburbs were promoted and established. The men went on war, while the women took over the husbands’ duties at home and worked jobs that some of the men had left behind unmanned (Friedan, 2001). Popular television shows captured audiences in the late fifties and early sixties which idolized the father and patronized the mother, such as “Father Knows Best” (Miller, 1996). The notoriety of these TV shows caused suburban homes to be marketed as a cure for anti-depression and anti-anxiety drugs (Herzberg, 2009; Miller). These issues led to a suburban lifestyle that for many women, turned in to a spiral whirlwind that put a damper on American life.
Welcome to STEM!

The Society of Women Engineers (SWE) is a global organization established in 1950. The mission of SWE is to stimulate women to achieve full potential in careers as engineers and leaders, expand the image of the engineering profession as a positive force in improving the quality of life, and demonstrate the value of diversity. The Northwest Florida professional section of SWE and the UWF collegiate section of SWE engage in various outreach activities and networking events throughout the year in support of this mission.

With additional sponsorship from the UWF School of Science and Engineering, the Northwest Florida professional section of SWE and the UWF collegiate section of SWE engage in various outreach activities and networking events throughout the year in support of this mission.

Laura J. White, Ph.D.
President, Northwest Florida Society of Women Engineers
Associate Professor, UWF Department of Computer Science
Airbus sent a team of 16 employees from around the world to build biogas domes in southern India for a rural community. The domes use cow manure and water and produce a methane gas which will power a small stove for cooking. The domes produce approximately 4 hours of gas a day, which is enough for each family to have breakfast, lunch, dinner, and hot water for bathing. Also, the families do not have to gather firewood to start a fire, which saves the women time and helps conserve the depleting forests.

Our keynote speaker, Lindsay Pharis, is originally from Pensacola, and graduated from Washington High School in 2004. She also attended Pensacola Beach Elementary, Cordova Park Elementary, and East Hill Christian Middle School. Lindsay graduated from Auburn University with a Bachelor of Aerospace Engineering in 2008. She has worked at Airbus in Mobile since July 2008, and has had the opportunity to work for Airbus in Germany, France, and India in the past 5 years. From 2009-2012 she studied online with The University of Alabama and earned a Master of Science degree in Aerospace Engineering.
On behalf of the University Honors Program, I'd like to welcome each and everyone of you to the UWF Student Scholars Symposium! The Honors Program has a long and deep history of supporting undergraduate research at The University of West Florida, and this Symposium is just one way we have of celebrating the great work of our wonderful students!

I can't tell you how proud I am of the cutting edge thought and ability that an exhibition like this shows; we are definitely living up to our promise to bring out the very, very best in our students. I hope you have an enjoyable and stimulating time!

Greg Lanier, Ph.D
Director of Honors

Welcome to UWF’s Student Scholars Symposium! I want to congratulate those students participating in this year’s program which highlights the best in scholarly and creative works produced through collaboration between students and faculty.

Highlighted in the program are those students whose projects received support from the Office of Undergraduate Research, including many who were able to present their research at regional and national conferences this year. Join me in celebrating the wonderful achievements of our students!

Pam Vaughan, Ph.D
Director, Office of Undergraduate Research

Welcome Scholars!

Student Symposium Schedule

1:00 pm Opening Remarks by Provost Saunders – Field House
1:00 – 5:00 pm Public Viewing in Field House
Performances and Oral Presentations in Argo Athletic Club
1:30 pm Argo Athletic Club
Music
Robert Schumann's Illness and Its Effect on His Music by Patricia Izbicki
2:00 pm Argo Athletic Club
Seeking Redemption: The Clergy Project applied to Kenneth Burke's Terms of Order by David Feliciano
5:00 pm Awards Ceremony- Field House
Patricia Izbicki  
Chemistry/Music  

Medicine and music are related to one another because both promote the science and art of healing. What interests me most is the mechanism by which this healing happens. The 2012 OUR Summer Research Academy provided me with a unique opportunity to further explore the relationship between medicine and music. One of the most compelling composers of the nineteenth-century, Robert Schumann was known for exhibiting beauty, artistry, and passion in his music. However, Schumann was troubled by medical conditions that impacted his physical and mental well-being. My research explored Robert Schumann's physical and mental afflictions and how they shaped his music and life.

Since the summer, I have been fortunate to have the opportunity to present this research at the 2013 Hawaii University International Conference on Arts and Humanities as well as the 2013 Florida Collegiate Honors Council Conference. My future goals involve going onto an M.D/Ph.D. program. As both a physician and researcher, I would be able to combine my passion and interest of impacting the lives of people through healing as well as my passion and interest of contributing knowledge to the field of medical research.

Thomas Jeffers  
Anthropology and Archaeology  

During my experience with the 2012 O.U.R. summer research academy, I researched the dietary and biomass potential of shell deposits excavated during the 2011 Anthropology departments Campus Survey archaeological filed school. I was able to show that there was an increase in biomass from proper identification of the species present. This opportunity has renewed my fervor for archaeology and has led me to want to further my education and experience by attending a graduate program in anthropological archaeology.
Courtney Richards  
Environmental Science

LIDAR (Light Detection and Ranging) is an optical remote sensing technology that can measure the distance to, as well as other properties of a target, by illuminating the target with pulses from a laser. Using data collected from the NOAA Coastal Service Data, I conducted a canopy biomass and tree height analysis with ArcMap 10. The canopy biomass analysis used the UWF campus as a study area to determine the affects of human development on the surrounding wetlands. This project will be finalized after the completion of an internship with the NASA Develop program.

Carla Staton  
Chemistry and Psychology

My research focuses on the attachment of proteins to the hyperbranched polymer polyglycidol. Polyglycidol is biocompatible so the attachment of proteins has medical applications. Participating in the OUR Summer Research Academy was an incredible way to learn about the research process and graduate school. Currently I am working on creating a method for attaching the twenty standard amino acids to polyglycidol. I will be presenting my research at the American Chemical Society National Meeting in New Orleans, LA.

Ashley Lambert  
Pre-professional Biology

Currently I am working on the neoglycosylation of 3-hydroxydecalin rather than phytosphingosine for my honors thesis. We have had some success in our synthesis but our research has not yet yielded any data for our database. I hope to have it completed for the Southeast Regional Honors Conference as well as the American Chemical Society conference in April. This summer I will be training to become an Emergency Medical Technician as well as continuing my education at the University of West Florida. I plan to begin medical school in the fall.

Thapelo Ncube  
Mathematics

Since traffic accidents are a major cause of deaths in the United States especially among adolescents, my professor and I researched which particular factors increased the risk of driving without a seatbelt. We used data from the Youth Behavioral Risk Survey from 2009 with a total of 16,345 participants. The variables of interest included: grade level of the adolescent, alcohol use, illicit drug use, socio-demographic, and driving with several teenage passengers.

The Office of Undergraduate Research's Summer Research Academy was an opportunity that I will forever be grateful to have been chosen to participate in. I was able to learn valuable research skills while working on my project that used statistical analysis to find factors that influenced seatbelt use- Thanks Dr. Vaughan! I plan on graduating in the Spring of 2014 and attending graduate school.
Department Abbreviation Guide

ACT  Department of Accounting and Finance
ANT  Department of Anthropology
BY   Department of Biology
CHM  Department of Chemistry
CJS  Department of Criminal Justice/Legal Studies
COM  Department of Communication Arts
CS   Department of Computer Science
ECP  Department of Electrical & Computer Engineering
ENG  Department of English
EVR  Department of Environmental Science
GOV  Department of Government
HLP  Department of Health Leisure & Exercise
IDS  Department of Interdisciplinary Studies
MAT  Department of Mathematics
ME   Department of Marketing & Economics
MM  Department of Management/ MIS
MUS  Department of Music
PR   Department of Philosophy
PHY  Department of Physics
PSY  Department of Psychology
TED  Department of Teacher Education
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<td>Cierra Sapp, Hui-Min Chung</td>
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**Assessing nutrient and physical environmental controls on Karenia brevis growth in laboratory cultures**  
Jennifer Houts, Matthew Schwartz  
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OUR Funded

85. MM  Development of a Mobile Graduate Assistant with Usability Features
Chris Jeffries, Dustin Lennon, Chris Boning, Jun Wei
OUR Funded

86. MAT  A Cubic Convergent Method for Real Symmetric Eigenvalue Problems
Zhaoxia Wang (Mary), Kuiyuan Li

87. MAT  Numerical Solutions for the Navier-Stokes equation in Two Dimensional Space
Rebecca Smith, Jia Liu

88. MAT  Statistical Modeling of Adolescent Risky Behavior and Seatbelt Use
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90. PHY  Modeling of Electric Field in a Nonparallel Plate Capacitor
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91. PHY  Dielectric relaxation in liquid crystals 4-Octyl-4-cyanobiphenyl (8-CB) and C-16 fluorescent dipyrrinone
Andrej A. Kondrat'yev, Chloe Renfroe, Aaron Wade, Chandra Prayaga
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93. PHY Optical Investigation of Novel Liquid Crystals
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94. PHY Parallel Performance Analysis between Free Response Environments and the Force Concept
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95. PHY Nonlinear Spectroscopy Investigations of Molecular Reorientation Under the Influence of an
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98. PSY An Exploration into Racial Differences in Social Anxiety and Trauma Symptomatology
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101. PSY Content analysis of helpline calls: A retrospective study
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102. PSY Co-Occurring Forms of Child Maltreatment as it Relates to Adult Social Anxiety and Trauma
     Symptoms in University Undergraduates
     Jessica Thurmond, Erica Jordan
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103. PSY Co-occurring Childhood Maltreatment: An Exploration of the Predictors of Higher Academic
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     Jessica Thurmond, Nichole Humphreys, Erica Jordan

104. PSY Cross-cultural comparison of resilience of parents of sick children in Colombia and the United States
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105. PSY Differences in How Younger and Older Adults Select Mental Health Treatments
     Alaina N. Talboy, Rodney P. Guttmann
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106. PSY Differences in Virtual Team Interpersonal Behaviors and Performance Across Technologies
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109. PSY Predictors of Burnout in University Students
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110. PSY Psychological Capital, Procrastination, and Persistence within the Academic Domain
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111. PSY Semantic knowledge eliminates age-related differences in Working Memory Capacity,
     Caitlan Webster, Jessica Thurmond, Lisa VanWormer

112. PSY Source Monitoring in a Multimedia Learning Task
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113. PSY The Differential Experience of Childhood Maltreatment Between Genders: Is It Really Different?
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115. PSY The Roles of Stress Perception and Attachment in Resilience of Adult Children of Alcoholics
     Kristen Kessler, Erica Jordan

116. PSY The Successful Spiritual Romantic Relationships: An Overview of Common Themes of Success & Failure
     Across Psychological Research and Ancient & Contemporary Spiritual Texts
     Margeaux Donovan, Michael DeMaria
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117. TED Fostering Motivation
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118. TED Visual representation between Basic Trigonometric Functions and the Unit Circle
     Kelsey Fleming, Giang Ngyuen-Ngyuen
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119. IDS The Benefits of Diversity Training
     Tara Jordan, Roi Fisher

Performances and Presentations

COM Seeking Redemption: The Clergy Project applied to Kenneth Burke’s Terms of Order
   David Feliciano, Tressa Kelly

MUS Robert Schumann’s Illness and Its Effect on His Music
   Patricia Izbicki, Hedi Salanki-Rubardt
Abstracts

1. Ecommerce in the Banking Industry
Calvin Crenshaw, Jane Wei
Department of Accounting/ Finance
As technology advances, the banking industry creates ways to incorporate the technological features. Electronic systems ultimately provide more efficient ways of conducting business and makes banking much more convenient. The pages that follow define ecommerce and its place in the banking industry. A detailed analysis is also provided which breaks down how each component of the value chain uses ecommerce to be more effective and complete tasks. In addition, an analysis is also provided that breaks down the e-customer chain to identify the use of ecommerce for both internal and external customers of the bank and the benefits received. A comparison of the top ten firms in the banking industry outlines how each of the banks use ecommerce in the company’s value chain and e-customer chain. Another table provides a description of the business applications as it applies to internal and external customers. The research aims to identify how the top ten firms incorporate ecommerce and what could be done differently if anything.

2. A Preliminary Palynological Assessment of Thompson’s Landing Archaeological Site
Shandra Allen, John Bratten
Department of Anthropology - OUR Funded
Palynology (pollen analysis) can be an informative avenue of research. It has particularly interesting applications in Archaeology. Pollen analysis can be used to determine what kinds of foods were grown, processed, and digested by past human populations. It can also be used to reconstruct ancient environments. This information is useful to elucidate in what season plants were inhabited, the climate, and the various species of vegetation present. I will be analyzing a soil sample taken from an archaeological site on the University of West Florida campus, designated Thompson’s Landing (8ES950), for evidence of pollen. My initial goal is to determine whether or not pollen is present in the sample involves both mechanical and chemical stages. Samples must be isolated, centrifuged to consolidate, and then freed of organic material and silaceous material. If possible, I will attempt to determine what types of pollen are evident, in what quantities, and propose an initial paleoenvironmental reconstruction of the site.

3. Allometric Analysis of Prehistoric Shell Middens in the Escambia River Estuary
Thom Jeffer, Ramie Gougon
Department of Anthropology - OUR Funded
Prehistoric populations living in the Escambia River basin included primarily three species of shellfish in their diets: Eastern Oyster, and the brackish water marsh clams Rangia and Polymesoda. Any combinations of these shellfish are present in the archaeological middens in the area and are present at Thompson’s Landing (8ES950), a site on the University of West Florida campus. By more carefully accounting for fragmentary shells collected in archaeological samples, I demonstrate that the improper identification or under-identification of marsh clams can significantly skew biomass estimates based on allometry. Polymesoda produces more biomass per unit of shell weight as compared to Rangia, therefore the proper identification of marsh clam species can produce up to a 3 to 15 percent difference in estimated biomass. My analysis of samples from Thompson’s Landing shows increases in biomass totals in the expected 5-15 percent range.

