9th Annual Undergraduate Research SYMPOSIUM
April 15, 2016

www.uafs.edu/symposium
Greetings!

The University of Arkansas - Fort Smith proudly welcomes you to the 9th Annual Undergraduate Research Symposium. Our faculty and staff are committed to fostering an environment that promotes not only learning but also enlightenment. As you will see in today’s presentations, our students have accepted the challenge, explored unique areas of research, and synthesized their results in the form of lectures, studio art, demonstrations, posters, and performances.

These presentations represent the academic diversity of UAFS’s programs and the intellectual excellence of our students. On their behalf, thank you for your participation. I invite you to engage the presenters during the question-and-answer segments of their presentations. Your active involvement ensures that UAFS remains a dynamic learning community.

Dr. Georgia Hale
Provost and Vice Chancellor for Academic Affairs
Acknowledgements

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Kevin Jones
Matt McCoy
Joe Peng
Noel Sagullo
Linus Yu
## Schedule/Table of Contents

### Room 1 – Presentations in Business – Library 122

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00</td>
<td>University Child Care</td>
</tr>
<tr>
<td>2:30</td>
<td>PIIGS Contagion Effects on U.S. Financial Markets</td>
</tr>
<tr>
<td>3:00</td>
<td>A Review of Cultural Awareness Impacts on the Success Rate of International Assignments</td>
</tr>
</tbody>
</table>

### Room 2 – Presentations in Engineering and Information Technology – Library 206

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00</td>
<td>Mars Rover Capable of Transporting One Astronaut</td>
</tr>
<tr>
<td>2:30</td>
<td>Implementing a U.S. Computer Science Program</td>
</tr>
<tr>
<td>3:00</td>
<td>Evolution of Cyber Security: Is Security Keeping Up With Threats?</td>
</tr>
<tr>
<td>3:30</td>
<td>Understanding Sentiment Analysis Through Twitter and iFeel2.0</td>
</tr>
</tbody>
</table>

### Room 3 – Presentations in Electronic Technology and Information Technology – Library 209

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00</td>
<td>Design of an Autonomous Robot for a Simulated Search and Rescue Game</td>
</tr>
<tr>
<td>2:30</td>
<td>Optimizing Data Analytics Using In-Memory Big Data Clusters</td>
</tr>
<tr>
<td>3:00</td>
<td>Artificial Neural Networks for Solving the Protein Folding Problem</td>
</tr>
</tbody>
</table>

### Room 4 – Presentations in Education and Biology – Health Science 124

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00</td>
<td>The Power Positive Relationships and Effective Teaching Strategies on the Academic and Social Success of Young Adolescents</td>
</tr>
<tr>
<td>2:30</td>
<td>American Military Children: Discovering Consequences of Experiences on Their Development</td>
</tr>
<tr>
<td>3:00</td>
<td>The Effect of Caffeine at Different Concentrations on the Bacteria of the Body</td>
</tr>
<tr>
<td>3:30</td>
<td>The Impact of the McClellan-Kerr Arkansas River Navigation System on Bass Populations</td>
</tr>
</tbody>
</table>

### Room 5 – Presentations in English – Health Science 222

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00</td>
<td>A Quiverfull of Duggars: Gender Representation in <em>19 Kids and Counting</em></td>
</tr>
<tr>
<td>2:30</td>
<td>The Effects of Makeover TV on the Self-Image of the Individual</td>
</tr>
<tr>
<td>3:00</td>
<td>A Timeless Hessian in an American Recession</td>
</tr>
<tr>
<td>3:30</td>
<td>Illusionists, Conjurers, and Wizards: The Deconstructing Force of Magic</td>
</tr>
</tbody>
</table>

### Room 6 – Presentations in English – Health Science 223

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00</td>
<td>On the Right Tract: The Forgotten Genre of the Victorian Religious Tract</td>
</tr>
<tr>
<td>2:30</td>
<td>Neo-Victorian and Steampunk Inclusion in a Canon-Based Classroom</td>
</tr>
<tr>
<td>3:00</td>
<td>Thus is Art: Intent, Textuality, and Effect in Nineteenth-Century Fiction</td>
</tr>
<tr>
<td>3:30</td>
<td>Victorian Gothic Horror Novels: Portrayal of the New Woman and Female Identity</td>
</tr>
</tbody>
</table>
Room 7 – Presentations in English – Health Science 227
2:00 Stereotypical Gender Roles in Criminal Minds ................................................................. 34
2:30 Star Trek: The Mirror of America ............................................................................................. 34
3:00 Historical Transformations: A Study of Vampire Literature from Stoker to Sands .................. 35
3:30 The Pathos of Anthropomorphism: The Holocaust and Art Spiegelman's Maus .......................... 36

Room 8 – Presentations in Psychology, History, and Teaching English as a Second Language – Health Science 318
2:00 Individual Differences in Social Attitudes and Attitudes Toward Torture ........................................ 38
2:30 Female Civil War Spies and the Use of Nineteenth Century Gender Ideals .................................... 38
3:00 Marielitos at Fort Chaffee: Misunderstood and Misrepresented .................................................. 39
3:30 Habit or DNA: How are Second Languages Acquired? .................................................................. 39

Room 9 – Presentations in Studio Art and Graphic Design – Health Science 321
2:00 A Sculpture Garden for UAFS ...................................................................................................... 42
2:30 The Meaning Behind the Appearance of the St. Stephen Burse Reliquary ....................................... 42
3:00 René Crevel and the Modernization of the Decorative Arts in France ........................................... 43

Room 10 – Presentations in Media Communication – Health Science 325
2:00 Grand Theft Auto vs. Metroid Prime: Women, Representations, and Video Games .......................... 46
2:30 Much Ado About Adoing Too Much: Analyzing the Critiques of Anderson and Ferguson on Violent Video Game Research .............................................................. 46
3:00 Face Negotiation Theory and Non-Verbal Communication: Face Saving Without Words .................. 47
3:30 Let's Talk About Sports .................................................................................................................. 47

Room 11 – Presentations in Media Communication – Health Science 326
2:00 Evaluating the Degree of Sensitivity in Disparagement Humor in the Students at the University of Arkansas - Fort Smith Through the Semantic Differential Technique ........................................................................ 50
2:30 The Effects of Text Messaging on Relational Intimacy in Young Adults ........................................... 51
3:00 The Comment Section: Social Media’s Black Eye .......................................................................... 51
Undergraduate Research Symposium

Poster Presentations - Boreham Library 129 - 2-4 p.m.

Table 1 – Radiography:
Charcot Foot .............................................................................................................................................54

Table 2 – Radiography:
Arthrogryposis Multiplex Congenita ....................................................................................................54

Table 3 – Radiography:
Syndrome of the Sea ..................................................................................................................................55

Table 4 – Biology:
Male Response to Multiple Mating Opportunities in the Bean Beetle, Callosobruchus malculatus ........55

Table 5 – Biology:
A Comparison of Genetic Distances Between Migratory Populations of Tadarida brasiliensis mexicana
(Mexican Free-Tail Bats) ............................................................................................................................56

Table 6 – Biology:
A Comparative Study of the Effects of 4-6-O-benzylidene-D-glucopyranose, a Benzaldehyde Derivative,
on Growth and Function of Cancerous and Non-Cancerous Cells .............................................................56

Table 7 – Biology:
Mutagenesis Analysis in Drosophila Screening for Novel Programmed Cell Death Regulations ...............57

Table 8 – Biology:
Examination of the Cytotoxicity and Selectivity of Frankincense Oil in Breast Cancer ............................58

Table 9 – Biology:
The Effects of Creatine HCl on Planarian Regeneration ..............................................................................59

Table 10 – Geology:
Desalination of Sea Water and the Inherent Problems That Come With It .......................................................60
Room 1

Presentations in Business

Library 122

2:00  Lara Millican
2:30  Colton Smith
3:00  Luiz Muniz
University Child Care
Presented by Lara Millican
Faculty Sponsor: Dr. Elise Riker

In the past few decades, the number of non-traditional students on college campuses has been growing. With this comes an increase of student-parents who require more resources to be able to attend college than the traditional student population. The multiple roles these student-parents have to juggle make staying in school more difficult. Universities have an opportunity to help student-parents by having child care available on campus. This project explores offering comparable services to other universities and uncovers the needs of students who will drive the future economic growth in this area, thus contributing to the mission of UAFS. In this research we will estimate the potential effect on enrollment, campus involvement and overall perception of the UAFS campus that an on-campus child care center could provide. We will examine how current single-parent students obtain child care and assess the need of on-campus child care.

