

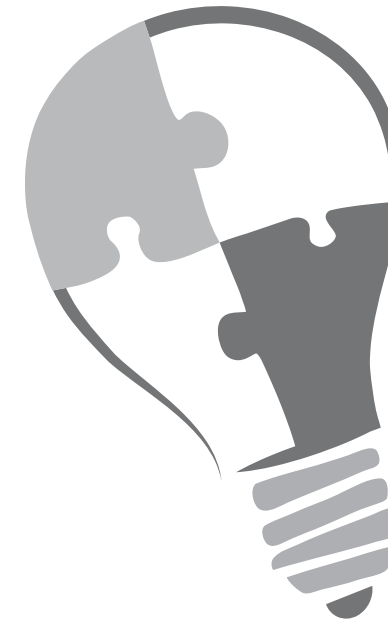


UNIVERSITY *of* WEST FLORIDA

2014
Scholars
Celebration

PROGRAM & ABSTRACTS





UNIVERSITY *of* WEST FLORIDA

2014
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Celebration

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APRIL 2014
PROGRAMS & ABSTRACTS

Editors:

Pamela Pippin Vaughan, Ph.D.

Director, Office of Undergraduate Research

Ryan Dockens

Designer

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

We would like to thank the following sponsors for the event:

Office of the President, Office of the Provost, Honors Program, SGA, UWF Faculty ADVANCE Program, Office of Undergraduate Research, Office of Research and Sponsored Programs and the Graduate School.

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.

OUR

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Special thanks to our volunteer judges and all who contributed to the organization of UWF's Scholars Celebration: Christina Boddiford, Susan Feathers, Eman El-Sheikh, Valentina Fontaine, Kelly Bennett, Robin Jones, Jennifer Vallin, Johan Liebens, Jane Caffrey, Gian-Nguyen Nguyen, Xuan Tran and Pam Vaughan.

THANK YOU

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I am happy to welcome you to the University of West Florida for Scholars Week and congratulate the students and faculty on their academic achievements. Your diligence and hard work are to be commended. This year, we are delighted to have the opportunity to celebrate these accomplishments with the UWF ADVANCE keynote and Annual Showcase, Women's Studies Conference, and Student Scholars Symposium.

Best wishes to you in your future academic endeavors. Please enjoy your time on campus with us.

Sincerely,
Judith A. Bense, Ph.D.
University of West Florida President



The Graduate School and the Office of Research and Sponsored Programs are delighted to welcome you to 2014 University of West Florida Scholars Celebration. 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 events that form this celebration illustrate the inspiring scholarship in which our faculty and students engage.

This year, we are proud to introduce the inaugural UWF Faculty Showcase. This event highlights the many research and creative activities of our faculty and provides an opportunity to share faculty scholarship with students, community representatives, and other faculty members. This new event is a natural complement to the annual Student Scholar Symposium which continues to showcase the magnificent research work of our Undergraduate, and graduate students.

We would like to extend special acknowledgements to the faculty taking part in this celebration including those presenting their works and those who, by mentoring students, 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 2014 Scholars Celebration.

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



I am pleased to welcome everyone to the University of West Florida's Scholars Celebration. This unique event provides an opportunity for both graduate and Undergraduate, students from the College of Arts and Sciences, the College of Business, and the College of Professional Studies to be recognized for their scholarly and creative work by fellow students, the faculty and others. Please accept my best wishes for your life and work in the weeks, months and years ahead.

Sincerely,
Martha D. Saunders, Ph.D.
Provost and Vice President for Academic Affairs



The faculty, staff and students of the College of Arts and Sciences (CAS) are happy to welcome you to the annual Scholars Celebration. The event offers a wonderful opportunity to showcase the scholarly and creative activities underway in the College of Arts and Sciences where our faculty and students work together on collaborative projects.

We hope you enjoy interacting with our Undergraduate, and graduate students as well as our outstanding faculty during the Scholars Celebration events.

Michael T. Huggins,
Professor and Interim Dean of the College of Arts and Sciences

WELCOME

SCHOLARS



To all faculty and students participating in the University of West Florida's Scholars Celebration, 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,
Tim O'Keefe, D.B.A.
Interim 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 Celebration. A priority goal for the College of Professional Studies is to support student participation in high-impact learning opportunities including conducting research with faculty mentors. 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.

Stacie Whinnery, Ed.D.
Interim Dean of the College of Professional Studies



SCHOLARS CELEBRATION EVENT SCHEDULE

WEDNESDAY, APRIL 16

13th Annual Women's Studies Conference
8:00AM - 5:00PM
UWF Conference Center

THURSDAY, APRIL 17

2014 ADVANCE Showcase: Celebrating Diversity and Scholarship
10:00AM - 1:00 PM
Argo Athletic Club

THURSDAY, APRIL 24

UWF Faculty Showcase
9:00AM - 11:00 AM
UWF Field House

Student Scholars Symposium
1:00PM - 4:00PM
UWF Field House and Argo Athletic Club

CFPA EVENTS

THURSDAY, APRIL 17

God's Country Performance
8:00PM
Center for Fine and Performing Arts Mainstage Theatre

TUESDAY, APRIL 22

Jazz/Band Combo
7:30PM
Center for Fine and Performing Arts Mainstage Theatre

THURSDAY, APRIL 24-MAY 3

BFA Student Exit Art Exhibition
5:00PM - 8:00PM
Center for Fine and Performing Arts Art Gallery

FRIDAY AND SATURDAY, APRIL 25-26

Film Music Concert
7:30PM
Center for Fine and Performing Arts Mainstage Theatre

WELCOME SCHOLARS

WOMEN STUDIES SCHEDULE

13th Annual Women's Studies Conference Schedule

APRIL 16

8:30-9:00 Setup

9:00-9:15 Opening Remarks

TESTIMONIAL

9:15-10:10 "Choose the Change: Ashley Donahoo"

ARTISTIC CORNER

10:10-10:25 Heather Evans: "Feminism"

10:30-12:00 Screening of *"Miss Representation"*: A film that explores how mainstream media contributes to the under-representation of women in influential positions, often by displaying them in limited and often disparaging portrayals.

12:00-1:00 Lunch and Keynote Speaker – Recipient of the Mary Rogers Award

WOMEN IN HISTORY AND GOVERNMENT

1:00-1:20 Jane Plummer: *"Viking Women: What was their position in society?"*

1:30-1:50 Alexis Causey: *"Who is speaking for Women?: The Difference in Rhetoric between Democratic and Republican Congresswomen"*

WOMEN IN-BETWEEN THE PAGES

2:00-2:20 Shannon Holst: *"Prostitution & Penitence in Moll Flanders"*

2:30-2:50 Rebecca Steward: *"A Trap Not Only of Dublin, But of Gender: Social Paralysis of Women in Dubliners"*

WOMEN'S AND GENDER ISSUES

3:00-3:20 Catie Sales: *"The Evolution of Obstetrics"*

3:30-3:50 Brooke Martin: *"Destination Objectification"*

WOMEN'S HEALTH

4:00-4:20 Claire Caillouet: *"Linguistic Isolation, Overweight, and Physical Inactivity among Florida Adolescents"*

GUEST SPEAKER

4:30-4:50 Men for Violence Prevention: A male organization on UWF's dedicated to increasing awareness of the role men play in preventing sexual violence. M.V.P. is also dedicated to increasing the prevalence of healthy and positive perceptions of masculinity.

5:00-6:00 Closing Reception and Recipients of Outstanding Presentation Awards

ABSTRACTS

ARTIST'S CORNER

1. Feminism

Heather Evans

Department of Cultural Anthropology

With as many definitions for feminism as there are people who have heard the term, the word is an integral part of our 21st century culture. Yet we each experience feminism in our own way, defining it by our personal experiences. A simple poem came to me as a way to make sense of the many aspects of feminism through the course of my life experiences. Returning to school in my early thirties, I have earned an Associates of Art, a Bachelor's Degree in Cultural Anthropology and am working on the thesis stage of a Master's in Cultural Anthropology. As a thirty-something mother of 2 teenage boys, I've come to understand feminism through a personal lens. I am paradoxically unique in the world, and one in millions just like me.

HEALTH AND WELL-BEING

2. Linguistic Isolation, Overweight, and Physical Inactivity among Florida Adolescents

Claire A. Caillouet

Department of Physical Education & Health

Social and economic conditions can affect health status in different ways. Depending on the quantity and quality of these conditions, improvement or deterioration in health status can occur. Linguistic isolation is one such social condition. Twenty-five percent of obese adults were overweight as children. Researchers reported that if an individual is overweight before 8 years of age, obesity in adulthood is likely to be more severe. Another study reported a higher prevalence of obesity in homes where English was not the primary language. In these homes this study reported an inverse association with physical activity participation.

The present study explored the relationship between 3 measures of linguistic isolation and adolescent reports of being overweight and being without sufficient vigorous physical activity for 2006 to 2010 across 67 Florida counties. Statistical techniques included partial r correlational analysis. Among high school students, but not middle school ones, being linguistically isolated was associated with being overweight across Florida counties; however, this association disappeared when controlling for median household income. None of the 3 measures of linguistic isolation were associated

with being overweight among middle school students. Only middle school students reported all 3 measures of linguistic isolation remained positively associated with reports of insufficient physical activity even after controlling for county median household incomes. Despite some differences in reports from middle and high school students regarding reports of being overweight and receiving insufficient physical activity, as measures of adolescent health status, both stand to benefit from improvements in the social, economic, and school district systems. Implications for future research included reducing the prevalence of linguistic isolation, especially among middle school students in Florida counties.

WOMEN AND GENDER

3. The Evolution of Obstetrics

Catie Sales

Department of Interdisciplinary Humanities

The topic I chose for my capstone course is Pregnancy and Childbirth Through the Ages. I chose this topic because my degree has been focused mainly on the domestic roles of women becoming more liberal and the biological aspect of the differences between the sexes.

My paper and presentation for my capstone course will look at pregnancy and childbirth beginning during biblical times thru modern times. I will identify how spiritual beliefs and traditions have changed throughout history, medical treatments and practices have progressed, the interventions now available to during childbirth. In addition I will also, provide statistics at how home births compare to hospital births and which is better for both mother and baby. I will also like to point out the medical failures that have impacted pregnancy and childbirth throughout history.

4. Destination Objectification

Brooke Martin

Department of English

Rape culture is stronger than ever and realistic media representations of media seem to be fewer and farther between. Not only is media visibility of women low, but women in positions of power and leadership also seems to be quite low for where we ought to be in the year 2014, especially when compared to many countries around the world. My focus for my paper is advertising and the ways in which its objectification and dehumanization of women impacts young men and women. While I concentrate

mostly on print advertising, I do examine a few television commercials as well. I especially focus on how the objectification and dehumanization of women leads to the perpetuation of rape and rape culture in our society, as well as the devaluation of women in general. I have been interested in the idea that in the same way that soldiers are taught to dehumanize the “enemy” in order to be able to kill people in battle more easily, perhaps advertising that dehumanizes women may perpetuate and reinforce the culture that has produced Steubenville and Vanderbilt and so many other similar scenarios. I also look at how these devaluing images of women affect the imaginations of young women when it comes to seeing themselves in leadership roles or other positions of power, and how that perhaps contributes to our lack of women in position of power today.

WOMEN IN HISTORY AND GOVERNMENT

5. Who is Speaking for Women?: The Difference in Rhetoric Between Democratic and Republican Congresswomen

Alexis Causey

Department of Government

Earlier investigations into descriptive representation in congressional politics have noted the significant difference in the representation provided by men and women. However, they largely neglect the role of partisanship in shaping the descriptive representation women in Congress provide. Additionally, they focus on bill sponsorship, committee activity, and voting behavior. In this study, we examine the rhetoric of women in Congress, asking how often women in Congress reference their gender in press releases and whether their partisanship affects this form of political speech. We intend to explore the impact of party affiliation on identify politics. We expect that Democratic women will rhetorically represent women more than Republican women. We are currently conducting this research by looking at press releases issued by congresswomen and using content analysis software to gather specific data on the terms women are using. The press releases we are examining are drawn from Legistorm, which collects them from each congresswoman’s website on the following three issues: responses to President Obama’s statement on invading Syria, responses to the contraceptive coverage mandate associated with implementation of the Affordable Care Act, and responses to the legislative compromise to end the government shutdown. These issues cover foreign, domestic, and economic policy areas and capture legislators’ behavior at discrete points in time across parties and chambers. This data analysis will provide the evidence to draw significant conclusions about the role of partisanship in women’s political rhetoric. To supplement the content analysis we plan to travel to Washington D.C. and interview congresswomen and their communications directors to better understand rhetoric differences between Democratic and Republican women.

6. Viking Women: What was their position in society?

Jane Plummer

Department of History

Vikings are commonly thought to be a group that raided and pillaged other communities with a large degree of brutality. Though Viking woman did not actually participate in the physical actions of raiding and plundering other communities, woman still had an essential role in Viking society. Viking women’s role within Viking society additionally was unique, for the time period, due to their husband’s extended time spent traveling. Viking woman were used in roles such as wife, mother, and mistress. Viking women were especially valued in Viking society for their ability to produce offspring, especially male heirs. Women were also valued for their role as being responsible for the household duties; however they were primarily valued for their abilities to produce children.

Viking woman held a unique position within their society because their spouses were often gone for extended periods of time. Viking woman therefore were given special privileges under the law while their husbands absent, this was very unique for the time period as woman were not generally recognized as independent parties under the law. In addition, as the second Viking Age began and settlement became the primary goal of Vikings, many Viking groups began to settle in harsh climates and woman participated in vital roles to maintain Viking society. Women were used in many different roles within society including roles such as wife, mother, and mistress. Each role provided woman with different legal and cultural opportunities and responsibilities. Additionally, widowed woman played an essential role in society which was also untraditional because widowed woman no longer possessed the most valued feminine quality of fertility. Viking woman played a vital role in the success of Viking society within their different positions.

TESTIMONIAL

7. Choose the Change: Ashley Donahoo

Ashley Donahoo

UWF Alumni

At the 13th Annual Women’s Conference at UWF, I would like to present my story of overcoming adversity as a woman raised in NorthWest Florida, and a UWF Alumni. At the age of 16, with two scholarships awaiting my graduation and my whole life planned out, I discovered I was pregnant. All my plans stopped. I graduated high school early, had my baby at 17, and married shortly after. I was adamant that I would complete college, though, and returned to school a few months after my marriage, at only 18 years old, with a baby and a full time job. I refused to be a statistic, and knew that with hard work I could reach my goals. My husband and I were very poor, living in small cheap apartments, sometimes working two jobs to make ends meet; but we never received public assistance. We worked hard, sacrificed, and loved our

family, and that is what sustained us for many years. Two years after starting school, I earned my AA Degree. Through many years of poverty, many health issues, and moving across country chasing paychecks, I eventually realized my health was out of control, and I was tired of being sick. At almost 300 lbs, I decided to turn my life around. I began learning about nutrition, tracking my food, and exercising. During this time, my husband and I moved our family back to Pace, FL where we grew up to raise our children, and I transferred back to UWF to finally finish my BA Degree. I had always wanted to help teens struggling the way I did, and I was excited about getting my teaching degree from UWF. I continued my health journey through this time, and just before graduating with my BA Degree with a major in History and minor in Professional Education from UWF, I had lost 137 lbs, over 100”, and 11 sizes through my own hard work and perseverance. In 2012, shortly after my graduation, I was featured on the Dr. Oz show for graduating with my Degree from UWF and my accomplishments. In 2013, I was featured on the cover of People Magazine and on 20/20, Extra, Good Morning America, and countless local, regional, and national media outlets for my weight loss story. I also became a Spokesperson for Livestrong.com, an international health and wellness site, which I utilized during my weight loss where I know help hundreds of thousands of people with daily guidance, blogs, and my story. I also have over 3,000 FaceBook followers on my page where I share inspiration, tips, recipes, etc. I have shared my story in presentations many times, and I hope I can at the UWF Women’s Conference as well. I have recently published my first book, the “Choose the Change: Cookbook & Weight Loss Guide,” sharing information and recipes I discovered and adapted along my journey, which has already had great success in its first few months. I believe that, no matter what your circumstances, you can overcome and change your life if you simply choose to and put the work in, and I am a living testament to that in every aspect of life. I wish to share this inspiration and motivation with women in particular, who often feel helpless about their situations and life trials. We women have far more power, intellect, resolution, and ability than we often give ourselves credit for, and I hope to spread this belief.

WOMEN IN-BETWEEN THE PAGES

8. Prostitution & Penitence in Moll Flanders

Shannon Holst

Department of English

Most critics perfunctorily term the character Moll Flanders as a “prostitute,” a term that Moll never once uses to identify herself in the entire novel. Moll does, however, use the term “whore” a total of 30 times in the text. The term “whore” is often used interchangeably with the term “prostitute” and generally denotes a person who does sex work. Since Moll repeatedly uses the term “whore” in the novel, critics are quick to determine that Moll Flanders

conveys the tale of a penitent prostitute. In the 18th century, the term “whore” has similar connotations as the term now possesses in Modern English. Samuel Johnson’s A Dictionary of the English Language published in 1755 does not define the term “whore” or “prostitute,” however, both terms are used in the definition of other words. According to the Oxford English Dictionary, the 18th century period usage of the term “whore” is defined primarily as “a woman who prostitutes herself for hire; a prostitute, harlot,” but the secondary definition denotes “more generally: An unchaste or lewd woman; a fornicatress or adulteress”.

But I argue that Moll is not actually a prostitute, and that Defoe’s work does not fit the literary convention of the penitent prostitute. By suggesting that the character Moll does not fit the model of the prostitute as primarily an economic victim, I instead propose that Moll Flanders demonstrates the Marxist view of capitalist ideology and that penitence derives from Moll’s position amidst the relations of production. Viewing the novel in this light changes the interpretation of the text from one of ironic moralizing into a model of economic individualism that seeks to own the means of production in order to achieve penitence.

9. “A Trap Not Only of Dublin, But of Gender”: Social Paralysis of Women in Dubliners

Rebecca Steward

Department of English

This paper focuses on James Joyce’s short story “A Mother” from Dubliners. Several interpretations of this story summarize it as a humorous satire about the Irish Revival. However, this paper looks beyond that widely accepted summary and identifies the role of the central character, Mrs. Kearney, as a resistance to the patriarchal society in which the story is set. While the audience may be less sensitive to Mrs. Kearney than other characters throughout Dubliners, Mrs. Kearney is representative of the mistreatment and double-standard which applies to Irish women in this era and culture. This insensitivity to Mrs. Kearney only further magnifies the gender injustice present in Irish society as a whole because Mrs. Kearney is symbolic of Irish women during this time period. Specifically, Mrs. Kearney occupies the role of the traditional Irish woman, restricted to the domestic sphere. While examining the narrator’s strategic use of language to portray Mrs. Kearney, the other characters, and the buildings, I assert that these elements represent Ireland’s societal resistance to women. This paper addresses how Joyce uses physical structures such as the concert hall and satirizes characters’ names and actions to gain a deeper insight into Dublin’s resistance to women outside of the domestic sphere. Therefore, I propose that the text uses language and narrative voice in “A Mother” to display male privilege and social paralysis of women in Irish history.

ADVANCE PROGRAM WELCOME



Welcome to the UWF Faculty ADVANCE Keynote Talk 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 2014 UWF Scholars Celebration. The ADVANCE Annual Showcase is an exciting opportunity to celebrate the contributions and accomplishments of the program and scholars. This year's theme is Celebrating Diversity and Scholarship. Congratulations to everyone who helped make the ADVANCE Program and Scholars Celebration a success!

Eman El-Sheikh, Ph.D.
Principal Investigator and Director, UWF ADVANCE Program

ADVANCE PROGRAM SCHEDULE

2014 ADVANCE Showcase Schedule: *Celebrating Diversity and Scholarship*

APRIL 17

10:00 – 10:20AM

Dr. Lisa Blalock (Psychology): Encoding in visual working memory

10:20 – 10:40AM

Dr. Sara Evans (Criminal Justice): The Development of Delinquency: Family and Contextual Influences

10:40 – 11:00AM

Dr. Jennifer Emery (Government): Political Partisanship in America to Recovering from Tragedy: School Shootings in America

11:00 – 11:20AM

Dr. Toby Daly-Engel (Biology): Global phylogeography of a deep-water predator, the bluntnose sixgill shark (*Hexanchus griseus*)

11:30AM – 12:00PM

Lunch

12:00 – 1:00PM

Keynote Talk: *Listening to Difference*

Dr. David Asai, Senior Director of Science Education Programs, Howard Hughes Medical Institute. At HHMI, Dr. Asai's oversees science education grants to colleges, universities, and HHMI Professors, fellowship programs for undergraduates, graduate and medical students, and science courses including the Science Education Alliance.

**This event is co-sponsored by the UWF Faculty ADVANCE Program and the UWF Office of Equity, Diversity and International Affairs.*



FACULTY SHOWCASE AND STUDENT SYMPOSIUM SCHEDULE

WELCOME SCHOLARS!

9:00 – 11:00AM

UWF Faculty Showcase in the UWF Field House

1:00PM

Student Scholars Symposium Opening Remarks,
Pam Vaughan, *Director of the Office of Undergraduate Research*
UWF Field House

1:00 – 4:00PM

Public Viewing in the Field House

1:30 – 3:30PM

Student presentations in the Argo Athletic Club and building 54 room 137.

4:00PM

Awards Ceremony, UWF Field House

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



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

FIELD HOUSE MAP

41	42	43	44	45
36	37	38	39	40
31	32	33	34	35
26	27	28	29	30
21	22	23	24	25
16	17	18	19	20
11	12	13	14	15
6	7	8	9	10
1	2	3	4	5

Podium

Field House Map of Abstracts

70	71	72	73	74	75
64	65	66	67	68	69
58	59	60	61	62	63
52	53	54	55	56	57
46	47	48	49	50	51

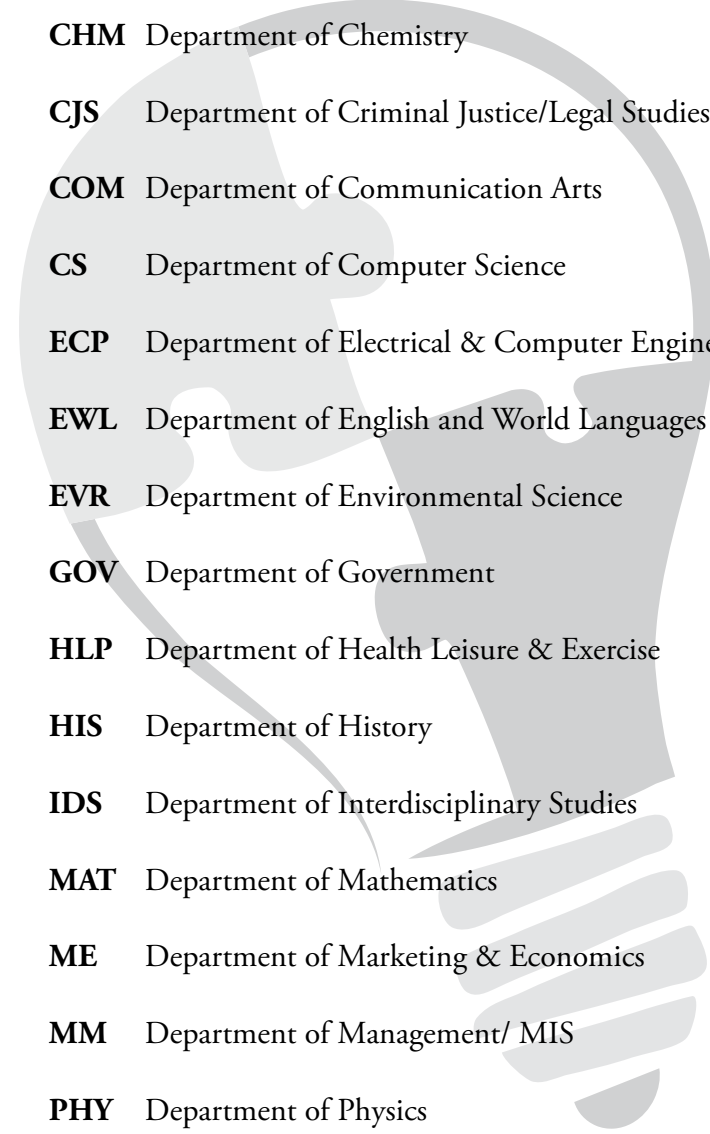
Registration Tables

Free Food in Registration Area

116	117	118	119	120
111	112	113	114	115
106	107	108	109	110
101	102	103	104	105
96	97	98	99	100
91	92	93	94	95
86	87	88	89	90
81	82	83	84	85
76	77	78	79	80

DEPARTMENT ABBREVIATION GUIDE

- ANT** Department of Anthropology
- ART** Department of Art
- 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
- EWL** Department of English and World Languages
- EVR** Department of Environmental Science
- GOV** Department of Government
- HLP** Department of Health Leisure & Exercise
- HIS** Department of History
- IDS** Department of Interdisciplinary Studies
- MAT** Department of Mathematics
- ME** Department of Marketing & Economics
- MM** Department of Management/ MIS
- PHY** Department of Physics
- PSY** Department of Psychology
- RAS** Department of Research and Advanced Studies
- TED** Department of Teacher Education
- WS** Women's Studies



Faculty Abstracts

1. *Mobile Learning Solutions at UWF*
Janusz Chudzynski, Academic Technology Center
2. *In Search of the Founders of Berlin*
Dr. Kristina Killgrove, Department of Anthropology
3. *Rebuilding and Calibrating a Matrix-Assisted Laser Desorption/Ionization Reflectron Time-of-Flight Mass Spectrometer*
Dr. Karen S. Molek, Christopher J. Van Leeuwen, Joseph T. Brice, Jacob R. Stepherson, Georgia C. Boles and Brandon A. Burnette, Department of Chemistry – Funding provided by SCAC award, other internal award, and American Chemical Society Petroleum Research Fund
4. *Semantic Traversing Documents by Using Semantic Relationships*
Dr. Bilal Gonen, Xingang Fang, Dr. Eman El-Sheikh, Dr. Sikha Bagui, Dr. Norman Wilde, Department of Computer Science
5. *Semantic Data Modeling for System & Data Comprehension*
Dr. Thomas Reichherzer, Dr. John Coffey, Dr. Bilal Gonen, and Dr. Norman Wilde, Department of Computer Science
6. *Data Mining for Network Performance Assessment*
Dr. Dallas Snider, Dr. Thomas Reichherzer, and Dr. Norman Wilde, Department of Computer Science
7. *A Knowledge Engineering, Team-Based Approach to Introducing Security Assurance Cases*
Dr. Norman Wilde, Dr. John Coffey, Dr. Laura White, Dr. Dallas Snider, Dr. Thomas Reichherzer, Dr. Eman El-Shiekh, and Dr. Bilal Gonen, Department of Computer Science—Funding provided by Northrop Grumman Aerospace Systems through the NSF Security and Software Engineering Research Center
8. *Investigation of Feasibility of Installing Campus Microgrid at the University of West Florida*
Michael Vasek and Dr. Bhuvana Ramachandran, Department of Electrical and Computer Engineering
9. *The Rate of Suicide by Drowning and the Presence of Coastal Waters*
Dr. F. Stephen Bridges and Lesley Keck, Department of Health, Leisure, and Exercise Science
10. *Temporal Distribution of Homicide-Suicide across FL Medical Examiner Districts, 1990-2010*
Karla A. Caillouet and Dr. F. Stephen Bridges, Department of Health, Leisure, and Exercise Science
11. *Effects of Exercise on Cardioprotection*
Dr. L.M. Cosio-Lima and Dr. Youngil Lee, Department of Health, Leisure, and Exercise Science
12. *Single-leg Hop Biomechanical Adaptions Following an Injury Prevention Program*
Dr. Eric Greska1, Dr. Nelson Cortes, Courtney Mincy, Dr. Jatin Ambegaonkar, Dr. Shane Caswell, Dr. James Onate
13. *Impact of a Community Health Assessment on Community-Based Obesity Prevention Efforts*
Dr. Debra M. Vinci and Dr. Susan Turner
14. *Correlates of Pancreatic Cancer by Gender in Florida Counties, 2001 to 2011*
Lesley S. Keck and Dr. F. Stephen Bridges, Department of Health, Leisure, and Exercise Science
15. *Influence of Culture on Tourist Destinations*
Dr. Xuan Tran, Department of Health, Leisure, and Exercise Science
16. *Three Studies on Consociationalism in Central Europe*
Dr. Daniel E. Miller, Dr. Philip J. Howe, and Thomas A. Lorman; Edited by Daniel E. Miller