4. Analysis of Waterlogged Wood Conservation Techniques
Shandra Allen, John Bratten
Department of Anthropology - Honors Thesis
Adequate conservation methods for recovered wooden shipwrecks have puzzled conservators and archaeologists for some time. With each method, comes a set of drawbacks. However, conservators have slowly been able to acquire information through various attempts and studies associated with shipwrecks like the Wasa and the Mary Rose in order to improve positive outcomes and limit negative ones. Although a handful of articles have recently been written on a few select methods for wood conservation, very little research has been conducted in the area of waterlogged woods. The work I have done includes research and a nine-week experiment using waterlogged oak from the 1559 Spanish fleet ship, Emanuel Point II. As a result of completing this experiment, I was able to determine that, for this specific type of wood, the overall best aesthetically pleasing and stable methods were: the Sodium Silicate, Sucrose, PEG 3350/Alcohol, PEG 3350/Water, and PEG1450/Alcohol methods. The others contained softer textures and unnatural appearances; therefore, I would not recommend them. I hope to provide others interested in conservation with a basic overview of the various methods that may be utilized to conserve waterlogged wood, including the changes in color, dimension, and natural appearance of each.

5. Conservation and Coins: A Look at Spanish Currency in the New World
Stephanie Dominick, Jayne Godfrey, John Bratten
Department of Anthropology
The University of West Florida’s 2012 summer maritime field school conducted excavations on the Emanuel Point II Shipwreck, a vessel associated with the 1559 colonization fleet of Don Tristan de Luna y Arellano. A small, concreted object, circular in shape, was recovered and treated at the university’s conservation lab. With the use of radiography, the concretion was identified as a silver 2 reale, dating to the 16th century. This poster will present the conservation techniques used to stabilize the coin and an analysis of the coin’s diagnostic features including why, when and where this coin was minted. In addition, this poster will include information relating to Spanish assayers and taxation.

6. Bacterioplankton Community Response to UV Radiation in the Northeastern Gulf of Mexico
Christian Riesenfeld, Joseph Moss, Richard Snyder, Wade Jeffery
Department of Biology
Bacterioplankton serve a key role in the function of the microbial loop and are a crucial part of the planktonic community. UV radiation causes a number of changes to marine plankton including damage to DNA and decreases in productivity. An indirect influence of climate change is the potential increase the penetration of UV radiation in marine systems. Increasing UV radiation through the water column has the potential to affect depth distribution and the ecological function of bacterioplankton in the sea. This research examines microbial community shifts caused by varying UV exposure. It is hypothesized that UV exposure causes a shift in microbial community structure by selecting for UV resistant strains and selecting against UV sensitive strains. 16 rDNA analysis of structural and functional genes was used to determine diversity of microbial communities in the Northeastern Gulf of Mexico.

7. Ciliate protest community structure in the plankton of the northeastern Gulf of Mexico determined by particle analysis and molecular diagnostics
Preston Shigali, Christian Riesenfeld, Joe Moss, Richard Snyder, Wade Jeffery
Department of Biology
The BP MC252 oil well failure highlighted the paucity of knowledge of the offshore ecosystems of the northeastern Gulf of Mexico. For this study samples from the NW Florida Bight Shelf were collected on three transects that converge on the head of DeSoto Canyon. Sampling has targeted seasonal change over this spatial scale. Collected samples were analyzed for Ciliate populations with a particle image analysis technology (FLOWCAM) and with sequencing of 17S rDNA genes to determine overall Ciliate biodiversity and how these populations respond to changes in spatial and seasonal environmental changes.

8. Comparing the effects of temperature on metabolic rates in water, sediment, and air for the coquina clam, Donax variabilis
Tiffany Nay, Jane Caffrey
Department of Biology - OUR Funded
Donax variabilis is a colorful coquina clam that is found frequently in intertidal zones on beaches across the northeast and has been known to ride the surf to move farther up the beach. Their abundance has made them good for uses such as jewelry and production of clam chowder. With current increasing temperatures, this species will be exposed to both warmer sediment, water, and air temperatures which could further affect the organism’s metabolic rate. Prior research has shown that changes in metabolic rate result in an even greater changes in growth rate. Coquina clams will be collected and acclimated at four different temperatures. After exposure, oxygen consumption will be measured. For the water and sediment, the analysis will be through Winkler titration while the air experiments will be performed using a Gilson respirometer. Q10 values for each of the temperatures will be calculated and compared for each environment. By comparing the effect of temperature on metabolic rates we can estimate an effect on growth. If these organisms are not growing to their normal capacity, the commercial industry could potentially be affected and would put additional pressure on natural populations.

9. Determining the Methodology of Gene Testing of the MSX1 Gene
Cierra Sapp, Hui-Min Chung
Department of Biology - OUR Funded, Honors Thesis
Hypodonta, a malformation in which a person is missing at least one permanent tooth, is the most common congenital abnormality in humans. The absence of permanent teeth can be related to both environmental

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factors and genetics. Transcription factors MSx1 and Pax9 are vital in ensuring normal tooth development. This project focuses on MSX1, a gene located on chromosome 11. Mutations in MSX1 have been known to cause hypodontia. One MSX1 mutation was found in which a cytosine was substituted by a thymine base on Exon 2; this resulted in a stop codon in the 193rd codon position, generating a much shorter MSX1 protein and a Bfa1 site in the DNA. It is not clear how often this MSX1 gene mutation occurs in hypodontia patients. This experiment will be using Bfa1-RFLP to analyze the DNA sequence relevant to the 193rd amino acid of the MSX1 gene in ten to fifteen individuals. After PCR purification, each sample will be digested with Bfa1 to determine whether each individual displays the mutated or wildtype allele. This experiment will also utilize the cheek cells of individuals with all 32 teeth as controls. So far, the experimental conditions of the MSX1 gene amplification and Bfa1 digestion have been set up, and the DNA of eight individuals with missing teeth have been isolated and amplified. Knowledge obtained from normal and abnormal tooth development of individuals can one day be beneficial in advancing agenesis diagnosis, creating treatment plans, and preventing craniofacial congenital abnormalities.


Chelsea McCurry, Richard Snyder
Department of Biology - Honors Thesis

Benthic microalgae (BMA) are essential members of marine sediment communities and in sandy and mud-flat systems tend to be most commonly represented by diatoms. These diatoms are vital primary producers, act as food sources to heterotrophs, and help stabilize the sediment. Numerous studies have focused on the genetic diversity of marine diatom communities in various environments. Unfortunately, a common limitation in current community profiling methods is the inability to isolate a molecular signal from the living constituents alone. DNA from decomposing cells and free-floating fragments are often picked-up in downstream approaches due to a poor-poturing gradient gel electrophoresis (DGGE). Our goal is to validate and optimize a technique, predominately associated with DGGE, that will provide an assay capable of eliminating a technique, predominately associated with DGGE, that will provide an assay capable of identifying the living benthic microalgae. This experiment will utilize the DGGE runs that showed the use of 50 µM PMA two times, with a dark exposure of 30 minutes and light exposure of 12 minutes, was most effective. Additional work will refine the current methods and validate the procedure through laboratory trials and spiking environmental samples.

11. Creating pen-2 mutant in Drosophila melanogaster by transposable element excision technique

Matthew Nalley, Hui-Min Chung
Department of Biology - OUR Funded

The Pen-2 protein is one subunit of the four-part protein complex gamma secretase, which is a key component in regulating development across the animal kingdom; malfunction of gamma secretase is involved in pathological causes of Alzheimer’s disease in humans. The gamma secretase complex forms when Pen-2, Presenilin, Nicastrin, and Aph-1 combine. Pen-2 is thought to be involved in stabilizing the complex and processing Presenilin, allowing gamma secretase to mature. The other three protein subunits of gamma secretase have been studied through genetic analysis using fruit flies with mutations of their respective genes, but mutations of pen-2 were not available. Further studies using new pens-2 mutants with the current state of the genetic activity in the gamma secretase complex. Mutants of pen-2 were created through excision of the transposable element Mi(MIC) from pen-2MI02639 (hereafter pen-2MIC). The pen-2MIC fly strain was crossed with another fly strain created through excision of the transposable element Mi(MIC) from pen-2MI02639 (hereafter pen-2MIC). The pen-2MIC fly strain was crossed with another fly strain created through excision of the transposable element Mi(MIC) from pen-2MI02639 (hereafter pen-2MIC) and the Galápagos penguin (Spheniscus mendiculus) were analyzed to highlight weak-nesses and gaps in current research. Recommendations for future studies for the Galápagos penguins were suggested through multiple programs aiming to help the scientist-practitioner gap. The future of the Galápagos lies in restoring and maintaining the ecological integrity through the support of the local community.


Annabel Swanson, Richard Snyder,
Department of Biology - Honors Thesis

The Galápagos Islands possess an extreme biodiversity filled with endemic species that are at risk from external pressures that are altering the evolutionary path. As many native species populations are declining, conservation biologists are concerned about the future that lies ahead for the Galápagos. Research is needed to create management strategies that will benefit the long-term success of native species. Population Viability Analysis (PVA) is a method used to model current situations in order to project a possible future. PVA’s provide insight on factors that can alter the success of a species population. Conservationists aim to protect the biodiversity and natural processes that occur in the Galápagos by utilizing PVA. Two major factors that are significantly impacting the future of the Galápagos are invasive species and climate change effects of El Niño periodicity and intensity. More research is needed on the latter of the two factors to help improve the status of projected scenarios. Case studies of the Mangrove Finch (Cama- rhynchus heliobates) and the Galápagos penguin (Spheniscus mendiculus) were analyzed to highlight weaknesses and gaps in current research. Recommendations for future studies for the Galápagos penguins were suggested through multiple programs aiming to bridge the technological gap. The future of the Galápagos lies in restoring and maintaining the ecological integrity through the support of the local community.

13. Influence of a gyspum spill on sediment phospho-rus concentrations in Grand Bay, Mississippi

Cheyenne Hunt-Alderson, Jane Caffrey
Department of Biology

In 2005, a gypsum spill hit Grand Bay, Mississippi. Gypsum is a mineral used to make wall board. High concentrations of phosphorus (4000 - 5000 ppm), ammonia and fluoride were found following the spill and then in 2012 following Hurricane Isaac. The tidal marsh and habitats were destroyed or damaged from the chemicals. Is phosphorus from the spill still present in Grand Bay sediments? Sediment cores were collected from the 2012 and 2016 BP oil spill as part of the Consortium for the Integrated Modeling and Analysis of the Gulf Ecosystem (C-IM-AGE) were stored at -20°C. Homogenized sediments were inoculated to Bushnell-Haas broth containing n-hexadecane, or a PAH mix, or artificially weathered crude oil. Fewer than 1 µg C/L BP oil spill was detected in the samples. N-hexadecane was the only petroleum contaminant detected in the samples. N-hexadecane was the only petroleum contaminant detected in the samples. The focus of this study is on ammonia-oxidizing archaea (AOA) and ammonia-oxidizing bacteria (AOB) and their role in nitrification of several transplant and native seagrass beds of Pensacola, FL. Potential nitrification rates were measured in sediment slurries at 9 locations. Rates at the different dates were variable, but generally higher in Ruppia maritima and the freshwater macrophyte beds. Using qPCR, Ammonia-oxidizing archaea (AOA) were found in all sediment samples of these transplant and native seagrass sites. However the quantitative data of AOA showed no significant trend between seagrass locations, whether transplant or native. Although these data seems inconclusive, further research and qPCR for AOB’s will allow us to see who plays a larger role in nitrification of the seagrass beds of Pensacola and would ultimately aid in restoration efforts of the Florida Department of Environmental Protection.

14. Nitrification and importance of ammonia oxidizing archaea and ammonia oxidizing bacteria in seagrass beds of Pensacola, FL

Danielle Pfeiffer, Jane Caffrey
Department of Biology - OUR Funded

Seagrass communities are very productive areas and contribute to the ecosystems by providing critical nursery areas for many juvenile fish and developing invertebrates. Since there has been a severe decline in the southeastern US seagrass beds, research for restoration is very important. The focus of this study is on ammonia-oxidizing archaea (AOA) and ammonia-oxidizing bacteria (AOB) and their role in nitrification of several transplant and native seagrass beds of Pensacola, FL. Potential nitrification rates were measured in sediment slurries at 9 locations. Rates at the different dates were variable, but generally higher in Ruppia maritima and the freshwater macrophyte beds. Using qPCR, Ammonia-oxidizing archaea (AOA) were found in all sediment samples of these transplant and native seagrass sites. However the quantitative data of AOA showed no significant trend between seagrass locations, whether transplant or native. Although these data seems inconclusive, further research and qPCR for AOB’s will allow us to see who plays a larger role in nitrification of the seagrass beds of Pensacola and would ultimately aid in restoration efforts of the Florida Department of Environmental Protection.

15. Petroleum Hydrocarbon-Degradation Bacteria En-riched from Deep-Sea Sediments Associated with the Deepwater Horizon Gulf of Mexico Spill.