Lara Millican is a co-founder and president of Moms at UAFS, a new student organization focused on providing a support group for mothers going to the university. This research stems from her involvement with other new mothers within this group. She also works on campus in the Office of Advising and Career Services. She anticipates graduating in December 2016.

PIIGS Contagion Effects on U.S. Financial Markets
Presented by Colton Smith
Faculty Sponsor: Dr. Latisha Settlage

The finance literature provides ample evidence that relationships exist among international financial markets. This paper seeks to compare the volatility in the financial markets of the United States and other industrialized nations around the time of the PIIGS crisis. PIIGS nations refer to the countries of Portugal, Italy, Ireland, Greece, and Spain. The term became popular during the European sovereign debt crisis. During this time, these countries were unable to refinance their government debt because of financial crisis. The actions of these few countries sent ripples throughout the Eurozone’s financial institutions because of the connectivity to each country’s markets. This phenomenon is known as contagion because financial crisis in one country spreads to another with which it is linked financially much like a contagious disease might spread. In order to test for evidence of contagion, a lagged, time-series model of stock returns is developed for each country, and a matrix of residual correlation coefficients is computed. While previous studies have considered the effects of the PIIGS crisis on various regions of the global economy, one missing area of focus appears to be how this financial turmoil affected the United States’ financial markets.

Colton Smith is a senior finance major graduating in May 2016. He grew up in Fort Smith and graduated Union Christian Academy in 2012. He has attended UAFS since his sophomore year after transferring from the University of Arkansas, Fayetteville. He currently works at ABF Freight System as a COE in the Pricing-Special Projects group. After his graduation Colton will move to ABF’s sister company, Panther Premium Logistics, where he has accepted a position as a pricing analyst. Colton’s research interests are international financial markets and global supply chain management. He is also involved in First Bank Corp Student Ambassadors Board, Sigma Nu Fraternity, Beta Alpha Psi, Order of Omega, and Gamma Sigma Alpha.
A Review of Cultural Awareness Impacts on the Success Rate of International Assignments
Presented by Luis Muniz
Faculty Sponsor: Dr. Larry Faulk

According to a survey of firms that send employees abroad for long-term assignments, there is a 42% assignment failure rate for employees who either leave their assignments early or are removed from their position. One factor that contributes to this high rate of failure is the lack of cultural awareness training. This is damaging not only to the success of the firms, but to the careers of the expatriates as well. This paper will discuss the results of a survey to establish the correlation between the success of international assignments and cultural awareness training from Kwintessential, one of the most respected consultancy firms in the world.

The results of the survey found that 93% of the students who have traveled internationally answered affirmatively when asked if studying the culture of the foreign country they visited before journeying there would have helped them. As part of a possible solution for reducing this high rate of failures, a training protocol for potential expatriates expecting an assignment in South Korea has been developed. In short, evidence suggests that cultural training improves the success rate of international assignments and a training protocol is provided as a possible solution.

Luis Muniz is a senior international business student. After spending several years in the job market as an entrepreneur, Luis decided to return to school to hone his skills by completing a degree in business. After performing well in his studies and completing a study abroad course in South Korea, Luis plans to pursue a master’s degree in Germany, which he hopes will ultimately lead to a career in international cultural consulting.
Room 2

Presentations in Engineering and Information Technology

Library 206

2:00  Drew Caple
2:30  Taylor Rook
3:00  Chandler Satterfield
3:30  Jennifer Lord
Mars Rover Capable of Transporting One Astronaut
Presented by Drew Caple
Faculty Sponsor: Dr. Kevin Lewelling

This presentation will describe and demonstrate two one hundred pound electric Mars rovers designed for remote sensing and data collection. These rovers have been built and tested over the past four years and have provided the foundation for a more ambitious project of designing and constructing a Mars rover capable of transporting one astronaut up to 20 miles per day. This new Mars rover will use a rocker-bogie design for lateral stability and up/down hill climbing capabilities. Stress analysis for the rocker-bogie frame will be discussed during this presentation. This new rover design will also incorporate six in-wheel, brushless motors and a steering control similar in nature to a zero-turning lawn mower. The motor drives used by this rover have been designed in-house and results from preliminary testing will be presented. Without unforeseen delays, the new Mars rover capable of transporting one astronaut will be operational by summer 2017.

Drew Caple is a graduate of Greenwood High School and an Engineering Scholarship recipient. He has worked on the Arkansas Space Grant Mars Rover Project for two years. He will graduate with a Bachelor of Science in electrical engineering in May 2017 and plans to find suitable employment.

Implementing a U.S. Computer Science Program
Presented by Taylor Rook
Faculty Sponsor: Dr. Janet Renwick

With an ever increasing demand and need for computer science certified employees, the U.S. is falling behind in fulfilling the growing need of education in this sector. This presentation will bring this to light and begin looking at the challenges and prospects of implementing such a system here in the United States. This will cover challenges faced by a decentralized education system and faculty burdens. This will also cover implementation by Israel and New Zealand to give an idea of statistical and model information. It will also look at these cases and observe their successes and shortcoming and find ways to use these to our advantage and avoid the same mistakes if we are to undertake this challenge as a nation. On top of these, we will take a look at common core, being one of the few attempts at a universal U.S. education curriculum initiative. We will see what hampered it and how we can avoid the same mistakes. It will be concluded with suggestions on managing faculty burden and creating the proper alliances between instructional services and organizations to facilitate such a curriculum.

Born to educators Steve and Cary Rook in Lawton, Oklahoma, Taylor Rook moved to Arkansas at the age of 1, living in Little Rock for six years before he found himself in the quiet, humble mountain town of Mena. He attended Rich Mountain Community College for an associate degree in information technology. He joined the Student Government Association as public relations chair for the first year and became president the following year. He was also awarded “Who’s Who Among Students in American Universities and Colleges” two years in a row. After graduating in 2014, Taylor transferred to UAFS to obtain a bachelor’s degree in information technology. He plans to graduate in the fall of 2016.
Evolution of Cyber Security: Is Security Keeping Up With Threats?
Presented by Chandler Satterfield
Faculty Sponsor: Dr. Janet Renwick

This presentation examines the evolution of cyber security in response to cyber threats from recent history, how they affect each other, and the issues involved in keeping security up to date. Computer experts from the 1990s saw the danger in the lack of security with the world’s information systems and unfortunately we are just now trying to do something about it with all sorts of preventative measures against cyber-crime available. Cyber-crime is at an all-time high with the rapid evolution in the various types of malware and the ineffective “patch and pray” paradigm we’ve always used. Research into solutions to this problem are ongoing and will probably remain so since the threats of cyber-crime will evolve, more often than not faster than the solutions simply because that is the nature of the beast. Cyber insurance on the other hand, while not preventative, does provide an alternative solution and is quickly becoming a new concept individuals and organizations will soon find familiar, whether they would like to or not.

Chandler Satterfield graduated from Russellville High School in 2007. After a brief hiatus and a few life lessons, he began taking classes at UAFS in fall of 2012. He plans to graduate in 2017 with a bachelor’s degree in information technology focused on cyber security. After graduation Chandler aspires to attend Cyber Corp in Tulsa, Oklahoma, where he hopes to aid in the effort against cyber warfare. His research interests include programming, cyber security, and cryptography. Some of his favorite hobbies are reading, working with computer hardware, and cycling.