17. *Effects of Country of Origin Image, Brand Concept and Vertical Line Extension Type on Brand Image Perceptions*
Dr. Helena F. Allman, Anton P. Fenik, and Dr. Felicia Morgan
18. *Psychological Measurement and Methodological Realism*
Dr. S. Brian Hood, Department of Philosophy
19. *Conservation vs Preservation: The Value of Wilderness*

Dr. Lawrence Howe, Department of Philosophy
20. *Does PsyCap Predict Student Persistence in the Face of Adversity?*
John D. Hale, Dr. Sherry K. Schneider, and Dr. Stephen J. Vodanovich, Department of Psychology
- 21/22. *Homeless Aging Veterans in Transition: A Life-Span Perspective*
Dr. Carla J. Thompson and Nancy Bridier, Department of Research and Advanced Studies
23. *Do Ask, Do Tell: Life after repeal of Don't Ask Don't Tell for LGBT military personnel*
Dr. Chris Cotton, Dr. Diane Scott, Dr. Robert Philen, Whitney Wessels, and Erin Haslag, Department of Social Work
24. *Physical Activity, Sleep, and C-Reactive Protein as Markers of Health in Resilient Elderly Men*
Hoyt R, Linnville S, Fields A, and Moore J
25. *Soil geography applied: Anthropogenic and lithogenic influences on the distribution of trace metals.*
Dr. Johan Liebens, Dr. Carl Mohrherr, and Dr. Ranga Rao – Funding provided by U.S. Environmental Protection Agency
26. *Differences in Virtual Team Interpersonal Behaviors and Performance Across Technologies*
Kelly J. Manning, Dr. Sherry K. Schneider, Dr. Steven J. Kass, Dr. Laura White, and Dr. Steven V. Case
27. *Development of a Reliable and Valid Faculty Culture Survey for ADVANCE Grant Institutions*
Dr. Sherry K. Schneider, Dr. Laura Bryan, Dr. Eman El-Sheikh, Dr. Rosemary Hays-Thomas, Dr. Pam Vaughan, Dr. Susan E. Walch

Student Abstracts

1. **ANT** *The Indiana Jones Effect*
Andrew McKinley: Undergraduate, Dr. Robert Philen: Faculty Mentor
2. **ART** *Living in Infinity*
Marina Quirk: Undergraduate, Jim Jipson: Faculty Mentor
3. **ART** *My Expression of Gender Dysphoria Through Painting*
Jessie Blakely: Undergraduate, Valerie George: Faculty Mentor
4. **ART** *The New Code of Ethics: An Investigation of Contemporary Museum Collection, Conservation, and Security Practices*
Meghan Bang: Undergraduate, Nicholas Croghan: Faculty Mentor
5. **ART** *Interactions*
Monterssa Mena, Undergraduate,, Faculty Mentor Valerie George
6. **BY** *Bacterioplankton Community Response to Solar Radiation in the Northeastern Gulf of Mexico*
Josette M. Hutcheson: Graduate, Katelyn Houghton: Graduate, Christian Riesenfeld: Faculty Mentor, Joseph Moss: Faculty Mentor, Richard A. Snyder: Faculty Mentor, Wade H. Jeffery: Faculty Mentor

7. **BY** *Benthic Foraminifera Community Diversity And Distribution in The Northern Gulf of Mexico*
Chelsea McCurry: Undergraduate, Richard Snyder: Faculty Mentor
8. **BY** *Characterization of Hax1 Signaling Mechanisms in fMLF Stimulated PLB-985 Cells*
John Steele: Undergraduate, Korey Koper: Undergraduate, Luke Babcock: Undergraduate, Peter Cavnar: Faculty Mentor
9. **BY** *Characterizing the role of Presenilin Enhancer Protein 2 (Pen-2) in Regulating gamma Secretase Activity*
Matthew Nalley: Undergraduate, Se Jung Gregory: Undergraduate, Dr. Hui-Min Chung: Faculty Mentor
10. **BY** *Dogfish Shark Speciation in the Gulf of Mexico*
Mariah Pfleger: Graduate, Dr. Toby Daly-Engel: Faculty Mentor
11. **BY** *Effects of Oil and Dispersants on Bacterioplankton Community Structure and Function Using 16S Rrna and Alkb Genes in the Northeastern Gulf Of Mexico*
Katelyn Houghton: Graduate, Josette Hutcheson: Graduate, Christian Riesenfeld: Faculty Mentor, Joseph Moss: Faculty Mentor. Richard Snyder: Faculty Mentor. Wade Jeffrey: Faculty Mentor
12. **BY** *Identification of Phytoplankton from Three Gulf of Mexico Estauries Using FlowCam Image Particle Analysis*
Rachael Dragon: Undergraduate, Jane Caffrey: Faculty Mentor
13. **BY** *Investigating the Role of Pen-2 on Mitochondrial Health*
Kendra Buer: Undergraduate, Patricia Izbicki: Undergraduate, Matthew Nalley: Undergraduate, Dr. Hui-Min Chung: Faculty Mentor
14. **BY** *Investigation of Hax1 and Rap1 signaling mechanisms in neutrophils*
Alianna Gilmartin: Undergraduate, Dr. Peter Cavnar: Faculty Mentor
15. **BY** *Multiple paternity and cryptic female choice in chained catshark, Scyliorhinus retife*
Stacy L. Cecil: Graduate, Toby S. Daly-Engel: Faculty Mentor
16. **BY** *Plasmid Loss in Saccharomyces cerevisiae*
Jasmine Jordan: Undergraduate, Paul Nash: Faculty Mentor
17. **BY** *Spatial and temporal variations in the community structure of marine archaea in the northeastern Gulf of Mexico*
Sarah Tominack: Graduate, Christian Riesenfeld: Faculty Mentor, Joseph Moss: Faculty Mentor, Richard Snyder: Faculty Mentor, Wade Jeffrey: Faculty Mentor
18. **BY** *Staphylococcus aureus and Methicillin-Resistant Staphylococcus aureus Prevalence and Cleaning*
Caitlin McCaffrey: Undergraduate, Kristen Coffey: Faculty Mentor
19. **BY** *The Elucidation of a New Species within the Species Complex Squalus through Morphology and Molecular Analysis*
Amber Koch: Undergraduate, Dr. Toby Daly-Engel: Faculty Mentor
20. **BY** *The Role of Hax1 in Vav1 Activation*
Jennifer Thompson: Undergraduate, Peter Cavnar: Faculty Mentor
21. **CHM** *Analysis of Energy Windows with Respect to Chemical Conformation*
Dennel McKenzie: Undergraduate, Dr. Christopher Nicholason: Faculty Mentor
22. **CHM** *Attempts at Growing Single Crystals of Copper(II) Oxalate*
Rebecca Brody Kameron: Undergraduate, Aleksandra Golanka: Undergraduate, A. Timothy Royappa: Faculty Mentor
23. **CHM** *Calibrating a HIMAS Linear Detector on a Matrix-Assisted Laser Desorption/Ionization Reflectron Time-of-Flight Mass Spectrometer*
Christopher Van Leeuwen: Undergraduate, Jacob Stepherson: Undergraduate, Elizabeth Lirette: Undergraduate, Karl Reyes: Undergraduate, Karen Molek: Faculty Mentor, Karen Molek: Faculty Mentor
24. **CHM** *Conformational Analysis of Aplyronine C*
Tessa Hutchinson: Undergraduate, Christopher Nicholson: Faculty Mentor
25. **CHM** *Conformational Analysis of FD-895: Measuring Flexibility and Rigidity of Different Dihedral Angles in the Ring*
Sheneika Jackson: Undergraduate, Christopher P. Nicholson: Faculty Mentor
26. **CHM** *Determination of Picomolar Levels of Synthetic Peptide LSEAL by Liquid Chromatography/Mass Spectrometry*
Matthew Nalley: Undergraduate, Huy Pham: Undergraduate, Dr. Fred Hileman: Faculty Mentor, Dr. Rodney Guttman: Faculty Mentor, Dr. Fred Hileman: Faculty Mentor
27. **CHM** *Effects of Salinity and Photo-degradation on the Adsorbance of PAHs by Plastic Resin Pellets*
Alyssa West: Undergraduate, Kyra Murrell: Undergraduate, Pamela Vaughan: Faculty Mentor
28. **CHM** *Examining the Effects of Environmental Conditions on Photo-degradation Kinetics of PAH Mixtures*
Jini Curry: Undergraduate, Dane Brankle: Undergraduate, Dr. Pamela Vaughan: Faculty Mentor
29. **CHM** *Hydration of decorative beads: An exercise in data taking, calculations, and graphing the data.*
Rebecca Hill: Undergraduate, Christopher Nicholson: Faculty Mentor
30. **CHM** *Identification and Quantification of Common Classes of Flavonoids by Liquid Chromatography-Mass Spectrometry.*
Robert Lynch: Undergraduate, Rajarshi Ghosh: Graduate, Frederick Hileman: Faculty Mentor
31. **BY** *Seasonal changes of epiphyte populations and overlying water nutrients in bodies of water in Pensacola, FL*
Natalie Hunt, Undergraduate, Jane Caffrey: Faculty Mentor
32. **CHM** *Synthesis and Characterization of Novel Fluorescent Organic Materials*
Se Jung Gregory: Undergraduate, Jamie Trindell: Undergraduate, Alex Vega: Undergraduate, Alan Schrock: Faculty Mentor, Karen Sinclair: Faculty Mentor, Michael Huggins: Faculty Mentor, Pamela Vaughan: Faculty Mentor
33. **CHM** *Synthesis and characterization of surface modified zinc oxide quantum dots*
Samuel Bynum: Undergraduate, Lena Ibrahim: Undergraduate, Hailey Egado-Betancourt: Undergraduate, Dr. Karen Molek: Faculty Mentor
34. **CHM** *Synthesis and characterization of titanium oxide nanopowders*
Christen K. Butterfield: Undergraduate, Tia K. Boucher: Undergraduate, Gregory S. Kostelac: Undergraduate, Karen S. Molek: Faculty Mentor
35. **CHM** *Synthesis of biologically useful Benzo[b]thiophenes via Iodocyclization/Etherification multicomponent reaction*
Cathlene Del Rosario: Undergraduate, Jason Craig: Undergraduate, Renee Shavnore: Undergraduate, Tanay Kesharwani: Faculty Mentor
36. **CHM** *Synthesis of Copper (I) Oxalate Complexes*
Deke Blum: Undergraduate, Tien Duong: Undergraduate, Jacob Stepherson: Undergraduate, Oliver Vu: Undergraduate, A. Timothy Royappa: Faculty Mentor
37. **CHM** *Synthesis of HIV-1 Capsid Protein Inhibitors*
Tia Jarvis: Undergraduate, Aliya Chaudhry: Undergraduate, Zachary Whitescarver:

- Undergraduate, Erica Moffitt: Undergraduate, Samuel Bynum: Undergraduate, Wes Gambrill: Undergraduate, Alan Schrock: Faculty Mentor, Michael F. Summers: Faculty Mentor, Michael T. Huggins: Faculty Mentor
- 38. CHM** *Synthesis of Organic Light Emitting Diodes*
Chelsea Carter: Undergraduate, Andrew Place-Burtner: Undergraduate, Andrew Ephron: Undergraduate, Gregory Kostelac: Undergraduate, Daniel Speed: Undergraduate, Alan Schrock: Faculty Mentor
- 39. CHM** *Synthesis, characterization, and surface assisted laser desorption/ionization of Manganese Oxide nanopowder*
Tia Boucher: Undergraduate, Chris Van Leeuwen: Undergraduate, Karen Molek: Faculty Mentor
- 40. CHM** *The Effect of Emulsifiers on the Cationic Ring-Opening Polymerization of Glycidol*
Carla M. Staton: Undergraduate, Elisey A. Shcherbina: Undergraduate, A. Timothy Royappa: Faculty Mentor
- 41. CHM** *Transketalization Kinetics of a Solketal Derivative and Acetophenone*
Ken Ulrich: Undergraduate, Baylen Thompson: Undergraduate, Dr. Alan Schrock: Faculty Mentor
- 42. CS** *Race to the Finish: A Comparison of AI Search, Navigation, and Pathfinding Algorithms*
Brett Rowberry: Graduate, AI Research Group: Undergraduate, Eman El-Sheikh: Faculty Mentor
- 43. ECP** *Design of a Home Control System*
John Spitznagel: Undergraduate, Laura Vunkannon: Undergraduate, Alexander Scanlon: Undergraduate, Geverson Dossantos: Undergraduate, Mohamed Khabou: Faculty Mentor
- 44. ECP** *Energy Management System for a Micro-Grid Community*
Joseph McPlamer: Undergraduate, Joseph Flaws: Undergraduate, Lindsey McCambry: Undergraduate, Chris Quesada: Undergraduate, Dr. Bhuvana Ramachandran: Faculty Mentor
- 45. ECP** *Design of a Solar Tracking System*
Andreas Fuchs: Faculty, Michael Barrett: Undergraduate, David Snyder: Undergraduate, Bradley Whitfield: Undergraduate, Travis Wilson: Undergraduate, Andreas Fuchs: Faculty Mentor
- 46. ECP** *IEEE Southeast Con Hardware Competition 2014*
Jorge Rojas: Undergraduate, Carlos Sierra: Undergraduate, Derek Lake: Undergraduate, Nathan Riddle: Undergraduate, Timothy Stewart: Undergraduate, Dwight Patterson: Undergraduate, Eric Jones: Undergraduate, William Mantell: Undergraduate, Andreas Fuchs: Faculty Mentor
- 47. CJS** *Legitimacy Granted: Placing the Police Gang Suppression Unit Within the Context of Moral Panic*
Wells Anthony Bibo: Graduate Matthew S. Crow: Faculty Mentor
- 48. CJS** *Winning a Trial Before It Even Begins: The Art and Science of Jury Selection*
Kyle Harwell: Undergraduate, Zachary Farrington: Undergraduate, Kimberly Tatum: Faculty Mentor
- 49. ANT** *The Decision Behind Piracy: An Anthropological Approach to Determine the Factors that have Influenced Life into Piracy through a Historic Comparison*
Breanna Ifland: Graduate, Greg Cook: Faculty Mentor
- 50. CS** *High Speed 3D Flight Path Tracking and Reconstruction*
Robert Fortenberry: Undergraduate, Jimmy Touma: Faculty Mentor
- 51. EWL** *Human Warmth*
Rebecca Raley: Undergraduate, Regina Sakalarios-Rogers: Faculty Mentor
- 52. EWL** *Things Fall Apart, Arrow of God, and No Longer at Ease: A Critical Analysis of Chinua Achebe's*

- African Trilogy as an Expositor of the Effects of Colonialism*
Candace Lewis: Undergraduate, Gregory Tomso: Faculty Mentor
- 53. EVR** *An Analysis of Midwest Drought Variability*
Zackary Leady: Undergraduate, Bethany Walkinshaw: Undergraduate, Dr. Jason Ortegren: Faculty Mentor
- 54. EVR** *Atlantic Basin Climate Indices and Their Relation to Category 5 Hurricane Frequency*
Jeremy Mullins: Undergraduate, Jason Ortegren: Faculty Mentor
- 55. EVR** *Mob Grazing Effects on Soil Health: Aggregate Stability, Hydraulic Conductivity, and Bulk Density*
Traci Goodhart: Undergraduate, Zachary Leady: Undergraduate, Christopher Head: Undergraduate, Johan Liebens: Faculty Mentor
- 56. EVR** *Mob Grazing Effects on Soil Health: Earthworms, pH, Soil respiration, and Organic Matter*
Zachary Leady: Undergraduate, Traci Goodhart: Undergraduate, Christopher Head: Undergraduate, Johan Liebens: Faculty Mentor
- 57. EVR** *Modeling Disturbance and Succession in the Tall Timbers Research Station, Florida*
Jeremy Snyder: Graduate, David Cambron: Graduate, Taylor Seamon: Graduate, Connor Wagner: Undergraduate, Dr. John Waldron: Faculty Mentor
- 58. EVR** *Sediment Variation within the Swash Zone, Northwest Florida*
Peter Tereszkiwicz: Undergraduate, Klaus Meyer-Arendt: Faculty Mentor
- 59. GOV** *An investigation into the correlation between inequality and the recent Great Recession*
Esayas Mulat: Undergraduate, Dr. Williams: Faculty Mentor
- 60. GOV** *Does Western European's progressive economy attract immigrants from less developed countries?*
Dominique Biela: Undergraduate, Dr. Williams: Faculty Mentor
- 61. GOV** *Exploring the male versus female ratio inconsistencies due to the "One Child Policy" in China:*
Nicole Quinn Clyatt: Undergraduate, Dr. Jenna Emery: Faculty Mentor
- 62. GOV** *Global Financial Crises*
Kara Brown: Undergraduate, Dr. Michelle Williams: Faculty Mentor
- 63. GOV** *How much do you know about your local government?*
Cody Childress: Undergraduate, Dr. Williams: Faculty Mentor
- 64. GOV** *Immigration Rates in European Union vs Non-European Union States*
Alexis Causey: Undergraduate, Michelle Williams: Faculty Mentor
- 65. GOV** *The Effects of High Stakes Testing on Political Awareness*
Terry Knowles: Undergraduate, Kara Brown: Undergraduate, Dr. Jennifer Emery: Faculty Mentor
- 66. GOV** *What Caused the Global Financial Crisis?*
Previn Coleman: Undergraduate, Dr. Michelle Williams: Faculty Mentor
- 67. GOV** *What Makes an Effective Congress?*
Andrew Riffle: Undergraduate, Dr. Emery: Faculty Mentor
- 68. GOV** *Who is Speaking for Women?: The Difference in Rhetoric Between Democratic and Republican Congresswomen*
Alexis Causey: Undergraduate, Jenna Emery: Faculty Mentor, Jocelyn Evans: Faculty Mentor
- 69. GOV** *Do Democracy and Immigration Go Hand-in-Hand?*
Raquel Fors: Undergraduate, Dr. Michelle Williams: Faculty Mentor

70. HLP *Assessing the effects of program design on hip angles while performing the clean and jerk exercise.*
Mariel Crawford: Undergraduate, Charles McCrory: Undergraduate, Dr. Eric Greska: Faculty Mentor, Dr. Eric Greska: Faculty Mentor

71. HLP *Effects of Moderate-Intensity Endurance Exercise on Mitochondrial Biogenesis in Neutrophils*
Rick Perry: Graduate, Dr. Ludmila Cosio Lima: Faculty Mentor

72. HLP *Mean Body Weight Percentages to Weight Lifted by Gender and Age for Community-Dwelling Senior Adults*
Karla A. Caillouet: Graduate, Nikolas Hoskins: Graduate, Ludmila Cosio-Lima: Faculty Mentor

73. HLP *Mindfulness Intervention in a Worksite Setting*
Shelby Vaughn: Graduate, Dr. Debra Vinci: Faculty Mentor

74. HLP *Quantitative Analysis of Biomechanical Movement Patterns and Skill Development of the Fitnessgram and T-Scale Push-up Protocols*
Jeremy Provence: Graduate Eric Greska: Faculty Mentor

75. HLP *The Effect of Prophylactic Ankle Taping, Lace up Brace and Kinesio Tape on the Ankle During Walking, Agility and Vertical Jump*
Christina Moya: Graduate, Dr. Eric Greska: Faculty Mentor

76. HLP *The Effects of an Acute Bout of Intense Cycling on HSP72 and Inflammatory Cytokine Production in Neutrophils*
James Lewis: Graduate, Dr. Eric Greska: Faculty Mentor, Dr. Youngil Lee: Faculty Mentor

77. HLP *Linguistic Isolation, Overweight, and Physical Inactivity among Florida Adolescents*
Claire A. Caillouet: Undergraduate, F. Stephen Bridges: Faculty Mentor, Karla A. Caillouet: Faculty Mentor

78. HIS *Opportunist Nazis: Or how Albert Speer, Joachim von Ribbentrop, and Baldur von Schirach Joined the Nazi Party for Personal Gain Rather than Ideology*
Caroline V Rohe: Undergraduate, Dr. Derek Zumbro: Faculty Mentor

79. MM *Zombology: A Study of the General Public's Typical Misunderstandings of the Undead*
Rafael Isaac Reyes: Undergraduate, Dr. Randall Reid: Faculty Mentor

80. IDS *Motivating Fifth Grade Students in Mathematics*
Megan McClinnis: Undergraduate, Giang Nguyen-Nguyen: Faculty Mentor

81. IDS *The Effect of Traditional Greek Myths and Religious Practices on the Peloponnesian War*
Elizabeth Lirette: Undergraduate, Marie Therese Champagne: Faculty Mentor

82. ME *Medical Tourism in the United States: What Do We Know?*
Hannah Bowling: Graduate, Dr. Helena Allman: Faculty Mentor

83. ME *Creative Analysis: Comparative Study of Brooks Brothers' Past, Present, and Future Marketing*
Sabrina Trice: Undergraduate

84. MAT *A Root Finding Method*
Camila Cabral: Undergraduate, Kuiyuan Li: Faculty Mentor

85. MAT *Comparison of the Zero-Inflated Poisson Distribution, Poisson Distribution, And Conway-Maxwell Distribution in Modeling of Natural Disaster Data sets in the United States*
Thapelo Ncube: Undergraduate, Anthony Okafor: Faculty Mentor

86. MAT *Subclinical Hypothyroidism and the Risk of Cardiovascular Disease*
Elizabeth Allgood: Undergraduate, Dr. Anthony Okafor: Faculty Mentor

87. MAT *The Language of Mathematics for Autism Spectrum Students*
Rachel Annette Henry: Undergraduate, Amber Sufnar: Undergraduate, Dr. Giang-Nguyen Nguyen: Faculty Mentor

88. PHY *Characterization and Calibration of a Combined Laser Raman, Fluorescence and Coherent Raman Spectrometer*
Carlos Lawhead: Undergraduate, Nathan Cooper: Undergraduate, Josiah Anderson: Undergraduate, Dr. Laszlo Ujj: Faculty Mentor

89. PHY *Development of a Technique to Measure the AC Magnetic Susceptibility of Liquid Crystals*
Brett-Michael Green: Undergraduate, Christopher Messina: Undergraduate, Thomas Gunn: Undergraduate, Aaron Wade: Faculty Mentor, Chandra Prayaga: Faculty Mentor

90. PHY *Development of Laser Induced Grating Method for Condensed Matter Studies*
Arielle Adams: Undergraduate, Kenneth DaVico: Undergraduate, Aaron Wade: Faculty Mentor

91. PHY *Polarization Sensitive Coherent Raman Measurements of DCVJ*
Josiah Anderson: Undergraduate, Carlos Lawhead: Undergraduate, Nathan Cooper: Undergraduate, Laszlo Ujj: Faculty Mentor

92. PHY *Quantum Simulation of Long-Range Magnetism*
Omer Haq: Undergraduate, Thomas Gunn: Undergraduate, Shanna Muehe: Undergraduate, Brean Maynard: Undergraduate, Christopher Varney: Faculty Mentor

93. PSY *A Descriptive Study of Work, School, and Life Balance among UWF Students*
Casilda Ruiz: Undergraduate, Ryan Bird: Graduate, Valerie Morganson: Faculty Mentor

94. PSY *Context Imagery in Survival Processing*
Angelica Sullivan: Graduate, Lisa VanWormer: Faculty Mentor

95. PSY *Discrimination, Affective Reactions, and Forgiveness in LGB individuals*
Shane T. W. Kuhlman: Graduate, Jesse M. Ruiz: Undergraduate, Kelly J. Manning: Graduate, Kyle W. Harwell: Undergraduate, Monika L. Hauck: Undergraduate, Natalie S. Bain: Graduate, Susan E. Walch: Faculty Mentor

96. PSY *Effects of High and Low Tempo Music on a Cognitive Task*
Yasmine Nabulsi: Undergraduate, Mandy Johnson: Undergraduate, Ernest Drinkwater: Undergraduate, Dr. Lisa Blalock: Faculty Mentor

97. PSY *Hemispheric Differences in Time Perception in Older & Younger Adults*
Kimberly Chafin: Graduate, Dr. Lisa Blalock: Faculty Mentor

98. PSY *Media and Body Image: The Role of Parent-Child Attachment*
Stacey R. Bass: Graduate, Dr Erica Jordan: Faculty Mentor

99. PSY *Mindful Awareness and Acceptance of Discrimination and Sexual Minority Distress*
Dolph Todd: Graduate, Erin M. Scully: Graduate, Elizabeth M. O'Connor: Graduate, Wendy Gonzalez-Canal: Graduate, Kyle W. Harwell: Undergraduate, Susan E. Walch: Faculty Mentor

100. PSY *Service with a Smile, NOT!: Effects of Emotional Labor and Burnout on Turnover Intention*
Ashley Ruth Christie: Undergraduate, Dr. Valerie Morganson: Faculty Mentor

101. PSY *Sexual awareness, religiosity, and well-being among GLB-identified individuals.*
Tamara Powell: Graduate, Dolph Todd: Graduate, Dr. Susan Walch: Faculty Mentor

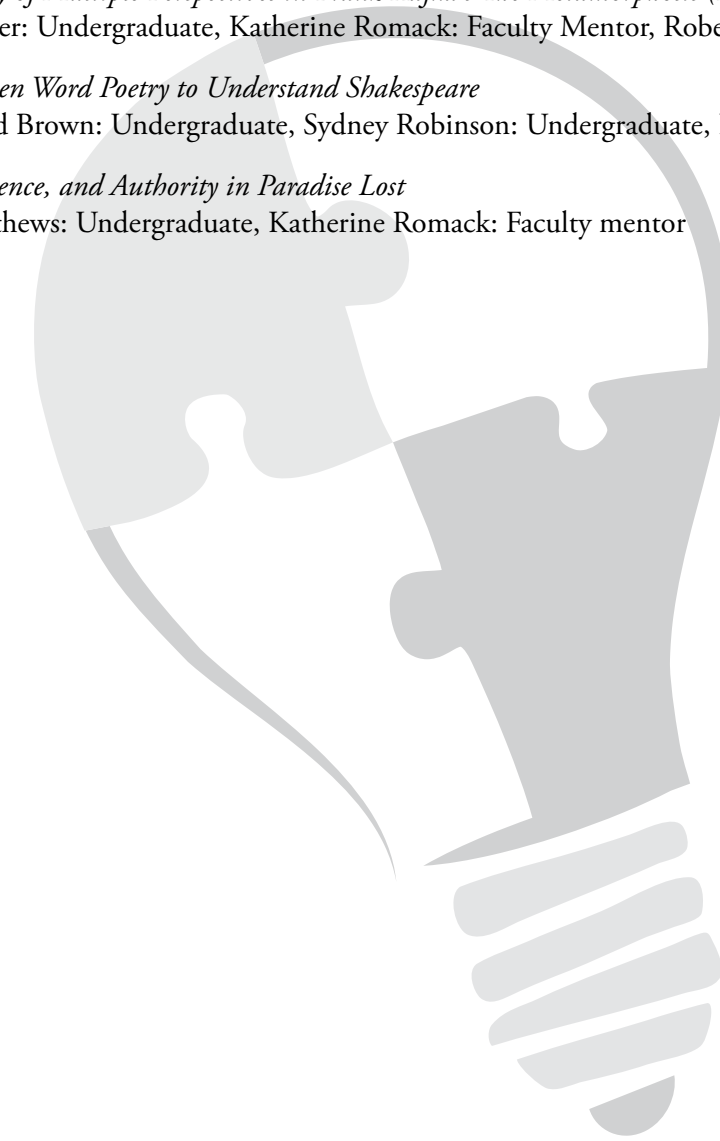
102. PSY *The Gender Issue: The Impact of Gender and Gender Role Ideology on Work, School, and Life Balance*
Ty S. Bennett: Undergraduate, Sadie O'Neill: Graduate, Valerie J. Morganson: Faculty Mentor