Bryan Davis, Joe Eugene Lepo, Wade H. Jeffrey
Department of Biology

Recent studies of microbial response to oil spills rely upfront on molecular biological tools, e.g., T-RFLP, metagenomics. In contrast, we enriched and isolated bacteria that utilize petroleum hydrocarbons as their sole C-source. Deep-sea sediments collected along a transect on the Louisiana continental shelf of the Gulf of Mexico BP oil spill as part of the Consortium for the Integrated Modeling and Analysis of the Gulf Ecosystem (C-IM-AGE) were stored at -20°C. Homogenized sediments were inoculated to Bushnell-Haas broth containing n-hexadecane, or a PAH mix, or artificially weathered crude oil. Fewer than 1 µg C/L BP oil spill was detected in the samples. N-hexadecane was the only petroleum contaminant detected in the samples. The focus of this study is on ammonia-oxidizing archaea (AOA) and ammonia-oxidizing bacteria (AOB) and their role in nitrification of several transplant and native seagrass beds of Pensacola, FL. Potential nitrification rates were measured in sediment slurries at 9 locations. Rates at the different dates were variable, but generally higher in Ruppia maritima and the freshwater macrophyte beds. Using qPCR, Ammonia-oxidizing archaea (AOA) were found in all sediment samples of these transplant and native seagrass sites. However the quantitative data of AOA showed no significant trend between seagrass locations, whether transplant or native. Although these data seems inconclusive, further research and qPCR for AOB’s will allow us to see who plays a larger role in nitrification of the seagrass beds of Pensacola and would ultimately aid in restoration efforts of the Florida Department of Environmental Protection.
16. Spatial and Temporal Variations in the Community Structure of Marine Archaea: The Gulf of Mexico

Since the Deepwater Horizon oil spill in 2010, much emphasis has been placed on understanding the processes, both physical and biological, that occur in the Gulf of Mex-
ico. A key element of the planktonic system is the bacterioplankton, which serves as a base of the food web and was instrumental in degrading the oil itself. It has been hypothesized that exposure to oil and dispersants may change microbial community structure by selecting for those strains capable of oil degradation while selecting against those that cannot. This study was designed to determine variations in bacterioplankton community structure and function after exposure to oil and dispersants. Sampling sites were located at the northeastern Gulf of Mexico.

17. Temporal and spatial responses in bacterioplankton community structure and function after exposure to oil and dispersants

The Deepwater Horizon Oil Spill in 2010 significantly impacted the planktonic ecosystem of the northern Gulf of Mexico. A key element of this planktonic system is the bacterioplankton, which serves as a base of the food web and was instrumental in degrading the oil itself. It has been hypothesized that exposure to oil and dispersants may change microbial community structure by selecting for those strains capable of oil degradation while selecting against those that cannot. This study was designed to determine variations in bacterioplankton community structure and function after exposure to oil and dispersants. Sampling sites were located at the northeastern Gulf of Mexico.

18. A Physical Chemistry Laboratory Experiment: Measuring the Speed of Sound using Nitrocellulose

Brandon Burnett, Jacob Stephenson, Karl Reyes, Karen S. Molek

Department of Chemistry - OUR Funded

The speed of sound was measured using a Mach-Zehnder interferometer. The experiments were run multiple times to ensure reproducibility; and mass spectra obtained were analyzed using National Instruments LabView.


Joseph T. Brice, Georgia C. Boles, Brandon A. Burnett, Karen S. Molek

Department of Chemistry - OUR Funded

A matrix-assisted laser desorption/ionization reflectron time-of-flight mass spectrometer (MALDI-RTOF-MS) was calibrated by optimizing the electric potentials from the ionization source to the detector. The use of a picoammeter, ions were detected throughout the analyzer by setting up a potential difference used to attract ions. Accelerating and reflecting voltages were adjusted to maximize the measured ion currents. These voltages were compared to the theoretical potentials via a SimION model of the instrument. The samples used for calibration were PEG 900 and Angiotensin II, which provided a mass range between 850-1046 amus. The same samples were used to measure mass spectra via stacked MCP detectors in a chevron configuration. The data was collected and analyzed using National Instruments LabView.

20. Cationic ring-opening polymerization of glycidol in the presence of emulsifiers

Carla M. Staton, Randy L. Hightower, Louis A. Searcy, A. Timothy Royappa

Department of Chemistry - OUR Funded

Glycidol was polymerized by BF3-initiated cationic ring- opening polymerization using various concentrations of THF and diglyme as emulsifying agents. A control sample of polyglycidol was also synthesized without any added emulsifier. Polymerizations were monitored by Gas Chromatography (GC). Whenever a reaction was 99% or more complete, the polymerization was quenched by adding water and stirring. The polymer was obtained by rotary evaporation and/or drying on a vacuum line fol-
lowed by freeze drying. FTIR and gel permeation chromatography (GPC) were used to analyze the polymer. IR spectra showed that THF had copolymerized with glycidol. There was no discernible effect of diglyme on the polymerization, although some traces of free diglyme were noted in the NMR spectra. Molecular weights were increased by a small amount in the presence of the emulsi-
fying agents. There was no distinct difference between the effect of THF and diglyme.

21. Effects of Salinity and Organic Matter Content on Triclosan Photo-degradation

Janae Baptiste, Pamela Vaughan, Department of Chemistry - OUR Funded

Triclosan is a bactericide used in a variety of personal care products such as toothpastes, deodorants, and hand soaps. After its initial use, the anti-microbial agent enters the environment where it can photo-degrade to 2,7,2,8-diben-
zodichloro-p-dioxin, 2,4-dichlorophenol, and 2,4,6-
trichlorophenol. Dioxins are members of a class of com-
pounds that are extremely toxic to plants, animals, and 
bacteria. The rate of degradation of the environment and 
organic matter content on the rate of photochemical de-
tection of Triclosan in water was adjusted by means of addition of artificial seawater and humic acid and irradiated. The rate of photo-degradation increased with the addition of salt. Triclosan exposed to full sunlight appears to follow first order decay kinetics.

22. Effects of Silane Structure on Zinc Oxide Quantum Dot Synthesis

Lena Ibrahim, Michael Smith, Samuel Bynum, Karen S. Molek

Department of Chemistry - OUR Funded

Quantum dots are unique nanoparticles which, when excited with ultraviolet light, will fluoresce. Water-soluble zinc oxide quantum dots were synthesized and used as a control using a synthetic method. In this method, (3-glycidyloxypropyl)trimethoxysilane, or KH-560, was used as a surface modifier in order to cap the mol-
ecule and deter aggregation. Our synthesis introduced (3-aminopropyl)-trimethoxysilane to test the depen-
dence of quantum dot formation on the silane structure. An additional modification was made by substituting (3-glycidyloxypropyl)trimethoxysilane in an effort to create more biologically innocuous quantum dots. Chemical and physical properties were compared to determine effects of silane structure on the quantum dots. The quantum dots were characterized using infrared spectroscopy (IR), UV-
Vis spectroscopy, scanning electron microscopy (SEM), fluorometry, and X-ray diffraction (XRD). Results of the synthesis and characterization will be presented.

23. Humic Acid and Salinity Effects on PAH Photodegr-

ation with Variable Light Exposure

Ryan Pichulo, Dana Brankle, Jini Curry, Pamela Vaughan

Department of Chemistry - OUR Funded

The photodegradation kinetics of PAHs in aqueous solu-
tions exposed to ultraviolet light were investigated in response to a variety of environmental factors such as salinity, light exposure, and humic acid content. 25mM solutions of naphthalene, phenanthrene, and pyrene were exposed for up to 24 hours and measured using bulk fluorometry. Naphthalene and phenanthrene solutions were exposed over a 24 hour period shower greater degradation rates for those exposed to UVA light expo-
sure. The rate of photodegradation observed for pyrene was higher in the presence of UVA than UV light expo-
sure. These results will be discussed in relation to pub-
lished works which have reported conflicting degradation rates for phenanthrene and pyrene. The effects humic acid content and salinity on photodegradation rate constants will also be discussed.

24. Interests New Chemistry of Pyrrole b-Amines

Alex Fisch, Eric Randolph, Michael T Huggins

Department of Chemistry - OUR Funded

Pyrrole b-amides are useful building blocks for the prepa-
ration of novel molecular architectures that can be used in supramolecular chemistry and sensor development. Under basic conditions, pyrrole b-amides and an aldehyde produce dehydrodimer products with pyrroles depending on the amide substitution. Primary amides formed the expected dipyrrinones, but expected underwent a subsequent trans-amidation with the pyrrolidine nitrogen to produce an asymmetric imide. Under the same conditions, secondary amides produced the expected dipyrrinones. Current results will be pre-
sented.

25. Manganese Oxide Nanopowder Study: Synthesis, Characterization and Surface Assisted Laser Desorption/Ionization

Georgina C. Boles, Karen Molek

Department of Chemistry - OUR Funded

Several manganese oxide nanopowder species, including MnO2, Mn3O4, and MnO, have been synthesized via new synthetic routes for the integration as surfaces in Surface Assisted Laser Desorption/Ionization Mass Spectrometry (SALDI-MS). Manganese(II) oxide was synthesized from aqueous solutions of Mn(NO3)2, MnO was synthe-
sized from an aqueous solution of Mn(NO3)2, while the MnO3 species was synthesized from Mn(NO3)2 in benzyl al-
cohol. Each of the control syntheses were modified so that
26. NMR study of neoglycosides using 3-(N-methoxyamino)-decalin as a model
Ashley Lambert, Patricia Izbički, Randal Goff
Department of Chemistry - OUR Funded, Honors Thesis

Objectives:
1. Neoglycosylation of 3-decalol using benzyl alcohol as a carbohydrate building block. 2. Analysis of neoglycoside structures. The ultimate goals of this research are 1) create a library of neoglycosides, 2) to determine the neoglycosylation reaction conditions, and 3) to analyze the neoglycoside structures. The ultimate goals of this research are 1) create a library of neoglycosides, 2) to determine the neoglycosylation reaction conditions, and 3) to analyze the neoglycoside structures.

27. Photocatalytic Degradation and Bacterial Growth Response Crude Oil
Gabrielle Daniel, Rose Atkinson, Noel Harris, Ryan Pichula, Dane Brunkle, Jamie Trindell, Pamela Vaughan, Wade Jeffery
Department of Chemistry - OUR Funded

Crude oil from Florida was examined to determine the effect of various photocatalytic conditions on bacterial growth and toxicity to bacterial growth. Samples containing 2% oil in sterile seawater were incubated at constant temperature for 15 days with treatments of full sun, PAR only, dark, and mixture. The resulting toxicity effects of individual polycyclic aromatic hydrocarbons were examined using 3H-leucine incorporation. Approximately 40% of the total UV radiation had the highest level of inhibition to bacterial growth. These results have implications for how photocatalytic weathering may affect the impact of spilled oil on microbial communities in surface waters.

30. Synthesis of HIV-1 Capsid Protein Inhibitors
Tia Jarvis, Joshua Brown, Rebecca Chandler, Michael T. Huggins
Department of Chemistry - OUR Funded

In the human immunodeficiency virus (HIV) replication life cycle, the capsid protein has been identified as an attractive target site due to its role in the formation of the capsid core which is crucial for viral infectivity. To date, more than 200 small molecules have been screened for their inhibitory activity using 1H, 15N HSQC titrations. Using a structure activity relationship (SAR) analysis, several synthetatic targets were identified. The results of the SAR analysis as well as synthesis and binding data of the capsid protein inhibitors will be presented.

31. Toxicity Effects of Polycyclic Aromatic Hydrocarbons During Varied Sunlight and Temperature Exposure Rose Atkinson, Pamela Vaughan
Department of Chemistry - Honors Thesis

The toxicity effects of individual polycyclic aromatic hydrocarbons (PAHs), naphthalene, phenanthrene, and chrysene, directly introduced to bacterial colonies obtained from the live salt water collected in the Pensacola Bay area were examined. A previous experiment examining toxicity of whole oil suggested relative toxicity of these three compounds to be naphthalene >phenanthrene >chrysene. When PAH concentrations were varied from 1 ppb to 100 ppm, 5 ppm was determined to have 50% toxicity. This concentration was then used to determine the individual PAH toxicities under different light and temperature conditions. Triplicate samples were exposed to full sunlight and PAR only light through 40 mL Telfon bottles under two temperature conditions: ambient and ambient -5°C. The resulting toxicity levels from these treatments will be discussed.

32. How Does Change In Leadership Affect Company Morale and Worker Productivity?
Sahel Marquis-Welderburn, Tressa M. Kelly, Laura Hiltabrand, Laura J. White, Dennis Foster Jr., Kimberly Tatum
Department of Communication Arts - Honors Thesis

This research project focuses on the inner working of an organization to understand how and why it affects worker productivity and company morale. Working closely with the Small Business Development Center of Florida State Office (SBDC) to understand how planned or unplanned changes occur with an organization inadvertently affect worker productivity and company morale. The project will employ the use of interviews, observations and performance studies. Through the collection of interviews and observations over a span of one year, I hope to better understand the frustration experienced by workers at the SBDC specifically and those engaged in organizational change generally. A performance study is where an individual embodies another person’s story in order to receive a deeper understanding of an issue. Narratives from the interviews and observation field notes will provide the foundation for the performance. I will get a taste of the Cooperative world (from an outsider’s perspective) and semi-emerge myself into their culture.

33. The Intersection of Law and Psychology: Effective Trial Strategies Dennis Foster Jr., Kimberly Tatum
Department of Criminal Justice/ Legal Studies

In 1893 noted psychologist and Cornell professor James Cattell performed a study to determine if there was a correlation between the perceived confidence of a person’s testimony and the validity of their statements during a trial. His findings revealed that a confident testimony didn’t equal correctness. Cattell’s surprising findings and new -found acclaim ignited the interest of other psychologists. Since then the use of psychology has exploded in the legal profession and has become a necessary part of any trial. Although originally applied mostly in voir dire, psychology has now been integrated into every part of a trial, from opening statements to closing arguments. Through the use of attorney interviews, recorded experiments, and research based opinions, this paper will examine specific trial strategies and principles that have arisen because of psychology’s increased importance and relevance to the legal field.

34. Android Game Development Ryan Baxter, Steven Case
Department of Computer Science

The Android Open Source Project offers a unique programming experience that builds heavily upon the foundations of open source development. While the adoption of Androids 75% smartphone market share is astounding, the importance of this platform (which does not end with the fast growing user base) is self-evident in that more people are using a mobile device as their primary computing device. The design of this project explores the tools and best practices for the Android platform. Using several programming text books and other methods of research, a project was put together to develop a complete Android application capable of market launch. The project has resulted in the successful development of a working, feature-rich chess game and an estimation of open source development. While the estimation of Android's open source development can be installed and enjoyed by Android Developer (2.2+). The struggle and success of the project will be discussed along with the development tools and technologies utilized. A focus on the general architecture and organization of a pattern of a complete Android application package will be summarized along with the lessons learned along the way.