Understanding Sentiment Analysis Through Twitter and iFeel2.0
Presented by Jennifer Lord
Faculty Sponsor: Dr. Janet Renwick

Social media is driving technology today from how we look at, produce, and sell products. If we had the ability to identify these opinions and views from social media, we could drive our technology to new advances. Identifying and analyzing textual data involves a great deal of gathering data, interpreting that data, and providing results. If we capture textual data through Twitter to analyze, then we should be able to analyze opinions of the general population. Sentiment Analysis takes us beyond just looking at social media, to understanding opinions on social media. By looking at how Sentiment Analysis works and the tools that we can use to implement Sentiment Analysis we can show the benefits and cons of such a product.

Jennifer Lord is a student enrolled in the information technology-database management program. She is a twin and the middle of nine children. She is the first person in her family to attend a four-year university and will be the first to graduate with a bachelor’s degree. She is mother to three children with another on the way, all while maintaining above a 3.0 grade point average in a challenging field of study. She feels very passionate about educating the younger generation of girls that STEM careers are for all genders and to say “I can” instead of “I can’t.”
Room 3
Presentations in Electronics Technology and Information Technology
Library 209
2:00  Group Presentation: Justin Moore, Jared Dunning
2:30  Israel Cuervas
3:00  Cody White
Design of an Autonomous Robot for a Simulated Search and Rescue Game  
Presented by Justin Moore and Jared Dunning  
Faculty Sponsor: Dr. Muhammad Khan

Robots play an important role in search and rescue missions as they have the ability to navigate through hazardous terrains and reach victims that a human rescuer may have trouble reaching. This paper presents a detailed design of an autonomous robot to perform search and rescue missions on a game field. The primary design requirement is to locate and transport two red and two yellow wooden cylinders representing causalities to their drop-off zones as quickly as possible. The cylinder colors represent severity of victim injuries with red being severe and yellow being less severe. A major design challenge was to select a suitable microcontroller. A PICAXE-40X2 microcontroller was selected due to its small footprint, large onboard memory and faster processing. Ultrasonic sensors were mounted on the robot to detect any obstructions in its path. A Pixy (Cmucam5) camera module was used as a fast vision sensor to detect the colored cylinders and guide the robot to their locations. A servo-controlled catcher was installed to lift and hold the cylinders during travel to the drop-off zone. A UAFS student team will field this robot in the forthcoming IEEE Region 5 Annual Meeting Robotics Competition to be held in Kansas City, Missouri.

Justin Moore is pursuing an Associate of Applied Science in electronics technology. He has been part of the UAFS student team to design and build an autonomous robot for Robotics Competition in IEEE Region 5 Annual Meeting in Kansas City, Missouri.

Jared Dunning is pursuing an Associate of Applied Science in electronics technology. He has been part of the UAFS student team to design and build an autonomous robot for Robotics Competition in IEEE Region 5 Annual Meeting in Kansas City, Missouri.

Optimizing Data Analytics Using In-Memory Big Data Clusters  
Presented by Israel Cuevas  
Faculty Sponsor: Andrew Mackey

The world in which we live today is a place where data is being collected more than it ever has been in the past. From the mobile devices that individuals carry to the sensors that monitor traffic patterns, data is being generated at an accelerated rate from a variety of sources, both visible and transparent to those who generate it. These individual details are then aggregated and mined through resource-intensive tools to uncover hidden trends that are valuable to the various organizations who pursue data-driven decision-making. Medicine, urban planning, social networking, government, finance, retail and a variety of industries have made significant advances that would not be possible without the massive influx of data they utilize. However, the methods by which data is stored serve as inhibitors to the massive growth in volume, velocity and variety that must be addressed in order to harness the potential of this data. The work presented here discusses the current challenges within the data field in addition to the opportunities that can be pursued through the implementation of in-memory data analytics systems.

Israel Cuevas is majoring in information technology. His interests are in networking technology, open source systems, big data, and data analytics.
Artificial Neural Networks for Solving the Protein Folding Problem
Presented by Cody White
Faculty Sponsor: Dr. Brian McLaughlan

One of the best use cases for artificial neural networks is their uses in bioinformatics, particularly with regard to predicting the three dimensional secondary protein structure with only the one dimensional amino acid sequence. This problem is more well-known as the protein folding problem. This paper will seek to compare different multilayer neural networks and learning rules to protein secondary structure prediction. It will compare multilayer neural networks of the feed forward type that have various numbers of hidden layers and will use a variety of learning rules with each one such as the Back Propagation, Dynamic Back Propagation, and Sigmoid Delta Rule. The data sets are taken randomly from the protein data bank. 150 proteins will be taken with 80 of them being training data where the structure such as alpha helix, beta sheet, and random coil will be known. The remaining 70 will be test data sets to check the various neural network’s performance with regard to their number of hidden layers and learning rules. A multilayer neural network with one hidden layer using simple Back Propagation seems to have performed the best in both computation time and prediction accuracy.

Cody White is a senior pursuing a bachelor's degree in information technology with a focus on programming. He is set to graduate in fall of 2016. He is interested in large distributed systems and artificial intelligence, particularly artificial neural networks and genetic algorithms.
Room 4
Presentations in Education and Biology
Health Science 124

2:00 Shane Hale
2:30 Brianne Smith
3:00 Gideon Long
3:30 Samantha Kendrick
Most teachers agree that every student is different. They have different prior knowledge, experience backgrounds, learning preferences, socioeconomic factors, and achievement levels among other unique characteristics. This makes it quite difficult for educators who are tasked with teaching every student and motivating them all to succeed. The truth of the matter is that teachers and administrators alike do not know what is going on behind the scenes in each child’s life. Some live difficult and discouraging lives while others seem to come from nearly perfect homes. Some attend class ready to learn and eager to participate while others sit in the back of the class with their heads down the entire time. What are the differences between these individuals, and how can teachers reach every student when such a disparity exists? The hypothesis of this research project suggests that the answer lies in building positive relationships with students. It is not enough to simply attempt to teach them; educators must also develop professional/personal relationships with their students. This qualitative study based on observations, surveys, interviews, and the analysis of existing research literature attempts to discover effective teaching strategies to engage students in learning in memorable ways.

Shane Hale graduated as valedictorian and Governor’s Scholar from Waldron High School in 2013. He is a senior in the UAFS School of Education and a member of the Honors International Studies Program and Collegiate Middle Level Association. He serves as treasurer of Kappa Delta Pi Honor Society and works as a tutor for the Upward Bound Program. Shane is currently pursuing a degree in middle level education with an emphasis on language arts and social studies. He hopes to teach and attend law school in order to one day become an attorney focusing on child advocacy and family law. His research interests include motivation theory, emotional intelligence theory, self-determination theory, socioeconomic studies, and psychological behaviorism.
American military families and their children endure a wide range of consequences of which the general public is scarcely aware. School systems and educators especially require expansive knowledge and understanding of their military students’ developmental needs in order to promote healthier learning and growth. This case study is intended to unearth the specific needs and resiliencies of American military families in an attempt to promote higher levels of awareness and implementation of beneficial resolutions.

This research is based on voluntary responses to surveys and interview questions, as well as light observations of military children in the classroom setting per parental agreement. Children may be questioned briefly if approved previously by parent or guardian, documented through a specific informed consent form. Gathering of this data is intended to further understanding of American military families and their needs, as well as potentially recognize resolutions and movements towards increased support.

Upon completion of this study, a deeper understanding of military families may potentially emerge in classrooms, and the general public. All data and information gathered will essentially be used for the improvement and implementation of positive changes such as movements or supportive organizations, bibliotherapy book(s) for children, publication of data for expansion, etc.