- 103. PSY** *The Role of Teacher Supportive Behaviors in Contributing to Work-School Balance*
Kayla Duperreault: Graduate, Valerie J. Morganson: Faculty Mentor
- 104. PSY** *Workaholism and Work-School Conflict*
Leigh Phillips: Undergraduate, Kayla Duperreault: Graduate, Valerie Morganson: Faculty Mentor
- 105. RAS** *American History and Disney*
John Woods: Graduate, Susie Jans-Thomas: Faculty Mentor
- 106. RAS** *Cuba: Life on the Island through the Eyes of an Active Witness*
Daniel S. Correa: Graduate, Sarah Z. Jonas: Graduate, Susan J. Jans-Thomas: Faculty Mentor
- 107. RAS** *Desegregation of Pensacola's Lunch Counters 1960 to 1962*
Sarah Z. Jonas: Graduate, Dr. Susan J. Jans-Thomas: Faculty Mentor
- 108. RAS** *Historiography: A Qualitative Research Strategy*
Daniel S. Correa: Graduate, Kym Atwood: Graduate, Devin Blackmarr: Graduate, Joc Calloway: Graduate, Charletha Declouet: Graduate, Wesley Delaware: Graduate, Douglas Doidge: Graduate, Maria C. Leite: Graduate, Kelly McGaughey: Graduate, Dynita Padgett: Graduate, Virkeisha Palmer: Graduate, Roger Rose: Graduate, Timothy Sowers: Graduate, Robyn Strickland: Graduate, John Woods: Graduate, Susie, Jans-Thomas: Faculty Mentor
- 109. RAS** *Vietnamese Refugee Camp Eglin Air Force Base, Florida 1975*
Maureen W. Howard: Graduate, Sarah Z. Jonas: Graduate, Daniel S. Correa: Graduate, Robert J. Barkley: Graduate, Kym Y. Atwood: Graduate, Dr. F. Stephen Bridges: Faculty Mentor, Dr. Susan J. Jans-Thomas: Faculty Mentor
- 110. TED** *Internationalizing Teacher Education: Preservice Teachers' Perceptions of Intercultural Sensitivity and Global Competency*
Kaori I. Burkart: Graduate, Carla J. Thompson: Faculty Mentor
- 111. TED** *Reaching Beyond A Degree*
Michelle Williams: Undergraduate, Giang-Nguyen Nguyen: Faculty Mentor
- 112. TED** *Unlocking Math Strategies for Educational Standards*
Sharee Rosado: Undergraduate, Giang- Nguyen Nguyen: Faculty Mentor
- 113. WS** *Destination Objectification*
Brooke Martin: Undergraduate, Roz Fisher: Faculty Mentor
- 114. ES** *Spatial and Temporal Variability of *Karenia brevis* within the Choctawhatchee Bay System*
Claire Lacey: Graduate Matthew Schwartz: Faculty Mentor

Oral Presentations:

- COM** *A Smoking Gun: A study of the ethics of The New York Times in the Judith Miller case*
Haley Chouinard: Undergraduate, Bruce Swain: Faculty Mentor
- EWL** *God's Special Embalming Skill: Preservation, Permanance, and the Memento Mori Tradition in John Donne*
Rebecca Steward: Undergraduate, Angela Calcaterra: Faculty Mentor Kathy Romack: Faculty Mentor
- EWL** *Aristotelian Influence in Milton's Theology--Presentation*
Erica K. Miller: Undergraduate, Dr. Romack: Faculty Mentor
- EWL** *Barred and Bawdy: The Under- and Misrepresentation of Shakespearean Women*
Brooke Martin: Undergraduate, Kathy Romack: Faculty Mentor

- EWL** *Digital Writing and Higher Order Thinking in Postsecondary English Studies: Applying Bloom's Revised Taxonomy to ENC2990*
Hunter Brown: Undergraduate, Judith Steele: Faculty Mentor
- EWL** *Portia's Power Plays in The Merchant of Venice*
Carole Toler: Undergraduate, Dr. Katherine Romack: Faculty Mentor
- EWL** *Real Enough? Characters Acting Outside Their Best Interests, How the Story Is Affected, and How It Is True to Life*
Christian Pacheco: Undergraduate, Jonathan Fink: Faculty Mentor
- EWL** *The Validity of Multiple Perspectives in Franz Kafka's The Metamorphosis (Presentation)*
Terry Griner: Undergraduate, Katherine Romack: Faculty Mentor, Robert Yeager: Faculty Mentor
- EWL** *Using Spoken Word Poetry to Understand Shakespeare*
John David Brown: Undergraduate, Sydney Robinson: Undergraduate, Kathryn Romack: Faculty Mentor
- EWL** *Eve, Obedience, and Authority in Paradise Lost*
Dylan Mathews: Undergraduate, Katherine Romack: Faculty mentor



FACULTY ABSTRACTS

1. Mobile Learning Solutions at UWF

Janusz Chudzynski
Academic Technology Center

The UWF Academic Technology Center is known for providing support and training programs for faculty members across campus. Less known, however, is the work of the Research and Development (R&D) section of the ATC. ATC's R&D section is continually engaged in the research and development of innovative technological applications that facilitate the teaching and learning process. This presentation will highlight practical use-cases of mobile technologies developed by Janusz Chudzynski at ATC and will show examples of how these mobile solutions are used across different disciplines and audiences. From apps for soldiers deployed to Afghanistan to dining apps to controlling homes using mobile devices, a variety of projects and concepts will be explored.

2. In Search of the Founders of Berlin

Dr. Kristina Killgrove
Department of Anthropology
SCAC Funded

Berlin, Germany, was founded in the 12th century, but almost no historical documentation survives from that time. Historians have long wondered who the founders were and where they came from. In order to help answer this question, I obtained two dozen teeth from individuals buried in Petriplatz, the location of the earliest modern cemetery in the outskirts of Berlin. Strontium isotope analysis of their dental enamel has revealed several people who arrived there from points west and south. These findings, although preliminary, fit with the general eastward movement of people who settled Germany in the Middle Ages. With over 3,000 burials, the cemetery of Petriplatz is a treasure trove of information about the founding of Berlin that we have only begun to explore.

3. Rebuilding and Calibrating a Matrix-Assisted Laser Desorption/Ionization Reflectron Time-of-Flight Mass Spectrometer

Dr. Karen S. Molek, Christopher J. Van Leeuwen, Joseph T. Brice, Jacob R. Stepherson, Georgia C. Boles and Brandon A. Burnette, Department of Chemistry – Funding provided by SCAC award, other internal award, and American Chemical Society Petroleum Research Fund

A matrix-assisted laser desorption/ionization reflectron time-of-flight mass spectrometer (MALDI RTOF-MS) was rebuilt and calibrated. Optimized voltage potentials were computed using SimION Ion and Electron Optics Simulator and the computed potentials were used to optimize the experimental voltage potentials. The standards used were samples of C-60 fullerene, Bradykinin Fragment 1-7, ACTH Fragment 18-39, Angiotensin II, P14R, and Insulin chain B oxidized which provided a mass range between 720-3494 Da. A stacked microchannel plate (MCP) detector was used to detect ions. The data was collected using Tektronix DPO 3054 oscilloscope in combination with National Instruments LabView software and was analyzed using Igor. The experiments were reproduced and mass spectra collected were compared to literature spectra to ensure accuracy.

4. Semantic Traversing Documents by Using Semantic Relationships

Dr. Bilal Gonen, Xingang Fang, Dr. Eman El-Sheikh, Dr. Sikha Bagui, Dr. Norman Wilde
Department of Computer Science

This project applies semantic annotation to textual artifacts to support discovery and search of information in large volumes of documents. Instead of hyperlinks, semantic links are introduced into the documents that allow users to navigate among documents by named relations between the concepts in the documents. The named relations may include causal relations, classifications, co-occurrence, and more. We developed a tool “Semantic Browser” which uses ontologies for annotating documents with semantic information. It allows users to search for related information based on knowledge captured by the ontology. Let's say as a software engineer, you are looking for documents containing “GetUSPSRate” and what interfaces it has. You do an initial query on “GetUSPSRate” and are offered several files containing the term “GetUSPSRate” in them. Assume the “OrderProcessing.bpel” file contains “GetUSPSRate”, and the user selects this file. The content of the file appears in the Semantic Browser. The named entities, which we have in our ontology, appear highlighted and underlined. You click on the “GetUSPSRate” in the text, and are offered some relationships, such as; “is a”, “has interface”. You select “has interface” relationship from the list, and are offered a list of interfaces, which come from the ontology. You select “USPS.GetUSPSRate.Interface” from the list, and are offered all

of the files which contain the term “USPS.GetUSPSRate.Interface”. After clicking one of the file names from the list, the content of the file appears in the browser.

5. Semantic Data Modeling for System & Data Comprehension

Dr. Thomas Reichherzer, Dr. John Coffey, Dr. Bilal Gonen, and Dr. Norman Wilde

Department of Computer Science

Funding provided by Software2 Engineering Research Center

Healthcare information systems collect and provide vast amounts of information for the purpose of delivering a variety of different services to constituents of the healthcare market. Modern systems have become huge, complex, and difficult-to-understand with no real consistency in the use or meanings of the vocabularies that describe the collected data, the services, or service providers. Every organization that builds and manages its own healthcare information system must address issues of software evolution and interoperability among different systems to be able to meet new demands in the market. As is well known, changes and reuse of software requires deep understanding of code and data representations, which becomes progressively more difficult as the systems grow in size and complexity. An additional challenge for engineers working with healthcare information systems is the interpretation of electronic health data whose content and structure is based on a vast and complex vocabulary with little standardization. This research project aims to develop a knowledge model that can provide semantic information to existing data models and services in the healthcare provider domain. The goal of developing these models is to describe the vocabulary of healthcare providers as known by domain experts, to capture nuanced, subtle differences among concepts and relations within the vocabulary, that are critical for understanding abstract data models and data structures used by information systems. The knowledge models provide contextual information needed by software engineers to build and maintain software systems. For building the models, we will use concept mapping, a proven technology that helps people express and visualize their knowledge.

6. Data Mining for Network Performance Assessment

Dr. Dallas Snider, Dr. Thomas Reichherzer, and Dr. Norman Wilde

Department of Computer Science

Funding provided by Northrop Grumman Aerospace Systems through the NSF Security and Software Engineering Research Center

Today's warfighter is increasingly dependent on networked systems and information from unmanned aerial vehicles to provide up-to-the-minute conditions on the battlefield; therefore the network must continually perform at optimum levels. The goal of this emerging government/industry project is to apply data mining and analytics to

provide a method for identifying potential bottlenecks in these heterogeneous air-to-ground networks and their causes before they become critical. In this paper, we describe how we will apply the knowledge discovery process to assist in the mitigation of network problems to reduce the risks to personnel and assets. We will present our methodology to integrate data from sources such as avionics systems, ground stations and the networks themselves. Also to be presented are our proposed methods to select features, classify, cluster and discover associations in frequent patterns found in the data. Finally, we will describe our planned feedback mechanism for mitigating the network bottlenecks.

7. A Knowledge Engineering, Team-Based Approach to Introducing Security Assurance Cases

Dr. Norman Wilde, Dr. John Coffey, Dr. Laura White, Dr. Dallas Snider, Dr. Thomas Reichherzer, Dr. Eman El-Sheikh, and Dr. Bilal Gonen

Department of Computer Science

Funding provided by Northrop Grumman Aerospace Systems through the NSF Security and Software Engineering Research Center

To improve the security of software systems we need to improve the software development processes used to produce them. Security assurance cases have been proposed as a way of establishing security properties of software at different phases of the software development lifecycle. However, security assurance cases are difficult to write, communicate and introduce into an already burdened software development process. We evaluated a team-based, knowledge engineering approach to introduce software security assurance cases in the form of concept maps to neophytes. This approach allowed the study's participants to engage in conversations with security experts about security requirements for their software and with knowledge engineers to construct concept maps demonstrating how their software met the requirements. Our survey results and feedback show great promise for our method to be effective and efficient for disseminating knowledge about software security to new hires and students.

8. Investigation of Feasibility of Installing Campus Microgrid at the University of West Florida

Michael Vasek and Dr. Bhuvana Ramachandran

Department of Electrical and Computer Engineering

Micro-grids (MG) are small power systems that are composed of several Distributed Generators (DGs) that are interconnected by distribution networks. DGs in a MG include photovoltaic, small wind turbines, energy storage devices (batteries, fuel cells, super capacitors and flywheels), combined heat and power, and controllable loads. MG can be used either (i) in parallel with the main grid (grid connected mode) or (ii) can be made to operate independently (islanded mode). Grid connected mode is preferred when the load

demand is very high compared to the installed capacity of the MG. Islanded mode of operation is preferred when there is an abnormal operation in the main grid side (in the event of a bulk generator failure or other emergency operating condition) so that the MG can be disconnected from the main grid and will still be able to deliver reliable power to the consumers. The advantages of installing a MG in a University campus are increased reliability, significant savings on monthly energy bills, local electricity generation using renewable energy sources, and a reduction in carbon footprint.

9. The Rate of Suicide by Drowning and the Presence of Coastal Waters

Dr. F. Stephen Bridges and Lesley Keck

Department of Health, Leisure, and Exercise Science

Some researchers have reported that the availability of lethal mechanisms for suicide, like the use of toxic domestic gas, car exhaust, and firearms, increases their use for suicide. Other studies in the extant literature have not supported such a view. The present study explored whether Florida counties which border the Atlantic Ocean and the Gulf of Mexico have higher rates of suicide by drowning than inland counties. Data are from 2007 to 2012 for 42 of 66 counties for which data is available. No data are available for the sixty-seventh county, i.e., Union County. The presence of Atlantic Ocean or the Gulf of Mexico was associated with both the average age-adjusted rate of suicide by drowning and the average percentage of suicides using drowning (point-biserial $r = -0.30$, one-tailed; $r = -.045$); however, the negative coefficients were not in the direction predicted. Interestingly, for these same counties the presence of Atlantic Ocean or the Gulf of Mexico was not associated with the average age-adjusted rate of drowning (point-biserial $r = 0.051$). Given that drowning rates were rounded up to one decimal place suggest the need for further study. In sum, the presence of an ocean or gulf was not associated with a greater rate of suicide specifically by drowning. This study has failed to support a previous research assertion that the availability of a lethal method for suicide may affect the use of that method for suicide.

10. Temporal Distribution of Homicide-Suicide across FL Medical Examiner Districts, 1990-2010

Karla A. Caillouet and Dr. F. Stephen Bridges

Department of Health, Leisure, and Exercise Science

The temporal distribution of 577 homicide-suicides in Florida were available for 1990 to 2010 for 24 medical examiner districts comprising 67 counties. Results, though based on only a small sample, suggest no seasonal, monthly, or daily peaks in homicide-suicide.

11. Effects of Exercise on Cardioprotection

Dr. L.M. Cosio-Lima and Dr. Youngil Lee

Department of Health, Leisure, and Exercise Science

Internal Funding

Heart disease is the leading cause of death in the United States. Growing evidence has shown that regular bouts of endurance exercise provide significant cardioprotection against cardiovascular diseases. Nonetheless, the mechanisms responsible for exercise-mediated cardioprotection remain in large unknown. Mitochondria are indispensable organelles that provide energy for cells to sustain incessant cardiac function, but when damaged, they critically contribute to myocardial cell death. Therefore, maintaining mitochondrial quality control is very important. Interestingly, endurance exercise causes cardioprotective mitochondrial traits where damaged proteins and small organelles are disposed. Specifically, our central hypothesis is that regular endurance exercise promotes removal of dysfunctional mitochondria by autophagy and provides cardioprotection. Objectives and methods: A total of forty eight to sixty Sprague-Dawley rats will be used (8 to 10 per each group) for the proposed experiment. Sedentary and exercising rats will be compared for cardiac cell and mitochondrial function after inducing myocardial infarction. We will use ex vivo rat heart attack model of myocardial I/R surgery and isolation of cardiomyocytes from the adult mouse heart, and to visualize mitochondrial morphology and autophagy of a single cardiomyocyte, we will use confocal microscopy.

12. Single-leg Hop Biomechanical Adaptions Following an Injury Prevention Program

Dr. Eric Greska¹, Dr. Nelson Cortes², Courtney Mincy¹, Dr. Jatin Ambegaonkar², Dr. Shane Caswell², Dr. James Onate³

1. Department of Health, Leisure, and Exercise Science, University of West Florida

2. George Mason University

3. Ohio State University

Injury prevention programs (IPP) have demonstrated positive results in reducing the incidence of traumatic lower extremity (LE) injuries. However, it is not well documented how biomechanical alterations caused by IPP's contribute to improved physical performance. The objective of this study was to evaluate the effects of an IPP on bilateral LE biomechanics during a single-leg hop task (SLH). Sixteen female collegiate soccer athletes (19.3 ± 1.0 years; 1.67 ± 0.05 m; 62.7 ± 5.9 kg) participated in the study. A motion-capture system assessed LE biomechanics at pre- and post-IPP, while participants performed three SLH bilaterally (dominant [DOM], non-dominant [NON]) from a force-plate. A 10-week IPP was integrated into normal team practice and included agility and plyometric drills emphasizing proper body positioning. Mean peak knee flexion (KF) and abduction (KA) were appraised during propulsion phase (PP), takeoff, touchdown, and landing phase (LP). Normalized peak ground reaction forces (GRF), were measured during PP. Repeated measures ANOVAs assessed the effects of training and leg dominance. At pre-IPP, SLH displacement

significantly differed between legs ($p=0.013$), and post-IPP, training significantly improved both legs ($p=0.026$). KF significantly decreased pre-to-post-IPP at PP for training ($p=0.017$) and dominance ($p=0.015$). KA significantly differed pre-to-post-IPP during PP for training ($p=0.025$) and dominance ($p=0.026$), and at takeoff, touchdown, and LP for training ($p=0.016$; $p=0.001$; $p=0.002$; respectively). Pre-to-post-IPP, training significantly increased GRF anteriorly ($p=0.001$). Previous researchers have suggested increased LE injury risk due to inter-limb differences. Our results demonstrated inter-limb equivalence in SLH force-production and displacement post-IPP, with KA shifting toward a more neutral frontal-plane alignment. Thus, the increased ability and frontal-plane neutrality exhibited between legs may be an influencing factor in how the IPP can reduce LE injury risk.

13. Impact of a Community Health Assessment on Community-Based Obesity Prevention Efforts

Dr. Debra M. Vinci¹ and Dr. Susan Turner²

1. Department of Health, Leisure, and Exercise Science, University of West Florida

2. Florida Department of Health Escambia County

In 2005, a health assessment was implemented in NW Florida to define the vision for the future health of the region. This resulted in the formation of a community collaborative under the direction of a Leadership Team and five Solution Teams charged to set goals and advocate for change through community-based interventions. The purpose of this study was to assess activities of the Health Solutions Team (HST) in its "mission to educate and motivate children and families to practice healthy lifestyles including physical activity and healthy nutrition thereby reducing childhood obesity and its effect on future generations". Using a timeline approach, a content analysis of HST minutes/documents from 2007-2012 were utilized to gain insight into the activities of the HST related to its mission. Phase 1 analysis indicated that HST initially implemented nutrition and physical activity interventions targeting after-school programs. While 85 children attended these classes, HST determined that future efforts needed to have a wider reach fostering a lifestyle approach. Efforts shifted to supporting school gardens. HST fostered community partnerships to raise funds and provide infrastructure to support the gardening movement. These efforts resulted in the growth of school gardens from one in 2007 to 24 in 2012 impacting participating schools' culture related to nutrition and physical activity. Community health assessment provided the framework for collaborative community effort to address childhood obesity. Phase 2 analysis will focus on a mixed methods approach to gain insight into schools' culture/policies as a result of the inclusion of gardens within schools' infrastructure.

14. Correlates of Pancreatic Cancer by Gender in Florida Counties, 2001 to 2011

Lesley S. Keck and Dr. F. Stephen Bridges

Department of Health, Leisure, and Exercise Science

There is a limited understanding of the etiology of pancreatic cancer. Cigarette smoking has been identified as the only modifiable risk factor; however, other factors may contribute to the risk of occurrence. The present study explored the correlates of pancreatic cancer among white residents of Florida, replicating the methods of a previous study. Methods: Pearson correlation coefficients were explored between pancreatic cancer incidence rates by county and independent variables by sex. The results of the correlation analyses were used to identify the variables to be considered in a stepwise linear regression, entered in order of highest to lowest Pearson's correlation coefficient. Results: Pancreatic cancer incidence was significantly correlated with paper, construction and demolition debris, food waste, and yard trash for males and both sexes combined. Significant correlations were obtained for pancreatic cancer incidence and paper, food waste, and lung cancer incidence for females. A significant association between pancreatic cancer incidence and construction and demolition debris was found, while the previous study found significant associations between pancreatic cancer incidence and percent smokers and yard trash. Conclusion: Potential differences in the results of the previous study and the current study include methodological considerations, data availability, and ecological factors. Intercorrelation effects were examined in the current study and are not discussed in the previous study. Unlike the previous study, medical records of the pancreatic cancer patients were not available for examination in the current study. Finally, changes in the independent variables over time may have contributed to the differences in the results.

15. Influence of Culture on Tourist Destinations

Dr. Xuan Tran

Department of Health, Leisure, and Exercise Science

Funded provided by SCAC award

As the challenge of culture differences affects economic incentives, a culture model integrated with hospitality and tourism is becoming an effective strategy to study. This study examined the Lewis model (2006) based on McClelland's theory (1985) of effects of nationality culture differences on economic incentives, e.g., the top ten tourist earners as they correspond to nationality culture. The hypothesis is that economic incentives, including tourism, employment, economic development, and military participations, may be associated with the culture of the nation. Methods: Using Thematic Apperception Test modification (McClelland, 1961) on ten countries, the present study has examined the Lewis model to find three significant associations between Linear Active and Achievement, Multi-linear Active and Power, and Reactive

and Affiliation in top ten tourist destinations in 2012 (France, USA, China, Spain, Italy, Turkey, Germany, UK, Russia, and Malaysia). Findings: The findings indicate that (1) the countries with a high need for achievement possess the Linear Active culture in Lewis model, (2) the countries with a high need for power possess the Multi-linear Active culture in the Lewis model, (3) the countries with a high need for affiliation possess the Reactive culture in the Lewis model, and (4) the countries with a high need for achievement appeal most to international tourists, and (5) the countries with a high need for power appeal more to tourist receipts. Conclusion: These findings suggest that culture may have a significant role in the economic development of a community. Implications will be discussed.

16. Three Studies on Consociationalism in Central Europe

Dr. Daniel E. Miller¹, Dr. Philip J. Howe², and Thomas A. Lorman³; Edited by Daniel E. Miller

Partially funded by SCAC award and grant from University of Wyoming at Laramie, American Heritage Center

1. *Department of History, University of West Florida*
2. *Adrian College*
3. *University College London*

The authors will apply the theory of consociational democracy to the Habsburg Monarchy before 1914 and one of its successor states, the Czechoslovak First Republic (1918-1938). A brief chapter on consociationalism will introduce the theory, which guarantees minorities a say in governments and helps preserve democracy where ethnicity, religion, or other factors fragment societies. In another chapter, Howe will account for the development of democratic, consociational mechanisms, during the latter part of the nineteenth century until the beginning of the First World War, in the Austrian portion of the Habsburg Monarchy. Miller will argue that the consociational theory best accounts for the unusual aspects and, what some have termed the undemocratic features, of the interwar Czechoslovak system, such as frequent government changes and extraconstitutional and extraparlimentary bodies that planned and executed government policy. Lorman's chapter will examine Slovak politics within Czechoslovakia between the world wars from the standpoint of consociationalism to show how various political parties cooperated to administer the province and to look after Slovak interests in Czechoslovakia.

17. Effects of Country of Origin Image, Brand Concept and Vertical Line Extension Type on Brand Image Perceptions

Dr. Helena F. Allman¹, Anton P. Fenik², and Dr. Felicia Morgan¹

1. *Department of Marketing and Economics, University of West Florida*
2. *University of Tennessee*

This research examines how the interplay among

micro level country of origin image (product-country and product-category favorable versus unfavorable), brand concept (prestige versus functional) and vertical line extension strategy (upward versus downward) affects brand image perceptions when brands introduce new products in their existing product categories. Furthermore, this study examines how the interactive effects of the three factors (country of origin image, brand concept and vertical line extension type) on brand image evaluations vary among culturally different groups of global consumers. Both U.S. and foreign brands in two product categories (automobiles and wrist watches) are examined in this research. Consumers from two countries (United States and India) are surveyed in order to test the hypothesized cross-cultural effects.

18. Psychological Measurement and Methodological Realism

Dr. S. Brian Hood

Department of Philosophy

Within the context of psychological measurement, realist commitments pervade methodology. Further, there are instances where particular scientific practices and decisions are explicable most plausibly against a background assumption of epistemic realism. That psychometrics is a realist enterprise provides a possible toehold for Stephen Jay Gould's objections to psychometrics in "The Mismeasure of Man" and Joel Michell's charges that psychometrics is a "pathological science." These objections do not withstand scrutiny. There are no fewer than three activities in ongoing psychometric research which presuppose a commitment to a minimal epistemic realism. Those activities include selecting between different models for representing data, estimating ability in the context of item response theory, and the move to make the individual the fundamental unit of analysis in psychometrics thereby calling for a shift in what sorts of data are evidentially relevant. In none of these activities are the commitments and disregard for evidence that Gould and Michell find objectionable or "pathological."

19. Conservation vs Preservation: The Value of Wilderness

Dr. Lawrence Howe

Department of Philosophy

This essay explores the early roots of the debate over conservation vs preservation of wilderness in America at the beginning of the 20th century. Two key figures, Pinchot and Muir, are addressed. The author argues that until a preservationist view of wilderness is established, as against the conservationist approach, there are anthropocentric, i.e. human-centered, reasons for the protection of wilderness areas that sharply contrast with the conservationist position of sequestering wild lands for future anthropogenic practices. Finally, the author argues for an eco-centric -- system sensitive -- position regarding land use.

20. Does PsyCap Predict Student Persistence in the Face of Adversity?

John D. Hale, Dr. Sherry K. Schneider, and Dr. Stephen J. Vodanovich

Department of Psychology

In Study 1, PsyCap and its academic correlates were examined in an undergraduate student sample (N = 218). PsyCap was positively related to happiness and positive affect, and negatively related to depression, anxiety, and stress among students. A new negative relationship was found between PsyCap, procrastination, and GPA. In Study 2 (N = 76), the performance and persistence of those low, intermediate, and high in PsyCap were compared across three levels of manipulated Task 1 Probability of Success (i.e., Low Probability of Success: LPS; Intermediate Probability of Success: IPS; and High Probability of Success: HPS). As predicted, there was a main effect of PsyCap on persistence on a subsequent anagram task. Although the hypothesized interaction with initial task success was not significant, the trend was in the expected direction such that High PsyCap participants demonstrated higher levels of adaptive persistence and performance, particularly after being assigned to the LPS.

21/22. Homeless Aging Veterans in Transition: A Life-Span Perspective

Dr. Carla J. Thompson and Nancy Bridier

Department of Research and Advanced Studies – Internal Funding

The need for counseling and career/educational services for homeless veterans has captured political and economic venues for more than 25 years. Veterans are three times more likely to become homeless than the general population if veterans live in poverty or are minority veterans. This mixed methods study emphasized a life-span perspective approach for exploring factors influencing normative aging and life-quality of 39 homeless veterans in Alabama and Florida. Seven descriptive quantitative and qualitative research questions framed the investigation. Study participants completed a quantitative survey reflecting their preferences and needs with a subset of the sample (N=12) also participating in individual qualitative interview sessions. Thirty-two service providers and stakeholders completed quantitative surveys. Empirical and qualitative data with appropriate triangulation procedures provided interpretive information relative to a life-span development perspective. Study findings provide evidence of the need for future research efforts to address strategies that focus on the health and economic challenges of veterans before they are threatened with the possibility of homelessness. Implications of the study findings provide important information associated with the premise that human development occurs throughout life with specific characteristics influencing the individual's passage. Implications for aging/homelessness research are grounded in late-life transitioning and human development intervention considerations.

23. Do Ask, Do Tell: Life after repeal of Don't Ask Don't Tell for LGBT military personnel

Dr. Chris Cotton, Dr. Diane Scott, Dr. Robert Philen, Whitney Wessels, and Erin Haslag

Department of Social Work

The study explores life after Don't Ask, Don't Tell policy repeal for active duty military and veterans to determine what, if anything, has changed for LGBT military since the ban has been lifted. Northwest Florida is particularly well suited for this research project because it is known as the Cradle of Naval Aviation in addition to being home to six military installations encompassing all branches of military service. The study has used a combination of purposive and snowball sampling to recruit participants. Flyers have been posted around the University of West Florida campus and in local bars, clubs, and other settings frequented by LGBT individuals; social media has also been utilized. In spite of intrepid marketing efforts, participants have been slow to volunteer themselves, leading the researchers to speculate that there is still a lot of fear and stigma, even among veterans. Preliminary findings from participant interviews will be presented with a discussion of the themes that emerged.