35. Material Safety Data Sheets on a Mobile Device Laura Hillbrand, Laura J. White, Don Johnson, Ryan Pichula
Department of Chemistry

Many people have allergies, but less recognized are those with chemical sensitivities. Chemicals are used in ways we might never expect. For example, formaldehyde is used in the manufacture of “no iron” clothing, cosmetics, cleaning products, particle board, paper grocery bags, and even candy. Methods for obtaining and understanding chemical information about common products is not always an easy task. A mobile iPhone application that provides quick access to key product information, as well as a method of notification when a product contains an
ingredient users have preselected, will reduce inadvertent notification into categories. Users will be presented with a category specific notification whenever they access a product that is being viewed. The product details page will then display a history of the product with links to related products and other users who have viewed the product.

43. Unmanned Proximity Tracking Device

Christopher Mason, Ryan Hope, Peter Rappold, Mohamed A. Khabou

Department of Electrical & Computer Engineering - OUR Funded

The UPTD or Unmanned Proximity Tracking Device is a small drone in the form of a quadcopter that is capable of tracking a predetermined target. Drone technology is growing more and more popular among government agencies and military forces around the world to perform surveillance type missions. Drone technology is relatively new to the private sector and civilian world. Civilian uses for the UPTD technology include any situation in which the user desires a birds-eye view of activities that are taking place below. For instance, an athlete that is playing a sport can program the quadcopter to track themselves and the quadcopter will do so from the air at a predetermined distance. This is merely one instance that the civilian sector will have for the UPTD. The UPTD can provide endless possibilities to any person or company desiring a small drone capable of tracking and filming its intended target. The UPTD will identify a predetermined color that is the target and mark it with an image processing technique. The programming executing the image processing will draw a bounding box around the "color blob" being tracked and control the centroid of the box. The coordinates of the centroid will be passed to a series of algorithms that will then compute a unique signal. This unique signal is then sent to the quadcopter to control the quadcopter's flight so that the centroid of the object being tracked remains in front of the quadcopter at all times.

44. "Brown eyes, so brown as to be black": Attempts at Understanding "the Subaltern" in J.M. Coetzee's Waiting for the Barbarians

Rebecca Cloy, David Baudel, Robin Blyn

Department of English and World Languages - Honors Thesis

After reading J.M. Coetzee's novel Waiting for the Barbarians, the issue of subaltern woman was one that I decided to write my thesis about. The issue with withholding heroines such as the barbarian woman (Alsop 96). This "non-confession" has concerned many critics of the novel: the idea that "non-confession is part of a deliberate plan" (Alsop 96). This "non-confession," as many have identified, is the issue with withholding heroines such as the barbarian woman (Alsop 96). This "non-confession," as many have identified, is the issue with withholding heroines such as the barbarian woman (Alsop 96). This "non-confession," as many have identified, is the issue with withholding heroines such as the barbarian woman (Alsop 96). This "non-confession," as many have identified, is the issue with withholding heroines such as the barbarian woman (Alsop 96). This "non-confession," as many have identified, is the issue with withholding heroines such as the barbarian woman (Alsop 96). This "non-confession," as many have identified, is the issue with withholding heroines such as the barbarian woman (Alsop 96). This "non-confession," as many have identified, is the issue with withholding heroines such as the barbarian woman (Alsop 96).
a way out of the magistrate's struggles with his relation to both language and power (Wenzel 65).

45. Pulp Studies I: Pulp pedagogy: Active learning and Active reading in the Pulp.
Lauren Gibson, Rachel Johnson, Emily Sister, David Earl
Department of English and World Languages - Our Funded
Lauren Gibson's paper entitled "I Confess": Pulp and the Audience's Populist Voice" focuses on George Dela-corte's "I Confess". This is the first confessional pulp, inspired by Bernarr MacFadden's True Story Magazine. This pervasive genre allowed and encouraged participation from less educated female writers and readers, hence allowing women in a formerly subjugated po-sition to have a voice in the literary world. This dynamic exemplifies how women's voices were distinctly created and by its audience. Emily Sister's paper "Filling the Void: Pulp, Movies and Censorship in the 1930s" suggests that movies and pulps were intrinsically intertwined in the competition for the scarce money of the depression-era working class, yet both industries were endangered by moral and political leaders inhibiting individual rights. Sister argues that the pulps' thematic gesture into the sadistic corresponds directly and immediately to so-cial trends in film and is symbolic of the ongoing popul- lar discourse over the role of moral sanctity in United States politics. Rachel Johnson's paper "Behind the Curtain: Women and pulp magazines" found that even though the majority of scholarship suggests women were absent during the foundational years of the science fiction pulps, women were present as readers, editors, and writers. Contrary to popular belief, early women writers did not retreat to their genders or publish works under male pseudonyms. The overwhelming effect that the pulp is not only erasing the importance of a popular working-class literary form, but also creating a fictitious rewrite of literary history."

46. An Assessment of Water Quality Trends in the Pensacola Bay System
Claire Shipman, Matthew Schwartz,
Department of Environmental Studies
The National Park Service, in collaboration with the Uni-veristy of West Florida, has led a continuous water quality monitoring effort at three study sites in the Pensacola Bay System since February 2010 and continuing in the present. The three study locations include two sites in Santa Rosa Sound (Gulf Breeze) - Naval Live Oaks and Big Sabine, and one site in Southwest Pensacola Spanish Cove Big Lagoon. The water quality assessment includes the following lab analyses: biological oxygen demand, carbon dioxide, biochemical oxygen demand, total nitrite, total nitrate + nitrite, ortho-phosphate, dissolved organic carbon, and chloro-

47. Assessing Environmental Impacts Through LiDAR Remote Sensing
Courtney Richards, Zhiyong Hu
Department of Environmental Studies - Our Funded LiDAR (Light Detection and Ranging) is an optical remote sensing technology that can measure the distance to, or other properties of a target by illuminating the target with light, often using pulses from a laser. LiDAR technology has applications in archeology, geosciences, environmental science, and civil engineering. LiDAR clearly finds a broad range of environmental applications, in which detailed representations of terrain provided by high density LiDAR data are invaluable. However, it is also not practical with coarser datasets. Recently LiDAR data have also been used to study forest structure, biomass mapping and carbon storage calculation. LiDAR data permit reliable separation of vegetation from terrain a capability crucial to various applications of LiDAR. After conducting a yearlong study, the water chemistry's seasonal variability was evaluated. Highlighted meteorological influences include temperature, precipitation observed prior to a sampling event, and tropical events such as Hurricanc Isaac. Sampling of five study sites began in February of 2012 and concluded in February 2013. Water chemistry results from this study provide baseline data for a study on spatial and seasonal variability of benthic nitrogen cycling within Carpenters Creek and the estuary into which discharges, Bayou Texar.

50. Effects of Mob Grazing on Selected Soil Properties
Sydney Poole Hayes, Johan Lieben
Department of Environmental Studies - Our Funded Mob grazing is a new, holistic farming procedure in which a large number of animals are moved to a new, smaller grazing area and to be rotated daily. The livestock churn the minerals in the soil, which acts as a natural cultivation system. This study will be used to determine the effects mob grazing has on soil quality. Little research has been done to show the effects mob grazing has on long term soil quality. Mob grazing has been imple-mented for four years at Green Acres Farm in Northern Escambia County, FL. At the farm, triplicate samples were taken at four different sites, two sites that have been mob grazed and two fallow sites. The samples will be used to test organic matter, aggregate stability, and pH. Organic

52. Effects of Mob Grazing on Selected Soil Properties
Alexia Gries, Sydney Poole Hayes,
Johan Lieben
Department of Environmental Studies - Our Funded Mob grazing is an efficient way to fertilize land for farm- ing. This innovative method of farming allows livestock to graze on the same area and to be rotated daily. The livestock churn the minerals in the soil, which acts as a natural cultivation system. This study will be used to determine the effects mob grazing has on soil quality. Little research has been done to show the effects mob grazing has on long term soil quality. Mob grazing has been imple-mented for four years at Green Acres Farm in Northern Escambia County, FL. At the farm, triplicate samples were taken at four different sites, two sites that have been mob grazed and two fallow sites. The samples will be used to test organic matter, aggregate stability, and pH. Organic
matter will be tested using the Walkley-Black method, aggregate stability will be tested with a standard USDA method and ph with a standard EPA method. This study will determine the grazing on soil qual-
ity by comparing our results for mob grazed sites with results from previous years and by comparing results for mob grazed sites with those for fallow sites. Mob grazing has the potential to improve soil quality. Having scientific data for this alternative grazing method that may enrich the soil could allow farmers to avoid chemicals that lead to detrimental environmental issues.

53. Spatial and Temporal Variability of Karenia Brevis within the Choctawhatchee Bay System
Claire Lacey, Matthew Schwartz, Department of Environmental Science - SCAC Funded
This study explored the spatial and temporal variability of the red tide organism Karenia brevis within the Choctawhatchee Bay System in northwest Florida. This area has previously experienced red tides caused by blooms of the toxic dinoflagellate K. brevis which resulted in massive fish and dolphin kills. Water samples were collected at monthly intervals for the past five years, at six shore stations in two bayous in western Choctawhatchee Bay. Polymerase chain reaction (PCR) will be used to determine K. brevis concentrations within these Choctawhatchee Bay bayous. Surface water nutrient levels and chlorophyll a were measured in all samples along with standard physical water characteristics (DO, temperature, and salinity) to provide relevant biogeochemical framework to assess the observed spatial and temporal variability in K. brevis. The results will be evaluated for spatial and temporal correlation in order to expose potential causes for the periodic blooms, including nutrient loading from surface and subsurface fluxes.

54. Spatial Simulation Modeling with SLEUTH
Courtney Richards, Zhiyong Hu, Department of Environmental Science - SCAC Funded
SLEUTH model uses growth based on past urban expansion. The model, SLEUTH, was used in order to predict future land use growth based on past urban expansion. The model predicted urban change for Charlotte, North Carolina for 2020. The model is a C program run under UNIX and Cygwin was used as a command interface with its Bash gui compiler for calibration.

55. Age-Based Differences in Recalling Political Messages
Zack Campbell, Jenna Emery, Department of Government - OUR Funded
Political communication can make statements regarding news, define positions, and campaign for election. Understanding the impact of what is said and how it is said may be of great importance. The proposed research could offer an exciting new method for candidates to use to tailor their communica-
tions with voters. In theory, candidates can offer messages with similar intent to both young and old, and get both demographics to recall the message by tailoring the tone and prosody. This project builds on the study of political messaging as well as the psychology of age-related differences in memory. Research shows that the young and the old have very different rates of recall depending on the complexity of the message and themeaning of the words and the sounds used to convey them. The proposed project will determine if these auditory preferences also apply to political messages offered by candidates for office.

56. Causal Factors in the Global Financial Crisis of the 21st Century
Matthew Leight, Michelle Williams, Department of Government
The global financial crisis of the 21st century has had a fundamental impact on economic well-being and attitudes surrounding Israel's defense service law. Even though there was an opposition of opening the borders, there was pressure by the United States of America that demanded West Germany to open their borders. The Turks filled these low waged jobs while living temporarily in Germany. Thousands of Turks came over and in the end the side that wanted to keep the borders closed were right. Once the Berlin wall fell, the unification of East and West Ger-
many was in effect. At the same time the wall fell, there were 1,612,632 Turkish immigrants in the country. The Turks didn't want to go home because Turkey was in a bad economic situation. Many Germans questioned why they should take in the Turkish immigrants. As a result, the Turks were often stereotyped as poor,TÜRKISH IMMIGRANTS

60. Costs and Benefits Analysis of the Arab Spring
John Sandonell, Michelle Williams, Department of Government
This project will examine, through use of quantitative analysis, the costs and benefits of the Arab Spring revolts and democratization movements across the Middle East and North Africa. Areas of focus include gross domestic product, literacy rates, and the welfare of the affected nations and the overall economic impact on the region, both before and after the uprisings.

61. Germany: The Immigration Conflict
Andrew Bittner, Jessica Hayden, Department of Government
In post-war Germany there was a huge demand for cheap labor because of the Berlin wall separation. The West Germans were considering opening their borders to Turkey, but some politicians were against the idea. They thought that there would be a cultural gap between the West Germans and Germany. Even though there was an option of opening the borders, there was pressure by the United States of America that demanded West Germany to open their borders. The Turks filled these low waged jobs while living temporarily in Germany. Thousands of Turks came over and in the end the side that wanted to keep the borders closed were right. Once the Berlin wall fell, the unification of East and West Ger-
many was in effect. At the same time the wall fell, there were 1,612,632 Turkish immigrants in the country. The Turks didn't want to go home because Turkey was in a bad economic situation. Many Germans questioned why they should take in the Turkish immigrants. As a result, the Turks were often stereotyped as poor,TÜRKISH IMMIGRANTS

Steven Saltzer, Leo Weeks, Department of Government
Each day Americans drive to and from work carefully observing the price of gasoline displayed on the sign of
63. Iceland's fall in government
Everett Ellis, Jessica Hayden
Department of Government
The collapse of the Icelandic financial system stems out with regards to the European Union. Not only were Iceland's main banks (Glitnir, Landsbanki, and Kaupthing) being depreciated exponentially, other countries who had invested their money into these banks had been hit back because of the collapse of banks. This collapse leads to the extraction of all foreign country money as well as their currency plummet and inflation swell in Iceland. The currency withdrawal from these foreign nations from Iceland's banks happened simply because they did not have these other currencies money; thus other countries were deprived of the money that was also keeping their country running smoothly. Serious conferences were being held to either conform to a National Unity Government or a Government of the SDA and the Left-Greens. These ideas would lead to a decrease in the government. I learned that there are many different ways and loopholes to the financial system of the EU. European economic recovery plan (created by José Manuel Barroso) could recover their government and steer away from recession or even a larger depression. With research, there are many ways to avoid a recession in Iceland without utilizing the EU as essentially a back bone.