Brianne Smith, originally from Peggs, Oklahoma, is a 2013 graduate of Fayetteville High School. She is currently pursuing a degree in early childhood education as a first semester senior and is in the UAFS Honors International Studies Program. She is also a member of Kappa Delta Pi, Alpha Lambda Delta, and the National Society of Leadership and Success. Brianne married into the military in July 2015 and currently resides in Barling, Arkansas, with her husband. She also recently began working at the Montessori School of Fort Smith as an after school care teacher. She began her research on military children in the fall of 2015 and has collected her own data on human subjects since receiving UAFS IRB approval in January 2016.
The Effect of Caffeine at Different Concentrations on the Bacteria of the Body
Presented by Gideon Long
Faculty Sponsor: Roger Lightner

The goal of this research project is to study and understand the effects of caffeine at different concentrations on the normal microbiota of the body. The first test done to study these effects was a basic turbidity test performed by taking spectrophotometer absorbance readings, a quantitative measurement of how much light is absorbed as it passes through the tubes, over time. Several different species of bacteria were introduced to a broth mixed with a various amounts of caffeine, incubated at 37 degrees Celsius, and placed into the spectrophotometer for readings at one hour intervals. After this initial round of caffeine concentrations over a wide range, the bacteria were put into even smaller concentrations of caffeine to narrow in on the range of most activity because higher concentrations proved to be toxic. The next step was done by adding bacteria to a Petri plate and observing any morphological changes to the colonies. The results of the spectrophotometer showed that Gram positive bacteria were stimulated at low concentrations of caffeine while Gram negatives were negatively affected. It appears the toxic effects of caffeine are metabolic and generally slow growth rates at higher concentrations and may stunt the size of bacterial colonies.

Gideon Long is an ambitious student-worker who aspires to get a doctorate in microbiology and work with the Center for Disease Control. Currently the president of the Biological Honor Society Tri-Beta, Gideon is currently a junior biology major, and it is said that at any given moment, he is equal parts stress and coffee.

The Impact of the McClellan-Kerr Arkansas River Navigation System on Bass Populations
Presented by Samantha Kendrick
Faculty Sponsor: Dr. Thomas Buchanan

The completion of the McClellan-Kerr Arkansas River Navigation System in 1970 caused dramatic changes in the habitats of the Arkansas River, producing changes in the fish populations. One species, the Yellow Bass, Morone mississippiensis, has apparently extended its range upstream in the Arkansas River after the construction of the navigation system and may have had an adverse impact on populations of White Bass, Morone chrysops. The purpose of this study is to analyze data from the rotenone population sampling conducted by the Arkansas Game & Fish Commission from 1970 to 2010 for the three uppermost navigation pools in Arkansas to document the upstream spread of Yellow Bass and to correlate its increase with population changes in White Bass. By comparing numbers and mass per hectare between the two species, it is possible to document not only the arrival of the Yellow Bass to the three upper pools, but also how the White Bass population responded.

Samantha Kendrick is a 2012 graduate of Lamar High School. She currently is majoring in biology and minoring in anthropology and enjoys volunteering at the Janet Huckabee River Valley Nature Center in her spare time. She is a member of the local ALD chapter and the university’s Biology Club.
Room 5

Presentations in English

Health Science 222

2:00  Allison Harrison
2:30  Lauren Tipton
3:00  Nicholas Moen
3:30  Carol Ann Seahorn
A Quiverfull of Duggars: Gender Representation in *19 Kids and Counting*
Presented by Allison Harrison
Faculty Sponsor: Dr. Carol Westcamp

In popular culture, more specifically in reality television, there are gender roles that are imposed upon society. While not all reality shows promote or portray dominant male and submissive female gender stereotypes, in The Learning Channel's *19 Kids and Counting*, the men and women are molded into these rules revolving around a dominant and a submissive. My paper addresses the gender roles presented in *19 Kids and Counting* and discusses the ideology behind the family's viewpoint on the roles of men and women. This show follows the everyday lives of Jim Bob and Michelle Duggar, and their nineteen children, in a document and interview style. In my research, several authors refer to the Duggar family as associating with the Quiverfull movement. This ideological movement, as described by Juliana Denson in her analysis, is a small sect that branches off from “neo-fundamentalist Christianity,” that follows and interprets the Bible in a literal manner. It follows the dogma that family size and planning should be left to God, which often results in large families that are centered on male leadership and docile women submitting to the aforementioned male. In her book, *Media Depictions of Brides, Wives, and Mothers*, Alena Ruggerio explains that even in this increasingly dual-income economy, Quiverfull beliefs hold that “a woman's role is as a mother and a homemaker,” which is a concept frequently seen in the Duggar family. In agreement with this is the idea that men are the primary communicative voice while the women sit silently and nod in agreement. There are several instances of these gender forms in *19 Kids and Counting*, which I will elaborate on in my paper.

Allison Harrison, a 2013 graduate of Van Buren High School, is a senior English with teacher licensure major. After graduation in December 2016, she plans to continue on to graduate school to become a certified library specialist.

The Effects of Makeover TV on the Self-Image of the Individual
Presented by Lauren Tipton
Faculty Sponsor: Dr. Carol Westcamp

Makeover reality TV is a popular subgenre of reality television that faces a vast amount of negative criticism. Makeover shows are made to seem like they want to help individuals better themselves, but the contestants are often exposed to severe methods of transformation and shaming. *What Not to Wear*, *The Biggest Loser*, and *Extreme Makeover* are popular reality makeover shows that attract many viewers. Although these shows have been widely popular, they all use extremist methods and shaming during their contestants’ transformation processes. The contestants of all three shows are critiqued based on whether or not they have conformed to society’s accepted ideas of attractiveness. Because the shows attracted or continue to attract so many viewers, the viewers watching them are exposed to television that promotes shaming, negative body image, and potentially makes the viewers feel lesser because their appearance does not correlate with what society deems as beautiful. For this reason, this essay focuses on the shows *What Not to Wear*, *The Biggest Loser*, and *Extreme Makeover* and discusses how makeover programs promote negative body image and body shaming instead of encouraging positive self-worth.

Lauren Tipton is a graduate of Van Buren High School. She is now a senior majoring in English with secondary teacher licensure and plans to graduate in December 2016.
A Timeless Hessian in an American Recession
Presented by Nicholas Moen
Faculty Sponsor: Dr. Carol Westcamp

Founded by the English and settled by the Dutch in pre-colonial America, the mouth of the Hudson River in Northern New Jersey up North to the Catskill Mountains in New York mark a time on America’s historical demographic map as a purely Dutch society. In fact, this present day area was settled under the name “New Netherlands.” Roughly two-hundred years after this period, nineteenth-century American Romance author Washington Irving would go on to capture the unique Dutch heritage and literary tradition of this land called the Hudson River Valley through his anthology of short stories entitled *The Sketch Book of Geoffrey Crayon, Gent.* (*The Sketch Book*). Written in the honor of Dutch historian Deidrich Knickerbocker, *The Sketch Book* contains two of Irving’s greatest works, “The Legend of Sleepy Hollow” and “Rip Van Winkle.” By using an outsider’s perspective in both of these works, readers get a taste of the old Dutch customs that helped shape an entire nation. With captivating details like the mystery of newly discovered land, the influence of the American Revolution and mounting pressures from afar, the object of this paper is to explain rather than glorify how Irving’s romanticism of a homogenized society influenced American Literature.

Nicholas Allen Moen graduated from Northside High School in 2012. Upon graduation he had a gut feeling from his achievements in high school English that he should major in this subject. When Nicholas entered the UAFS as a freshman in the fall semester of 2012, he shared the same emotions as many college freshmen. He did not know what he wanted to major in, nor did he know how the future was going to turn out. After three years he has come to the conclusion that the decision to attend UAFS was a wise one. No matter what happens in the future, he has the peace of mind that he has done something worthwhile. If nothing else, the English degree he is earning will serve as a great base for further knowledge and employment opportunities.
Illusionists, Conjurors, and Wizards: The Deconstructing Force of Magic
Presented by Carol Ann Seahorn
Faculty Sponsor: Dr. Lindsy Lawrence

“Illusionists, Conjurors, and Wizards: The Deconstructing Force of Magic” analyzes the function of magic in three neo-Victorian texts: Steven Millhauser’s *Eisenheim the Illusionist*, Erin Morgenstern’s *The Night Circus*, and Terry Pratchett’s *The Color of Magic*. Magic, whether parlor trickery or true wizardry, functions as a narrative device to examine different human aspects. The three texts break down human nature through supernatural means to expose specific aspects in a new light. These aspects are Empire, free will, and social constructs. In exploring these issues, this paper applies Ann Heilmann’s three stages of a trick to expose the narrative function of magic, whether through a single illusion or an ongoing enchantment. Heilmann divides tricks used in neo-Victorian works into a three-part play; the Pledge, the Turn, and the Prestige. This structure aids in understanding the deconstructive power of magic, a subtle power that is more than just the spectacular. Magic in neo-Victorian literature is a sleight of hand duplicity device; a trick’s duplicity is twofold: on the surface it is intended to delight a prescribed audience, but underneath the smoke and mirrors is a critique on a specific element of society.