24. Physical Activity, Sleep, and C-Reactive Protein as Markers of Health in Resilient Elderly Men

Hoyt R. Linnville S, Fields A, and Moore J,

School of Allied Health and Life Sciences and Department of Psychology

There is ample evidence inadequate physical activity (PA) and sleep lead to a myriad of health problems, particularly in the elderly. Objective analysis of these risk factors may lead to more accurate diagnoses and treatment to prevent, reduce, or reverse adverse conditions. Two such methods for consideration are actigraphy and the biomarker C-reactive protein (CRP). Purpose: This research was conducted to determine if physical activity and sleep, measured by actigraphy, combined with CRP levels indexed health in elderly men; particularly veterans who were psychologically resilient to their combat and/or a prisoner of war experience. Methods: Physical activity and sleep were assessed in 120 veterans, aged 61-86 years, most (92%) of them nearly 7 consecutive days and nights with ActiGraph™ GT3X+ monitors. Self-reported measures and CRP data were collected at their annual medical evaluation between May 2012 and June 2013 and final analysis was completed between August and December 2013. Results: Resilient individuals were more physically active and had significantly lower CRP levels (p=.046) as compared to nonresilient individuals. Low cardiac risk patrons (CRP <.1 mg/dl) were significantly more physically active than high cardiac risk participants (CRP >.3 mg.dl), and 53% of the resilient individuals (n=51) were in the low-risk category. Sleep quality and quantity were adequate (90%) for this elderly cohort and not significantly associated with CRP levels. Conclusions:

These results suggest CRP levels can index state of health in the elderly and future research is warranted for actigraphy and CRP as means to address lifestyle inadequacies.

25. Soil Geography Applied: Anthropogenic And Lithogenic Influences on the Distribution Of Trace Metals.

Dr. Johan Liebens¹, Dr. Carl Mohrherr², and Dr. Ranga Rao²

Funding provided by U.S. Environmental Protection Agency
1. Department of Environmental Studies
2. Center for Center for Environmental Diagnostics and Bioremediation

The present study evaluated the concentrations, spatial distribution and potential origin of trace metals (As, Cd, Cr, Cu, Hg, Ni, Pb, Zn) in surface soils in an area with contrasting land uses (urban vs. rural) and contrasting soils (low, young sandy soils vs. higher and older clayey soils). A sample was collected from the top 5 cm of apparently undisturbed soil at 126 sites in NW Florida. To evaluate if the trace metals originate from anthropogenic activities two indexes, the index of geoaccumulation and the enrichment factor, were applied. Results show that As, Pb, Zn, Cd and Cu concentrations are above natural background levels in at least some parts of the study area. Statistically significant differences between urban and rural areas were not observed. The two indexes yield consistent results and show that Pb and Zn have the largest anthropogenic component of the metals studied. Factor analysis of the trace metal concentrations together with concentrations for lithogenic metals show that in the present study area Cr and Ni are predominantly of lithogenic origin. Hotspot analysis in a GIS demonstrates that the trace metal concentrations are significantly higher in the old industrial part of the city. The results of this study indicate that the influence of a medium size city on trace metal content of soils may be limited beyond the immediate vicinity of industrial areas and major roads and that mainly lithologic characteristics, possibly affected by broad scale human activities, determine the content of most trace metals in surface soils in this type of environment.

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

Kelly J. Manning¹, Dr. Sherry K. Schneider¹, Dr. Steven J. Kass¹, Dr. Laura White², and Dr. Steven V. Case² -- Internally Funded

1. Department of Psychology
2. Department of Computer Science

To compare team effectiveness of student software engineering teams using virtual world technology, 45 undergraduates were split into 15 3-person teams. Teams were randomly assigned to communicate via the virtual world program Second Life™ or a web-conferencing program. After the projects were completed, 37 students completed extra-credit questionnaires containing valid and reliable scales (all Chronbach's Alpha coefficients over .70): quality of

work (Lind, 1999); social identity (Ashforth & Mael, 1989); satisfaction with technology (Gunawardena & Zittle, 1997); task and social cohesion (Carless & DePaola, 2000); task and emotional conflict (Chattopahdyay, George, & Shulman, 2008); trust, knowledge sharing, and team interdependence (Staples & Webster, 2008); and social presence and sociability (Kreijns et al., 2004). Correlational results suggest the new conceptual model we proposed has promise. Although there was no significant difference in overall performance between communication conditions, perceived quality of group work differed, $F(1,35) = 6.11, p = .018$. Students in the web-conferencing group rated the quality of work higher than those in virtual worlds, $M = 5.93 (SD = 0.77)$ and $M = 4.98 (SD = 1.51)$ respectively. Perceived emotional conflict also differed, $[F(1,35) = 10.36, p = 0.003, \text{web-conferencing } M = 5.93 (SD = 0.88), \text{virtual world } M = 4.98 (SD = 1.47)]$. Web conferencing members also acted more cooperatively ($M = 5.96, SD = 0.90$) than virtual world members ($M = 4.44, SD = 1.64$), and coordinated their efforts more effectively, $F(1,35) = 12.82, p = 0.001$. Implications for student software teams are discussed.

27. Development of a Reliable and Valid Faculty Culture Survey for ADVANCE Grant Institutions

Dr. Sherry K. Schneider¹, Dr. Laura Bryan², Dr. Eman El-Sheikh³, Dr. Rosemary Hays-Thomas¹, Dr. Pam Vaughan⁴, Dr. Susan E. Walch¹

Funding provided by National Science Foundation
1. Department of Psychology, University of West Florida
2. University of Baltimore
3. Department of Computer Science, University of West Florida
4. Department of Chemistry, University of West Florida

Researchers engaged in a comprehensive process to develop a faculty culture survey appropriate for a Masters-level regional comprehensive university. The survey was to serve as a baseline to measure progress towards a culture supportive of women faculty in the STEM disciplines over the course of the ADVANCE grant. Previous surveys from other ADVANCE institutions were reviewed, as well as literature on work-life support. Focus groups of female STEM faculty, an internal steering committee of stakeholders, and an external steering committee from other ADVANCE institutions and STEM organizations gave feedback on the survey draft. The empirically-derived scales and subscales developed were University Culture (Governance, Faculty Togetherness), Department Culture (Fairness, Respect, Supervisor Support), Diversity Culture (Strategic Priority, Women, Faculty of Color), Faculty Searches, Work-Life Climate, Workload, Flexible Work Policies, Tenure/Promotion, Dual Careers, and Childcare. After a pilot test, the anonymous survey was administered online by an external consultant to 587 faculty and adjuncts (56.2% response rate). Of 278 tenure-line faculty, 142 (51%) completed the survey. All scales were reliable (Chronbach's Alpha > .70) except two (Dual Careers

and FSOP). As expected, these scales were significantly correlated with satisfaction with work-family balance, burnout, engagement, job satisfaction, and identity with and commitment to the university.

STUDENT ABSTRACTS

1. The Indiana Jones Effect

*Andrew McKinley: Undergraduate,
Robert Philen: Faculty Mentor,
Department of Anthropology
Honors Thesis*

Too often, when archaeology students tell others about their major, the immediate response is to ask, "So, you want to be the next Indiana Jones?" For computer engineering majors, the response might be Bill Gates instead of Indiana Jones, or for theater majors, the response might be Marilyn Monroe. But unlike those other majors, archaeology students are associated with a fictional character that George Lucas created. The purpose of "The Indiana Jones Effect" is to further explain this phenomena of how the fictional character of Indiana Jones has influenced archaeology. This is not a defense of Indiana Jones or his archaeological field work in the Indiana Jones movies, rather this study addresses how popular culture has affected the field of archaeology, how the media has romanticized archaeology, and how Indiana Jones has, in fact, had a positive influence on archaeology.

2. Living in Infinity

*Marina Quirk: Undergraduate, Jim Jipson: Faculty Mentor
Department of Art
OUR Funded*

I create art to provoke emotion, to challenge ideas, and to revive the natural beauty of this world. I fabricate sculptural installations that provide a space where spirituality and science can be realized and effortlessly coexist. My ideas are manifested by employing a range of interactive mixed media for all participants to have the opportunity to experience a higher sense of reality. Through my work, I connect a physical and metaphysical realm of exploration into the eternal. As an artist, my objective is to involve the audience and allow a space of relaxed contemplation and appreciation. My exit show titled, "Living in Infinity" will provide that space as my ideas are implemented to those present. I will create a dynamic transformative environment to the public that will motivate, influence, and inspire my community. I will bring like-minded people together,

to communicate and share ideas and experiences of their personal journeys. My artwork investigates ideas of the self, longevity of Earth, and environmental and spiritual awareness. As a human being, my objective is to improve myself and improve communities around the globe. This will be achieved through exploration and public gatherings as we celebrate culture and life. This is the foundation to my future of creating these fleeting moments of vast expansion and evolution.

3. My Expression of Gender Dysphoria Through Painting

*Jessie Blakely: Undergraduate,
Valerie George: Faculty Mentor
Department of Art
OUR Funded*

This series of acrylic paintings demonstrate my own personal struggle with gender dysphoria. The paintings are non-representational and rely heavily on the expression of emotions that I have experienced through my own transitioning. This is accomplished by the color, movement, and forms that are present within the composition. These pieces of art bring to light the emotional, psychological, physiological, and sociological issues that transsexuals and gender queer individuals face daily.

4. The New Code of Ethics: An Investigation of Contemporary Museum Collection, Conservation, and Security Practices

*Meghan Bang: Undergraduate,
Nicholas Croghan: Faculty Mentor
Department of Art
OUR Funded*

Ethical practices in both historic and contemporary museums are being questioned, sometimes even disregarded, and rewritten. These challenges stem from a shift in museum practices and policies in relation to criminal acts such as forgery, theft, acquisition fraud, and ultimately, negligence in museum practice. These crimes, like contemporary art, are challenging these institutions and how they function in

the twenty-first century. The primary goal of this research is the exploration of how different organizations employ different sets of ethical codes and practices. Through the examination of a multitude of case studies, including crimes at the J. Paul Getty and other established institutions, this research provides a clear connection between the ethical practices of these institutions and their vulnerability when it comes to criminal and questionable acts. Without thoroughly investigating and implementing proper ethical practices, poor museum management leads to a diminished public perception and a decrease in support, attendance, and trust.

5. Interactions

Monterssa Mena, Undergraduate,, Faculty Mentor Valerie George
Department of Art

The goal of this project is to expand my knowledge of ceramics. Working with local ceramicists and potters will allow me to improve my techniques and gather more experience in this field. I intend to work side by side with the ceramicists; it is a basic component to success considering that any body motion will affect the results, being side by side will permit observation and concentration required to learn specific techniques.

As I am exploring functional items, I see these pieces as a chance for a long lasting connection with the keeper. I take into consideration all aspects of the item, specifically, how the form complements the function, how the handle fits the hand, and how the shape helps the keeper have a comfortable interaction with the item.

6. Bacterioplankton Community Response to Solar Radiation in the Northeastern Gulf of Mexico

Josette M Hutcheson: Graduate, Katelyn Houghton: Graduate, Christian Riesenfeld: Faculty Mentor, Joseph Moss: Faculty Mentor, Richard A. Snyder: Faculty Mentor, Wade H. Jeffery: Faculty Mentor
Department of Biology

Bacterioplankton serve a key role in the function of the microbial loop and are a crucial part of the planktonic community. Solar 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 in the penetration of solar radiation through marine waters with the potential to affect depth distribution and thus ecological function of bacterioplankton by selecting for solar resistant strains of bacteria. This research examines microbial community shifts caused by varying UV exposure. Seawater was collected at various depths from offshore waters in the Northeastern Gulf of Mexico. Microcosms were established with four optical treatments; full sun, UVA and visible light (blocking UVB), visible light (blocking UVR), and dark. Samples were allowed to grow at in situ temperatures for sixty hours at which time microbial

community structure was analyzed using PCR amplified 16S ribosomal RNA genes. Preliminary analysis suggests exposure to UVR decreases overall diversity.

7. Benthic Foraminifera Community Diversity and Distribution in the Northern Gulf Of Mexico

Chelsea McCurry: Undergraduate,
Richard Snyder: Faculty Mentor
Department of Biology

Benthic foraminifera are a widely distributed protozoan used as an ecological indicator in both modern and palaeo oceanography. Knowledge of the ecological properties and distribution of these organisms in the Gulf of Mexico (GOM) has been limited. Creation of clone libraries (17S rRNA) from sediment samples collected along two transects taken seasonally in 2012 was used to characterize the distribution and seasonal community shifts on the northwest Florida GOM shelf. Sequencing of clone libraries and subsequent rarefaction curves suggest a limited diversity with a majority of sequences aligning to known organisms listed in the NCBI database. A few species were shown to dominate the communities: *Glabratellina* sp., *Trochammina* sp., and *Textularia sagittula* and *Bathysiphon argenteus*. Clone sequences have also been repeatedly matched to members of genera *Astrammina*, *Bolivina*, *Cibicides* and *Cibicidoides*. Data also indicate a degree of seasonal and spatial specificity across the shelf. These standard molecular analyses, coupled with multivariate analysis should serve to clarify foraminifera distribution and diversity patterns in the GOM and elucidate correlations with environmental parameters.

8. Characterization Of Hax1 Signaling Mechanisms in fmlf Stimulated Plb-985 Cells

John Steele: Undergraduate, Korey Koper: Undergraduate, Luke Babcock: Undergraduate, Peter Cavnar: Faculty Mentor
Department of Biology
OUR Funded

Severe congenital neutropenia (SCN) is a heterogeneous group of primary immunodeficiency disorders characterized by neutropenia and life threatening bacterial infections. SCN include inherited disorders caused by homozygous mutations in HS1 associated protein X-1 (Hax1). Hax1 is an adapter protein that interacts with the Arp2/3 binding protein and hematopoietic cortactin homologue, HS1. Using the neutrophil model cell line, PLB-985 cells, we have previously demonstrated that loss of Hax1 results in defects in RhoA activation causing increased neutrophil adhesion in response to fMLF. However, how Hax1 is regulating fMLF-mediated signaling mechanisms remains unclear. Here we investigate the role of Hax1 on several fMLF signaling pathways that regulate neutrophil function. We show that Hax1 is required to negatively regulate HS1 tyrosine phosphorylation. Based on these findings and our previous report, this suggests Hax1 may

modulate downstream HS1 signaling mechanisms such as Arp2/3 and Vav1 interactions. We also demonstrate that Hax1 modulates Erk1/2 activation because Hax1-deficient cells have increased phospho-Erk1/2 (T202/Y204) in response to fMLF stimulation. Lastly, we show preliminary evidence that Hax1 directly interacts with the Rho-GEF Vav1 in HEK293 cells, which may provide additional mechanistic insight into how Hax1 is regulating Rho-mediated neutrophil adhesion. Taken together, our results indicate that Hax1 is a mediator of several fMLF-signaling mechanisms that could provide new insights into the disease pathogenesis of Hax1 mutations.

9. Characterizing the role of Presenilin Enhancer Protein 2(Pen-2) in regulating gamma secretase activity

Matthew Nalley: Undergraduate, Se Jung Gregory: Undergraduate, Dr. Hui-Min Chung: Faculty Mentor
Department of Biology
OUR Funded

Pen-2 is one protein subunit of the four-part protease 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. Pen-2 is thought to be involved in stabilizing the complex and allowing gamma secretase to mature by activating Presenilin, the catalytic subunit, through an endoproteolysis event. Presenilin and the two other protein subunits (Aph-1 and Nicastrin) have been studied through genetic analysis using *Drosophila melanogaster* (fruit flies) with mutants of their respective genes, but mutants of pen-2 were not available. Mutants of pen-2 were created by excision of the transposable element *Mi{MIC}* from the pen-2*MiMIC* fly strain. Genetic crosses of the resulting fly lines suggest out of about 130 lines more than one hundred have a potential loss-of-function mutation of pen-2. Molecular characterization of these lines using polymerase chain reaction (PCR), DNA sequencing, RT-PCR, and RNA sequencing has narrowed the group to a handful of strains with mutations in pen-2 resulting in null, hypermorph, and hypomorph alleles. The significance of Pen-2 in the gamma secretase complex will be observed via Western blot hybridization. The pen-2 mutants and the pen-2*MiMIC* fly strain were crossed with flies with a modified presenilin construct that bypasses the critical endoproteolysis event. Immunoprecipitation of Presenilin in the presence of pen-2 mutants, and Western blots will allow for analysis of Pen-2's function in regulating gamma secretase activity.

10. Dogfish Shark Speciation in the Gulf of Mexico

Mariah Pflieger: Graduate,
Dr. Toby Daly-Engel: Faculty Mentor
Department of Biology
SCAC Funded

Sharks of the genus *Squalus* are slow-growing, long-

lived, and have long gestation periods, as is typical of most deep-water sharks. In addition, low genetic diversity is frequently observed, making this group slow to rebound from depletion due to overfishing. The shortspine spurdog shark (*Squalus mitsukurii*) is a putative circumglobal deep-water shark that was originally described from Japanese waters. These sharks are easily misidentified due to the high degree of similarity with their congeners, and recent taxonomic research on this species from the Pacific has indicated that *S. mitsukurii* may in actuality comprise a species complex, a group of separate but closely related species. In an effort to understand the global taxonomy of the *S. mitsukurii* complex, we are using a combination of morphological evidence and genetic techniques to identify separate dogfish stocks throughout the Pacific and elsewhere. Thus far, preliminary data have indicated that *Squalus* cf *mitsukurii* from Hawaii is likely an isolated, distinct species. Using meristics as well as approximately 700 base pairs of mitochondrial DNA (barcode region), we will investigate this question in dogfishes from the Gulf of Mexico and West Atlantic. We hypothesize that due to geographic distance, *Squalus* cf *mitsukurii* in the Gulf of Mexico may also have become isolated from the type population in the West Pacific.

11. Effects of Oil And Dispersants on Bacterioplankton Community Structure and Function Using 16S rRNA and Alkb Genes in the Northeastern Gulf Of Mexico

Katelyn Houghton: Graduate, Josette Hutcheson: Graduate, Christian Riesenfeld: Faculty Mentor, Joseph Moss: Faculty Mentor, Richard Snyder: Faculty Mentor, Wade Jeffrey: Faculty Mentor
Department of Biology
SCAC Funded

The Deepwater Horizon Oil Spill in 2010 significantly impacted the planktonic ecosystem of the northern Gulf of Mexico. A key element of this ecosystem is the bacterioplankton. They are the base to the food web and were instrumental in the degradation of oil. It has been hypothesized that exposure to oil and or dispersants may change microbial community structure by selecting for those strains capable of utilizing oil carbon while selecting against others by toxic effects of oil and or dispersants. To view spatial and temporal variability in bacterioplankton community response, surface and near bottom water samples were collected at two offshore sites in winter (December 2012) and summer (June 2013). Bioassays were performed on 1L water samples amended with oil, oil and Corexit, and Corexit alone, and compared to an un-amended control. Samples were incubated at in situ temperatures for two days in the dark and 16S rRNA and alkane hydroxylase (*alkB*) genes were amplified and sequenced. Community structure shifts were most associated with the oil and Corexit treatment, while Corexit alone had the smallest effect. All samples, regardless of treatment, were dominated by *Alteromonas* sp. and one

of two *Pseudoalteromonas* sp. The two treatments with oil also contained *Oleispira* sp. There was no apparent pattern in treatment effect for diversity across the data set, samples responded according to month, station, and depth sampled.

12. Identification of Phytoplankton From Three Gulf of Mexico Estuaries using FlowCam Image Particle Analysis

*Rachael Dragon: Undergraduate, Jane Caffrey: Faculty Mentor
Department of Biology*

Phytoplankton research is important because phytoplankton are not only primary producers but they are also the base of oceanic food web. This is a continuation of a study done by Kendra Straub Amacker as part of her Master's thesis. In 2011, samples of water were taken every other month from Grand Bay Mississippi; Weeks Bay, Alabama; and Apalachicola Bay, Florida. The study was to compare three different estuaries along the Gulf of Mexico. The dominant species were identified using a FlowCam. The FlowCam is an image particle analysis system that takes pictures of particles as they pass through a flow cell. Once the photos are taken they can be sorted and put into classes or libraries. Two samples from each location were analyzed. The phytoplankton pictures that had clear resolution were categorized. The dominant organisms were then identified. Some of the dominant organisms include *Peridinium* spp., *Ceratium* spp., and various diatoms.

13. Investigating the Role of Pen-2 on Mitochondrial Health

*Kendra Buer: Undergraduate, Patricia Izbicki: Undergraduate,
Matthew Nalley: Undergraduate, Dr. Hui-Min Chung: Faculty Mentor*

*Department of Biology
OUR Funded*

The γ -secretase complex is a multi-subunit involved in regulating cell differentiation during animal development. The γ -secretase complex is located in the cell membrane and mitochondria (Hansson, 2004). It consists of four proteins: Presenilin, Nicastrin, Aph-1, and Pen-2 (Ogura, 2006). Previous research on the γ -secretase complex showed mutations of the Presenilin and Pen-2 genes are linked to one neuro degenerative disease in humans, the Alzheimer's disease (Sala, 2005). We have observed the pen-2 mutant phenotype in the *Drosophila melanogaster* strains FT114 and FT119, show wing abnormalities similar to the droopy wing phenotype seen in the pink1 B9 mutant flies that have poor mitochondrial health (Jeehye, 2006). Malfunction of the PINK1 protein caused by pink1 gene mutations in human has been associated with Parkinson's disease (Ibáñez, 2006). Since Parkinson's and Alzheimer's are neurodegenerative diseases that share several pathologies, we wonder whether the droopy wing phenotype observed in the pink1 B9 mutant flies and our pen-2 mutant FT114 and FT119 strains reflect

the common defecton mitochondrial health maintenance. We have also observed that some of the newborn FT114 and FT119 flies cannot vacate its pupa case, perhaps due to poor mitochondrial health. We therefore hypothesize: like the PINK1 protein, the γ -secretase complex plays a role in maintaining mitochondrial health. Mutations of the Pen-2 gene may cause poor mitochondrial health as seen on the pen-2 mutant fly strains FT114 and FT119. We intend to test our hypothesis by measuring ATP production, the energy source produced in mitochondria, in the FT114 and FT119 strains.

14. Investigation Of Hax1 and Rap1 Signaling Mechanisms in Neutrophils

*Alianna Gilmartin: Undergraduate,
Dr. Peter Cavnar: Faculty Mentor
Department of Biology
OUR Funded
Honors Thesis*

Autosomal recessive loss of function mutations in the HAX1 gene results in Kostmann syndrome, a form of severe congenital neutropenia characterized by low blood neutrophil counts and life threatening bacterial infections. RNA interference knockdown of HS1-associated protein X-1 (Hax1) in the neutrophil model cell line, PCB-985 cells, reveals increased cell adhesion because of decreased activation of the GTPase RhoA in response to the chemoattractant fMLF. Inhibition of RhoA signaling is important in regulating integrin-dependent cell adhesion, but it is unclear how Hax1 regulates RhoA in neutrophils. We aim to examine the possibility that the decreased RhoA activation in Hax1-deficient cells is the result of Hax1 inhibiting RhoA inactivating proteins. On such RhoA inactivating protein is the Rho GTPase Rap1. To test this hypothesis, Rap1 activity will be observed in differentiated PLB-985 cells expressing either control or a Hax1 targeted shRNA in response to fMLF stimulation. A Rap1 activation assay kit will be used to detect the active GTP bound form of Rap1 by immunoprecipitation and Western blot analysis. Relative levels of Rap1-GTP that are purified will be compared between the two cell lines. Results of the immunoprecipitation and Western blot analysis will be presented.

15. Multiple Paternity and Cryptic Female Choice in Chained Catshark, *Scyliorhinus Retife*

*Stacy L. Cecil: Graduate,
Toby S. Daly-Engel: Faculty Mentor
Department of Biology*

Many elasmobranchs (sharks, skates, and rays) are considered to be indicator species of ecosystem health. Because of their long-term growth to reproductive age, understanding shark mating behavior is important for many commercial species in terms of maintaining populations. The aim of this study is to shed light on the mechanism of polyandrous mating behavior in elasmobranchs. Injuries

inflicted during mating can cause the female to become more susceptible to disease, hinder foraging abilities, or result in death. The use of polyandry as a female mating strategy is still unknown. For this study, we have a captive population of catsharks, *Scyliorhinus retifer*, from which to sample genetic tissue and to observe mating behavior directly. Ours will be the first to estimate multiple paternity from live animals. Due to ease of access to a captive population, we have a unique opportunity to observe and potentially use *S. retifer* as a model for understanding and estimating the mating behavior in sharks that are under fishing pressure or ecosystem collapse.

16. Plasmid Loss in *Saccharomyces Cerevisiae*

*Jasmine Jordan: Undergraduate,
Paul Nash: Faculty Mentor
Department of Biology
OUR Funded
Honors Thesis*

A plasmid is extra chromosomal DNA containing information that can be inserted into a cell. Plasmids carry information that may add new functionality or replace essential components of a cell that are missing. A plasmid in a cell can be passed on through the successive daughter cells. However, some daughter cells that are formed may not contain the plasmid. The rate at which a plasmid can be lost from a population of *Saccharomyces cerevisiae* has not yet been established. Using four successive experiments monitoring growth rates and plasmid loss within two auxotrophic populations, the length of time that the cell populations retain the plasmid within a significant amount of cells will be quantitated. An overall understanding of the effect of the plasmids on the growth rates of uracil and tryptophan auxotrophs will be determined and the impact of maintaining a plasmid producing the extra gene products on growth rates of the yeast will be established.

17. Spatial and Temporal Variations in the Community Structure of Marine Archaea in the Northeastern Gulf of Mexico

*Sarah Tominack: Graduate, Christian Riesenfeld: Faculty Mentor,
Joseph Moss: Faculty Mentor, Richard Snyder: Faculty Mentor,
Wade Jeffrey: Faculty Mentor
Department of Biology*

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 Mexico. On the micro-scale, bacterioplankton and archaeoplankton play major roles in the cycling of nutrients through the microbial loop, and then the macro-scale geochemical cycles. Understanding the changes that occur in the community structure of archaea in the Gulf of Mexico over space and time has the potential to shed new light on the transfer of energy into and out of the system as well as through higher trophic levels. Using clone libraries

constructed with the archaeal 16S rRNA sequence, samples collected across three transects will be compared seasonally and spatially. The libraries will also be compared by physical water column parameters during time of collection and overall current movement.

18. *Staphylococcus aureus* and Methicillin-Resistant *Staphylococcus aureus* Prevalence and Cleaning

*Caitlin McCaffrey: Undergraduate,
Kristen Coffey: Faculty Mentor
Department of Biology
OUR Funded*

Staphylococcus aureus is a part of normal human flora. It is present on the skin and in the nose of approximately one-third of the population. The most notable and dangerous strain of *Staphylococcus aureus* is methicillin-resistant *Staphylococcus aureus*, which can cause rashes, skin infections, and sometimes death if left untreated. While lots of facilities will carry *S. aureus*, gyms and other athletic facilities are notorious for hosting and spreading *S. aureus* and MRSA from person to person. The aim of this research was to determine the prevalence of *S. aureus* and when found, determine if it was a MRSA strain, at the University of West Florida Fitness Center. The effectiveness of the routinely-used gym cleaner on reducing the prevalence of *S. aureus* was also investigated. Specialty media detecting both *S. aureus* and MRSA was used in this detection. Overall, it was found that out of 72 samples taken, 47 samples came back positive for *S. aureus*, and 38 of those samples came back positive for MRSA. There was a moderately significant correlation between the overall numbers of positive results for *S. aureus* and MRSA. A significant correlation was found between the number of positive results of *S. aureus* and MRSA before cleaning and after cleaning. The efficacy of the Fitness Center's cleaning solution could not be determined. A follow-up study could be done using only clean rags to determine the efficacy of the cleaning solution.

19. The Elucidation of a New Species within the Species Complex *Squalus* through Morphology and Molecular Analysis.

*Amber Koch: Undergraduate, Toby Daly-Engel: Faculty Mentor
Department of Biology
OUR Funded*

Dogfish sharks (genus *Squalus*) are highly susceptible to overexploitation due to their low reproductive rate. Because *Squalus* species are often cryptic and difficult to correctly identify, strategies to protect and preserve the genus are difficult to develop and implement. This study concentrates on *Squalus mitsukurii*, the shortspine dogfish shark originally described from Misaki, Japan. *S. mitsukurii* was presumed to be one species with a global range, but is now believed to be a species complex: separate species which are morphologically similar but distinct at the molecular level. Further, though

the Cytochrome Oxidase 1 (CO1) gene has been broadly touted as the DNA Barcoding Gene, useful for identifying most species, we hypothesized that it is in fact ineffective in distinguishing between species within a complex. We collected *S. mitsukurii* tissue samples from Hawaii, Japan, and elsewhere and sequenced the CO1, ND2, and d-loop (control region) mitochondrial genes to compare their ability to elucidate *Squalus* taxonomy. We found that ND2 and d-loop show more variation between *Squalus* species than CO1, and that both morphological and molecular data indicate that *Squalus cf. mitsukurii* in Hawaii is a distinct species from the one in Japan, deserving of both a new name and holotype.