64. India Government and Public Health
Quinzie Doucet-Barron, Jessica Hayden
Department of Government
My research will be based on in-depth analysis of the Indian government and its public health system. As it stands, India is on the lower half of the spectrum in the world when it comes to issue of public health. The Indian government has made their fair share of feeble attempts at trying to put a band aid on the problem. My research consists of the little development that India has gone through in fixing a small amount of the problems and also the less government involvement put in place in attempt to improve the problems. Through my research I will also suggest some options that might improve the public health system of India.

65. Influences on Peru's People and Government
Talitha Motter, Jessica Hayden
Department of Government
In modern day Peru one can see the effects of colonization in all aspects of life. The Spanish heritage has spread into the government, the people and the way of life. The Peruvian government is similar to the Spanish with having a government with a president as its head along with a prime minister. In Peru, there is a President as the governing head unlike Spain where the king is head, but the set ups are the same with a head of state and a prime minister plus a legislative congress. Spain brought the Spanish language, Catholicism, and a more European style of living to the people changing native the way of life in Peru forever. Showing that Spanish colonial occupation help change the entire country into the government and people we see today.

66. On the Fence: U.S. Senate Voting on Immigration Issues
Jennifer Reid, Jocelyn Evans
Department of Government
Due to the number of individuals coming into the U.S. illegally, the topic of immigration has grown increasingly important and is dividing citizens and government officials about what steps should be taken regarding immigration policy. The concern in the U.S. about immigration stems largely from worries related to labor-market competition, assimilation, and crime; with economic issues serving as the major source of apprehension for Americans. In order to understand the voting outcomes for immigration policy during the first term of the Clinton presidency and how senators were previously motivated to cast their votes on immigration policy, it is necessary to determine whether voting on immigration could best be explained by senators’ partisan identities or if it could instead be better explained by senators’ ideological preferences. This paper examines how Senators voted on immigration policies during the 103rd and 104th Congresses. Legislation concerning immigration is coded as either a conservative or liberal policy and then used to run regressions in order to determine if senator voting on immigration is primarily conducted based on personal preference or party ideology. Due to the results, it seems that preference is the determining factor and can be best explained by their ideological preferences. Although current and future senator voting will likely be different from how it was in the past, it can be determined that during the first term of the Clinton presidency, immigration was not a single-issue, which allowed senators to act as trustees and vote based on ideology.

67. The Influence of Federal Research Subsidies on Advancements in Renewable Energy Technology
David Hunter, Bill Tankersley
Department of Government
The recent bankruptcies of companies such as Solyndra have placed a public spotlight on federal funds subsidizing commercial research and development, specifically in the area of renewable energy. Some would argue that threats of climate change create an urgent need for new energy technologies that cannot be met by private industry funding alone. However, others would argue that, at best, government subsidies create incentives for companies to focus on requests for grants and proposals writing rather than on research and development. At worst, subsidies devolve into a form of political cronyism, used as spoils by politicians in power to reward corporate allies. The goal of this study is to measure the influence of federal subsidies on advancements in renewable energy technology. Technology advancement is quantified by the number of patents generated and improvements in power generation efficiency (in kilowatts/hour). Subsidy levels are based on appropriations to the Department of Energy (DoE) reported annually by the Congressional Budget Office (CBO). In 2009, on part of the American Recovery and Reinvestment Act (ARRA), the DoE received a substantial increase in appropriations to support energy technology. The dollars received in 2009 for this purpose were almost ten times the average annual dollars received in all other years between 1998 and 2012. A corresponding advancement in renewable energy technology should also have occurred if these subsidies are a good investment.

68. The Space in Our Hearts: How do local governments decide to memorialize tragedy
Matthew Groffen, Jennifer Reid
Department of Government
My research is about memorials constructed at school shooting sites since 1991. It is different from previous research because prior focus has been on the causes of the shooting and its sociological effects on victims and their families. My research has focused on local decision-making in the aftermath of the tragedy. A database was constructed to analyze all incidents of mass school shootings reported by the media from 1991 to the present. Types of media coverage and local indicators concerning wealth and gun ownership were used to distinguish between those areas that moved forward from those that did not. Results indicate that more local wealth leads to more expensive memorials and more access to local decision-making leads to more public satisfaction with the memorial.
71. Women's Immigration Trends
Nicole Claffey, Jenna Emery, Michelle Williams
Department of Government
My research is about world immigration trends. It is different from other types of topics due to amount of data that will produce the leading causes and the top locations women immigrate. My research uses quantitative data as the source of displayed information. From my research I conclude safety and the United States of America is the leading reason and location women immigrate.

72. World Immigration Trends Effecting the US
Danielle Mash, Michelle Williams
Department of Government
My research is about world immigration trends and their effect on the US economy. It is different from previous research because I will present evidence of positive outcomes on technological growth, industry, and the "world economy". I will apply quantitative (statistical methods) to examine this correlation. From my research I conclude that immigration is beneficial to revive and bolster the US economy.

73. Effects of a Mentorship Program and Peer-Assisted Learning in an Undergraduate Limited Access Program
Caity Arzaga, Christopher Dake
Department of Health, Leisure & Exercise - Honors Thesis
The purpose of this thesis is to study the effects of a mentorship program and peer-assisted learning in an undergraduate limited access programs. This program was implemented within the Athletic Training Education Program (ATEP) last spring in order to guide the sophomore class through prerequisite classes and the rigorous application process. The program also provided the opportunity for junior AT (Athletic Training) students to gain exposure to public speaking and other professional development skills. The outcome of this program on the novices (sophomores) as well as the mentors (juniors) will be analyzed using a Lykert scale survey. This survey is based on the Athletic Training Peer-Assisted Learning Assessment Survey that was created by Jolene Henning for use in her research study entitled Peer-Assisted Learning in the Athletic Training Clinical Setting. This survey will measure the perceived relevance and practical assistance that the program provided to both the mentors and the novices. The survey will also contain a free response section for students to provide subjective information. Results from similar studies done on a larger scale will also be included. These research studies show that the topic and the growing popularity of peer-assisted learning as a teaching method, particularly in limited access medical programs. Studies have found that there is quantifiable evidence of peer-assisted learning and mentorship programs having a positive effect on confidence levels and academic performance of students in the Athletic Training clinical settings as well as nursing and medical programs.

74. How to Avoid the Cold Shoulder: A Stage-Based Approach to Frozen Shoulder Syndrome
Kelli Tritz, Scott Morrison
Department of Health, Leisure & Exercise - Honors Thesis
This is based on the Athletic Training Peer-Assisted Learning Program (ATEP) last spring in order to guide the sophomore limited access programs. This program was implemented within the Athletic Training Education Program (ATEP) last spring in order to guide the junior AT (Athletic Training) students to gain exposure to public speaking and other professional development skills. The outcome of this program on the novices (sophomores) as well as the mentors (juniors) will be analyzed using a Lykert scale survey. This survey is based on the Athletic Training Peer-Assisted Learning Assessment Survey that was created by Jolene Henning for use in her research study entitled Peer-Assisted Learning in the Athletic Training Clinical Setting. This survey will measure the perceived relevance and practical assistance that the program provided to both the mentors and the novices. The survey will also contain a free response section for students to provide subjective information. Results from similar studies done on a larger scale will also be included. These research studies show that the topic and the growing popularity of peer-assisted learning as a teaching method, particularly in limited access medical programs. Studies have found that there is quantifiable evidence of peer-assisted learning and mentorship programs having a positive effect on confidence levels and academic performance of students in the Athletic Training clinical settings as well as nursing and medical programs.

75. Measuring the Participant Spending of the Gulf Coast Half Marathon and Its Economic Impact on the Pensacola Community
James Sherrill, Anthony Beck, Chase Lambert, Sheltie Hurst, Charlie Song
Department of Health, Leisure & Exercise - OUR Funded
The research is being conducted in conjunction with the Pensacola Sports Association (PSA). The research project focuses on the early stages of Mullin’s (2000) model, which includes the core of a successful sport marketing strategy, consumer research into the “market and product idea, understanding the sport and consumer, and conducting market research.” Three major components are included in this research: (1) go into the field and conduct survey research at the Gulf Coast Half Marathon that is sponsored/co-hosted by the PSA; (2) statistical analysis of survey data to calculate the economic impacts of the Gulf Coast Half Marathon on the Pensacola community using Mullin’s model as a theoretical framework. Through analyzing the data the research report will include an event’s participants’ demographic and spending profile to calculate its economic impact on the Pensacola community, as well as an analysis of PSAs marketing strategy effectiveness to attract sporting events to the Pensacola area.

76. Measuring the Participants Spending of Double Bridge Run and Its Economic Impact to Pensacola Community
Courteney Mincy, James Stephens, Kristina Hattmaker, Maggie McDonal, Jonathan Barrow, Juliane Gasbrow, Matthew Rodriguez, Ryan Elliott, Charlie Song
Department of Health, Leisure & Exercise - OUR Funded
The research is being conducted in conjunction with the Pensacola Sports Association (PSA). The research project focuses on the early stages of Mullins’s (2000) model, which includes the core of a successful sport marketing strategy, to conduct research into the “market and product idea, understanding the sport consumer, and conducting market research.” Three major components are included in this research: (1) go into the field and conduct survey research at Hilton Gulf Front Hotel that is sponsored/co-hosted by the PSA; (2) statistical analyses of surveyed data; and (3) measure the economic impacts of the Double Bridge Run on the Pensacola community using Mullin’s model as a theoretical framework. Through analyzing the data the research report will include an event’s participants’ demographic and spending profile to calculate its economic impact on the Pensacola community, as well as an analysis of PSAs marketing strategy effectiveness to attract sporting events to the Pensacola area.

77. Measuring the Participants Spending of Wheel Chair Tennis and Its Economic Impact to Pensacola Community
Matthew Garvin, Kristin Thomas, Nicole Davis, Emily Rhoden, Chelsea Hurst
Department of Health, Leisure & Exercise - OUR Funded
The research is being conducted in conjunction with the Pensacola Sports Association (PSA). The research project focuses on the early stages of Mullin’s (2000) model, which includes the core of a successful sport marketing strategy, to conduct research into the “market and product idea, understanding the sport consumer, and conducting market research.” Three major components are included in this research: (1) go into the field and conduct survey research at Roger Scott Sports Complex that is sponsored/co-hosted by the PSA; (2) statistical analyses of surveyed data; and (3) measure the economic impacts of Wheel Chair Tennis on the Pensacola community using Mullin’s model as a theoretical framework. Through analyzing the data the research report will include an event’s participants’ demographic and spending profile to calculate its economic impact on the Pensacola community, as well as an analysis of PSAs marketing strategy effectiveness to attract sporting events to the Pensacola area.

78. Social and economic correlates of rates of abortion in the Russian Federation and the United States
Kyeone Zenobia Johnson, F. Stephen Bridges, Karla A. Guillouet Department of Health, Leisure & Exercise
Social and economic conditions can affect health status in a many different ways. Depending on the quantity and quality of these conditions improvement or deterioration in health status can occur. In the 1990s middle-class Russians were pushed below the poverty level. American men and women have faced these same challenges albeit more recently in the 2000s. The present study explored the relationship between social and economic variables and several indices of abortion. The variables were divorce, rates of contraceptive prevalence, number of OB/GYNs, health expenditure per capita, female unemployment, and gross domestic product per capita. The indices of abortion were the numbers, rates and ratios of abortion for women aged 15–49 years and for women of all ages, respectively, in both countries for each year from 1990 to 2009. Statistical techniques included partial r correlation analysis and multiple linear regression. The study controlled for any effects of gross domestic product per capita on possible associations among variables. Despite vast differences in the countries regarding abortion, as a measure of female health status, both stand to benefit from improvements in the social, economic, and health care systems. Implications for future research included increasing the availability of contraceptives, especially for women, in both countries.

79. Sports Marketing Research: Gulf Coast Winter Horse Show
Eric O Westervelt, Burr Miller, Elio Latella, Ch ance Buskey, Michaelangelo Alverina, Jessica Hsu, Charles Hurst
Department of Health, Leisure & Exercise - OUR Funded
The research is being conducted in conjunction with the Pensacola Sports Association (PSA). The research project focuses on the early stages of Mullin’s (2000) model, which includes the core of a successful sport marketing strategy, to conduct research into the “market and product idea, understanding the sport consumer, and conducting market research.” Three major components are included in this research: (1) go into the field and conduct survey research at the Gulf Coast Winter Horse Show that is sponsored/co-hosted by the PSA; (2) statistical analyses of surveyed data; and (3) measure the economic impacts of the Gulf Coast Winter Horse Show on the Pensacola community using Mullin’s model as a theoretical framework. Through analyzing the data the research report will include an event’s participants’ demographic and spending profile to calculate its economic impact on the Pensacola community, as well as an analysis of PSAs marketing strategy effectiveness to attract sporting events to the Pensacola area.
80. The Building and Design of a Restaurant
Jordan Moss, Xuan Tran
Department of Health, Leisure & Exercise - SCAC Funded Honors Thesis
Throughout history, restaurants have been one of the most popular forms of socialization. Today, interior design's importance in defining the dining experience is rising (Leahy, 2006). People want to come to restaurants that provide them with a unique experience, and one of the best ways to give that to a customer is through design. It has been said that while there are many elements that go into making a restaurant successful, few are as important as a restaurant's design (Lieberman, 2002). In order to illustrate this point, I will design a restaurant from the ground up; this will include everything from building structure to menu to marketing plan. I will then construct a model of my newly designed restaurant. This design will enhance the atmosphere of the restaurant to create a family-friendly environment. Then I will construct a model of my newly designed restaurant. This model will contain all of my design elements, with the goal being, to show the unique qualities that I believe will make my restaurant successful.