Carol Ann Seahorn will graduate in May 2016 with a degree in English. She is an alumni member of Alpha Omicron Pi, having served as chapter treasurer and vice president of standards, and has also served as president of the Gay-Straight Alliance. She works as a team leader and Top Gun auditor at RGIS, an inventory company, and volunteers her saxophone in the River Valley Community Band and her time in the County Clerk Archiving Project. She is planning to pursue a master’s degree in library sciences with an emphasis on archival studies and imaging technology. Her interests include reading, yoga, painting, and spoiling her cats.
Room 6
Presentations in English
Health Science 223

2:00 Regina Smith
2:30 Group Presentation: Lindsay Tillery, Sara Tomlin, Victoria Wiley
3:00 Ashley Gorham
3:30 Katherine Fulmer
On the Right Tract: The Forgotten Genre of the Victorian Religious Tract
Presented by Regina Smith
Faculty Sponsor: Dr. Lindsy Lawrence

Victorian literature is perhaps best known for establishing the novel as a dominant genre of fiction, but another genre of literature was prominent during the Victorian era and has still survived. The religious tract may not be considered a literary genre by today's standards, but the Victorian religious tract was a widely distributed and influential form of literature. According to Leah Price, one historian calculates that in the first seven years of its existence, the Religious Tract Society distributed two million titles in 1840, and before 1849 that number rose to more than twenty-three million. In exploring how religious tracts are an important part of Victorian literature and made a significant and lasting impact on society, this paper will also look at their use in Victorian novels such as Wilkie Collins’s The Moonstone and how these tracts, frequently authored by women, gave voice to women in the nineteenth century. In so doing, this paper also examines the debate between literary fiction and prescriptive narratives.

Regina Smith is a non-traditional student from Poteau, Oklahoma. A former newspaper editor, she is pursing a degree in English with teacher licensure. Regina has three children, Hanna, Res, and Bryan. She is a junior and a member of the Applause Literary Journal staff.
Neo-Victorian and Steampunk Inclusion in a Canon-Based Classroom
Presented by Lindsay Tillery, Sara Tomlin, and Victoria Wiley
Faculty Sponsor: Dr. Lindsy Lawrence

The importance of including canonical texts in the secondary classroom is undeniable; however, new pedagogical research has also stressed the importance of including contemporary texts in the curriculum. The goal of this project is to provide a teacher resource guide for the inclusion of Neo-Victorian and Steampunk Literature in the secondary English classroom, since these genres are prominent in young adult literature. We created this resource guide using Wordpress in order to increase its accessibility to other teachers, and it is designed specifically for utilization by teachers of seventh through twelfth grade. This guide provides methods for pairing partial and full Neo-Victorian or Steampunk texts with an exemplar text, lesson plans, activities, assessments, and scholarly articles.

Some of the works and lessons included are: a class and disability studies lesson on Doctor Who’s “A Christmas Carol”; a unit pairing Erin Morgenstern’s The Night Circus with William Shakespeare’s The Tempest in order to compare and contrast the magical elements and their impacts on plot and character development; a look at the graphic novel adaptation of Arthur Conan Doyle’s A Study in Scarlet as an alternative to the standard text; and an advanced unit on Jane Austen’s Pride and Prejudice and Jo Baker’s retelling, Longbourn, which opens up discussion regarding class differences and inequalities.

Lindsay Tillery graduated from Southside High School and is a senior pursuing a degree in English with 7th-12th grade teacher licensure. Her research interests include literature, best teaching practices, and engaging reluctant readers. She plans to continue her education by obtaining a master’s degree in reading and literacy. Her free time is usually spent with her husband and son, but occasionally she finds time to read, watch documentaries, and crochet.

Sara Tomlin graduated from Booneville High School and is a senior pursuing a degree in secondary English teaching. Her interests include reading, writing, traveling, cooking, and furthering her education.

Victoria Wiley graduated with honors from Van Buren High School and is currently a senior pursuing a degree in secondary teacher licensure. She has been published twice in a poetry anthology and enjoys reading and writing. In her spare time, Victoria loves to travel. She plans to further her education and specialize in literature.
Thus is Art: Intent, Textuality, and Effect in Nineteenth Century Fiction

Presented by Ashley Gorham
Faculty Sponsor: Dr. Lindsy Lawrence

What is Art and what purpose does it serve? Is it to act as some great guide to the soul, causing action, or does it simply leave the audience with an affective reaction? Art’s effect is oftentimes not what the author intends, as hard and exquisitely as he or she might have crafted the work; rather, it is what the audience wants it to be. Authors writing for and about reform, such as Thomas Carlyle, Charles Dickens, Elizabeth Barrett Browning (EBB), and Oscar Wilde all wrestled with misreadings of their textual intentions.

For instance, Wilde demanded that Art be consumed aesthetically only, yet his audience refused to do so. Carlyle and Dickens poignantly wrote about and for reform, but oftentimes the audience, who didn’t want to or couldn’t change, simply consumed their art aesthetically, creating little change for those in dire need. Barrett Browning was hopeful a personal connection could make the masses change. Pieces from Dickens or Browning may have pulled on the heartstrings, but an audience’s will is stronger than an author’s force. Art can only be effective when an audience will allow it to be. Ultimately, it is in the hands of the audience on whether the art will become effective or simply remain affective.

Ashley Gorham, 26, is pursuing her undergraduate degree in secondary English. She also plans on working toward a certification in special education. She is married and has a 7-month-old son. She is the children’s director at her church and enjoys philosophical discussions and looking at the world around her through multiple perspectives. She plans on using her degree to teach high school English and special education and use her communication skills to volunteer and speak on behalf of non-profit organizations that provide relief to the needy.
Victorian Gothic Horror Novels: Portrayal of the New Woman and Female Identity
Presented by Katherine Fulmer
Faculty Sponsor: Dr. Lindsy Lawrence

Bram Stoker's novel *Dracula* and Richard Marsh's *The Beetle* are two works that use inflated forms of the “new woman.” Stoker's *Dracula* uses central female characters, such as the three vampire sisters and Lucy and Mina, to express a powerful female sexuality that challenges the Victorian notion of what makes a woman. Marsh’s *The Beetle* displays the “new woman” through characters such as Marjorie Lindon and the Woman of Songs. Both authors seem to view Victorian society as becoming increasingly feminine. Victorian society placed women in a bubble of sexual purity and fragility, making men the heroes and the representations of proper sexuality. The common attitude in the late nineteenth-century was that women were essentially sexless, as if their sex drive was different than males. Stoker and Marsh, however, craft Gothic tales that feature strong female characters with sexual appetites. These novels not only show Stoker’s and Marsh’s knowledge that female sexuality was indeed present, but also critique the idea women should express sexual identity. In *Dracula* and *The Beetle*, expressions of feminine sexual desire led to the downfall of Lucy, Mina, Marjorie, and the Woman of Songs. Female temptation and control become the building blocks for the chaos represented throughout these novels.

*Katherine Fulmer graduated from Northside High School and is now a senior pursuing a degree in secondary English teaching. In high school she was captain of the soccer team, an honors graduate, and a member of the Student Council. She has always enjoyed reading and the English field. She hopes to graduate and be able to teach others of the joy that is English. Her interests include reading, writing, talking, traveling, coaching, and teaching. Katherine spends her free time laughing, and enjoying time with her family and friends.*
Room 7

Presentations in English

Health Science 227

2:00 Kimberly Cloud
2:30 Joshua Harris
3:00 Dawn Cox
3:30 Samuel Hansen
Stereotypical Gender Roles in *Criminal Minds*

Presented by Kimberly Cloud
Faculty Sponsor: Dr. Cammie Sublette

For decades TV crime dramas have portrayed women as victims, while men have been the primary suspects of violent crimes. My presentation will delve into how TV drama series, particularly *Criminal Minds*, reinforce stereotypical portrayals of gender. Popular culture has had a significant impact on how gender roles are perceived in criminal investigations, both during the investigation and later in the courtroom. Women are not often portrayed as being capable of committing the same kinds of violent acts as men. There are the occasional exceptions to this rule, though, which will also be explored in this presentation. For instance, in season two of *Criminal Minds*, the episode “The Perfect Storm” illustrates that a woman could commit violent acts—in this case, against fellow women. The episode was even inspired by a real-life case that occurred in the early 1990s in Canada, though gender roles are reversed in the show. By changing the roles, *Criminal Minds* begins to chisel away at the otherwise intact pop culture narrative of men as victimizers and women as victims.