20. The Role of Hax1 in Vav1 Activation

Jennifer Thompson: Undergraduate, Peter Cavnar: Faculty Mentor

Department of Biology

Honors Thesis

Loss of function mutations in the HAX1 gene causes a form of severe recessive neutropenia, which is a primary immunodeficiency syndrome associated with increased apoptosis in myeloid cells characterized by low blood neutrophil counts and life threatening bacterial infections. HS1 associated protein X-1 (Hax1) is a ubiquitous protein that regulates the actin cytoskeleton through various adhesion and cytoskeletal proteins. Through the use of PLB-985 cells, a neutrophil model cell line, it has been shown that Hax1, HS1, and Vav1 all interact with each other. However, how Hax1 regulates HS1-Vav1 signaling remains unknown. We aim to determine whether Hax1 cooperatively regulates HS1 and Vav1 interactions in order for Vav1 to become activated or whether Hax1 competitively blocks Vav1 and HS1 interactions, and causes Vav1 to become inactivated. To test both of these possibilities, Vav1 activation will be measured in differentiated PLB-985 cells expressing either control or a Hax1 targeted shRNA in response to fMLF stimulation. Once stimulated, the cells will then be lysed with a detergent to break them up and the Vav1 protein will be purified from the cells using a Vav1 antibody. Then after separation from other proteins by SDS-PAGE, relative levels of phosphorylated Vav1 will be assessed using quantitative Western Blot. Results of this analysis will be presented.

21. Analysis of Energy Windows with Respect to Chemical Conformation

Dennel McKenzie: Undergraduate,

Christopher Nicholson: Faculty Mentor

Department of Chemistry

Aplyronine A (ApA) is a macrolide collected from a sea hare in the Northwest Pacific Ocean. This molecule has been found to exhibit antitumor activity in vivo against leukemia and other cancerous cells, potentially by depolymerizing fibrous actin. Conformations of ApA were computationally analyzed using the molecular modeling

program MacroModel. Minimized conformations of ApA were studied under varying modeling conditions. Data from the conformations was collected and the dihedral angles were analyzed to determine the flexibility of certain areas of the molecule, which were then compared across multiple force fields to analyze the effect of the changing force field on the molecule with a constant solvent, number of analyzed conformations, and energy window.

22. Attempts at Growing Single Crystals of Copper(II) Oxalate

Rebecca Brody Kamerman: Undergraduate, Aleksandra Golanka: Undergraduate, A. Timothy Royappa: Faculty Mentor

Department of Chemistry

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Copper(II) oxalate, CuC_2O_4 , has interesting magnetic properties “ it is an antiferromagnetic material. While it is easily synthesized by direct reaction of copper(II) ions (Cu^{2+}) with oxalate ions ($\text{C}_2\text{O}_4^{2-}$), single crystals of CuC_2O_4 suitable for single-crystal X-ray diffraction have never been grown successfully, despite various attempts by many workers. Thus, this compound has not been structurally characterized except by X-ray powder diffraction. Part of the difficulty in growing single crystals of this compound stems from the variable amount of water present in the crystal lattice, and the formula of this compound is therefore best represented as $\text{CuC}_2\text{O}_4 \cdot x\text{H}_2\text{O}$. Here, we report on our attempts at synthesizing CuC_2O_4 in two ways: (1) by the evaporation of solutions of CuC_2O_4 in various concentrations of aqueous ammonia at various temperatures, and (2) by the reaction of the bisoxalatocuprate anion, $[\text{Cu}(\text{C}_2\text{O}_4)]^{2-}$ with $\text{C}_2\text{O}_4^{2-}$. In the latter method, we used four different cations of increasing size to explore the effect of cation size on crystallization: Na^+ , K^+ , NH_4^+ and $\text{N}(\text{CH}_3)_4^+$.

23. Calibrating a HIMAS Linear Detector on a Matrix Assisted Laser Desorption/Ionization Reflectron Time-of-Flight Mass Spectrometer

Christopher Van Leeuwen: Undergraduate, Jacob Stepherson: Undergraduate, Elizabeth Lirette: Undergraduate, Karl Reyes: Undergraduate, Karen Molek: Faculty Mentor

Department of Chemistry

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A matrix-assisted laser desorption/ionization reflectron time-of-flight mass spectrometer (MALDI RTOF-MS) was rebuilt and calibrated. The potentials were modeled using SimION Ion and Electron Optics Simulator. Calibration standards were used to optimize the voltage potentials. The standards used were samples of C-60 fullerene, Bradykinin Fragment 1-7, ACTH Fragment 18-39, Angiotensin II, P14R, and Insulin chain B oxidized which provided a mass range between 720-3494 Da. The same samples were used to measure mass spectra and optimize signal via a HIMAS linear detector. The HIMAS detector is composed of a conversion

dynode, single microchannel plate (MCP), scintillator, and photomultiplier tube (PMT). The data was collected and analyzed using National Instruments LabView software and a Tektronix DPO 3054 oscilloscope. The experiments were run multiple times to ensure reproducibility, and mass spectra obtained were compared to literature spectra to ensure accuracy.

24. Conformational Analysis of Aplyronine C

Tessa Hutchinson: Undergraduate,

Christopher Nicholson: Faculty Mentor

Department of Chemistry

Aplyronine C is a member of a family of actin-binding marine macrolides that mimics that of actin-binding proteins in the human body. The flexibility of Aply C was analyzed by subjecting the molecule to different force fields. Each force field analysis produced a unique set of conformations. The dihedral angles were measured from each force field. These dihedral angles were then analyzed in polar coordinates to see the movement between the bonds of Aply C. The next steps in this search will be to understand the energy of each conformer displayed in each force field by using more sophisticated quantum mechanics calculations.

25. Conformational Analysis of FD-895: Measuring Flexibility and Rigidity of Different Dihedral Angles in the Ring

Sheneika Jackson: Undergraduate,

Christopher P. Nicholson: Faculty Mentor

Department of Chemistry

FD-895 is found in the fermentation broth of *Streptomyces hygrosopicus* (bacterial species) A-9561 and was isolated from a soil sample found at Iriomote Island in Okinawa, Japan. The conformations of FD-895 were analyzed through MM2, MM3, Amber, and OPLS (2005) force fields. The results of the conformational search for each force field were plotted using polar coordinate mapping. The force field results were then compared against each other to determine different regions of flexibility and rigidity for the different dihedral angles in the ring structure. The maps produced as a result of the different force field conditions were compared against each other to determine flexibility and rigidity of the dihedral angles. Data from the initial modeling studies and the polar coordinate map analysis will be presented.

26. Determination of Picomolar Levels of Synthetic Peptide LSEAL by Liquid Chromatography/Mass Spectrometry

Matthew Nalley: Undergraduate, Huy Pham: Undergraduate,

Fred Hileman: Faculty Mentor, Rodney Guttmann: Faculty Mentor

Department of Chemistry

Department of Chemistry

The synthetic peptide LSEAL has been shown to be

a potent inhibitor of calpain, a calcium-dependent protease expressed in the spinal cord dorsal horn, which makes calpain a novel target for analgesic drugs. To determine blood-brain barrier permeability of LSEAL, an analytical technique to track this peptide at picomolar levels in body fluids is needed. Previous analytical work on LSEAL used custom capillary liquid chromatography columns (0.32 mm) requiring very low flow rates (4L/min) to the mass spectrometer electrospray ionization source. The current analysis is limited by equipment compatible with our LC-MS system: a larger column (2.1 mm) that requires a higher flow rate (200L/min), which results in reduced detector sensitivity. Around these restrictions, a method was developed to maximize the system's sensitivity to LSEAL. Samples of blood plasma and cerebrospinal fluid “ from Sprague Dawley rats treated with LSEAL by intraperitoneal or intrathecal injection “ were desalted and concentrated prior to LC-MS injection. Tandem mass spectrometry is used for identification of LSEAL among the other peptides and compounds present in CSF and plasma.

27. Effects of Salinity and Photo-degradation on the Adsorbance of PAHs by Plastic Resin Pellets

Alyssa West: Undergraduate, Kyra Murrell: Undergraduate,

Pamela Vaughan: Faculty Mentor

Department of Chemistry

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The sorption of specific polycyclic aromatic hydrocarbons (PAHs) (naphthalene, phenanthrene, chrysene) by polyethylene resin pellets was examined with respect to degradation and salinity. Pellets were exposed to both freshwater and saltwater conditions containing known amounts of the PAHs in dark and light environments for seven days. Soxhlet extraction was performed and PAHs quantified by GC/MS. Samples exposed to light showed results with greater adsorption than that of the dark samples. Saltwater effects for dark samples showed diffusion into the polymer seems to be slower with high salinity vs. freshwater. Light exposed samples showed slightly greater absorption for naphthalene in saltwater and phenanthrene adsorption slightly increased in freshwater.

28. Examining the Effects of Environmental Conditions on Photo-degradation Kinetics of PAH Mixtures

Jini Curry: Undergraduate, Dane Brankle: Undergraduate,

Pamela Vaughan: Faculty Mentor

Department of Chemistry

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Polycyclic aromatic hydrocarbons (PAHs) photo-degradation rates were examined under varied light exposure and environmental conditions (salinity, organic matter content). Preliminary results indicate when comparing naphthalene degradation rates in an aqueous fresh water mixture with other PAHs vs. naphthalene alone differences

in relative rates were observed. Degradation rates for the mixture of naphthalene and phenanthrene showed more rapid degradation for full spectrum (sunlight) exposed samples followed by UVB >UVA > PAR (visible light) compared to the dark control. Naphthalene samples alone in water showed faster rates of degradation for full and UVA exposed samples followed by UVB with PAR exposed samples about equal to the dark control. The effects of additional PAH mixtures and environmental factors such as salinity and organic matter will also be discussed.

29. Hydration of Decorative Beads: An Exercise in Data Taking, Calculations, and Graphing the Data

*Rebecca Hill: Undergraduate,
Christopher Nicholson: Faculty Mentor
Department of Chemistry*

The hydration of a decorative bead is an exercise for General Chemistry students where the students learn how to properly record and manipulate numerical data. The students will learn how to properly use different digital and analog instruments to properly record data. The initial measurements will be used to properly convert, calculate, and compare data to understand quantitative observation. The experiment emphasizes different measurement techniques, the importance of accuracy, calculating average value, and calculating uncertainty of measurement. A revised version of the experiment is shorter and allows the students to use their own data to learn about Excel and linear regression. The revision of the experiment also allows the students to measure mass change versus time for graphical analysis. The graphical analysis aids the students in familiarizing them with Excel and learns how to process the data calculated.

30. Identification and Quantification of Common Classes of Flavonoids by Liquid Chromatography-Mass Spectrometry

*Robert Lynch: Undergraduate, Rajarshi Ghosh: Graduate,,
Frederick Hileman: Faculty Mentor
Department of Chemistry
OUR Funded*

The use of plants as medicine dates back to ancient civilizations. A significant percentage of drugs these days are plant natural products and synthetic compounds inspired from these natural products. However, less than 20% of the 500,000 flowering plants have been chemically analyzed and the potential for new bioactive drug discovery makes the field fascinating. New technology, including liquid chromatography-mass spectrometry (LC-MS), has revolutionized the characterization of these potentially active compounds in plants. One such plant is the Southeast Asian *Sesbaniagrandiflora* also known as the Hummingbird Tree. The common classes of flavonoids (flavonols and flavones) in leaves, stems, flowers and roots of *Sesbaniagrandiflora* have been characterized using LC-MS. The different dried, ground

plant organs were extracted in aqueous methanol and then acid hydrolyzed. The filtered extracts were then run on a reverse phase LC column with methanol/water (50:50) as the mobile phase. Compounds were identified by their electrospray mass spectrum and were quantified by their absorbance of UV light at specific wavelengths compared to known standards. This poster will describe the methodology used in this study and the levels of the flavonoids that were observed.

31. Seasonal changes of epiphyte populations and overlying water nutrients in bodies of water in Pensacola, FL

*Natalie Hunt: Undergraduate, Jane Caffrey: Faculty Mentor
Department of Biology*

Seasonal changes in epiphyte biomass, water column chlorophyll *a*, and overlying water nutrients were measured in seagrass beds in Pensacola Bay. Seven different locations were included in this study: Big Lagoon, Bruce's Beach, Escribano Point, Naval Live Oaks, Project Greenshores, and Wayside Park. Data were collected between March 2010 to September 2012, covering from early spring to late fall by Florida Department of Environment Protection's Northwest District (FDEP NWD) and UWF personnel. Previous research has suggested that pore water, nutrients, and hydrogen sulfide influence the success of transplanted seagrass beds. In this study, we examine seasonal patterns in chlorophyll *a* extracted from epiphytes and the overlying water. The presence of epiphytes and chlorophyll *a* in the water pose a problem to the seagrass beds due to increases in light attenuation, increased turbidity, and competition for light and nutrients. With values of 1.47 µg chl *a*/cm² and 1.34 µg chl *a*/cm² respectively, Wayside Park and Bruce's Beach had the highest levels of epiphyte chlorophyll *a*. Both spring and summer have much higher epiphyte levels than fall, but data does not support either season as the highest supporter of epiphyte loads. Water column chlorophyll *a* values fluctuate with epiphyte chlorophyll *a* only at Big Lagoon. However, chlorophyll *a* values of the water column drops just as the epiphyte levels do in the fall at all the sites. The data suggests that there are no significant species differences for the epiphyte levels.

32. Synthesis and Characterization of Novel Fluorescent Organic Materials

*Se Jung Gregory: Undergraduate, Jamie Trindell: Undergraduate,
Alex Vega: Undergraduate, Alan Schrock: Faculty Mentor, Karen Sinclair: Faculty Mentor, Michael Huggins: Faculty Mentor,
Pamela Vaughan: Faculty Mentor
Department of Chemistry
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Organic materials with intense fluorescence and tunable emission wavelengths are intensely pursued in research for a variety of areas including sensor development,

analytical chemistry, biochemistry and supramolecular chemistry. We have recently initiated a program to prepare a new class of small organic molecule fluorophores which can be prepared in a relatively few synthetic steps based on some initial studies on fluorescent dipyrinone analogs. Here we report our preliminary results on the synthesis and characterization of three new structural motifs that are molecular cousins to the fluorescent dipyrinones. These small organic molecules are intensely fluorescent in solution and in the solid state.

33. Synthesis and Characterization of Surface Modified Zinc Oxide Quantum Dots

*Samuel Bynum: Undergraduate, Lena Ibrahim: Undergraduate,
Hailey Egido-Betancourt: Undergraduate, Karen Molek: Faculty Mentor
Department of Chemistry
OUR Funded*

Quantum dots are unique nanoparticles that are gaining interest for their desirable chemical and physical properties. In this study, ZnO quantum dots were synthesized using two different methods. Method one involves heating zinc acetate solutions to create Zn²⁺ precursors, and method two involves growing the ZnO quantum dots from a cseed dispersion of highly modified precursor ZnO particles. LiOH was used in both methods to regulate particle growth. Low and high molecular weight siloxane modified physical stabilizers were used to decrease aggregation and improve ZnO aqueous dispersion fluorescence stability. The effects on quantum dot growth and stability in these methods were studied as a function of surface modifier structure and attachment efficiency. Scanning Electron Microscopy, Transmission Electron Microscopy, and Confocal Microscopy were used to measure particle quality and aggregation. The stabilized ZnO quantum dot dispersions were characterized by Dynamic Light Scattering and with Infrared, UV-Visible, and fluorescence spectroscopy.

34. Synthesis and Characterization of Titanium Oxide Nanopowders

*Christen K. Butterfield: Undergraduate, Tia K. Boucher:
Undergraduate, Gregory S. Kostelac: Undergraduate, Karen S.
Molek: Faculty Mentor
Department of Chemistry
OUR Funded*

Titanium oxide nanoparticles were synthesized using Titanium Tetraisopropoxide and varied pH values. The nanoparticles were left in solution from times varying between one week and 8 months. The synthesized nanopowders were then heated to temperatures between 80 Å° C and 750 Å° C varying between one and two hour time increments at each temperature. Differential Scanning Calorimetry (DSC) was used to further refine the heating ranges to get a more accurate range at which the nanopowders changed

phase. After being synthesized, each of the nanopowders were characterized according to their size, composition and phase, and absorbance properties using Scanning Electron Microscopy (SEM), X-Ray Diffraction (XRD), and UV-Vis Spectroscopy, respectively. The spectra and diffraction patterns were used to determine the temperature required to induce a phase change from the amorphous to anatase structure and anatase to rutile structures. The resulting spectra were compared to literature spectra to ensure that pure samples of each species of nanopowder were obtained.

35. Synthesis of Biologically Useful Benzo[B]Thiophenes Via Iodocyclization/Etherification Multicomponent Reaction

*Cathlene Del Rosario: Undergraduate, Jason Craig:
Undergraduate, Renee Shavnore: Undergraduate, Tanay Kesharwani: Faculty Mentor
Department of Chemistry
OUR Funded*

Benzo[b]thiophenes provide the core structure for a wide range of compounds with biological and physiological functions, such as anti-inflammatory, anti-fungal, anti-depressants, estrogen receptor modulator, FimH antagonists, anti-mitotic, kinases inhibitor, and anti-tumor activities. Along with various medicinal properties, the physical properties of these sulfur-containing molecules have noted durability and solubility facilitating its application as organic semiconductors. A novel green multicomponent reaction was developed by combining two different reactions into one for efficient synthesis of benzo[b]thiophenes. Electrophilic iodocyclization was a key step in the process. In the past, iodocyclization has been used to synthesize various industrially and biologically useful compounds. This convergent reaction resulted in synthesis of benzo[b]thiophene in good yields under mild reaction conditions while eliminating excess waste of byproducts and chemical reagents.

36. Synthesis of Copper (I) Oxalate Complexes

*Deke Blum: Undergraduate, Tien Duong: Undergraduate, Jacob Stepherson: Undergraduate, Oliver Vu: Undergraduate,
A. Timothy Royappa: Faculty Mentor
Department of Chemistry
OUR and SCAC Funded*

The synthesis of novel copper (I) oxalate complexes of the form Cu(I)₂(C₂O₄)L₂, where L = pyridine, 2,2'-bipyridine (bpy), phenanthroline (phen), dimethylphenanthroline (dmphen), diisopropyl sulfide, and 1,5-cyclooctadiene (COD), was attempted in ethanol or neat ligand. The complexes were found to be air and water sensitive, and thus the ethanol or liquid ligands were degassed before use and the reactions were run under nitrogen gas using a Schlenk line. Once synthesized, attempts at recrystallizing the complexes for x-ray diffraction (XRD) analysis were made. The COD

complex was successfully synthesized and recrystallized. The nitrogenous ligands bpy, phen, and dmphen yielded ionic complexes. We will report our progress towards the synthesis and structural characterization of novel copper (I) oxalate complexes with pyridine and diisopropyl sulfide ligands.

37. Synthesis of HIV-1 Capsid Protein Inhibitors

Tia Jarvis: Undergraduate, Aliya Chaudhry:

Undergraduate, Zachary Whitescarver: Undergraduate, Erica Moffitt: Undergraduate, Samuel Bynum: Undergraduate, Wes Gambrell: Undergraduate, Alan Schrock: Faculty Mentor, Michael F. Summers: Faculty Mentor, Michael T. Huggins: Faculty Mentor

Department of Chemistry

OUR Funded

In the human immunodeficiency virus (HIV) replication life cycle, the capsid protein has been identified as an attractive inhibition site. Due to its role in the formation of the capsid core, the capsid protein is crucial for viral infectivity. A library of small molecules has been screened for their binding affinity to the capsid protein, and several synthetic new targets were identified using a structure activity relationship (SAR) analysis. The synthetic targets have a substituted aromatic head connected via an amide moiety to tail group. SAR analysis identified two substituted benzenes that repeatedly showed high binding affinities for the capsid protein, and a wide variety of tail groups. Efforts are underway to prepare a new library of potential capsid inhibitors using these two readily available two substituted benzenes. The results of the synthesis and preliminary binding data for the capsid protein inhibitors will be presented.

38. Synthesis of Organic Light Emitting Diodes

Chelsea Carter: Undergraduate, Andrew Place-Burtner:

Undergraduate, Andrew Ephron: Undergraduate, Gregory Kostelac: Undergraduate, Daniel Speed: Undergraduate, Alan Schrock: Faculty Mentor

Department of Chemistry

OUR Funded

Organic light emitting diodes (OLEDs) can be used in a large number of ways including environmentally friendly and efficient lighting. Currently, OLEDs exist, but are limited in efficiency and usage. The OLEDs luminescent layer is made of a film of organic compound and a polymer that acts as a semiconductor which emits light when introduced to an electric current. Potential candidates must act as semiconductors within the allotted 2 -2.5 volts, fall within the blue range, and must have efficient light emission relative to other OLED material. Based on literature precedence, we expect the candidates will have the proper 3-dimensional structure and rigidity needed for efficient, high performance OLEDs. Once performance is proved, candidates will be

tested in full multicomponent OLEDs.

39. Synthesis, Characterization, and Surface Assisted Laser Desorption/Ionization of Manganese Oxide Nanopowder

Tia Boucher: Undergraduate, Chris Van Leeuwen:

Undergraduate, Karen Molek: Faculty Mentor

Department of Chemistry

Manganese oxide nanopowder species MnO, MnO₂, MnO₂/Mn₃O₄, and Mn₃O₄ were synthesized and utilized as surfaces in Surface Assisted Laser Desorption/Ionization Mass Spectrometry (SALDI MS). After being synthesized, the nanopowders were characterized according to their size, compound, phase, and absorbance properties using SEM (SEM), X-Ray Diffraction (XRD), and UV-Vis Spectroscopy. Each species was analyzed via SALDI on a Reflectron Time-of-Flight Mass Spectrometer (RTOF-MS) to determine the effect on ionization efficiencies of analytes according to nanopowder size. Results of the synthesis, characterization, and ionization efficiency testing will be presented.

40. The Effect of Emulsifiers on the Cationic Ring Opening Polymerization of Glycidol

Carla M. Staton: Undergraduate, Elisey A. Shcherbina:

Undergraduate, A. Timothy Royappa: Faculty Mentor

Department of Chemistry

OUR Funded

Cationic ring-opening polymerizations of glycidol in dichloromethane were systematically carried out in the presence of one of the following ethers: tetrahydrofuran (THF), diglyme (diethylene glycol dimethyl ether), diethyl ether and methyl tert-butyl ether (MTBE). The polymerizations were conducted in the presence of increasing concentrations of each ether at room temperature. Glycidol was also polymerized without emulsifier in dichloromethane, as a control. After workup, the resulting polymers were characterized by infrared spectroscopy, nuclear magnetic resonance spectroscopy, differential scanning calorimetry, and gel permeation chromatography (for the measurement of molecular weight). The results of the foregoing investigations will be presented.

41. Transketalization Kinetics of a Solketal Derivative and Acetophenone

Ken Ulrich: Undergraduate, Baylen Thompson: Undergraduate,

Dr. Alan Schrock: Faculty Mentor

Department of Chemistry

OUR Funded

Solketals are a class of renewable chemical intermediates for the synthesis of bio-based plasticizers and detergents. Transketalization of solketals is a well-known reaction with many patents and journal articles devoted to it. However, the reaction kinetics of transketalization is not well documented. Here a kinetic model of one such

reaction between a solketal derivative and acetophenone is presented showing that water and acid are necessary catalysts. This requires a coupling solvent to allow water to mix with the hydrophobic solketal derivative and acetophenone. Additionally, acetone must be removed while leaving water behind to drive the reaction to completion.

42. Race to the Finish: A Comparison of AI Search, Navigation, and Pathfinding Algorithms

Brett Rowberry: Graduate, AI Research Group: Undergraduate,

Eman El-Sheikh: Faculty Mentor

Department of Computer Science

Artificial intelligence (AI) enables the development of autonomous agents with the ability to make rational decisions and find solutions. Physical autonomous agents, or robots, are being utilized more in manufacturing, medicine, transportation, service, and even domestic applications, such as vacuum cleaners. These robots are required to become more general purpose and flexible and must also function in human centric, complex environments. Such environments involve stairs and drop offs. The ability to search for objects and avoid falls are essential requirements for even the most basic of such robots. The UWF AI Research Group focused on the development and evaluation of AI search and navigation algorithms in support of a robot's goal to locate a beacon on a raised surface while avoiding falling off of the sides. This project makes use of the iRobot Create platform, a simple 2-wheel drive disc-shaped robot with ultrasonic cliff sensors and an IR light sensor. The robot is able to sense the vertical distance between itself and the floor using its cliff sensors and therefore, avoid falls. An IR beacon will be used as the robot's goal object. Several AI search and navigation algorithms will be used and compared to evaluate algorithm performance and usefulness in support of the project goals.

43. Design of a Home Control System

John Spitznagel: Undergraduate, Laura Vunkannon:

Undergraduate, Alexander Scanlon: Undergraduate, Geverson

Dossantos: Undergraduate, Mohamed Khabou: Faculty

Mentor

Department of Electrical & Computer Engineering

In today's fast-paced world, many homeowners find themselves questioning the safety, security and efficiency of their home. One way to avoid these hassles would be to have a system that would automatically perform functions to increase the safety, security and efficiency, as well as give the homeowner remote control of their home. This design incorporates lighting control and automation, appliance control with automatic disconnect, garage door control with security system integration, a programmable thermostat with energy monitoring and a full-featured security system. In addition to being a complete system, each module with also be able to operate independent of the system. This allows the homeowner to choose only specific features to implement.

The homeowner is able to control the system through a web interface accessible from any web browser. This means the user interface is seamless across different operating systems. Being web-based, the user is able to access the controls from any mobile device. The system is designed to allow for future expansion, meaning new modules can be easily developed and integrated.

44. Energy Management System for a Micro-Grid Community

Joseph McPlamer: Undergraduate, Joseph Flaws: Undergraduate,

Lindsey McCambry: Undergraduate, Chris Quesada:

Undergraduate, Dr. Bhuvana Ramachandran: Faculty Mentor

Department of Electrical & Computer Engineering

A lot has changed since the original idea for power distribution. Different types of energy sources are now being fed into this distribution system at varying power ratings and costs. This system entails different energy sources, which this project will refer to as Agents (represented through raspberry pis). An Agent will represent and collect data from each energy source. Through networking, all Agents will communicate to an auctioneer called Jade, who will then determine, for a community, which power source or sources to use for that period based on cost efficiency and the desired power requirements. The left over power has the potential to be fed back to the power company's for redistribution.

45. Design of a Solar Tracking System

Michael Barrett: Undergraduate, David Snyder: Undergraduate,

Bradley Whitfield: Undergraduate, Travis Wilson:

Undergraduate, Andreas Fuchs: Faculty Mentor

Department of Electrical & Computer Engineering

OUR Funded

The purpose of this design project was to create a solar tracker to maximize the total power output of a solar panel. The shadow on a resistor array is utilized by the system microprocessor to orient the photovoltaic cells in such a manner as to maximize efficiency. Additionally, maximum power point tracking (MPPT) was implemented through a microprocessor controlled DC-DC buck-boost converter. Tests showed an increase in both solar panel voltage and power.

46. IEEE Southeast Con Hardware Competition 2014

Jorge Rojas: Undergraduate, Carlos Sierra: Undergraduate, Derek

Lake: Undergraduate, Nathan Riddle: Undergraduate, Timothy

Stewart: Undergraduate, Dwight Patterson: Undergraduate, Eric

Jones: Undergraduate, William Mantell: Undergraduate, Andreas

Fuchs: Faculty Mentor

Department of Electrical & Computer Engineering

OUR Funded

The IEEE Southeast conference is a regional engineering conference, which hosts many different competitions, discourses, and events for professional and

student IEEE members. The conference is host to a student robotics hardware competition for which the UWF IEEE Unmanned Systems team at the REEF campus has designed and built a completely autonomous robot that is constrained to be no larger than 12"x12"x12". The competition is such that once the robot is placed in the start area of the playing field, it can no longer interact with any team member. A color sensor is used to detect the competition start signal, which is comprised of green LEDs turning on. The robot utilizes one camera based vision system to navigate the playing field while a second camera based vision system is utilized to detect target baskets. Points are awarded for successfully firing soft darts through a 5" diameter target basket as well as for moving accurately through the competition field and ending at a designated stop area, signified by red LEDs, within given time constraints.