81. Orange Beach Soccer Shootout
Thomas Henriques, Brandon Von Achen, Kathy Franklin, Teddy Joseph, Charlie Song
Department of Health, Leisure & Exercise
The research project is conducted in conjunction with the Pensacola Sports Association (PSA). The research project focuses on the early stages of Mullin's (2000) model, which includes the core of a successful sport marketing strategy, to conduct research into the market and product idea, understanding the sport consumer, and conductatory business market research. Three major components are included in this research: (1) go into the field and conduct survey research at the Orange Beach Soccer Shootout that is sponsored/co-hosted by the PSA; (2) statistical analyses of surveyed data; and (3) measure the economic impacts of US Finals Cheer Competition on the Pensacola community using Mullin's model as a theoretical framework. Through analyzing the data the research report will include an event's participants' demographic and spending profile to calculate its economic impact on the Pensacola community, as well as an analysis of PSA's marketing strategy effectiveness to attract sporting events to the Pensacola area.

82. Measuring the Participants Spending of US Finals Cheer Competition and Its Economic Impact to Pen- sacola Community
Tyler Moore, Kathryn Williams, Darvin Ignacio, Cary Powe, Charlie Song
Department of Marketing and Economics
The research is being conducted in conjunction with the Pensacola Sports Association (PSA). The research project focuses on the early stages of Mullin's (2000) model, which includes the core of a successful sport marketing strategy, to conduct research into the market and product idea, understanding the sport consumer, and conductatory business market research. Three major components are included in this research: (1) go into the field and conduct survey research at US Finals Cheer Competition that is sponsored/co-hosted by the PSA; (2) statistical analyses of surveyed data; and (3) measure the economic impacts of US Finals Cheer Competition on the Pensacola community using Mullin's model as a theoretical framework. Through analyzing the data the research report will include an event's participants' demographic and spending profile to calculate its economic impact on the Pensacola community, as well as an analysis of PSA's marketing strategy effectiveness to attract sporting events to the Pensacola area.

83. Development of B2B Solutions for the Fast Food Restaurants
June Wei, Samalaya Zabeen
Department of Management and MIS - SCAC Funded
This research is to develop business-to-business solutions for the fast food restaurants. Specifically, an electronic value chain model was developed to show how to apply information technologies and information systems in the fast food restaurant industry. Then, a set of tactical business-to-business solutions were derived based on the developed electronic value chain model. Data analysis was conducted based on data collected from 20 companies in the U.S. The results of this study will benefit decision makers and managers in the fast food restaurants when making decisions on electronic business; and therefore, accelerate the adoption of information technologies and information systems in the fast food restaurant industry.

84. Development of a Cloud-Computing based Home-Schooling Education System
Jordan Moss
Department of Management and MIS - OUR Funded
This paper aims at developing an advanced home-schooling education system at a high-school level by using cloud computing technologies. With cloud computing being used more and more in the business environment, it is becoming increasingly important to bring Cloud Computing to the High School level student. Implementation of cloud computing in public schools however; depends on the grade level, the financial condition of the school system, and the quality of the teachers available. This type of computing experience will ensure that students, as capable technology users, will benefit from the latest technology, which will give them an advantage at most colleges and universities. Specifically, a data flow model was developed to show how cloud computing can be adopted in home-schooling education. Then, a set of usability solution items were derived based on breaking down each flow in the data flow model. To support the courses, some functions such as services of teachers to create educational videos on topics related to courses and allowing students to check and let the guardians pick the proper method to teach them are provided. The scope of the system will be purely for high school levels (9-12), with material that can be used to prepare for college. After the completion of the 12th grade the student/customer will be adequately prepared for college and have a valid transcript for submission to colleges. For the implementation of this system, the guardi ans of the kids using our system will have complete control of how they teach without outside intervention.

85. Development of a Mobile Graduate Assistant with Usability Features
Chris Jefferson, Dustin Lennon, Chris Boning, Jun Wei
Department of Management and MIS - OUR Funded
The Mobile Graduate Assistant system (mGA system) is a personal assistant system designed to be used on multiple electronic mobile devices for graduates of University of West Florida or alumni graduates with a degree in the MIS (Management Information Systems) curriculum. The system is designed to operate on Microsoft Windows 10 operating system using Microsoft Access database software with the interface designed in VB.net. The mGA system is limited to a 4G, 3G, Wi-Fi network and/or Hot-Spot Wi-Fi network and is designed for users who have access to touch screen, a keyboard, and a minimum of 3.7 in. screen display on their mobile device. The mGA system is designed to operate within a cloud environment applying enhanced security profiles to protect users. With challenging economic conditions on a global scale and employment opportunities a constant concern, this system is developed to provide both graduates and potential employers with the capability to work with one another and have continuous updated data relevant for their specific needs during job placement. The mGA system is designed to assist the currently employed as well as in offering job advancement opportunities from current positions by reviewing current job postings from potential employers. As advances in this system, this system application can broaden to other degrees and user requirements with the potential of enhanced capabilities such as GPS and end user credit accounts for travel purchases during the job search process by forming organizational partnerships to further progress system design and functionality.

86. A Cubic Convergent Method for Real Symmetric Eigenvalue Problems
Zhixiai Wang (Mary), Kiyuan Li
Department of Mathematics
In this project, we will present how to use the Laguerre’s method to compute some or all the eigenvalues of a cubic matrix with multiple eigenvalue problems. The sequence generated by Laguerre’s method converges to an eigenvector cubically and monotonically. The numerical results showed that this approach is better than the Bisection and Newton methods if the eigen values are well separated.

87. Numerical Solutions for the Navier-Stokes equa- tion in Two Dimensional Space
Rebecca Smith, Darrin Ignacio
Department of Mathematics
In this project, we will study the numerical solutions for fluid dynamic systems such as the study of air flow, water flow, etc. We use the finite difference method to discretize the partial differential equations. The models will be in the two dimensional space. The equations subject to this study will include the Navier-Stokes equation and the Stokes equations. Error analysis and residual calculation will play a key role in the solution, to include condition number and will be a main focus in this study. Numerical analysis utilizing MATLAB and Maple software will be performed.

88. Statistical Modeling of Adolescent Risky Behavior and Seatbelt Use
Thapelo Ncube, Justice Mbizo
Department of Mathematics - OUR Funded
In 2009, 1,659 drivers ages 15-17 in the United States were involved in a fatal car crash and about 100 times more were reported to be involved in a crash where there was at least a possible injury (Lyan et al., 2011). My professor and I researched which particular factors increased the risk of driv ing without a seatbelt. The purpose of the study is to examine the role of risky behavioral factors and testing while driving. Rainy conditions, speeding, use of cellular phone, smoking, illicit drugs, night driving, driving with teenage passengers in car. We used data from the 2009 Youth Behavioral Risk Survey with a total of 16,345 participants. The variables of interest included: grade level of the adolescent, alcohol use, illicit drug use, socio-demographic, and driving with several teenagers. The results show a significant association with seat belt use. The models report higher rates of non-seatbelt use 11.5% than females (p<0.001). There was no significant difference by race or ethnicity (p=0.226). Higher rate of non-seatbelt use was reported among marijuana users (19.6%), cocaine users (41.4%), and heroin users (41.1%). Multivariate logistic regression result shows a strong association between the dependent variables and several covariates (gender, wearing a helmet when biking, and passenger of drunk driver, reporting use of alcohol in the last 30 days, marijuana use, cocaine use, methamphetamine use, snuffing glue or pain, and carrying a fire arm.

89. Laser Induced Fluorescence Spectroscopy of a Langmuir Monolayer of C-16 Fluorescent Dipyr i- none Liquid Crystal
Christian Struebing, Rebecca Chandler, Amy Renaud, Giovanni DeLuca, Aaron Wude, Chandra Pragyapandit
Department of Physics - OUR Funded
A C-16 Fluorescent Dipyrromone Liquid Crystal synthesized by the Chemistry department, University of West Florida, has been prepared in a Langmuir monolayer using a Nima
90. Modeling of Electric Field in a Nonparallel Plate Capacitor
Nathan Cooper, Josiah Anderson, Laszlo Ujj
Department of Physics - Our Funded
It is very important to know the electric field distribution inside a molecular filled capacitor in order to measure the dielectric dipole reorientation in an electric field. To do so we will extrapolate information from the exact analytical solution of the electric field in an infinite wedge of conductors. Using the infinite model we will find an approximation of the charge density on the plates and from there we are able to approximate the electric field and potential of our finite nonparallel plate capacitor. The results offer the exact same solution as the infinite model at the center of the cell and give us an approximation of the solution close to the edges of the cell. In order to accomplish this task we will be utilizing various tools including Maple 16 math software. The results will be used as a test case for linear spectroscopy measurement showing the vibration signature changes because of the molecular dipole reorientation.

Timothy Clark, Doug Stephen, Chris Wickerer.
Laszlo Ujj
Department of Physics - Our & SCAC Funded
We have constructed a Distributed Feedback Dye Laser (DFDL) using interferometric pumping. DFLD works according to the domain gain model creating short pulse. Shortening of the pulses, stability, and dynamic range of the DDFL were investigated. Pulses were measured with the help of a photodiode with 30 picosecond response half. Traces were recorded with a Tektronics DSA73004D (33GHz) digital serial analyses. The gain medium contains an ethanol solution of Nile Red and a saturable absorber. Increasing the concentration of DODCI saturable absorber resulted in significant pulse shortening (150 to 54 picoseconds). Single pulse generation was achieved when the power of the pump laser was adjusted 10 percent above the laser threshold. The central wavelength of the laser pulses was 580 nm. The mathematical model, optical layout of the DDFL, and the results of the temporal and spectral characterization of the laser are presented on the poster. The development of the DDFL, will lead to an extensive investigation of short pulse dyes lasers for educational purposes and for applications in nonlinear spectroscopy.

92. Dielectric relaxation in liquid crystals 4-Octyl-4-cyanoanaphenyl (8-CN) and 16-cyano-4-N phenylpyridinium Andrey A. Kondrat'ev, Chloé Renson, Aaron Wade, Chandra Prayaga
Department of Physics - Our Funded
This paper reports the study of the dielectric relaxation time of the liquid crystal 4-Octyl-4-cyanoanaphenyl (8-CN) in the smectic, nematic, and isotropic phases. The time constant of the decay was studied using a 10 mV square wave input signal. Large changes in the relaxation time were observed near the phase transitions. 8-CN was injected into a commercially available liquid crystal capacitor cell to act as a dielectric. The cell was housed in a temperature controlled environment constructed in the lab and an RC circuit was assembled using the 8-CN capacitor. The temperature of the capacitor was varied over the range 25°C to 43°C, covering all three phases. The sample was held at each temperature with a precision of 1mK using a temperature controller before measuring the voltage across the resistor with a digital oscilloscope. The input resistance (50W) of the oscilloscope was the resistance in the RC circuit. The recorded data was fitted to an exponential decay. These results give insight into the behavior of the time constant in the different phases and near the phase transitions. This method is used to study the dielectric relaxation of the new liquid crystal C-16 cyano-4-N phenylpyridinium, synthesized in the Department of Chemistry, University of West Florida.

93. Optical Investigation of Novel Liquid Crystals
Arielle Ademis, Joseph Virgilio, Aaron Wade
Department of Physics - Our Funded
We present our research on the optical investigation of the phasetransitions of novel, optically active liquid crystals (LCs) fabricated at the UW Physics Chemistry Department. As liquid crystals transition from isotropic to the nematic phase, they have various optical properties including level of alignment. This results in a change in the fluorescent spectra and transmitted optical properties as a function of temperature. Sample preparation consists of spin coating the LC, forming an optical cell. The sample is then placed in a temperature-controlled environment. Fluorescence is induced by pumping the sample at 355 nm from a frequency-tripled, pulsed Nd:YAG laser. The fluorescence is measured with a spectrophotograph. Simultaneously, the transmission is measured with a photodiode. The result shows significant changes in spectra and transmitted light near the phase transitions, allowing for precise measurements of the phase transitions.

94. Parallel Performance Analysis between Free Response Environment and the Force Concept Inventory in Introductory Mechanics Courses
Nicole Bobbitt, Aaron Wade
Department of Physics - Our Funded
This paper reports our attempts to 1) create a problem solving situation that folds in both kinematics and force discussion, and 2) find a free response model and predict common thought processes that cause typical misconceptions identified by the Force Concept Inventory (FCI). Two pen and paper test questions were designed with these goals in mind, both broken into specific elements to arrive at a quantifiable fragmentation of the necessary thought processes but any future questions, would become a tool in the classroom to pinpoint the critical ideas with which a typical student struggles during an introductory mechanics course.

95. Nonlinear Spectroscopy Investigations of Molecular Reorientation Under the Influence of an External Electric Field
Josiah Anderson, Nathan Cooper, Laszlo Ujj
Department of Physics - Our Funded
It is well known that molecules having a permanent dipole moment tend to orient in the direction of the electric field at room temperature. The reorientation can be probed with the help of linear spectroscopy methods such as fluorescence spectroscopy. We have used non-linear Raman scattering spectroscopy to quantify the orientation effect of the dipoles. The vibrational spectra of the molecules has been recorded as a function of the external electric field. The spectral change signatures observed during the measurement are directly linked to the molecular reorientation. The measurement has been recorded with a laser spectrometer comprised of a Nd:YAG laser and an optical parametric oscillator. The spectra were recorded on a charge-coupled device (CCD) detector. The newly developed method can be used to probe the orientation effect of any molecules having permanent dipole moment.