*Kimberly Cloud is an English major with a minor in rhetoric. She was born in Jacksonville, Florida, but has lived in the Fort Smith area since she was 3 years old. She was home-schooled all her life, with college being her first experience in a public school setting. Her decision to be an English major came from her love of reading and writing. Writing has always been a passion of hers, as well as the love to research things she finds fascinating. Eventually her main goal is to be an editor for a book publishing company, along with publishing a fiction novel of her own at some point in the future.*

**Star Trek: The Mirror of America**

Presented by Joshua Harris
Faculty Sponsor: Dr. Ann-Gee Lee

The *Star Trek* franchise began in 1966 with Gene Roddenberry’s vision of a future in which humanity had ultimately achieved peace and explored the galaxy. Despite its cancellation in 1969, it has successfully cultivated millions of science-fiction enthusiasts and has spawned additional series, movies, and books. *Star Trek* has endured after 45 years not due to the special effects or futuristic technology, but the underlying storyline which contains a moral and reflects America’s current cultural persona through the Federation captain in charge during each series. *Star Trek* engaged in important issues like social inequality, racial injustice, and international tensions, embedding overt cues into the storyline for the viewer to follow. Included in its overall message was the personification of America, using each series’ captain as the example of America’s current cultural times and attitude. This paper examines three captains of the *Star Trek* universe and reveals them as *Star Trek’s* mirror image of the U.S. and the expectant possibilities of humanity. As Captain Kirk said in the episode “The Apple,” “You’ll learn to care for yourselves. You’ll learn to build for yourselves, think for yourselves, work for yourselves, and what you create is yours. That’s what we call freedom.”

*Joshua Harris has been a construction foreman for more than 10 years. He sought life inspiration and began college, majoring in psychology. Now with a year to go, he looks forward to beginning a graduate program to ultimately become a clinical psychologist specializing in assisting those in state mental health institutions.*
Historical Transformations: A Study of Vampire Literature from Stoker to Sands
Presented by Dawn Cox
Faculty Sponsor: Dr. Ann-Gee Lee

Vampires have been popular since 1897, when Bram Stoker gave life to Dracula, a monster with hypnotic abilities who preyed on the innocent. Modern-day vampires have changed drastically since; the most obvious change is the romanticization of vampires. The Twilight Series ignited a Vampire Renaissance. For example, Christine Feehan’s vampires are heroes who come from an ancient race of people, the Carpathians. Not many can become a Carpathian; they must be turned. Sherrilyn Kenyon’s characters with vampire-like traits, the Apollites/Daimons, were created after a race of people killed Apollo’s human mistress and their child. Lynsay Sands’ vampires aim to find their soulmates; they are each allowed to turn one human into a vampire if they cannot find their soulmate.

In this paper/presentation, I show the evolution of the vampire from Stoker to the contemporary romanticization of vampires in literature. In Stoker’s fiction, vampires were depicted as evil, manipulative entities. Today, writers are humanizing them and making them more relatable to audiences. Texas Tech University professor Erin Collopy states, “I think the reason vampires are so popular is because they are such an effective metaphor for our own anxieties and desires...We often try to work things out about ourselves through them.”

Originally from Rialto, California, Dawn became an Arkansan in 1985. It was one of the best things she has ever done. Before coming to UAFS, she drove forklifts and loaded and unloaded trucks for a company that was outsourced from Whirlpool. In 2009 her life changed drastically. When the company closed, and after she lost her husband of 24 years, she was offered a chance to go back to college for a degree. In 2013 she received an associate degree in early childhood education from UAFS. However, she decided she would prefer teaching English and history in grades 4-8, which is what she is currently pursuing. Upon graduation she hopes to help children see the fun behind education. Her hobbies are DIY projects like crocheting, reading fiction, and horseback riding. She has a son, a daughter, and two grandsons.
The Pathos of Anthropomorphism: The Holocaust and Art Spiegelman’s *Maus*

Presented by Samuel Hansen
Faculty Sponsor: Dr. Cammie Sublette

*Maus* relates the story of Vladek Spiegelman, a Hungarian Jewish survivor of the Holocaust, and his son, a cartoonist, as he hears, relates, and comes to terms with his father’s history. In this Comix — a genre that Art Spiegelman coined as a genre to represent his graphic novel, biography and autobiography — Spiegelman uses animals to represent various nationalities and races throughout the book. The use of anthropomorphism in relating the accounts of the Holocaust creates a distance from the horrific realities and softens the pathos, allowing readers to be more objective in their approach of the sensitive subject of the Holocaust. While the atrocious ramifications of Hitler’s Third Reich are by no means absent in *Maus*, many other important issues are explored as well. The topic of the Holocaust can often be daunting and emotionally taxing, but *Maus* is not only intriguing because of the graphic approach, but because of the deeply personal literary approach, making this book a great resource for studying the Holocaust.

Born the seventh child of Mike and Leanne Hansen in the small town of Hayward, Wisconsin, Samuel Hansen was surrounded by forests, fields, and more love than one heart could hold. It was from this place of love and nurture that he began the journey that led him to Fort Smith at the age of 18 where he completed a nine-month internship at New Life Church. The experiences he had, the friends he made, and the opportunities that were available were more than enough to make him stay in Fort Smith. He began his educational journey at UAFS and considers himself extremely blessed to be a part of a university that encourages and nurtures learning and excellence.
Room 8
Presentations in Psychology, History, and Teaching English as a Second Language
Health Science 318

2:00  Group Presentation: Joshua Harmon, Hannah Ware
2:30  Sarah Rosenkrans
3:00  Erin Langford
3:30  Matthew Gantt
Individual Differences in Social Attitudes and Attitudes Toward Torture
Presented by Joshua Harmon and Hanna Ware
Faculty Sponsor: Dr. James Benjamin

The present study examines the extent to which social attitudes such as right-wing authoritarianism, social dominance orientation, and belief in a mean world predict attitudes toward torture. Based on previous research (Benjamin, in press), there is evidence that authoritarianism, including authoritarian aggression is related to attitudes toward torture. However, other researchers (e.g., Larrson, et al., 2012) found evidence that social dominance orientation was a better predictor of attitudes toward torture. Additionally, exposure to violence in mass media could potentially influence individuals’ willingness to accept torture, which we assess indirectly through a scale developed by Gerbner et al. (1980). Our primary interest is in testing the hypothesis laid out by Larrson et al. (2012) who contended that social dominance orientation is a stronger predictor of attitudes toward torture than authoritarianism. Our secondary interest is in examining the predictive role of mean world beliefs and mass media exposure on attitudes toward torture. Our findings will be discussed in terms of recent research and theory on authoritarianism and social dominance theory, and further examine the potential relevance of Cultivation Theory as a means of understanding some individual variation in attitudes toward torture.

Joshua Harmon is a psychology major graduating in summer 2016. He is a transfer student from Olney, Illinois, where he was named Student-Athlete of the Year. Once making UAFS his home, he became part of the basketball team, Psychology Club, and National Society of Leadership and Success. After graduation he plans to earn a master's in industrial organizational psychology.

Hannah Ware is a psychology student graduating in May 2016. She is a transfer student from Olney, Illinois, where she was a peer mentor and captain of the basketball team. Since coming to UAFS, Hannah has earned a place on the Dean’s list for several consecutive semesters. After graduation she plans to take a year off to raise her new baby and then continue her education to earn a master’s degree in social work.