47. Legitimacy Granted: Placing the Police Gang Suppression Unit Within the Context of Moral Panic

Wells Anthony Bibo: Graduate, Matthew S. Crow: Faculty Mentor

Department of Criminal Justice, Legal Studies

This poster presents preliminary findings from a content analysis of gang-related news coverage in circulation between years 2005 and 2006. The analysis was conducted within the context of shifts in state and local law enforcement policy on gang-related issues. Previous research on the novelty of gang suppression units (GSUs) indicates that the formation and implementation of these units reached unprecedented heights in 2007. Additionally, much of the moral panic literature highlights the process by which ordinary phenomena are raised to public consciousness via media overrepresentation. A sample of the OJJDP National Gang Center's archival newsprint data was analyzed to identify tone and common themes. We argue that the recent salience of the police GSU is better understood as the result of moral panic vs fear of crime and symbolic policy than as being a rational response to the objective threat of gang violence.

48. Winning a Trial Before It Even Begins: The Art and Science of Jury Selection

Kyle Harwell: Undergraduate, Zachary Farrington: Undergraduate, Kimberly Tatum: Faculty Mentor
Department of Criminal Justice/ Legal Studies

Jury selection is one of the most important, and yet often misunderstood and neglected, aspects of a jury trial in the American legal system. The process of jury selection, synonymously known as voir dire, has been described as "the process by which attorneys select, or perhaps more appropriately reject, certain jurors to hear a case" (Cleary & Tarantino, 2007). Applying social science principles to jury selection has recently gained some popularity among litigators, and this influence can be seen in works of fiction,

such as in John Grisham's *The Runaway Jury*, as well as in real-life cases like *People of the State of California v. Orenthal James Simpson*. Its significance in determining the outcome of a case has become a common subject of study, and some experts have asserted that up to 85% of cases litigated are won or lost in jury selection (Fahringer, 1993-1994). Given the influence it may have on deciding the outcome of a case, jury selection frequently plays a significant role in the development of case strategies" to the extent that trial consultants have built an entire industry around it (Hutson, 2007). This research seeks to examine methods and principles by which attorneys effectively select jurors who are more receptive to their case and evidence, citing research from the fields of law, public relations, social psychology, industrial and organizational psychology, cognitive psychology, and forensic psychology.

49. The Decision Behind Piracy: An Anthropological Approach to Determine the Factors that have Influenced Life into Piracy through a Historic Comparison

Breanna Ifland: Undergrad, Greg Cook: Faculty Mentor

Department of Anthropology

Honors Thesis

When the term "pirate" comes to mind a person usually thinks of one of two things, modern pirates in Somalia, or the traditional pirates from the Golden Age. However, there is a deeper history of piracy not known to the general populace. The term pirate comes from the Greek root "peiran" meaning "to attack, or make a hostile attempt." The earliest accounts of piracy originated from the Mediterranean region. The first written records of piracy derive from Egyptian tablets. The act of piracy traces throughout the rest of history. However, it was not until the 18th century that piracy was a constant threat throughout the seas. This time period is coined "the Golden Age of Piracy." It was a time of Enlightenment and Revolution; a time that left a lot of people in an unstable environment. Lacking a strong government without any stable jobs, many people made a substantial living with piracy. The increase of piracy did not cease until strong governments were restored and punishments enforced.

Recently, the world has seen a re-emergence of piracy that may have surpassed the Golden Age. Investigating previous causes and factors that directly lead to a choice in piracy helps analysts create a more comprehensive understanding into the mindset of modern day pirates. Reviewing the exact definition of a pirate, archaeological evidence, social factors, and maritime law show that defining a pirate is not a simple task. The pirate can simply be a national hero or a freedom fighter. The interdependency between crime and survival is huge and makes the exact definition of a pirate become askew. Without a clear distinction between lawful and illegal there has been an influx of people taking advantage of the system and using piracy as their main method of income. The problem that resides in the international community is not an issue of definition but one of jurisdiction. There is currently no legal

international committee that addresses any issue regarding piracy. Instead, the cases are under the State's jurisdiction. The fact that many countries support their local pirates as a method to build their economies leave the cases unrequited and excused. Opposed to the Golden Age where pirates were easily identified and trialed, the modern world faces a bigger enigma concerning the issue. The social conditions between the two time eras parallel each other but their methods of pirate prevention alter.. The outcome can either mean a brief period of anarchy on the high seas or a more intertwined international community.

50. High Speed 3D Flight Path Tracking and Reconstruction

Robert Fortenberry: Undergraduate, Jimmy Touma: Faculty Mentor

Department of Computer Science

Honors Thesis

Flying insects are excellent at navigating their environment without the need for any external localization system. In order for researchers to understand how insects navigate, they must first observe how they behave in controlled conditions. I propose a multi-camera, computer vision based localization system capable of tracking small flying objects in 3D space. Such a system could be used to track insects accurately in order to determine exactly how they respond to various visual stimuli, as well as being a useful tool for 3D tracking.

51. Human Warmth

Rebecca Raley: Undergraduate,

Regina Sakalarios-Rogers: Faculty Mentor

Department of English and World Languages

Honors Thesis

In a small town in a bizarre version of Southern Georgia, three outcasts--an autistic teenager, a depressed artist, and a mysterious grifter--become entangled in forces beyond their control.

52. Things Fall Apart, Arrow of God, and No Longer at Ease: A Critical Analysis of Chinua Achebe's African Trilogy as an Expositor of the Effects of Colonialism

Candace Lewis: Undergraduate, Gregory Tomso: Faculty Mentor

Department of English and World Languages

Honors Thesis

Things Fall Apart, Arrow of God, and No Longer at Ease, Chinua Achebe's "African Trilogy" fictionally portray Igbo life in Nigeria immediately before and after the period of European colonial rule. While the novel's critics have, up to this point, focused predominantly on Achebe's impact on African literature as a whole, this thesis focuses specifically on Achebe's treatment of Igbo culture and argues that the trilogy as a whole conveys the importance of adapting Igbo traditions to keep them alive during changing times. This

theme is evidenced by examples in each novel of clansmen who abandon Igbo customs because those customs either prevent their participation in society, make them outcasts, or cause them hardship. Many marginalized individuals become Christians or seek European education. Empowered to obtain wealth through trade or through European positions in government, those who embrace the Europeans' coming become leaders among their clansmen. When these characters adopt a way of life that is more European than Igbo, they hurt the clan by participating in the corrupt system that negates the Igbo culture; however, their actions benefit their families, Nigerians who would otherwise have no way of thriving in a society that rejects them. Tracing this theme through the three novels is a complex task because Achebe's writing style is one that exposes how characters feel, rather than reductively stating that one course of action was the correct one for the clan to take. This complexity is one that Achebe's trilogy exposes and that this thesis explores.

53. An Analysis of Midwest Drought Variability

Zackary Leady: Undergraduate, Bethany Walkinshaw:

Undergraduate, Dr. Jason Ortegren: Faculty Mentor

Department of Environmental Studies

In recent decades, low-frequency influences on drought variability have been analyzed for different regions of the United States. The upper Midwestern United States, an important agricultural region, has received little attention. Using principle component analysis, a Midwest warm-season drought region of the United States was identified. The drought metric used is the Palmer hydrological drought index from 1895 to 2013. The purposes of this study are to quantitatively identify the Midwest warm-season drought region and to determine whether Midwest drought variability is associated with any large scale, low frequency climate indices. The possible associations between low-frequency forcing mechanisms and Midwest drought variability would be significant for water resource managers and municipal drought preparedness.

54. Atlantic Basin Climate Indices and Their Relation to Category 5 Hurricane Frequency

Jeremy Mullins: Undergraduate, Jason Ortegren: Faculty Mentor

Department of Environmental Studies

Atlantic basin hurricanes have a dramatic impact on life and property along the Eastern and Gulf Coasts of the United States. Severe hurricanes (Category 3-5) in particular can cause severe coastal property damage and loss of human life. A review of the HURDAT database reveals a temporal pattern of "clusters" of Category 5 hurricanes at various points in the past century. Since 1920, there have been only six years in which multiple (=2) Atlantic Basin hurricanes achieved a Category 5 designation at some point in their life cycle. However, these six instances were not spread evenly across this time span. Rather, years with multiple Category

5 storms (1932/33, 1960-61, and 2005/2007) were clustered within 2- or 3-year periods. These clusters were separated by continuous 30 - 40 year periods in which zero years contained multiple Category 5 storms. This distinct interdecadal variability in Category 5 storm development raises important questions about whether large-scale, low-frequency ocean-atmosphere oscillations provide any probabilistic insight on the frequency of Category 5 storm development. Well-known drivers of Atlantic tropical cyclone variability include the North Atlantic Oscillation, Bermuda High, El Nino Southern Oscillation, Atlantic Multidecadal Oscillation, and West African Monsoon variability. Here, we review the literature related to low-frequency climate index variability as it relates to tropical cyclone variability, and we attempt to identify climate index conditions that were associated with previous “clusters” of Category 5 storm development with the goal of highlighting historical analogs that may help improve severe hurricane forecast diagnostics.

55. Mob Grazing Effects on Soil Health: Aggregate Stability, Hydraulic Conductivity, and Bulk Density

Traci Goodhart: Undergraduate, Zachary Leady: Undergraduate, Christopher Head: Undergraduate, Johan Liebens: Faculty Mentor
Department of Environmental Studies
 OUR Funded

The raising of livestock and the use of fertilizers has been linked to soil pollution and a decrease in soil health. A new sustainable method of livestock farming, known as mob grazing, sections the farm into small pastures and moves livestock frequently, sometimes daily. By confining the cattle, the livestock’s food choice is limited; in return grazing is more efficient. Research has shown that this method promotes plant biodiversity. However, little research has been conducted on its effects on soil health. This study is part of a multi-year project that will determine the benefits or issues this technique may have on soil health. Two sites were sampled in mob grazed pasture and two nearby fallow farmland sites were sampled as controls. Aggregate stability was analyzed using a wet sieving method. A greater amount of stable aggregates suggests better resistance to soil erosion, and thus better soil health. Hydraulic conductivity was assessed using field infiltrometers. An increase in hydraulic conductivity compared to previous year’s results would indicate improvement in soil health. Bulk density samples were collected using the cylinder method. The lower the bulk density the higher the porosity, indicating more aerated soil and enhanced soil health. In conclusion, the findings of this mob grazing study have the potential to increase knowledge of the scientific and agricultural communities about the environmental benefits of alternative farming practices.

56. Mob Grazing Effects on Soil Health: Earthworms, pH, Soil respiration, and Organic Matter

Zachary Leady: Undergraduate, Traci Goodhart: Undergraduate, Christopher Head: Undergraduate, Johan Liebens: Faculty Mentor
Department of Environmental Studies
 OUR Funded

The raising of livestock and the use of fertilizers has been linked to soil pollution and a decrease in soil health. A new, presumably sustainable method of livestock farming, known as mob grazing, sections the farm into small pastures and livestock is moved daily, or even more frequently. By confining the cattle the livestock’s food choice is limited; in return grazing is more efficient. Research has shown that mob grazing promotes plant biodiversity. However, little research has been conducted on its effects on soil health. This study is part of a multi-year study that determines the benefits or issues this technique has on soil health. Triplicate samples were taken from two mob grazed pastures and from two nearby fallow farmland sites that served as controls. Earthworm density was determined by counting the number of earthworms within one cubic foot. An increase of earthworms, compared to observations during previous years, would point to an improvement in soil health. Soil pH was measured in both water and CaCl₂. Soil respiration was measured via the use of respiration chambers and draeger tubes. High soil respiration implies a greater presence of bacteria in the soil, and increased soil health. Organic matter content was analyzed via the Walkley-Black automatic titration method. If the previously observed trend of increasing organic matter content continues this year it would also point to increased soil health. In conclusion, this study will help demonstrate if soil health increases under mob grazing.

57. Modeling Disturbance and Succession in the Tall Timbers Research Station, Florida

Jeremy Snyder: Graduate, David Cambron: Graduate, Taylor Seamon: Graduate, Connor Wagner: Undergraduate, Dr. John Waldron: Faculty Mentor
Department of Environmental Studies

Forest managers face challenges when it comes to the effects of multiple interacting disturbances, such as insects, fire, and wind on forest management areas. These complex interactions are not well understood, and assessing ecological disturbances over broad spatial and temporal scales is challenging. A commonly accepted ecological modeling tool is LANDIS-II, which is used to model forest landscapes with many species, their realistic attributes, and disturbance variables, over broad spatial and temporal scales. In this study, LANDIS-II is used to model Tall Timbers Research Station, a mixed pine and oak hardwood ecosystem in Tallahassee, Florida. This study models actual tree cohort data with realistic disturbance variables to produce simulated succession and disturbance scenarios. Results of modeling scenarios will contribute to our understanding of disturbance

and succession in these forests, and will thereby aid in forest restoration efforts throughout the southeastern United States.

58. Sediment Variation within the Swash Zone, Northwest Florida

Peter Tereszkiwicz: Undergraduate, Klaus Meyer-Arendt: Faculty Mentor
Department of Environmental Studies
 OUR and SCAC Funded

Wave energy plays an active role in influencing sediment grain-size variation within the swash zone. This variation was studied along 20 miles of coastline in Northwest Florida over a period of 8 months in 2013-14. During this time, 16 sample collections were made from 8 permanent sites to analyze temporal changes in response to wave energy. Samples of 600g were collected, air dried, sieved, and logged in MS Excel. Histograms and cumulative frequency plots were generated from the Excel data to observe changes temporally and spatially. Within the study area there was little variation of mean grain size, but statistical analysis revealed variation above and below the mean. Sites appeared to be more similar and better sorted during higher wave energy events; this was most likely due to an interaction with the backshore causing an oëavalanching effect. In many cases a fining shift was also observed during periods of higher wave energies.

59. An investigation into the correlation between inequality and the recent Great Recession

Esayas Mulat: Undergraduate, Dr. Williams: Faculty Mentor
Department of Government

Inequality is one of the most controversial issue among many facing our generation. It has divided political parties and citizens across this nation. It has questioned all men’s morals and beliefs about capitalism. Some suggesting that capitalism is at the root of this problem, while others described it as the solution for this problem. This paper however, is not addressing the debates on inequality; although it is a fair and necessary debate to have. Rather, this paper will examine the impact and the role of inequality on the recent Great Recession. Insider trading, deregulation of the financial sector, two major wars, substantial tax cuts, inflation and many more bare the blame for this crises. However, the biggest contributor to the crises was the housing market bubble. Houses were bought easily and loans were given generously by the banks to many who cannot fulfill their financial obligations. After the recession began, many policy makers embarked in enacting laws that will address similar situation in the future. Banks were blamed for this financial dilemma, and they should, since they valued their marginal profit than their customers. Surprisingly, many never question why people borrowed money they cannot pay, live in house they cannot afford and struggle when they should not. As such, a fundamental question can be raised: was inequality in

our society played a role for the Great Recession?

60. Does Western European’s progressive economy attract immigrants from less developed countries?

Dominique Biela: Undergraduate, Dr. Williams: Faculty Mentor
Department of Government

The increasing trend of migration in Western Europe has brought much debate among West European governments. The rising levels of immigration have induced policy concerns among government officials, rise of bitterness toward the immigrants from European residents, and pressure on European welfare states. This paper will investigate the migration trend in Western Europe. Precisely, it will examine whether economic reasons attract immigrants to Western Europe due to their higher levels of Gross Domestic Product (GDP) compared to countries in close proximity. It will investigate the country of origin that immigrants come from; to determine if they move from less economically developed countries to more economically developed countries. The countries in Western Europe that will be examined include: Austria, Belgium, France, Germany, Liechtenstein, Luxembourg, Monaco, Netherlands, and Switzerland. In addition, from the nine Western European countries, a comparison of European Union and Non-European union members will be examined to determine if European Union membership affects immigration patterns.

61. Exploring the male versus female ratio inconsistencies due to the “One Child Policy” in China

Nicole Quinn Clyatt: Undergraduate, Dr. Jenna Emery: Faculty Mentor
Department of Government
 OUR Funded

The objective of this research is uncover the reason for underlying discrepancies within China’s male versus female ratio. In the UN census reports the male ratio in China is greatly higher at birth versus females. The most recent data available from the UN Census shows females at childbearing age, 18, the citizens of China male/female ratio return to almost equal. My time-series analysis shows this anomaly, which cannot be explained by the One-Child Policy. I will present my time-series analysis and the results of four qualitative interviews with Chinese females within the targeted age group to determine the cause of the ratio imbalance.

62. Global Financial Crises

Kara Brown: Undergraduate, Michelle Williams: Faculty Mentor
Department of Government

The global financial crises began in 2007 and continued to 2011. This crises carried many implications on individuals, corporate companies, and the world as a whole. This is an important argument that should be built upon, however, the main question at hand is: what caused the

global financial crises? I will explore this question through the use of data sets and use trend analysis to determine at what point the world's financial standings began to fall. I will use causal analysis and statistical regression analysis to further my research. I will also use scholarly sources to validate my point and hone in on why the global financial crises occurred.

63. How much do you know about your local government?

*Cody Childress: Undergraduate, Dr. Williams: Faculty Mentor
Department of Government*

Do people now know their own local elected officials are? Local elections are small and have a dismally low turnout. Who do people know more about the president than those who govern them locally? This research explores what individuals know about their local government and why they think they do not know those individuals.

64. Immigration Rates in European Union vs Non European Union States

*Alexis Causey: Undergraduate,
Michelle Williams: Faculty Mentor
Department of Government*

The European Union was originally created as an attempt to bring peace into the European continent after World War II and today, it is a unifying body of states that share the currency of the Euro, and a single trade market (European Union 2014). Literature on migration into Europe details why the European Union is attractive to migrants and also how policy and the citizens of the country are affected. The literature lead me to believe European Union states will have a higher rate of immigration and to determine which group of states have a higher immigration rate I have sorted the countries in the data set by EU and non-EU states and discovered the descriptive statistics on each set. If I see that the statistical average of immigration rate into EU countries is higher than non-EU countries than we can conclude that people are moving to countries within the EU more frequency. There are a total of 27 EU countries and 21 non-EU countries. To be considered an EU country you must be an official member state of the EU; I did not include candidate countries or potential candidates as EU members. Immigration is on average, higher in EU states than non "EU states. There was a significant difference between the group's immigration averages as they were almost 700,000 more people choosing to move to EU countries rather than non-EU countries.

65. The Effects of High Stakes Testing on Political Awareness

*Terry Knowles: Undergraduate, Kara Brown: Undergraduate, Dr. Jennifer Emery: Faculty Mentor
Department of Government
OUR Funded*

This is a multidisciplinary study of political science,

psychology, and education. The purpose of this research is to measure the effects of high stakes testing in secondary schools on political awareness. We have operationally defined political awareness to include knowledge and interest. We plan to compare these differences between groups by having participants take a political knowledge survey and a political interest questionnaire. The "knowledge" test and "interest" questionnaire will consist of questions from the National Election Survey (NES). Prior to the survey, the participants will complete a demographic questionnaire. We will be comparing two groups: a group receiving a political prompt (quotes from our Founding Fathers, the Preamble, The Bill of Rights, etc.) and a group receiving a no prompt. The participants will be given either their prompt or no prompt to read prior to taking the "knowledge" test and the "interest" questionnaire.

66. What Caused the Global Financial Crisis?

*Previn Coleman: Undergraduate,
Michelle Williams: Faculty Mentor
Department of Government*

The global financial crisis has been a main political issue impacting the world for multiple years now. Many different factors have been said to attribute to the global financial crisis and throughout this study, these factors will be researched and tested to see which data best supports the causing of the global financial crisis. If immigration rose upon the world over the past fifty years and a flow of people brought money from different regions of the world thus transferring the balance of multiple countries' economies, in turn making them unstable, it could then be expected that this would be a viable cause as a stimulant for the global financial crisis. This study will either confirm or deny the validity of this hypothesis and determine, what other possible impacts immigration could make on the economies in different regions of the world.

67. What Makes an Effective Congress?

*Andrew Riffle: Undergraduate, Dr. Emery: Faculty Mentor
Department of Government*

This paper presents a method of analyzing the variables that positively and negatively effect the productivity of the US House of Representatives. Using data from the 'Vital Statistics' database created by the Brookings Institute, the productivity of the House is measured and analyzed using correlations with several different factors. Results show that factors including hours spent in session and Representatives' yearly expenses budget have statistically significant effects on Congressional productivity. The work presented here helps voters evaluate their Congressmen and determine if they are doing their duties well, and suggests ways for Congressmen to improve.

68. Who is Speaking for Women?; The Difference in Rhetoric Between Democratic and Republican Congresswomen

*Alexis Causey: Undergraduate, Jenna Emery: Faculty Mentor,
Jocelyn Evans: Faculty Mentor
Department of Government
OUR Funded*

Earlier investigations into descriptive representation in congressional politics have noted the significant difference in the representation provided by men and women. However, they largely neglect the role of partisanship in shaping the descriptive representation women in Congress provide. Additionally, they focus on bill sponsorship, committee activity, and voting behavior. In this study, we examine the rhetoric of women in Congress, asking how often women in Congress reference their gender in press releases and whether their partisanship affects this form of political speech. We intend to explore the impact of party affiliation on identify politics. We expect that Democratic women will rhetorically represent women more than Republican women. We are currently conducting this research by looking at press releases issued by congresswomen and using content analysis software to gather specific data on the terms women are using. This data analysis will provide the evidence to draw significant conclusions about the role of partisanship in women's political rhetoric. To supplement the content analysis we plan to travel to Washington D.C. and interview congresswomen and their communications directors to better understand rhetoric differences between Democratic and Republican women.

69. Do Democracy and Immigration Go Hand-in-Hand?

*Raquel Fors: Undergraduate, Michelle Williams: Faculty Mentor
Department of Government
Honors Thesis*

I will be analyzing whether nations with more democratic policies in the East Asia region have more immigration than less democratic nations in that region. The regions I will focus on will be those reflected in the net migration trend data display, which are Mongolia, the Democratic People's Republic of Korea (North Korea), Macao, Republic of Korea (South Korea), China, Japan, Taiwan, and Hong Kong. I will be comparing data on democratic status and immigration rates from Freedom House and the United Nations, among other sources. If the states determined to be democratic by Freedom House's measurements have a higher occurrence of immigration than states that are not considered democratic by Freedom House, then democracy is a contributing factor to people's desire to relocate there.

70. Assessing the Effects of Program Design on Hip Angles

*While Performing the Clean and Jerk Exercise.
Mariel Crawford: Undergraduate, Charles McCrory:
Undergraduate, Dr. Eric Greska: Faculty Mentor
Department of Health, Leisure & Exercise
OUR Funded*

CrossFit is a current exercise fad that focuses on high intensity exercises and was originally designed to train military, athletes, and law enforcement. For the general population, such a program design has the potential to increase the risk of incurring an injury due to technique degradation brought about by fatigue. To date, a paucity of research has been performed on the program design of CrossFit. Therefore, it is the objective of this research is to compare the program design of a CrossFit exercise program to that of a standard periodized program using a biomechanical analysis of hip angles while performing a clean and jerk exercise(CJ). A 16-camera 3-D motion tracking system will be used to capture and quantify the movement of the CJ. Participants in this study will have previous CrossFit experience, as well as proficient experience in the CJ. A questionnaire will be used to qualify the participants for participation in the study. Participants will be counterbalanced for their starting program, performing the CJ with CrossFit's program standards one week and with the periodized program standards another week. Participants will be asked to cease from any physical activity 48-hours before testing. The main goal of this study is to determine if performing the clean and jerk exercise in great quantity and frequency will be detrimental to technique, and, in turn, increase the potential injury risk factor for the athlete.

71. Effects of Moderate-Intensity Endurance Exercise on Mitochondrial Biogenesis in Neutrophils

*Rick Perry: Graduate, Dr. Ludmila Cosio Lima: Faculty Mentor
Department of Health, Leisure & Exercise
SCAC Funded*

Growing evidence shows that endurance exercise confers a variety of health benefits against heart diseases, diabetes, certain types of cancer, and neurodegenerative diseases. Recent studies suggest that exercise-induced activation of neutrophil provides cellular protection. However, exactly how exercise-induced activation of neutrophil improves immune system remains largely unknown. One possible mechanism is the mitochondrial biogenesis and maintenance of neutrophils via endurance exercise since mitochondrial replication (biogenesis) can extend life span of neutrophils. The function of the mitochondria in neutrophils is not completely understood, but its primary role is initiating programmed cell death known as apoptosis. Therefore, maintaining intact mitochondria of neutrophils via regular exercise will be an important requirement to prevent unwanted neutrophil cell death and provide a strong innate defense immune system against pathogen invasion. This study utilized a moderate-intensity endurance exercise protocol to test. Human subjects completed an exercise protocol consisting of cycling for 30 minutes at 50% of their VO2 max on three consecutive days. Blood draws were taken before exercise (pre), immediately after exercise had concluded (post), and one hour after the

conclusion of the exercise session (recovery). To test for mitochondrial biogenesis under these exercise conditions, Western Blot was run on the blood samples to test for trends in the transcription factors involved in mitochondrial biogenesis (PGC-1 β =0.05, NRF-1 and TFAM). Preliminary data shows a general increasing trend of all three transcription factors during the first two days of exercise followed by a decrease in these factors during and after exercise on the third day.

72. Mean Body Weight Percentages to Weight Lifted by Gender and Age for Community-Dwelling Senior Adults

Karla A. Caillouet: Graduate, Nikolas Hoskins: Graduate, Ludmila Cosio-Lima: Faculty Mentor
Department of Health, Leisure & Exercise
SCAC Funded

PURPOSE: Determining safe initial weight lifting loads for adults over 60 years old can be challenging. Recommendations exist in the literature but not all apply to this specific population. The purpose of this study is to provide a guide of initial weight loads lifted relative to mean body weight percentage by gender and age group for older adults. This guide may be used to establish initial weight loads for this population. **METHODS:** Community-dwelling older adults (n = 165) were divided by gender and into 3 age categories: 60-69, 70-79, and >80 years. Estimates of initial loads representing approximately 75% of subject's estimated 1-RM were determined for 15 exercises. Exercises performed included leg press, leg extension, leg curl, lower back extension, hip abduction, hip adduction, compound row, latissimus dorsi pull-down, abdominals, calf raises, triceps pushdowns, vertical chest press, bicep curls, lateral and front raises. **STATISTICAL ANALYSIS:** Mean body weights and mean pounds lifted were calculated for each group and exercise. Mean body weight percentage was divided by mean weight lifted to determine percentage for initial load calculation. **RESULTS:** Initial loads were determined for 15 exercises for each age and gender category to provide estimation for baseline weight loads. These references will be provided in a table format upon acceptance of this abstract. **CONCLUSION:** Providing percentages of mean weights lifted to mean body weight for age and gender groups in older adults may provide fitness specialists an efficient method to determine initial loads for strength-training programs for this population.

73. Mindfulness Intervention in a Worksite Setting

Shelby Vaughn: Graduate, Dr. Debra Vinci: Faculty Mentor
Department of Health, Leisure & Exercise

Employment within the public safety career field is inherently dangerous and it should come as no surprise that these employees experience significant levels of stress that can adversely affect their personal lives. In this study, employees

of a local public safety agency will be provided with a brief online mindfulness-based stress reduction program. This activity will employ a quasi-experimental pretest/posttest design comparing changes in employee perceived stress levels. Studies have shown mindfulness-based interventions have the ability to rewire thought processes by providing participants with the ability to change experiences from negative to positive, including negative events, thoughts, sensations, emotions, and behaviors. Other mindfulness-based interventions have revealed significant improvements in participant mood and positive affect, vigor, and life quality (Wolever et al., 2012). In addition to these benefits, these studies found decreases in participant perceived stress levels, fatigue, depression, anxiety, and anger issues. These results were found in survey measures, which identified positive correlations between mindfulness and documented psychological benefits.

74. Quantitative Analysis of Biomechanical Movement Patterns and Skill Development of the Fitnessgram and T-Scale Push-up Protocols

Jeremy Provence: Graduate, Eric Greska: Faculty Mentor
Department of Health, Leisure & Exercise
SCAC Funded

The purpose of this study is to quantitatively analyze biomechanical movement patterns and skill development between the Fitnessgram (FG) and T-Scale (TS) push-up protocols in middle-school aged adolescents. Physical education classes utilize the Fitnessgram assessment protocols developed by the Cooper Institute to test students in three general areas of health-related fitness. To determine muscular strength and endurance of the student, the 90o push-up assessment is used by physical educators. Due to the subjectivity and opportunity for form and biomechanical variations of the current FG protocols, the TS push-up assessment was created. The TS assessment provides explicit cues for learning that control technique and biomechanics which will conceptually improve movement patterns and skill development in students. The study will recruit a sample of twenty college aged participants (18-24 years of age), including both males and females. Two groups will be randomly formed from the participants and testing order will be counterbalanced; a group of 10 that begins the FG protocols and another group of 10 that begins with the TS protocols. Participants will complete a total of four assessments: the first two assessments will look for variations in biomechanical movement patterns within each test, the third assessment will test for transfer effects, and the last assessment will again look for skill acquisition and variations in biomechanical movement patterns. It is hypothesized that explicit cues provided during the TS protocol will decrease variance in biomechanical movement patterns when compared to the FG protocol.