96. The Death of the Death of Philosophy: Dogmatic Science and Spectral Philosophy in Philosophic Naturalism
Jordan Stanton, Sally Ferguson
Department of Philosophy - Honors Thesis
Naturalism is a school of thought in the philosophy of science that believes all non-trivial philosophical questions are in fact scientific questions or otherwise can be significantly aided by scientific thought. Naturalism is a very successful school of thought. It is not difficult to find a first philosophy that is the foundation of science nor is it relativistic. Yet still there is a certain element of dogmatism in regards to science that exists in naturalistic thought. Also its regard for philosophy can be as that of a specter, a ghost of a school of thought that no longer exists. In general, though, naturalism’s treatment of science is similar to many other schools of thought in the philosophy of science, it dogmatizes it and considers it a natural part of the world when in fact it is just as artificial of a construction as philosophy. This is not to discount science as a commendable force for obtaining knowledge, but many naturalists believe that science may bring about the death of philosophy. I am observing, in this thesis, that naturalist may view science as more dogmatic and philosophy as more spectral than those respective fields actually are. Science and philosophy are not as different and separate as one might think. They are both interconnected webs of linguistic content that give us a variety of ways to map reality. In the end, though, we can be scientific realists, while still not bringing about the death of philosophy.

97. A Review of Preconception Peer Education Programs at Colleges and Universities
Kyone Zenobia Johnson, Sarah Rupnaraine, Erica Jordan
Department of Psychology
Preconception care aims to promote the health and wellness of women at reproductive ages before conception by way of improving pregnancy-related outcomes and preventing infant mortality. In America, women who attend colleges and universities can gain benefits from preconception programs and benefit the people in their communities by being a source of knowledge about preconception health issues. Having preconception programs at colleges and universities may also offer interventions for women to raise awareness, change behaviors, and gain knowledge about proven factors that can affect the health of them and their baby once they are pregnant. This study will review several preconception peer education programs at colleges and universities to demonstrate the need for such programs at all colleges and universities. The study will review the aspects of the programs, the programs’ effectiveness at raising awareness, and ways in which the programs’ participants gained knowledge. A comparison among the programs will be shown to show what risks factors for adverse pregnancy outcomes were used. Implications for practitioners who work with young women and directions for future research studies will be discussed.
98. An Exploration into Racial Differences in Social Anxiety and Trauma Symptomatology

Jessica Thurmond, Paul Futrell, Anna Hinesley, Paul Eastman, Raquel Lagozzino, Erica Jordan
Department of Psychology

Research suggests that people from different races may carry slightly different attitudes or reactions to stressful or traumatic experiences (Lee, Okazaki, Yoo, 2006), but on a significant level, experiences across races and cultures are generally the same. The exception to these findings is people who classify themselves as multiracial. The present study set out to assess trauma symptomatology and social anxiety among different racial groups (Caucasian, African-American, Hispanic, Asian and multiracial). Self-report questionnaires were administered to 440 undergraduate students: 135 men, 353 women, M=21.96 years, SD=6.56) through voluntary, anonymous online surveys. From this set a random sample was taken of 35 participants from each ethnic category (N=175). This investigation employed two, one-way, between-subjects analysis of variance (ANOVA). Results indicated a significant difference at the p < .05 level between the Caucasian sample and the multiracial sample [F (4, 170) = 2.63, p = .04] with regards to trauma symptomatology but no significant difference in social anxiety [F (4, 170) = 1.29, p = .28] or between any other racial samples. Though the results for social anxiety were not significant it is worth mentioning that the mean score of the multiracial sample was ten points higher than the Caucasian mean and indicated clinical levels of social anxiety. The findings suggest the need for further exploration into self-perceptual differences between racial groups and the ways in which different cultures internalize experiences.

99. Character Strengths and Academic Achievement

Jaclynn Lawhon, Erica Jordan
Department of Psychology - Honors Thesis

Previous research has shown that certain personality or character strengths can correlate to stronger academic achievement. Therefore, the purpose of this study was to examine the relationship between character strengths and academic achievement (operationally defined as grade point average). It was executed using the Values in Action Inventory of Strengths (VIA-IS) and by gathering self-report data from participants regarding their GPA. The VIA-IS is a 240-item questionnaire that was designed by Christopher Peterson and Martin Seligman in 2004. It identifies 6 virtues (wisdom, courage, humanity, justice, temperance, and transcendence) which encompass 24 strengths. Participants were recruited only at the University of West Florida (UWF) School of Psychological and Behavioral Sciences (SPBS) Psychology Research Pool (PRP). All participants were UWF Undergraduate students. Results and implications for educators will be discussed.

100. Comparing Discipline and Mother-Child Attachment in Single-Parent Versus Dual-Parent Families

Elizabeth Thomason, Patricia Hutson, Rachael Lagozzino, Erica Jordan
Department of Psychology - OUR Funded

Family structure may be an important factor that influences interactions among family members. Previous studies have found that the nature of the parent-child relationship may be different than the nature of the parent-child relationship in dual-parent families (e.g. Nobs and Smith, 2002; Aronson and Hutson, 2004). The primary objective of the present study is to determine if differences exist in mother-child attachment quality in families headed by single-mothers (without a co-parent) versus mother-child attachment quality in dual-parent families. Previous studies have also shown that the parent-child relationship can be affected by the type of discipline relied upon by parents to guide their children’s behavior (Gershoff, 2002). The secondary objective of the present study is to determine if single mothers rely on different disciplinary strategies than parents in dual-parent families. Undergraduate students attending a large, southeastern university were recruited to voluntarily participate in the study and reported on the types of discipline that they received during childhood and their current attachment quality to their mother.

101. Content analysis of helpline calls: A retrospective study

Anna Hinesley, Margeaux Donovan, Ronald Belter
Department of Psychology - OUR Funded

The current study is an analysis of crisis line calls from the years 2009 to 2012. One key factor in this particular study is that the crisis helpline from which the data were derived is located along the northeastern coast of Florida, which was affected by the Deepwater Horizon Oil Disaster in 2010. In addition to determining the overall content categories of crisis line calls, our study provides a retrospective study of changes that occurred immediately following and since the oil disaster, which yielded an economic downturn in the year following the disaster. All call sheets will be transcribed into an excel spreadsheet with data, time, length of call, present concerns, plan of action, and whether the caller is a repeat caller. The calls will be coded according to Stephanie Ingram's Boys Town Hotline Presenting Problems Codes. Only calls that are determined to be counseling calls will be selected for the coding. This research is currently in progress.

102. Co-Occurring Forms of Child Maltreatment as it Relates to Adult Social Anxiety and Trauma Symptoms in University Undergraduates

Jessica Thurmond, Erica Jordan
Department of Psychology - OUR Funded

Previous research suggests that being exposed to multiple abuse forms may lead to lower psychological functioning in adulthood (Clemmons, Delillo, Martinez, DeGue & Jekielek, 2003). The primary objective of the present study was to test for group differences in trauma symptoms among adult participants subjected to co-occurring forms of maltreatment (23.6%), one form of maltreatment (27.9%), and no maltreatment during childhood (48.5%). Another area of interest was the potential influence that co-occurring forms of child maltreatment may have on adult social functioning. Thus in addition, the second objective was to examine the relationship between co-occurring forms of child maltreatment and adult social anxiety. Self-report questionnaires were administered to 165 undergraduate students (22 men, 143 women, M=22.7 years, SD=6.7) through anonymous online surveys. This investigation employed two, one-way, between-subjects analysis of variance (ANOVA). Results indicated significantly greater trauma symptomatology at the p < .05 level in participants who experienced co-occurring child maltreatment (both physical and sexual) in comparison to participants reporting one form or no forms of maltreatment, F (2,162) = 18.5, p < .01. Participants who experienced co-occurring maltreatment also reported significantly higher levels of fear-based social anxiety, F (2,162) = 3.6, p = .03. No significant differences were found at p < .05 between participants who experienced one form of child maltreatment at another form of maltreatment experienced zone. The findings suggest that even among individuals who display qualities of resilience, multiple risks may be related to abnormal adult functioning.

103. Co-Occurring Childhood Maltreatment: An Exploration of the Predictors of Higher Academic Achievement and Social Efficacy in the Workplace

Jessica Thurmond, Nichole Humphreys, Erica Jordan
Department of Psychology - OUR Funded

This current research project is to evaluate the relationship between childhood maltreatment (e.g., neglect, sexual, physical, and/or emotional abuse) and adult academic achievement and professional relationships by looking at the influence of parent and peer attachment. It is also the intention of this project to explore the role of transgression forgiveness which decreases the level of trauma symptoms during adulthood and increases academic achievement. At least 180 undergraduate and graduate participants will be recruited through the University of West Florida School of Psychological and Behavioral Sciences Psychology Research Pool (PRP) as well as through the general student body. Participants will be administered and anonymous on-line survey in which they will answer a basic demographic questionnaire including a question about their current academic GPA, the Inventory of Parent and Peer Attachment Revised (IPPA-R), the Trauma Symptom Checklist- 40 (TSC-40), a modified version of the Life Stressor Checklist Revised (LSC-R), the Transgression-Related Interpersonal Motivations Scale, and the Workplace Social Self-Efficacy Inventory. Based on the findings of Prigoff (1999) we predict that (H1/H2) strong familial attachments will be a greater predictor of both academic achievement and social efficacy in the workplace over one’s ability to forgive past transgressions. We also predict that (H3) a higher propensity for transgression forgiveness will predict lower adult trauma symptomatology.

104. Cross-cultural comparison of resilience of parents of sick children in Colombia and the United States

Nicollete Ramirez, Sherry K. Schneider
Department of Psychology - OUR Funded

The purpose of this study is to measure the level of resilience and subjective happiness of 200 parents with sick children in Colombia and the United States. Special emphasis will be placed on maternal resilience, but fathers will also be surveyed to discern the variances in parental resilience. It has been found that maternal resilience has major implications in the resilience of their offspring (Aronowitz, & Morrison-Beedy, 2004), but to date little research has been done to document the causes of maternal resilience, and how it is connected to subjective happiness. The study will also compare the measure of parental resilience in Colombia, a patriarchal collectivist society, to the parental resilience in America, a generally masculine, individualistic society. Resilience (Wagnild, 2009) and subjective happiness of mothers is expected to be higher than fathers in Colombia, and higher than maternal resilience in the United States. The prominent role of the matriarch in Colombian society. Demographic data and open-ended question data will be used to describe any differences in resilience and happiness of parents between the two cultures.

105. Differences in How Younger and Older Adults Select Mental Health Treatments

Alaina N. Talboy, Rodney P. Guttmann
Department of Psychology - OUR Funded

Historically, research on health decision making shows how only medical practitioners utilize critical thinking skills, with the public being presented to patients. There is very little research dedicated to understanding how patients select treatments. To determine if critical thinking skills could influence treatment selection, the current study evaluated how participants...
with differing levels of critical thinking skills selected among three pharmaceutical treatment options: SSRIs, St. Johns wort, and atic berries. Researchers randomly selected participants from two samples previously col-
lected and assigned them to a younger adult or order adult category based on their age. Researchers matched the two samples as closely as possible based on ethnicity and sex. Participants were presented with three pharmaceutical treatment options, and then completed the Critical Thinking 
Questionnaire (Sharp & Herbert, 2003) all through SurveyMonkey. Results indicate that older adults have 
significantly higher critical thinking scores than younger adults, as well as a significantly higher Inference 
score. While critical thinking scores were related to treat-
ment among younger adults, the older adults’ treatment selection was not. Qualitative data suggests that 
the older adults relied on statements within the treatment description indicating whether the drug was recommend-
ed by a medical professional or not. Results also indicate 
that older adults have a significantly higher overall critical thinking score, and a significantly higher Inference score. Future research should address how this information is perceived if it is delivered in a commercial format instead of being presented as text on a computer screen.

106. Differences in Virtual Team Interpersonal Behaviors and Performance Across Technologies

Kelly J. Manning, Laura White, Sherry Schneider, Steve Kaas, Steven Case
Department of Psychology

Due to rising travel costs and facilitated by advances in multi-user communication technologies, organizations 
are increasingly using virtual technology to allow individuals to work in different locations to work together on team projects. There has been some debate over the type of virtual technology that will maximize team efficacy and social development. Media 
richness theory suggests that the more feedback or cues that are provided by the technology used in terms of information content as well as social cues, the higher team performance and social development will be (Daft & Lengel, 1986; An-
derson & West, 2003). A study was conducted to examine the effects of the types of virtual technology on the effectiveness and social interactions of 15 3-person teams completing a software engineering project in an undergradu-
ate computer course. Teams were randomly assigned to 
communicate via one of two technologies—the web conferencing program Eluminate Live/VTM or the virtual world program Second Life. Over four weeks, teams submitted several prod-
ucts to be graded, and at the end of the project participants completed surveys about their experiences with their team-
mates. Results suggest teams in Second Life were more likely to report negative team experiences such as task or emotional conflict, and less likely to report positive experiences such as collaboration and cooperation. Second Life teams were also more likely to report cheating by using technologies other than those assigned to them.

107. Effectiveness of Training Visual Working Memory in Older versus Younger Adults

Angela Macallum, Lisa Blalock, Rodney Gottmann
Department of Psychology

Our ability to encode, retain, manipulate, and retrieve visual 
and spatial information is called Visual Working Memory (VWM). VWM is typically measured using a change de-
tection task in which participants have to detect changes between to sequentially presented visual arrays (e.g., were any of the shapes replaced with a new shape?). The current experiment examined if training can improve VWM per-
formance in both older and younger adults. All participants 
completed 4 tasks: a training task, a recognition test, a VWM 
task, and a final recognition test. The results demonstrated a significant decline in performance with age but showed no 
benefits of training for either age group.