Female Civil War Spies and the Use of Nineteenth Century Gender Ideals
Presented by Sarah Rosenkrans
Faculty Sponsor: Dr. Mike Crane

Because of society's concepts of gender, spying has traditionally been viewed as a male occupation, but during the American Civil War many women on both sides of the conflict participated as spies. Nineteenth century American society believed that men and women worked and participated in different “spheres.” Men acted as public figures, while women managed the household and were the moral center of the family. Although female Civil War spies performed duties considered outside the role of women, they worked within and used society's concepts of gender to accomplish their goals. Lady spies, including Rose O’Neal Greenhow and Elizabeth Van Lew, used typical womanly activities, such as hosting parties and caring for soldiers, to gather information. Others women, like Sarah Emma Edmonds and Loreta Janeta Velazquez, joined the army disguised as a man and later acted as a spy or scout for their army. Though both types of female spies challenged nineteenth century gender norms, the women did not desire to change society's expectations of women.

Sarah Rosenkrans was born in Springdale, Arkansas, and graduated from Springdale High School in 2012. She is a history major with a resources interpretation minor and is an active member of Astral Fantasy Ink Productions, Lions Quidditch, and the Honors International Studies Program. She will graduate this May and plans to attend graduate school to earn a master’s in museum studies.
Marielitos at Fort Chaffee: Misunderstood and Misrepresented
Presented by Erin Langford
Faculty Sponsor: Dr. Steven Kite

During the spring of 1980, over twenty-five thousand Cubans traveled to Fort Chaffee, an Army base on the outskirts of Fort Smith, Arkansas, by way of Mariel, Cuba, earning them the nickname “Marielitos.” Average Americans viewed these “boat people” negatively with growing distrust based on stereotypes perpetuated by comments from Fidel Castro's government, the United States involvement in the Cold War, and American media. Compared to previous waves of Cuban exiles, the Marielitos faced unfavorable conditions with little support from the United States government. By analyzing the differences between the Marielitos and earlier Cuban exile groups, dissecting media portrayals that created the negative stereotype, and explaining what constituted criminal behavior in Cuba during the years before the Mariel boatlift; this presentation of research will dispel the myth of Marielito refugees as pure criminals.

Erin Langford is a history major with minors in resource interpretation and anthropology. After graduation she plans on pursuing a master's degree in the field of museum studies. She is interested in representation and portrayals of groups marginalized or stigmatized in society at large.

Habit or DNA: How are Second Languages Acquired?
Presented by Matthew Gantt
Faculty Sponsor: Dr. Brenda Ross

The study of second language acquisition (SLA) has only, since the late 60s, developed as an independent and autonomous discipline. It is a very complex field and there are many theories concerning how languages are acquired. I would like to focus on two theories that appear to be the most relevant: behaviorism and cognitivism.

Behaviorists believe that learning occurs through habit formation, imitation, and reinforcement; i.e., children learn language by repeating rewarded utterances until they become a habit. In contrast, linguists who support the cognitivist approach to language acquisition believe in an innate system in the brain which triggers when a child experiences language. These are theories of first language acquisition, but many theorists try to apply one or the other of them to SLA. In my opinion, both theories are important in understanding how second languages are acquired.

In my presentation I will discuss behaviorism and cognitivism, as well as interlanguage theory, which connects both major theories in SLA. I will explain how they all work together in the process of learning a second language.

Matthew Gantt is a junior English major with a minor in teaching English as a second language. He became interested in the study of language when he spent two and a half years in South Korea teaching English to elementary students. He believes that understanding languages and how they are acquired is vital in order to understand different cultures and how people live their life. After graduating Matthew plans to go to graduate school to study applied linguistics and how language connects within the brain.
Room 9

Presentations in Studio Art and Graphic Design

Health Science 321

2:00 Cara De Lozier
2:30 Kayla Schluterman
3:00 Tia Johnston
A Sculpture Garden for UAFS
Presented by Cara De Lozier
Faculty Sponsor: Dr. Charles Steiner

UAFS and the surrounding communities would significantly benefit from the development of a Sculpture Garden. Many universities with formidable art programs have Sculpture Gardens such as Yale University. However, there are smaller institutions similar to UAFS that have also made this commitment such as Governors State University in Illinois and Indiana University Northwest. A Sculpture Garden provides a unique opportunity for students and community members to be exposed to works of art that would otherwise be difficult to access. With the addition of a centralized pavilion, the space could be utilized for events, fundraising, and classes which will assist with offsetting the cost. The sculptures would be obtained on a temporary basis through an annual themed contest, in which the artists will create, deliver, and set up their work. The artworks will then be judged throughout the year and a winner announced. An annual contest will continue to hold the student and community's interest by introducing them to new artists and artworks yearly. Enhancing the campus thru a Sculpture Garden and associated events will support the progress that UAFS makes towards a brighter future and greater interaction with the community through art.

Cara De Lozier is a nontraditional, senior level studio art major. She was the featured artist in the 2013 Cave Region Review annual publication, participated in The Unexpected city-wide mural project, and has shown artwork in two Blue Lion exhibitions. Between 2008-2012 she was assistant manager of Limited Editions for Her in Branson, Missouri, as well as a manager, sales associate, merchandiser, chamber of commerce member, marketer, personal shopper, and event planner. An ongoing event that she initiated, Art and Fashion, includes a solo exhibition of her own artwork. She earned both an Associate Degree and a computer-aided design certification while a student at NorthArk (2012-2013). There she served as public relations officer for the Student Government Association and was the only student representative on both the Executive Council and the search committee for the school's vice president.

The Meaning Behind the Appearance of the St. Stephen Burse Reliquary
Presented by Kayla Schluterman
Faculty Sponsor: Dr. Mary Shepard

The focus of this paper is the St. Stephen Burse reliquary (800-830 CE), a magnificent work of gold and precious gems from the early Middle Ages. The aim of this paper is to demonstrate that there was a clear connection between the form and iconography of the reliquary and its contents. This reliquary was believed to contain the blood-soaked soil from the martyrdom of St. Stephen. Thus, the reliquary's shape — typical of a pilgrim’s traveling bag — suggests a kind of virtual pilgrimage for the believer. The gem and pearl-encrusted front demonstrates the preciousness of this sacred relic. Similarly, the secular-themed medallions create a system of visual metaphor for understanding the importance of the reliquary's contents. In this way the reliquary reflects its inner contents, just as the relic is viewed as an object even more precious than the jewels encrusting it.

Kayla Schluterman is a senior studio art major and theatre minor from Greenwood, Arkansas. She enjoys making art as well as studying the history of art. Her hobbies include painting, drawing, and hiking, and she also considers herself a film buff and enjoys watching movies.
René Crevel and the Modernization of the Decorative Arts in France
Presented by Tia Johnston
Faculty Sponsor: Dr. Mary Shepard

The subject of this paper is a glazed porcelain vase from 1926 by the French designer René Crevel. He is a relatively unknown artist of the Art Deco style, but one who exhibited in the influential Exposition Internationale des Arts Décoratifs et Industriels Moderne held in Paris during the summer of 1925. This paper will explore Crevel’s work and the influence of Fauvism and Cubism on his design. His designs for the exposition, particularly for the antechamber of the Ambassade Française, demonstrates his indebtedness to artists like Matisse and Picasso, and the styles they pioneered a decade earlier. Yet, his work paved the way for Art Deco, a style that relies on geometric patterning and bold colors. In this way, René Crevel sought to modernize the decorative arts while paying homage to earlier innovations in painting like Cubism and Fauvism.