75. The Effect of Prophylactic Ankle Taping, Lace up Brace and Kinesio Tape on the Ankle During Walking, Agility and Vertical Jump

Christina Moya: Graduate, Dr. Eric Greska: Faculty Mentor
Department of Health, Leisure & Exercise
SCAC Funded

From the young, to the weekend warrior's ankle sprains are the most common injury in athletic activities. It is estimated that within the United States 28,000 ankle injuries occur daily. More importantly, it has been reported that in the United States an approximate 3.65 billion dollars was spent on treating ankle sprains. There are numerous amounts of research on the efficacy of different types of braces and ankle tapings but little to no research on what is happening to the body (muscles and joints) when a brace or tape has been applied. The objective of, this study is to quantitatively analyze the physiological and biomechanical effects of different bracing techniques (athletic tape, lace up brace, and Kinesio tape) in order to prescribe the best care for treating and preventing ankle injuries. Participants will complete tasks that include normal walking, a maximal vertical jump test, and an agility test. To analyze the participant's movement patterns during the tasks, a three-dimensional (3-d) motion capture system and electromyography (EMG) will be used to quantify the data. A 4 (ankle conditions) x 3 (performance measures) repeated measures ANOVA will be performed. An a priori alpha level for significance will be set at p<0.05. It is the hope that such findings may help to lower ankle injury reoccurrence of injury, time lost and medical expenses.

76. The Effects of an Acute Bout of Intense Cycling on HSP72 and Inflammatory Cytokine Production in Neutrophils

James Lewis: Graduate, Dr. Eric Greska: Faculty Mentor, Dr. Youngil Lee: Faculty Mentor
Department of Health, Leisure & Exercise
SCAC Funded

Exercise in cool environments has been shown to increase exercise performance comparatively to performing in neutral and hot environments. The human body has many ways of regulating its' temperature and an inability to maintain control of these temperatures close to normal is a main contributor to fatigue during exercise. Exercising in cooler environments allows the body to maintain normal core temperature values with less effort leading to increased exercise performances. One of the ways to monitor muscular fatigue is through electromyography (EMG). Understanding how the neural-muscular system responds to exercise in differing environments would be very novel information for biomechanists, exercise physiologists, and researchers interested in related topics. Moderate exercise has been shown to increase the body's immune cells and their activity. Circulating neutrophils play an important role in being the

first responders of the innate immune system. Heat Shock Proteins are protective chaperone proteins located within cells and have many different functions in all different types of cells in the human body. Recent research has shown these proteins to interact with neutrophils during heat stress activating them and initiating the alarm response. Understanding their response to different body temperatures during exercise and how they interact with neutrophils may reveal more information as to how the human body adapts to stressful environments, continues normal cellular function and initiates the immune system response. We hope to learn how the human body alters neural and biochemical components during cycling to exhaustion in thermo-neutral and cool temperate environments.

77. Linguistic Isolation, Overweight, and Physical Inactivity among Florida Adolescents

Claire A. Caillouet: Undergraduate, F. Stephen Bridges: Faculty Mentor, Karla A. Caillouet: Faculty Mentor
Department of Health, Leisure & Exercise

Social and economic conditions can affect health status in different ways. Depending on the quantity and quality of these conditions improvement or deterioration in health status can occur. Linguistic isolation is one such social condition. Twenty-five percent of obese adults were overweight as children and researchers reported that if overweight begins before 8 years of age, obesity in adulthood is likely to be more severe. Another study reported a higher prevalence of obesity in homes where English was not the primary language. In these homes this study reported an inverse association with physical activity participation. The present study explored the relationship between 3 measures of linguistic isolation and adolescent reports of being overweight and being without sufficient vigorous physical activity for 2006 to 2010 across 67 Florida counties. Statistical techniques included partial r correlational analysis. Only middle school students reported all 3 measures of linguistic isolation remained positively and significantly associated with reports of insufficient physical activity even after controlling for county median household incomes. Despite some differences in reports from middle and high school students regarding reports of being overweight and receiving insufficient physical activity, as measures of adolescent health status, both stand to benefit from improvements in the social, economic, and school district systems. Implications for future research included reducing the prevalence of linguistic isolation, especially among middle school students in Florida counties.

78. Opportunist Nazis: Or how Albert Speer, Joachim von Ribbentrop, and Baldur von Schirach Joined the Nazi Party for Personal Gain Rather than Ideology

Caroline V Robe: Undergraduate,
Derek Zumbro: Faculty Mentor

Albert Speer, Joachim von Ribbentrop, and Baldur von Schirach were opportunists within the Nazi Party and strictly joined the NSDAP for political and personal gain rather than in their belief of Nazi ideology. While other officials within the Nazi Party, such as Joseph Goebbels, Hermann Göring, and even Adolf Hitler, remained loyal to Nazi ideology, not all members of the Nazi Party were dedicated fanatics. Rather than committing suicide with the fall of the Third Reich. Speer, von Ribbentrop, and von Schirach stood trial at Nuremberg and were proven guilty of war crimes. While von Ribbentrop received the death sentence, both Speer and von Schirach received twenty year prison sentences. Both men served their prison terms and both went on to publish books detailing their experiences during the Third Reich and imprisonment. Albert Speer and Baldur von Schirach attempted to capitalize on their ill-fated fame by publishing books and sitting for interviews leading up to their death.

79. Zombology: A Study of the General Public's Typical Misunderstandings of the Undead

Rafael Isaac Reyes: Undergraduate, Randall Reid: Faculty Mentor

*Department of Management & MIS
Honors Thesis*

The average American holds an interest in the mythological creature known as the zombie, whether in movies, works of fiction, or video games. Because of American consumerism and the current trend in pop culture, some people view killing a reanimated corpse as exciting and/or invigorating, or consider living in a world run by the undead. Whether it be to have an excuse to murder people, or to perhaps have a better chance of gaining power over the weak-minded, these are the types of questions that intrigue me regarding how people are interested in what would sound like a nightmare of a world bring to light the phenomenon of how zombies have become a powerful commercial product, and perhaps this is what is causing so many people to fantasize about the undead; perhaps American media is trying to sell to the public a fun and hip idea of what a zombie is as to gain profit through attention and consuming through customers who are only looking to be entertained. The creation of the idea of zombies has been around for millenniums, although for the idea's current stage in the United States, many people tend to enjoy imagining how they would live their life should their imaginations of zombies become a reality. One may make the suggestion that those who value human life and consider the termination of the undead inhumane actually have a better understanding of zombies than those who would enjoy killing zombies for fun.

80. Motivating Fifth Grade Students in Mathematics

Megan McClinnis: Undergraduate, Giang Nguyen-Nguyen:

This research explores the effect of using incentives as motivational strategies for fifth graders to learn mathematics. Currently, United States mathematics and reading are the content areas that students struggle most in academically. According to the Florida Department of Education, (Bureau of k-12 assessment, 2013) only fifty-five percent of fifth graders passed the mathematics portion of the Florida Comprehensive Assessment Test (FCAT). Statewide FCAT percentages drop ten percent in all grades levels leaving the total of thirty five percent passing. In 2011-2012 the percentages were a little higher (average 1.5%) though records indicate the performance is dropping (Bureau of k-12 assessment, 2013). The goal of this project is to help students improve their mathematics knowledge.

81. The Effect of Traditional Greek Myths and Religious Practices on the Peloponnesian War

*Elizabeth Lirette: Undergraduate,
Marie Therese Champagne: Faculty Mentor
Department of Interdisciplinary Studies*

After attending an Honors seminar abroad in Greece, I decided to write my research paper on how the beliefs of the people of Ancient Greece effected their actions in war. There is a significant amount of evidence through both primary and secondary resources, that shows how the practice of common rituals, such as sacrifices in order to honor or gain the favor of the gods, as well as the individual explanations of interactions between the gods themselves, and the gods in human affairs, were integral parts of life in Ancient Greece. Based on my research I concluded that the powerful beliefs of the people of Ancient Greece that the gods could directly reward or punish humans influenced their reasoning, decision-making, and eventual actions throughout the Peloponnesian War.

82. Medical Tourism in the United States: What Do We Know?

*Hannah Bowling: Graduate,
Dr. Helena Allman: Faculty Mentor
Department of Marketing and Economics*

Medical tourism, or traveling abroad for medical treatment, is a rapidly rising phenomenon in the United States. According to a publication by Deloitte Center for Health Solutions, more than 6 million Americans travelled abroad in 2010 for medical treatment and the numbers of the medical tourists from the United States have been growing and are expected to grow in the future. Many state legislators already began to consider the financial benefits of medical tourism with state health insurance plans covering treatments abroad. Despite the medical industry's rapid growth, academic research on the phenomenon from the medical services consumer's point of view is scarce. The objective of my

research is to systematically examine the existing literature on the subject. My presentation will cover the medical tourism literature review with special focus on the consumer behavior theories utilized in the models explaining the medical tourist's selection of the destination country to which they travel for treatment.

83. Creative Analysis: Comparative Study of Brooks Brothers' Past, Present, and Future Marketing

*Sabrina Trice: Undergraduate,, Faculty Mentor:
Department of Marketing and Economics
Honors Thesis*

My thesis research is focused on the sustainability of a 195-year-old company. What marketing and advertising strategies and tactics have been successful and which strategies have strayed from the company's culture and mission. I will strive to answer questions pertaining to the company's adaptability over almost 200 years in business. How does a company survive and maintain an iconic status for almost 200 years? How does a brand maintain its positioning in consumers' mind while adapting to a changing environment? What methods of consumer research do Brooks Brothers use to establish its marketing and advertising plans? What has and has not been successful for Brooks Brothers during the last 195 years? How will the brand move forward into the future: the next 50, 100, and 150 years? After answering the research questions, I will compile a complete marketing strategy and campaigns plan for the company set 50 years in the future.

84. A Root Finding Method

*Camila Cabral: Undergraduate, Kuiyuan Li: Faculty Mentor
Department of Mathematics*

In this paper, we present a method, parallel in nature, for finding roots of equations. It is shown that the method converges monotonically and quadratically, and is reliable, efficient, and easy to implement in practice.

85. Comparison of the Zero-Inflated Poisson Distribution, Poisson Distribution, And Conway-Maxwell Distribution in Modeling of Natural Disaster Data sets in the United States

*Thapelo Ncube: Undergraduate,
Anthony Okafor: Faculty Mentor
Department of Mathematics
Honors Thesis*

Background: A major area in the field of statistics is statistical modeling. There are dozens of distributions used in statistics that can be used to calculate the likelihood of an event occurring and can also be used to help better understand the observed data. The Poisson, Zero-Inflated Poisson, and Conway Maxwell distributions are all used for modeling discrete data. The purpose of this study is to 1) determine whether the ZIP, Poisson, and Conway-Maxwell can be used to fit natural disaster data sets, 2) compare the

three distributions to determine which is the better choice for modeling natural disaster data sets, and 3) evaluate the predictive ability of the models. Methods: For this research project, we will develop the Poisson, Zero-Inflated Poisson, and the Conway Maxwell models and use them to analyze 3 data sets of the following natural disasters that occurred in the United States: Atlantic hurricanes ("Atlantic Tropical Storm Tracking by Year"), wildfires in the continental US that covered 400,000 or more acres ("1997-2012 large fires (100,000+ acres)", and earthquakes magnitude 7.0 or above ("Historic earthquakes in the United States and Its Territories"). We will also examine 2 more data sets that occurred in the state of Louisiana: tornado occurrences in Lafayette, Louisiana Parish ("Storm Prediction Center Warning Coordination Meteorologist Page"), and lightning fatalities in Louisiana ("Natural hazard statistics: Lightning"). The models will be compared and tested for their predictive abilities.

86. Subclinical Hypothyroidism and the Risk of Cardiovascular Disease

*Elizabeth Allgood: Undergraduate,
Anthony Okafor: Faculty Mentor
Department of Mathematics
Honors Thesis*

Hypothyroidism is a disease where the thyroid fails to produce enough hormones to adequately supply the body's needs. Since these hormones are essential to proper bodily function, any fluctuation in hormone levels can have serious medical effects, including adverse cardiac events/dysfunctions and increase risk for cardiovascular disease (CVD). Subclinical hypothyroidism (SCH) is a lesser form of hypothyroidism, and according to the National Institute of Health (NIH), approximately 4-8.5% of the United States adult population suffers from this disease. In recent years, many health research studies have examined the relationship between subclinical hypothyroidism and cardiovascular disease. Due to the prevalence of CVD in human deaths, it is important to research this association in patients with SCH. Unfortunately, there have been conflicting results between these different studies, providing inconclusive evidence if the connection exists between these diseases. Therefore, this study analyzes the association between CVD and SCH. Using the National Health and Nutrition Examination Survey (NHANES) data, a national survey published by the CDC, we conducted statistical analysis that included descriptive statistics and Chi-square test of independence. We further conducted multivariate analysis that include logistic regression to determine how cardiovascular disease is associated with covariates such as LDL cholesterol, HDL cholesterol, BMI, age, gender, or ethnicity for patients with SCH. Additionally, we estimated odd ratios and confidence intervals for each covariate to determine if SCH patients have greater cardiovascular risk. All statistical analysis was conducted

using SAS 9.3.

87. The Language of Mathematics for Autism Spectrum Students

Rachel Annette Henry: Undergraduate, Amber Sufnar: Undergraduate, Dr. Giang-Nguyen Nguyen: Faculty Mentor Department of Mathematics OUR Funded

The goal of “The Language of Mathematics in Autism Spectrum Students” (LMASS) is to investigate how to apply mathematical instructional strategies and resources to promote language learning in students K-2 that have been diagnosed with Autism Spectrum Disorder (ASD). This research proposal focuses on these main questions: What is the relationship between language learning and mathematics learning in students with Autism Spectrum Disorder? How that that information be used to promote language learning?LMASS will be a case study focusing on one student between the ages of 5-10 diagnosed with ASD. We will be researching various methods to improve the participant’s language abilities using mathematical approaches and strategies. We will use mathematical strategies such as manipulatives, patterns, sequencing, and visual aids and test their effectiveness with reading and language development. The case study of the participant will take place over the course of two months, after which a new participant is intended to be found to further the research.

88. Characterization and Calibration of a Combined Laser Raman, Fluorescence and Coherent Raman Spectrometer

Carlos Lawhead: Undergraduate, Nathan Cooper: Undergraduate, Josiah Anderson: Undergraduate, Dr. Laszlo Ujj: Faculty Mentor Department of Physics

Electronic and vibrational spectroscopy are extremely important tools used in material characterization; therefore a table-top laser spectrometer system was built in the spectroscopy lab at the UWF physics department. The system is based upon an injection seeded nanosecond Nd:YAG Laser. The second and third harmonics of the fundamental 1064 nm radiation are used to generate Raman and fluorescence spectra measured with MS260i imaging spectrograph occupied with a CCD detector and cooled to -85°C, in order to minimize the dark background noise. The wavelength calibration was preformed with the emission spectra of standard gas-discharge lamps. Spectral sensitivity calibration is needed before any spectra are recorded, because of the table-top nature of the instrument. A variety of the intensity standards were investigated to find standards suitable for our table-top setup that do not change the geometry of the system. High quality measurement of Raman standards where analyzed to test corrections. Background fluorescence removal methods were used to improve Raman signal intensity reading on

highly fluorescent molecules. This instrument will be used to measure vibrational and electronic spectra of biological molecules.

89. Development of a Technique to Measure the AC Magnetic Susceptibility of Liquid Crystals

Brett-Michael Green: Undergraduate, Christopher Messiana: Undergraduate, Thomas Gunn: Undergraduate, Aaron Wade: Faculty Mentor, Chandra Prayaga: Faculty Mentor Department of Physics OUR Funded

A technique based on the measurement of inductance using ac circuits has been developed to measure the ac magnetic susceptibility of doped liquid crystal samples. Two methods have been tested to reliably measure inductance. An RLC bridge is used in conjunction with a series LR time decay measurement to acquire inductance in an ac circuit. A proof of concept has been established with these methods by testing a variety of known inductances. Measuring the inductance of a coil wound around a vial filled with the sample and then comparing it with the inductance of the empty vial allows the calculation of the ac susceptibility of the sample. We present the calibration measurements to assess the sensitivity of the system as well as our investigation of the susceptibility of paramagnetic salts and doped liquid crystals with ferromagnetic nanoparticles.

90. Development of Laser Induced Grating Method for Condensed Matter Studies

Arielle Adams: Undergraduate, Kenneth DaVico: Undergraduate, Aaron Wade: Faculty Mentor Department of Physics

Development of Laser Induced Grating Method for Condensed Matter StudiesArielle Adams, Kenneth DaVicoDepartment of PhysicsWe present our research on the method laser-induced grating to measure optical, thermal, and molecular properties (the thermal diffusivity, rotational relaxation, and excitation times) of condensed matter systems. This method is an important addition to our tested temperature-dependent transmission and fluorescence experiments, which we use to investigate optical properties of materials. In the experiment, a single beam from a pulsed YAG laser is split into two beams using a 50-50 beam splitter. The two beams are then recombined inside of a sample creating an optical interference pattern. This interference pattern creates localized variations in the property of the material in the form of thermal, excitation, and/or Kerr gratings. These variations in the properties form the diffraction grating, by which a fourth beam is scattered and detected. We can measure the relaxation time of the grating from the intensity decay function of the detected 4th beam. From the relaxation times, we can characterize the relaxation processes of the material. Samples of fluorescent dyes in polymer PMMA or in boric acid glass are used to test the

method and optimize the signal.

91. Polarization Sensitive Coherent Raman Measurements of DCVJ

Josiah Anderson: Undergraduate, Carlos Lawhead: Undergraduate, Nathan Cooper: Undergraduate, Laszlo Ujj: Faculty Mentor Department of Physics OUR Funded

Coherent Raman spectroscopy which recently developed into coherent Ramanmicroscopy has been used to produce label free imaging of thin layers ofmaterial and find the spatial distributions of certain chemicals withinsamples, e.g. cancer cells.(1) Not all aspects of coherent scattering havebeen used for imaging. Among those for example are special polarizationsensitive measurements. Therefore we have investigated the properties ofpolarization sensitive CARS spectra of a highly fluorescent molecule,DCVJ. (2) Spectra has been recorded by using parallel polarized andperpendicular polarized excitations. A special polarization arrangement wasdeveloped to suppress the non-resonant background scattering from thesample. These results can be used to improve the imaging properties of acoherent Raman microscope in the future. This is the first time coherentRaman polarization sensitive measurements have been used to characterize thevibrational modes of DCVJ.

92. Quantum Simulation of Long-Range Magnetism

Omer Haq: Undergraduate, Thomas Gunn: Undergraduate, Shanna Muebe: Undergraduate, Brean Maynard: Undergraduate, Christopher Varney: Faculty Mentor Department of Physics OUR Funded

Recent experiments with ultra-cold atomic gases in an optical lattice have been able demonstrate short-range magnetic interactions. This realization of the Ising model allows for these systems to be used as quantum simulators to describe magnetic systems that where quantum calculations are difficult as the complexity of the system grows exponentially. As extensions to long-range interactions are presently underway, we investigate the dipolar Ising model with exact diagonalization and provide a baseline for comparison with future experiments.

93. A Descriptive Study of Work, School, and Life Balance among UWF Students

Casilda Ruiz: Undergraduate, Ryan Bird: Graduate, Valerie Morganson: Faculty Mentor Department of Psychology

Students often struggle to meet the demands of their competing life domains (i.e., work, school, and life). In our research, we surveyed 137 students in psychology courses at the University of West Florida. This study presents descriptive

statistics to illustrate students' experiences of work-school-life conflict. In the survey, we used a five point scale to measure the spillover of work to school, school to work, family to school and school to family. Other variables included were credit hours, work hours, number of children, and eldercare demands. Results will be in the form of graphs and tables. Through our results, we found that school to family conflict has the highest level of spillover, whereas, family to school conflict has the least amount of spillover. Although, the average amount of hours a student works a week is 12.5, the results demonstrate an equal amount of interference between school to work and work to school conflict. The present study provides a first step to understanding students' experience of multiple role involvement. Future directions for research and practical implications will be discussed.

94. Context Imagery in Survival Processing

Angelica Sullivan: Graduate, Lisa Van Wormer: Faculty Mentor Department of Psychology

Research has given evidence to suggest that the brain is predisposed to encode and retrieve information that was presented with a survival scenario (œadaptive memory). However, it is unknown as to what context participants are imagining when given the scenarios. In this study, context was controlled with imagery presented with each word in the encoding phase, and during the recall phase. There were three main hypotheses: the grasslands-encoding/grasslands-retrieval/survival condition would have the best correct recall overall, the grasslands-encoding/grasslands-retrieval context would have greater correct recall than grasslands-encoding/city/retrieval context, and that the survival scenario would have greater correct recall than the non-survival scenario. However, there were no main effects found in the results, and the hypotheses were not supported. The results gave rise to questions of the strength of the adaptive memory paradigm, as well as its limitations.

95. Discrimination, Affective Reactions, and Forgiveness in LGB individuals

Shane T. W. Kuhlman: GraduateJesse M. Ruiz: Undergraduate, Kelly J. Manning: Graduate, Kyle W. Harwell: Undergraduate, Monika L. Hauck: Undergraduate, Natalie S. Bain: Graduate,, Susan E. Walch: Faculty Mentor Department of Psychology

It has been theorized that health disparities observed within minority communities can partly be explained by stressors related to discrimination (Meyer, 2003). Huebner and Davis (2007) found that perceived interpersonal discrimination was associated with poorer physical health among gay men. Fortunately, it appears the negative effects of perceived wrongdoing can be moderated by forgiveness (Worthington, Witvliet, Pietrini, & Miller, 2007), but it remains to be seen if the role of forgiveness differs for institutional versus interpersonal discrimination.A total of

453 LGB participants were recruited in person through non-probability sampling at a large-scale LGB event. As part of a larger IRB-approved LGB health and well-being study, participants completed anonymous, self-report questionnaires for personal experiences with interpersonal and institutional discrimination (Huebner & Davis, 2007), affective reactions to discrimination (internalizing and externalizing), and two forms of forgiveness (presence of positive/absence of negative; Rye et al., 2001). Results indicate that institutional and interpersonal discrimination moderately, positively correlate with internalizing and externalizing affective reactions in a sample of LGB men and women. The absence of negative forgiveness was moderately, negatively correlated with affective reactions. These results suggest that discrimination and forgiveness are associated with negative affective reactions.

96. Effects of High and Low Tempo Music on a Cognitive Task

*Yasmine Nabulsi: Undergraduate, Mandy Johnson: Undergraduate, Ernest Drinkwater: Undergraduate, Dr. Lisa Blalock: Faculty Mentor
Department of Psychology
Honors Thesis*

The purpose of our study was to examine how high and low tempo music affects performance on a mental rotations task in a sample of psychology Undergraduate, students. Based on the arousal and mood hypothesis proposed by Unbrock (1961), we expect music to impact arousal and in turn impact performance on a cognitive task. Participants performed a letter rotation task (determining if a letter is normal or mirror-reversed) while either listening to high or low tempo music. Each participant also completed the letter rotation task in silence as a control condition. Participants' level of arousal was measured by completing a perceived arousal scale (PAS), before and after the task. The results are discussed in terms of the arousal and mood hypothesis as well as theories surrounding the influence of music on cognition.

97. Hemispheric Differences in Time Perception in Older & Younger Adults

*Kimberly Chafin: Graduate, Lisa Blalock: Faculty Mentor
Department of Psychology*

Time perception is defined as our subjective experience of time. Time perception is involved in many aspects of our lives such as goal setting, driving, risk taking, interpersonal relations, and organizational behavior. This current study investigated hemispheric differences in time perception and how emotion and age affect this process. Undergraduate, students (N=108) and adults over the age of 55 years (N=61) participated in a bisection task using angry, happy, and neutral faces presented to either the right or left visual field to investigate the tendency for an individual to under or overestimate durations of time. Each stimulus was presented randomly five times at each of the two standard durations

(400 and 1600 ms) and at five intermediate comparison durations (600, 800, 1000, 1200, and 1400 ms). It was hypothesized that the right hemisphere would be more susceptible to the emotions of the faces and would thus overestimate the duration of the high emotionality faces compared to neutral more so than the left hemisphere would. A difference between young and old adults was expected to emerge. While the ANOVA for the angry and neutral expressions condition yielded no significant findings, there was a trend towards an age difference with old participants exhibiting a tendency to underestimate the shorter durations. The ANOVA for the happy and neutral expressions condition yielded a significant interaction between duration and age. A pairwise comparison revealed that old participants overestimated the shortest duration and underestimated longer durations.

98. Media and Body Image: The Role of Parent-Child Attachment

*Stacey R. Bass: Graduate, Erica Jordan: Faculty Mentor
Department of Psychology*

Media and Body Image: The Role of Parent-Child Attachment Stacey R. Bass Department of Psychology This correlational study investigated whether young adult participants' attachment to their same-sex parent served as a potential protective factor against the negative effects of media consumption on body image. Undergraduate, students (N=116) completed a survey containing items that assessed self-reported Body Mass Index (BMI), body shape, attachment to his or her same-sex parent, and body image preoccupation. There was a moderate positive correlation between body fat composition and body image preoccupation, with high levels of body fat composition associated with higher levels of body image preoccupation. There was a moderate negative correlation for males between media internalization and same-sex parent attachment, with high levels of media internalization associated with lower levels of same-sex parent attachment. In other words, for males, the weaker the same sex parental attachment, the higher the levels of media internalization. There was a moderate negative correlation between body image preoccupation and attachment to same-sex parent, with high levels of body image preoccupation associated with lower levels of same-sex parent attachment. Results and suggestions for future research studies will be presented.

99. Mindful Awareness and Acceptance of Discrimination and Sexual Minority Distress

*Dolph Todd: Graduate, Erin M. Scully: Graduate, Elizabeth M. O'Connor: Graduate, Wendy Gonzalez-Canal: Graduate, Kyle W. Harwell: Undergraduate, Susan E. Walch: Faculty Mentor
Department of Psychology*

Although discrimination has been shown to consistently cause psychological distress (Borders & Liang,

2011), recent research on mindfulness has shown positive implications for its ability to mediate those negative effects (Graham, West, & Roemer, 2012). Examining the mediating potential of mindfulness could be particularly beneficial for gay, lesbian, and bisexual (GLB) populations, as these individuals are at high risk for experiencing discrimination on the basis of their sexual minority status. The measures utilized in the investigation isolated awareness and acceptance as two key domains of mindfulness. The researchers examined the possible effects of mindfulness on the psychological responses of GLB populations to discrimination events. It was predicted that higher levels of reported mindfulness would be negatively correlated with reported levels of stress, anxiety, and depression, implying a mediating effect on the psychological distress associated with discrimination. A non-probability sample of 453 self-identified adult LGB participants was recruited by trained volunteers, at an annual public LGB gathering. Participants completed self-report measures of mindfulness (Ernoult, 2012), depression/anxiety/stress (Henry & Crawford, 2005) and discrimination (Huebner & Davis, 2007) as part of a larger IRB approved study. Our findings suggest that greater awareness is positively correlated with reported experiences of anxiety and stress. Conversely, greater acceptance is negatively correlated with reported psychological distress. Acceptance, awareness, and experience of discrimination account for significant variance in the reports of depression, anxiety, and stress, implying a predictive relationship. These findings suggest that mindfulness could be an important factor for reducing the deleterious effects of discrimination.

100. Service with a Smile, NOT!: Effects of Emotional Labor and Burnout on Turnover Intention

*Ashley Ruth Christie: Undergraduate,
Valerie Morganson: Faculty Mentor
Department of Psychology*

In certain jobs, emotion regulation is a role requirement. This study tests a model in which emotional regulation is linked with employee reports of job-related burnout and intention to quit one's organization. Specifically, this study uses regression to test the mediating effects of emotional labor on turnover intention and burnout. Emotional labor is the visible, physical display of emotional regulation and management and has two main components: deep acting and surface acting. Deep acting is the intrapersonal process of shifting one's emotional state from what is naturally experienced to what "ought" to be felt. Surface acting is the outward behavior of displaying positive affect (i.e. smiling) despite feeling negative emotions. Participants were 210 female students who worked in customer service jobs for at least 10 hours per week. Data collection consisted of an online survey. The model was partially supported. The impact of surface acting on turnover intentions was transmitted through job-related burnout.