108. Parental Characteristics and Academic Success of Undergraduate Students

Katelyn Cleary, Erica Jordan
Department of Psychology

Relations between parenting characteristics (such as parental warmth, involvement, and autonomy support) and children's 
aesthetic achievement have been examined extensively by researchers (Silva, Dorso, Azhar & Renk, 2007, as cited in 
Starr, 2011; Joussemet, Landry & Kostner, 2008; Gronick, 
Ryan & Deci, 1991; Wang, Willett, Dishion, & Stormshak, 2011). However, there is also increasing evidence that parent-child 
parenting relationships have received little attention in research studies aimed at examining academic achievement in 
young adults attending universities. Similarly, relations 
between instructor autonomy support and young adult's academic achievement have also received little attention by researchers. Studies of children have found a positive rela-
tionship between parents' and teachers' autonomy-support and students self-motivation and success in school (Ryan & Deci, 1997). The primary goal of this study is to determine if 
a positive relation between parental autonomy granting and academic achievement is moderated by instructor's level of 
availability. The secondary goal of the study is to examine the effects of grade on college students' perceptions of parents' warmth, involvement, and autonomy support predict 
greater academic success both singularly and in conjunc-
tion. The hypotheses and relevant literature will be discussed in 
depth during this research proposal presentation.

109. Predictors of Burnout in University Students

Jessica Gladstone, Erica Jordan
Department of Psychology

Although burnout is typically measured in a work set-
ting, student activities can be considered a job for many students. For those students experiencing burnout, they 
also experience a decrease in motivation (Jacobs & Dodd, 2003; Law, 2007). Previous studies have looked individu-
ally at factors such as personality factors (Morgan & Bruin, 
2010), perfectionism (Gould, Udry, Tuffley, & Loehr, 1996; Mich-
eksen & Burns, 1986), stress appraisal (Meijer, 2007), and coping 
strategies (Whitman, Spendlove, & Clark, 1984) to determine the association with burnout and motivation on students. The purpose of the present study is to examine the interrelationship between 
these factors and how they influence whether a student experi-
ences burnout or not. Specifically, one relationship that we are in-
terested in is whether certain personality types in students will lead 
to a more socially prescribed perfectionism and a heightened level 
of stress causing a decrease in attendance to others and stu-
dents, with the result leading to burnout in the student.

110. Psychological Capital, Procrastination, and Persistence within the Academic Domain

John D. Halle, Sherry Schneider, Steve Vodanovich
Department of Psychology

Positive Psychological Capital (PsyCap), a higher-order construct composed of self-efficacy, optimism, hope, 
and resilience, has been significantly and positively related to desirable employee attitudes, desirable employee behaviors, 
and measures of performance. In university, some research attention has been given to PsyCap, as a higher 
order construct, in the academic domain. In the current study, no research 
to date has been undertaken to examine potential relation-
ships between PsyCap, procrastination, and persistence. The first objective of the current research was to examine the PsyCap 
(adapted from PCQ-24; Lu-
thans, Avolio, Norman, & Combs, 2006) and its academic correlates in an undergraduate student sample. The second 
objective was to compare the performance and persistence of 
PsyCap among students who scored highest and lowest in PsyCap across three experimental task conditions (i.e., initial success, initial failure, control) that involved solving analog puzzles.

111. Semantic knowledge eliminates age-related differences in Working Memory Capacity

Caroline M. Overton, Daniel R. Vaagen, Lisa VanWormer
Department of Psychology

The majority of previous research has shown clear age-related 
differences in working memory capacity (WMC), with younger 
adults outperforming older adults. The Operation 
Spans tasks typically measures WMC by asking participants to mentally 
simultaneously solving math-
ematical equations. In this study, the list of words were either categorically related (e.g., hammer, wrench, screwdriver) or were categorically unrelated (hammer, jackal, educate). When the to-be-remembered words were related, younger adults performed better than older adults; however, when the to-be-
remembered words were related, older adults performed similarly to older adults. These results suggest that older adults 
can compensate for lower semantic knowledge to eliminate age-related differences in working memory tasks.

112. Source Monitoring in a Multimedia Learning Task

Cynthia Wallace, Lisa Blalock
Department of Psychology - OUR Funded

Mayo Foundation. The current study was designed to test whether information in multimedia presentations will be remembered when it is presented in multiple modalities (i.e., visual and auditory) at the same time versus sequentially (Mayo & Gallini, 1990; Mayo & Moreno, 2003). In the current experiment, we examined this conti-
guity effect by assessing which modality participants most often remember when the information is being told to them. To 
test this we showed participants a short PowerPoint presentation on lightning formation that contained both a visual component and an audio component. We compared four presentation condi-
tions: (1) both components presented simultaneously; (2) visual aid presented first followed by an audio description; (3) the audio description presented first followed by the visual aid; and (4) a control condition that did not see or hear anything. When the 
PowerPoint presentation was completed participants were given a 
test that assessed how well they retained the information and how 
well they could transfer that information to new problems. For each 
question, participants reported what modality they remem-
bered the information from. Those in the simultaneous condition 
did the best on the retention and transfer questions compared to 
all other conditions. The control condition had the lowest reten-
tion and transfer overall. These results replicate the contingency effect predicted by the Multimedia Learning Theory. For the 
source monitoring part of the study, the majority of participants in the audio first condition recalled the information from the visual 
and auditory components of the presentation.

113. The Differential Experience of Childhood Maltsreatment Between Genders: Is It Really Different?

Jessica Gladstone, Rodney Gottmann
Department of Psychology - OUR Funded

There is currently a large body of contradicting research on the ways that males and females develop over the lifespan (McLean & 
Anderson, 2009; Weinstock, 1999). The goal of the current 
study was to explore the ways in which males and females experience childhood 
maltreatment across the lifespan. The existing research 
and based on the findings of Larsen, Sandberg, Harper & 
Bean (2011) we hypothesized that (H1) there would be no significant 
difference between the genders in either trauma symptomology or 
social anxiety in those not subjected to childhood maltreatment; and (H2) these non-significant results between genders would hold true for traumatic thoughts about childhood maltreat-
ment. Self-report questionnaires were administered to 440 un-
dergraduate students (87 men, 353 women, M= 21.96 years, SD = 
6.56) through voluntary, anonymous online surveys. From this set a 
random sample was taken of 70 males and 70 females, each com-

prised of 35 participants with and without a history of abuse. This investigation employed two, one-way, between-subjects analysis of variance (ANOVA) to assess trauma symptomatology and social anxiety. Analyses confirmed our hypotheses with no significant differences at the p < .05 level between males and females regardless of any or no history of childhood maltreatment. These findings suggest that the emphasis that is often placed on differences between the sexes may be resulting in a lack of attention to the similarities that exist and indicates the need for further research on the subject.

114. The Role of Semantics During Inhibitory Control in Cognitive Aging
Katherine Guterman, Nicolette Ramirez, Elizabeth Oconnor, Lisa VanWormer, Rodney Guttman
Department of Psychology - SCAC Funded
This study investigated whether or not older adults had more difficulty inhibiting irrelevant information than younger adults because of a decline in cognitive ability due to aging. This idea is known as the inhibitory deficit hypothesis (Hacker & Zacks, 1980). One exception to the inhibitory deficit hypothesis is that if perceptual cues are presented older adults will not show this deficit. This study investigated whether or not the semantics of a word would have an effect on inhibitory control. The extent to which the irrelevant information would have an effect of recall performance depended upon the types of words used (categorical, random, or pseudo). It was hypothesized that when the to-be-remembered words and the to-be-ignored words were the same (categorical/categorical, random/random, or pseudo/ pseudo), younger adults would outperform older adults in terms of recall. When the to-be-remembered words and the to-be-ignored words were different types, performance would be the same for older and younger adults. In the categorical condition there was no significant main effect of condition, but no main effect of age. In the random condition, there was no significant main effect of condition, but a significant main effect of age was found. For the pseudo condition, there were no main effects for either condition or age. The results support the idea that the semantics of words may have an effect on inhibitory control in both younger and older adults.

115. The Roles of Stress Perception and Attachment in Resilience of Adult Children of Alcohols
Kristen Kessler, Erica Jordan
Department of Psychology
Alcoholics has garnered the attention of psychological researchers as they uncover the effects of substance abuse on the family unit. Surprisingly, a positive aspect of this research has been the discovery of heightened levels of resilience and an absence of psychopathology in adult children of alcoholics (ACOs). Despite their challenging home lives (Berkowitz & Perkins, 2012; Carle & Chassain, 2004; Moe, Johnson, & Wade, 2007; Mylant, Ide, Caevas, & Meehan, 2002; Segrin & Menees, 1996; and Tweed & Riff, 1991), the next step is to explore various variables that may contribute to this phenomenon with the goal of enhancing treatment approaches for dealing with the negative effects which have also been documented (e.g., anxiety, alcoholism). The purpose of the proposed study is to examine relations between levels of resilience, perception of parental attachment, and parental attachment in both ACOs and non-ACOs. In addition to recruiting college students through the research pool at the University of West Florida, the sample will also include volunteers from a retirement home. Tests will be administered in survey form through the Children of Alcoholics Screening Test (CAST short version), Perceived Stress Scale (PSS), Brief Resilience Scale (BRS), and Inventory of Parent and Peer Attachment (IPPA). Open-ended questions will also obtain participant’s views in their own words. The hypothesis is that participants’ perception of stress and level of attachment to the alcoholic parent/guardian are both related to participants’ resilience will be discussed during the presentation of this research proposal.

116. The Successful Spiritual Romantic Relationship: An Overview of Common Themes of Success & Failure Across Psychological Research and Ancient & Contemporary Spiritual Temples
Margaux Donovan, Michael DeMaria
Department of Psychology - Honors Thesis
Due to high rates of divorce in the U.S. and around the world, the topic of success in the area of romantic relationships is timely and crucial to discuss. Marriage and close romantic relationships are sometimes a place of rest and solace in life, but can also often be a place of turmoil and deep emotional pain. This study attempts to focus on success rather than failure, thus taking a positive approach, in an attempt to find an intersection among different spiritual traditions as well as present-day psychological research. Success takes on an operational definition of inner peace and deep connection with both parties. Themes of success in romantic relationships are examined theoretically throughout both psychological and spiritual texts, both ancient and contemporary. Through the lens of the Buddhist tradition of Tantra, Taoism, Hinduism, and contemporary spirituality as well as controlled psychological research, a common thread of individual inner peace, wholeness, healthy independence, and spiritual connection seem to provide an environment conducive to success and unity as a couple, especially as a relationship matures. As love deepens, it becomes a choice. After the rush of the honeymoon stage, romance, love can be one of the most profound classrooms of life. While the intricacies of human connection and emotion can arguably not be measured objectively, spiritual teachers past and present seem to point to these same themes, which provide implications for future empirical psychological research in the field of marriage and family therapy.

117. Fostering Motivation
Doreen O. Cooper, Kelsey Fleming, Giang Nguyen-Nguyen
Department of Teacher Education - OUR Funded
Currently, many students are not able to perform tasks in mathematics classroom. Research indicated that these low performing students eventually lose interest in school and dislike this particular subject due to their past "failures" and grades. In an informal setting, we applied different approaches to teach mathematics and built students' confidence. Student participant in this study gradually improve their performance in mathematics content areas that they previously thought was impossible to master. Through this study, we provided evidence indicating that with a little encouragement to meet their psychological needs were beneficial to the group of lower performing students, those who failed their grades mathematic could improve their proficiency.

118. Visual representation between Basic Triangometric Functions and the Unit Circle.
Kelsey Fleming, Giang Nguyen-Nguyen
Department of Teacher Education
Many students learned to use the unit circle to determine the values of sin, cosine, and tangent. However, understanding the graphic connection between the unit circle and trigonometric functions can be challenging for students. In this project, I explored these relationships based off of an applet. Furthermore, I used the GeoGebra Dynamic Software to animate the graphs of sine and cosine functions that formed from the unit circle onto a coordinate plane. This approach would help students visualize the direct connection between cosine and sine graphs and the unit circle when solving simple trigonometric problems. Additionally, this study allows students to see the connection between the radian and degree measurements on the unit circle.

119. The Benefits of Diversity Training
Tara Jordan, Roz Fisher
Department of Interdisciplinary Studies
Since the 1980s, the idea of diversity training has been important in the corporate and business world. Until recently, there was little research that documented the effectiveness of these training sessions. With adequate research and evaluation, better and more effective training practices can be implemented and met with much better results. My presentation will cover the historical background of diversity training, along with the theory behind it. I will conclude with observations and studies, and which training methods increase the effectiveness of diversity and cultural competence training.

Performances and Presentations
Seeking Redemption: The Clergy Project applied to Kenneth Burke's Terms of Order
David Feliciano, Tresa Kelly
Communication Arts
The Clergy Project is a confidential online community, for active and former clergy who are struggling with doubts of the Berkowitz & Perkins, 2012. In a non-religious setting, I can help people better understand this transition from beginning to end. I have analyzed the Clergy Project through the lens of Kenneth Burke's guilt to redemption cycle, which examines social drama and emphasizes human desire to restore order once it erodes in an individual's search for redemption.

Robert Schumann's Illness and Its Effect on His Music
Patricia Izbicki, Hedi Salanki-Rubardt
Music
One of the compelling composers of the nineteenth-century, Robert Schumann was known for exhibiting beauty, artistry, and passion in his music. His musical compositions contain great lyricism and virtuosity. Schumann, however, was an extremely complex and troubled human being. As a young man, Schumann suffered from two major physical ailments: a hand injury and syphilis. These afflictions heavily impacted the course of his life. The hand injury ended his dream of becoming a concert pianist when he was in his early twenties. The syphilis caused increasing physical and mental pain throughout Schumann's life. In his later years, Schumann had a complete nervous breakdown likely caused by the late stages of syphilis. He attempted suicide and later admitted himself to the sanatorium in Endenich till his death. My research will examine how Schumann's physical illnesses affected his mental well being, how his medical ailments affected his style of musical composition, and the type of medical care used in the nineteenth century to treat Schumann's mental and physical conditions.