Contrary to expectations, there was not a direct effect of deep emotional labor on turnover intention. These results add to the body of research, which indicates that displaying emotions as a work-role requirement is taxing for employees. The partial results may suggest a need to conceptually distinguish types of emotional labor. In particular, deep acting may be best viewed as a coping strategy rather than a work demand.

101. Sexual awareness, religiosity, and well-being among GLB-identified individuals.

*Tamara Powell: Graduate, Dolph Todd: Graduate, Dr. Susan Walch: Faculty Mentor
Department of Psychology*

As with heterosexual individuals, levels of sexual consciousness and sexual monitoring may be related to measures of overall distress, with sexual consciousness negatively associated and sexual monitoring positively associated with measures of distress. However, given that gay, lesbian, and bisexual (GLB) individuals face stigma and discrimination on the basis of sexual minority status (Hollowell, 2012; Smith & Home, 2008), sexual consciousness and sexual monitoring may represent different experiences than those of heterosexual men and women. The social stigma that contributes to concealment of sexual minority status and religious prohibitions against homosexuality may discourage sexual consciousness and heighten sexual monitoring among GLB persons with formal religious affiliations (Hollowell, 2012; Smith & Home, 2008). On the other hand, spirituality or spiritual intelligence, defined as a set of mental capacities which contribute to the awareness, integration, and adaptive application of the nonmaterial and transcendent aspects of one's existence may relate to levels of sexual consciousness and/or monitoring as well as distress (King & DeCicco, 2009, p. 69). Data were collected at an annual GLB recreational event in Pensacola, FL over Memorial Day weekend via a face-to-face, anonymous survey study including a range of self-report measures administered by trained research assistants.

102. The Gender Issue: The Impact of Gender and Gender Role Ideology on Work, School, and Life Balance

*Ty S. Bennett: Undergraduate, Sadie O'Neill: Graduate, Valerie J. Morganson: Faculty Mentor
Department of Psychology*

The purpose of this study was to determine the impact of gender on students' ability to balance work, life, and school. We examined both gender (male/female) and gender role ideology (a variety of social norms that is attributed to a certain gender) in relation to student work, school, and life conflict. We hypothesize subscribing to an egalitarian gender role identity would be associated with more work-school-life conflict and this relationship was hypothesized to be moderated by gender. Specifically, traditional gender

role ideology was expected to be more strongly linked with work-school-life conflict for women than for men. Data was gathered through an online questionnaire with 137 university students. We used hierarchical linear regression to test moderation with the Baron and Kenny approach (1986). Hypotheses were not supported. Additionally, men and women were largely similar in their reports of work, school, and life conflict. There were significant main effects for gender role ideology on family-to-school conflict and school-to-work conflict. More traditional gender role ideologies were linked with more conflict regardless of gender. One limitation to our study is that a majority of participants identified with an egalitarian gender role ideology. A more varied sample may reveal an interaction effect; this is a direction for future research.

103. The Role of Teacher Supportive Behaviors in Contributing to Work-School Balance

Kayla Duperreault: Graduate, Valerie J. Morganson: Faculty Mentor Department of Psychology

While there has been a considerable amount of research on the work-life interface among professionals, very little has addressed the work-school balance needs of students (i.e., being effective and satisfied in managing the responsibilities required of work, life, and school). Research has uncovered that family-supportive supervisor behaviors play a critical role in contributing to work-family balance needs of employees. Paralleling such research, in this study, we explore the role of teachers in supporting students' work-school balance. Using a qualitative approach, this research explores both student and teacher perceptions of teacher supportive behaviors, and the extent to which they contribute to students' abilities to balance multiple roles (i.e., work, life, school). Separate focus groups were conducted with three samples at the University of West Florida: Undergraduate, students, Graduate, students, and professors. While data analysis is currently underway, we expect results to define the conceptual domain of teacher supportive behaviors; findings will highlight areas of overlap and distinctions between student and teacher expectations and perceptions of the teacher's role as a source of support for balance. Additionally, practices for supporting students who are facing family/personal life and work role obligations will be presented.

104. Workaholism and Work-School Conflict

Leigh Phillips: Undergraduate, Kayla Duperreault: Graduate, Valerie Morganson: Faculty Mentor Department of Psychology

Workaholism has been defined as the tendency to work excessively in a compulsive way (Schaufeli, Bakker, van der Heijden & Prins, 2009). Many studies have looked at the effects of workaholism on work-family conflict, or when work interferes with family responsibilities. Traditional work-

family conflict theory suggests that there is a finite amount of resources we have for each of our life roles, and so if one consumes too many, the others may then suffer. Due to its excessive nature, workaholism can then be detrimental to one's family life and other roles an individual may have. Currently, no research has looked at workaholism in the student population as if affects work-school conflict. This study collected data from 137 Undergraduate, students who were working at least 10 hours per week while enrolled full-time. Through regression analysis, significant relationships were found with workaholism to work-school, school-work, and school-family conflict, as well as anticipated work-family conflict. However, significant relationships were not found for workaholism and family-school conflict or anticipated family-work conflict. Therefore, the pattern of relationships suggests work and school interferes (current and anticipated) with family; however, there is no interference of family with work or school responsibilities, in regards to workaholic tendencies. Discussion will be of further implications of work-school conflict stemming from workaholism in the student population.

105. American History and Disney

John Woods: Graduate, Dr. Susie Jans-Thomas: Faculty Mentor Department of Research and Advanced Studies

The project represents a doctoral student's course work in Historiography. The project focuses on the incorporation of American History into Disney's theme parks. Moreover, the research question will spotlight how Walt Disney World romanticizes American History in the Magic Kingdom. Through the utilization of the qualitative research process, the project will assess how the use of the railroad, Main Street USA, Frontierland, and Liberty Square highlight various aspects of America's past. The project reflects the student's ability to conduct qualitative research, interpret both primary and secondary sources, record data, and adequately report findings.

106. Cuba: Life on the Island through the Eyes of an Active Witness

Daniel S. Correa: Graduate, Sarah Z. Jonas: Graduate, Dr. Susan J. Jans-Thomas: Faculty Mentor Department of Research and Advanced Studies SCAC Funded

Cuba's government during President Fulgencio Batista's reign was fraught with corruption, but changes created by the 1959 revolution have resulted in repressive despotism (Wiarda, 1995). Implementing ethnographic techniques, this study explores changes thrust upon the people of Cuba during and after the Cuban Revolution. According to Madden (2010), ethnography is an interpretative and explanatory story about a group of people and their sociality, culture and behaviors (p. 16). This study,

therefore, investigates Cuba's history through the life of a Cuban American scholar, Ana, who lived and experienced the Cuban Revolution. This study portrays the political environment of Cuba from 1952 until 1971, the period of time Ana lived on the Island.

107. Desegregation of Pensacola's Lunch Counters 1960 to 1962

Sarah Z. Jonas: Graduate, Dr. Susan J. Jans-Thomas: Faculty Mentor Department of Research and Advanced Studies SCAC Funded

Approximately fifty years ago, Blacks were refused the right to sit down and receive service at lunch counters in most variety stores, drug stores, department stores, and restaurants in the South (NAACP, 1962). On February 1, 1960, four young Black men of North Carolina A&T defied this prejudiced system by sitting down at an all-white Woolworth lunch counter and demanding to be served (Dykeman & Stokely, 1960). Their courage and bravery hit the press and immediately empowered other young students across the country to take a stand by sitting-down (Dienstfrey, 1960). Within just two months, sit-ins spread to over 60 Southern cities (Dixie Negroes, 1960). Although Pensacola became involved in the national sit-in movement just months after the Greensboro Four's demonstration (Klansmen Want, 1960), little of this history is known today since many first-hand accounts have yet been told. This study addressed the role of the NAACP Youth Council's civil rights protests on desegregating the lunch counters of Pensacola, Florida. By implementing Busha and Harter's (1980) methods of historical inquiry, data were collected through archival research, site-based research, and interviews. Data were then analyzed and triangulated. The results of this study are a detailed account of how protests were organized, sustained, and successful. While archival sources were organized to provide a chronological framework for the study, site-based data provided a geographical framework for the study. Interviews then provided personal first-hand emotions and experiences of individuals in the social and political setting.

108. Historiography: A Qualitative Research Strategy

Daniel S. Correa: Graduate, Kym Atwood: Graduate, Devin Blackmarr: Graduate, Joc Calloway: Graduate, Charletha Declouet: Graduate, Wesley Delaware: Graduate, Douglas Doidge: Graduate, Maria C. Leite: Graduate, Kelly McGaughey: Graduate, Dynita Padgett: Graduate, Virkeisha Palmer: Graduate, Roger Rose: Graduate, Timothy Sowers: Graduate, Robyn Strickland: Graduate, John Woods: Graduate, Susie Jans-Thomas: Faculty Mentor Department of Research and Advanced Studies

This project represents the work of doctoral students in the EDF 8990: Historiography class. Historiography is a qualitative research strategy that allows the researcher to

learn about a place, its people, events and changes occurring over time (Jans-Thomas, 2012, p. 91). Historiography is the history of history writing (Lorenz, 1999, p. 29). Through the process of historiography, students analyze and evaluate historical information, synthesize primary and secondary sources to answer historical questions, and analyze ethical issues in historical research. This project reflects students' ability to utilize systematic qualitative strategies to study the past based upon interpretation of facts.

109. Vietnamese Refugee Camp Eglin Air Force Base, Florida 1975

Maureen W. Howard: Graduate, Sarah Z. Jonas: Graduate, Daniel S. Correa: Graduate, Robert J. Barkley: Graduate, Kym Y. Atwood: Graduate, Dr. F. Stephen Bridges: Faculty Mentor, Dr. Susan J. Jans-Thomas: Faculty Mentor Department of Research and Advanced Studies SCAC Funded

With the fall of Saigon, April 30, 1975, citizens of South Vietnam became displaced persons. In response to people's needs, the United States Government took in the refugees by establishing relocation camps at Fort Chaffee, Arkansas; Camp Pendleton, California; Fort Indiantown Gap, Pennsylvania; and Eglin Air Force Base, Florida. This is an historical research study about the Relocation Camp at Eglin AFB, from April 27, 1975 (prior to the official fall of Saigon) to September 19, 1975. From setting up the camp to finding sponsors, the U.S. Government's Operation New Arrivals assisted in assimilating South Vietnamese refugees into American society and culture. This study documents daily life within the camp, sponsorship, conflict within the civilian community, and the physical closing of the camp.

110. Internationalizing Teacher Education: Preservice Teachers' Perceptions of Intercultural Sensitivity and Global Competency

Kaori I. Burkart: Graduate, Carla J. Thompson: Faculty Mentor Department of Teacher Education

The United States teacher education programs stand at an important transitional period of internationalization within an already rapidly globalizing society. Although effectively preparing preservice teachers for multicultural learning environments is crucial, traditional and local orientations like the pressures of high-stakes accountability and standardization mean that these efforts still trail rapidly changing educational environments. Despite the urgency of teacher education program reform in a complex and fluid school environment in the twenty first century, the priority of campus internationalization varies significantly depending on individual institutions. A combined theoretical framework based on cognitive development theory and human holistic development theory has posited possible relationships among the factors of global competency and intercultural sensitivity.

Preservice teacher perceptions were sampled through survey data retrieved from seven institutions in the State University System of Florida. Multiple regression analysis was performed to examine the contributions of three subscales of global competency on intercultural sensitivity. Study findings suggest that each of the three global competency factors contributes to intercultural sensitivity. Intercultural communication skills were found to have the strongest influence on intercultural sensitivity, followed by substantive knowledge as the second strongest and perceptual understanding as the third strongest. Findings suggest that intercultural communication skills carry almost five times more weight than perceptual understanding, and substantive knowledge has almost twice the weight of perceptual understanding. Further analysis extended the model using demographic variables to enrich the regression model. Implications for further study and recommendations for policy implementation are included.

111. Reaching Beyond A Degree

*Michelle Williams: Undergraduate, Giang-Nguyen Nguyen: Faculty Mentor
Department of Teacher Education
OUR Funded*

This research project will explore the impact of an intervention on education students' career goals. Students majoring in education are often advised that they will be classroom teachers. However, they have other career options with an educational degree. This research project will explore the impact of the intervention on education students' career goals. Students majoring in education are often advised that they will be classroom teachers. However, they have other career options with an educational degree. My goal is to develop a directory of individuals who have earned a career in education that chose a career outside of the classroom setting. My goal is to develop a directory of individuals who have earned a career in education that chose a career outside of the classroom setting. The participants will be questioned before and after the intervention to see if and how their careers goals have changed.

112. Unlocking Math Strategies for Educational Standards

*Sharee Rosado: Undergraduate,
Giang- Nguyen Nguyen: Faculty Mentor
Department of Teacher Education
OUR Funded*

Unlocking the mystery of mathematics for elementary school students requires engagement of the elementary mind. Complex ideas can be broken down into manageable blocks of information when it is done with a practical approach. The significance of this research is that it provides support for current pedagogical practices and provides a more meaningful educational experience for students through tested mathematical intervention strategies. The teaching profession

and students alike will benefit from a set of tested strategies that will work along with approved school district curriculum and the educational standards mandated by legislature. The implementation of best practices and intervention strategy methodology for new and veteran teachers will insure that all children benefit from adequate instructional methods. The use of concrete manipulatives in conjunction with real life problem solving techniques and technology can effectively connect student learning to the educational standards that educators are responsible for upholding.

113. Destination Objectification

*Brooke Martin: Undergraduate, Roz Fisher: Faculty Mentor
Women's Studies Conference*

Rape culture is stronger than ever and realistic media representations of media seem to be fewer and farther between. Not only is media visibility of women low, but women in positions of power and leadership also seems to be quite low for where we ought to be in the year 2014, especially when compared to many countries around the world. My focus for my paper is advertising and the ways in which its objectification and dehumanization of women impacts young men and women. While I concentrate mostly on print advertising, I do examine a few television commercials as well. I especially focus on how the objectification and dehumanization of women leads to the perpetuation of rape and rape culture in our society, as well as the devaluation of women in general. I have been interested in the idea that in the same way that soldiers are taught to dehumanize the enemy in order to be able to kill people in battle more easily, perhaps advertising that dehumanizes women may perpetuate and reinforce the culture that has produced Steubenville and Vanderbilt and so many other similar scenarios. I also look at how these devaluing images of women affect the imaginations of young women when it comes to seeing themselves in leadership roles or other positions of power, and how that perhaps contributes to our lack of women in position of power today.

114. Spatial and Temporal Variability of *Karenia brevis* within the Choctawhatchee Bay System

*Claire Lacey: Graduate, Matthew Schwartz: Faculty Mentor
Department of Environmental Studies
SCAC Funded*

The Choctawhatchee Bay has been host to numerous red tide events caused by the toxic dinoflagellate *Karenia brevis*. These events affect the overall health of the water body which can result in mass mortality events of fish, dolphins and manatees, have a negative impact the human respiratory system, as well as cause the closure of shellfish harvesting. Water samples were collected at monthly intervals for the past five years, at six shore stations located in two bayous in western Choctawhatchee Bay. Polymerase chain reaction (PCR) is being employed to determine *K. brevis*

concentrations at the time of sample collection. Surface water nutrient and chlorophyll a levels were measured in all samples, along with physical water characteristics (DO, temperature and salinity) to provide a relevant biogeochemical framework to assess the observed spatial and temporal variability of *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.

Oral Presentations:

A Smoking Gun: A Study of The Ethics of The New York Times in the Judith Miller Case

*Haley Chouinard: Undergraduate, Bruce Swain: Faculty Mentor
Department of Communication Arts
Honors Thesis*

Judith Miller, former reporter at The New York Times, spent 85 days in jail in 2005 for refusing to reveal the identity of one of her sources. A month after Miller was released from jail, The Times asked for her resignation. In this study, coverage of Miller's trail as reported in The New York Times, Washington Post, Los Angeles Times and Chicago Tribune were compared. By comparing the coverage of the story by the four publications, discrepancies were detected in their reporting and an argument can be made as to whether The New York Times upheld its own code of ethics and reported accurately on the case. Using the code of ethics of the Times, the Society of Professional Journalist and the American Society of Newspaper Editors, the ethics of Miller's actions and those of the Times in asking her to resign were examined. In addition, scholarly articles that analyze the situation, as well as media ethics in general were consulted. Utilizing all of these methods, it can be concluded that the The New York Times was ethically justified in its decision to ask Miller to resign and Miller was not ethically justified in her protection of the source in question. Miller violated multiple ethics codes and The New York Times would have been within their rights to ask for her resignation much sooner than they did.

God's Special Embalming Skill: Preservation, Permanence, and the Memento Mori Tradition in John Donne

*Rebecca Steward: Undergraduate, Angela Calcaterra: Faculty Mentor, Kathy Romack: Faculty Mentor
Department of English and World Languages
OUR Funded*

Rebecca Steward UWF Scholar Symposium 2014 Abstract "God's Special Embalming Skill: Preservation, Permanence, and the Memento Mori Tradition in John Donne" This paper focuses on John Donne's poem "A Valediction of My Name in the Window." Specifically, this paper describes the shift from Catholicism to Anglicanism in Early Modern England and examines how this shift is

reflected in the work of John Donne. Donne was born a Catholic but died a Protestant. At times, Donne's struggles with this transition reflect in his works. This paper argues that John Donne uses the memento mori tradition to act as a physical representation of his spiritual being. In many ways, Donne was unable to let go of his Catholic upbringing because it offered him a tangible representation of life after death. The memento mori, whether a skull or a work of art, acts as a viceroy for the spirit after death.

Aristotelian Influence in Milton's Theology--Presentation

*Erica K. Miller: Undergraduate, Dr. Romack: Faculty Mentor
Department of English and World Languages*

John Milton's monistic theology is apparent throughout his work. While his theology is inherently Christian and somewhat derivative of his time, his detailed conceptions of Christology are undeniably analogous to Aristotelian philosophy. The hylomorphic theology that Milton constructs is tediously justified in the Christian Doctrine. The relationship of potentia equating to God as matter and entelechia equating to the Son's ability to create are explicit in the Christian Doctrine, among other prose works, and illustrated in Paradise Lost. Milton's discussions of God, the Son, Chaos, Heaven, and Hell create an esoteric framework of cosmology, ontology, and teleology, all of which are connected. As Kent Lehnof, author of *Paradise Lost and the Concept of Creation*, states "This de deo genesis enobles each and every existent, for it provides a material line between creation and the Creator. Since everything is to some degree a part of the father, everything is to some degree divine (30). Milton's notions of theology seem to be heavily drawn from Aristotle's works, most notably, the Physics, Metaphysics, and De Anima (On the Soul). The application of Aristotelian philosophy to Milton's theological works changes the interpretations, and perhaps significance, of such texts, formulating an Aristotelian Christian theology, rather than a theological narrative.

Barred and Bawdy: The Under- and Misrepresentation of Shakespearean Women

*Brooke Martin: Undergraduate, Kathy Romack: Faculty Mentor
Department of English and World Languages*

As an active participant in the theatre, I've taken an interest in the female characters of Shakespeare and chose to take a course to further my knowledge through research and investigation. In my paper, I take a close look at the female characters from the Shakespearean play Twelfth Night, and examine how they take action and appears to be strong female characters, but how despite their willingness to act quickly and decisively, they might not actually be positive representations of women. I draw from multiple sources, including an article by Dymphna Callaghan in which she examines body politics in Twelfth Night. Women and their bodies in particular, are often discussed in bawdy, and

outright sexually explicit terms. Whatever authority they might have is completely overshadowed by the complete lack of respect shown by the way they are bandied about in speech. In addition to that, these female characters may be represented as strong, decisive women, but they are actually played by boys because women were banned from the stage at the time the plays were written and originally performed. This aspect cannot be ignored when considering the audience's perception of the characters since they would have known that boys, not women, were playing these female roles. Because of these perceptions of the female characters by both the male characters and the audience, their personhoods are undermined in ways that make it impossible upon a closer analysis of the text to see Shakespeare's female characters as positive representations of women.

Digital Writing and Higher Order Thinking in Postsecondary English Studies: Applying Bloom's Revised Taxonomy to ENC2990

*Hunter Brown: Undergraduate, Judith Steele: Faculty Mentor
Department of English and World Languages
Honors Thesis*

From Facebook to email to PowerPoint presentations, digital writing has infiltrated nearly every aspect of our modern lives: personal, social, professional, and academic. The place of digital writing in postsecondary academics has been an especially controversial topic in recent years. Some argue that digital writing represents the collaborative and multimodal future of higher education while others cling fiercely to the scholarly, text-based tradition. In this Honors thesis, I use my experiences as a Guest Instructor in ENC2990 "an online digital writing course titled Writing in the Digital Age: Participating in Global Conversations, designed and taught by Dr. Judith Steele of the University of West Florida" to enter the conversation. Applying Bloom's Revised Taxonomy of the cognitive domain as a rubric, I probe the strengths and weaknesses of the various course assignments, thereby developing suggestions for the future of ENC2990 in particular and postsecondary English studies in general, a future in which emerging forms of digital writing are neither idolized nor shunned, but instead, used to support traditional higher order thinking skills.

Portia's Power Plays in The Merchant of Venice

*Carole Toler: Undergraduate,
Katherine Romack: Faculty Mentor
Department of English and World Languages*

In the early modern period, England moved from a feudal economy system of patronage to a capitalist economy that, for the first time, separated business and personal relations. The early modern English public was anxious about capitalism's dehumanizing tendencies. The nature of the relationship between economics and human relations, as well as the tension between pragmatism and traditional

values are examined in *The Merchant of Venice*. The figures of Shylock and Antonio provide many complex socio-economic implications, and much scholarship has examined them. I am particularly interested in the figure of Portia. She has often been viewed in a negative light, as a manipulative female or even as a symbol of the problems in the early modern legal, economic, and political systems. However, I argue that Portia's active and skillful manipulation of her suitors, the trial, and her ring token reveals her understanding of the nuances of both economic and human interests. Striking a balance between pragmatism and idealism, Portia navigates between the two worlds with ease and efficiency, getting exactly what she wants in every situation. Portia is the most successful character in *The Merchant of Venice*. In "Portia's Power Plays in *The Merchant of Venice*" I examine Portia's active and successful agency. I also examine the implications of Shakespeare's fascinating decision to create a female character who so closely embodies the Western idyllic hero unequivocally associated with masculinity. Portia represents the new man who is able to thrive in emerging modernity.

Real Enough? Characters Acting Outside Their Best Interests, How the Story Is Affected, and How It Is True to Life

*Christian Pacheco: Undergraduate,
Jonathan Fink: Faculty Mentor
Department of English and World Languages
Honors Thesis*

Well-rounded characters in fiction often challenge, directly or indirectly, the usual patterns of the society and overall universe in which they reside. In parallel, their actions and the author's unique style and viewpoints challenge some mainstream conventions of the craft of writing. This is not to say the author always radically campaigns against story structure, development of characters, and the like. Rather, writing can challenge reader expectations distinctive character development and fluid, recognizable storytelling. I aim to present a short fiction piece that highlights certain personal or societal issues present in today's world in the storytelling and in how characters act outside of their comfort zones and not necessarily in their own best interests, exploring extremes before a final, clear resolution is reached. I will be prefacing my story with an analytical theme focused on how these literary values are evident and reflective of a larger societal event in Joyce's *A Portrait of the Artist as a Young Man*.

The Validity of Multiple Perspectives in Franz Kafka's The Metamorphosis (Presentation)

*Terry Griner: Undergraduate, Katherine Romack: Faculty Mentor, Robert Yeager: Faculty Mentor
Department of English and World Languages*

Even though *The Metamorphosis* is almost one hundred years old, critics still cannot determine what the ultimate theme is in Franz Kafka's most famous story.

Howard Fast argues that Kafka's sole purpose for writing *The Metamorphosis* was to prove that "man and roach are the same." Nina Strauss concludes in "Transforming Franz Kafka's 'Metamorphosis' [sic.]" that "'Metamorphosis' is about invalidation." Most critics, like Fast and Strauss, base their interpretations on one of four theoretical approaches: psychoanalytic theory, Marxism, feminism, or Jewish studies. Yet the common declaration throughout the majority of criticisms is that only one of these approaches contains the key for fully understanding *The Metamorphosis*. On the contrary, Kafka includes overlapping ideas from psychoanalysis, Marxist theory, feminist theory, and Jewish culture simultaneously in *The Metamorphosis*. Therefore, the reader cannot limit his or her interpretation of the story by acknowledging only one of these perspectives. *The Metamorphosis* does not lend itself to one absolute theme; thus, the reader must consider each of these viewpoints because these perspectives are equally valid.

Using Spoken Word Poetry to Understand Shakespeare

*John David Brown: Undergraduate, Sydney Robinson:
Undergraduate, Kathryn Romack: Faculty Mentor
Department of English and World Languages*

Many students face difficulty the first time they attempt to read or perform the works of Shakespeare. The elevated language, rhythm, and rhyme scheme can confuse students unfamiliar with this type of literature. However, many of the same elements are fearful of in the Bard's writing are the same elements they enjoy in spoken word poetry. Shakespeare's works are meant to be read aloud. While the words are still powerful on the page, they come to life when performed. The intent is much clearer when acted rather than read. The same can be said of spoken word poetry. Often, when these poems are read, they may seem cliché or lackluster, but when performed, they are able to move audiences to feel extreme emotion. We believe that by using spoken word poetry, students will be able to better understand Shakespeare. We propose to perform two original spoken word pieces based on similar themes to specific Shakespearean passages. After the performance, we will discuss how these spoken word pieces can aid students in understanding the performative nature of Shakespeare's plays by studying rhythm, rhyme, and word choice.

Eve, Obedience, and Authority in Paradise Lost

*Dylan Mathews: Undergraduate,
Katherine Romack: Faculty mentor
Department of English and World Languages*

Eve is subordinate to Adam in John Milton's *Paradise Lost*. The hierarchy of gender is of little question, considering Raphael's admonition of Adam as the latter appears to be straying in the direction of lustful admiration of Eve, but we are thereafter left with the question of the nature of Eve's apparent subjugation to Adam. What does it say of Eve that she can passively invoke in Adam an almost idolatrous

reverence? Adam's attitude towards Eve suggests that he needs her in a manner that is not necessarily reciprocated, but this suggests a completeness to Eve that does not appear to exist in Adam. Eve also exhibits an intuitive intelligence that is more closely aligned with the angelic and divine beings of the epic than Adam's brand of discursive inquiry as a means of acquiring knowledge. To this end, Eve appears almost more 'aware' than Adam that she inhabits Paradise her concerns constantly carry the overtone of a passive and profound appreciation of Eden that has little regard for the semantics of its technical workings. Adam, in contrast, questions Raphael ad nauseum about such matters, to the point that the angel suggests Adam not concern himself with such affairs too deeply a statement strikingly resonant with Eve's disposition. It might almost be said that Eve is better suited to Eden than Adam. The question with which we are left, then, and the one I will explore, is why Eve is subject to Adam even before the Fall, and what does this subjection mean before and after the Fall? God's punishment for Eve is to be subordinate to Adam. If she is already his second in Paradise, how is it any different to be forced into this subordination? Answering these questions will entail an analysis of what differentiates Eve from Adam in prelapsarian Eden, and Michèle Le Doeuff's article *How Intuition Came to Women* presents a comprehensive overview of the sort of mentality comprised in Eve. It should be noted that the gendering of intuition suggested in this article is well after Milton's time, but the discourse on intuition and its historical contextualization are invaluable in the context of my argument. Mary Nyquist's *Genesis of Gendered Subjectivity in the Divorce Tracts and Paradise Lost*, while dated in terms of both chronology and criticism, provides the foundation for most existing criticism on Milton and issues of gender, and it will be worthwhile for her article sit passively in the backdrop of my argument. The fundamental difference between Eve's rationality before and after the Fall, and by extension what will differentiate her subjugation to Adam at both times, appears to lie in her willingness to obey. Obedience was for Milton the key to real liberty, and the prelapsarian Eve exhibits this quality repeatedly. She obeys Adam's wishes, but not for the same reason Adam obeys God's wishes. Rather, it pleases Eve to please Adam, and that edifies both of their states of living in Paradise. It is not until immediately after the Fall that Eve begins to consider her status as lower than Adam's, and with that comes a momentary temptation to usurp his perceived superior status followed by the first instance of codependency, both of which denote a loss of the completeness personified in prelapsarian Eve.