Tia Johnston is a graphic designer. She is a native to Fort Smith although she is from Charleston initially. Her hobbies include collage, painting, reading, traveling, visiting museums and obsessing over cats. Passion and caffeine is her driving force in the arts and questioning and learning is continually important to push her boundaries in what she knows.
Room 10

Presentations in Media Communication

Health Science 325

2:00 Group Presentation: Tulsa House, Averie Warren
2:30 Solon Pender
3:00 Steven Franklin
3:30 Jesse Lovelace
Grand Theft Auto vs. Metroid Prime: Women, Representations, and Video Games  
Presented by Tulsa House and Averie Warren  
Faculty Sponsor: Dr. Bret Bowers

When it comes to video games, women are portrayed as bystanders, sex objects, or damsels in distress. According to Andy Chalk, 4 percent of action/shooter and role-playing video games have exclusively female protagonists, despite 48 percent of women in the United States reporting that they play video games (Chalk 2014). A high percentage of video games lack female characters and those games that do have women protagonists typically represent those characters negatively. This treatment can be traced to the idea that video games are a boy's best friend. However, numerous studies have shown that females not only enjoy gaming, but can learn greatly from it. Using content analysis we show that women are continuously represented in a negative and false manner within the action/shooter genre. Focusing on two case studies, we examine the video games Grand Theft Auto and Metroid Prime, analyzing the contrasting roles that women occupy in each. Our goal is to describe the visual, narrative, and linguistic elements in these two video games with divergent female roles and how best to accurately represent women in the action/shooter video game genre.

Tulsa House is a published poet, author, and journalist. She is currently a junior, majoring in media communication and minoring in creative writing. She interns with Public Relations at UAFS.

Averie Warren is a media communication major with a theatre minor. She currently expresses an interest in journalism and video production. On campus she is editor of the Lions Chronicle, vice-president foundation for Delta Gamma, and interns for University Public Relations and UAFS Dining Marketing.

Much Ado About Adoing Too Much: Analyzing the Critiques of Anderson and Ferguson on Violent Video Game Research  
Presented by Solon Pender  
Faculty Sponsor: Dr. James Benjamin

Studies on the effects of human aggression and violent video games have become fraught with contention and alleged contradiction from two major research groups, headed by Anderson and Ferguson, respectively. This paper looks into the meta-analysis by Anderson et al. (2010) as well as the series of responses to it. In the process, this paper discusses the politicization of the field itself as well as concerns over public opinions and interpretation of the data. The conclusion is that divergent interpretations of very similar data is creating a rift in the field and preventing the public from making meaningful conclusions. Better interaction and clearer communication with the public is encouraged, as well as allowing other groups to step in to break up the establishment of the two popular and competing camps: Anderson and colleagues (and their various supporters) on one side and Ferguson (and his various supporters) on the other.

Solon Pender is a senior media communication major and life-long lover of video games, focusing his studies on the effects of video games on culture and communication. He has presented studies at the 2015 UAFS Research Symposium and the 2014 Southern States Communication Conference in New Orleans.
Face Negotiation Theory and Non-Verbal Communication: Face Saving Without Words
Presented by Steven Franklin
Faculty Sponsor: Dr. Susan Simkowski

In recent years the importance of non-verbal communication in politics has emerged as a hot topic for researchers. This paper examines Face Negotiation Theory and how non-verbal communication is used in response to direct face threats. For this study, the first televised Democratic and Republican debates were viewed and analyzed. The subjects included the two presidential front-runners from the Democratic Party (Hillary Clinton and Bernie Sanders), as well as Republican front-runner Donald Trump. Ben Carson, who was not in the bottom 7, was also selected for analysis on the basis of being an African American candidate in the GOP primaries. Each candidate was analyzed for non-verbal responses in the following categories: face saving gestures, face saving expressions, face saving postures, face restorative gestures, face restorative expressions, and face restorative postures. The results revealed marginal significance. The majority of the recorded responses were non-verbal gestures in response to direct face threats. On the other hand, the number of non-verbal face saving techniques was not as significant. This study was unique in seeking a correlation between non-verbal signals in response to direct face threats.

Steven Franklin is a 23-year-old senior graduating in May 2016 with a Bachelor of Arts in media communication and a minor in speech communication.

Let’s Talk About Sports
Presented by Jesse Lovelace
Faculty Sponsor: Dr. Nicole Reamer

This research paper discusses a topic related to commentary in sports communications and broadcasting. It compares radio commentary and television announcers for select games. I provide an historical overview of each format of commentary, followed by positives and negatives within each field. This will help the audience to understand the dissimilarities in these overlapping, yet quite different formats for sports commentary. This paper also attempts to understand the subtle gender and racial stereotypes that are woven throughout collegiate and professional sports commentary. I am specifically drawn to this subtopic in my research because commentary on athletes often includes points about Caucasian athletes making a “smart” football move compared to an African American athlete making an “athletic” move – which is reflected in my own research as well as previous academic studies of the subject. Finally, additional inspiration for this topic is my passion of sports. While watching sports in my leisure time, I have noticed these trends and would like to better understand if it is accidental racism/sexism or purposely.

Jesse Lovelace will graduate in December 2016 with a Bachelor of Arts in media communication and a speech minor. He plans to attend graduate school in Fayetteville, Arkansas, after graduation, focusing on communications. He is a non-traditional student, working a full-time job at Baldor Electric, and is proud that he will graduate with no debt. While watching sports in his leisure time, he has observed the trends noted in his research project and will use this project to better understand if the commentary is simply subconscious bias or more insidious bigotry.
Room 11
Presentations in Media Communication
Health Science 326

2:00 Joni Fields-Adams
2:30 Jerome Kremers
3:00 Andrea Duhon
Evaluating the Degree of Sensitivity in Disparagement Humor in the Students at the University of Arkansas - Fort Smith Through the Semantic Differential Technique
Presented by Joni Fields-Adams
Faculty Sponsor: Dr. Susan Simkowski

As an undergraduate student at the University of Arkansas - Fort Smith, I set out to discover the degree of sensitivity between weight-related and blonde-related humor in the media. Both of these can be considered subcultures that have distinct body characteristics that categorize them into each genre of humor. Becoming more aware of how the media can play the role of the message between sender and receiver is beneficial in understanding the power of the media to communicate both funny and offensive humor.

The purpose of this study was to discover how two different types of disparagement humor in the media affect participants. Blonde and weight-related humor were examined. Students in the Communication Research Methods course volunteered to watch a short clip of humor from either a film or television show and used the Semantic Differential Scale to record their perceived responses. This study generated three different hypotheses. As predicted, those participants who were blonde, found the blonde humor to be more offensive. The female participants found the weight-related humor to be more offensive than men. The male participants labeled both types of humor as funny instead of offensive. Although the sample size was small and no data was statistically significant, the Semantic Differential trends aligned with the hypotheses, which makes this a reliable research study.

Joni Fields-Adams is a junior media communication major. She has been awarded the prestigious Chancellor’s Leadership Council Scholarship and has been listed on the dean’s list with a 4.0 GPA. She served as Miss UAFS 2015 and was a member of the UAFS Pom Squad. She also served as the entertainment editor of the Lion’s Chronicle and worked as a production assistant at 5NEWS. She currently serves on the UAFS Fitness Council and works as a fitness trainer at BodyTailors Personal Training. Joni plans to graduate with a Bachelor of Arts in media communication in December 2016 and attend graduate school to become a speech language pathologist.
The Effects of Text Messaging on Relational Intimacy
Presented by Jerome Kremers
Faculty Sponsor: Dr. Susan Simkowski

This case study examines the contemporary issue of relationship maintenance among young adults (ages 18-25) as it is regulated through a computer mediated text messaging service. Relational maintenance techniques and breaches of expectancy are analyzed by reviewing a series of unedited text messages between a subject and three correspondents. The researcher hypothesizes that 1) as individual's relationships converge towards intimacy, dependence on computer-mediated communication will increase; 2) as dependence on computer mediated communication increases, relational maintenance techniques will rise, improving relational satisfaction, and 3) when the desired intimacy is achieved, relational maintenance techniques drop while expectancy breaches rise, creating relational dissatisfaction. The researcher found that H1 was rejected, but H2 and H3 were accepted, showing that as dependence on computer mediated communication increased so did relational maintenance, improving satisfaction. However, after participants reached their desired level of intimacy, relational maintenance techniques dropped while expectancy breaches rose, creating dissatisfaction and ultimately forcing individuals to outgrow the medium of SMS if sustained intimacy and closeness was desired.

Jerome Kremers is a junior media communication major. He has attended the university since the fall semester of 2012 and is focused on exploring relationships and communication through prevalent forms of media in society today. He has been honored by appearing on the chancellor's list, as well as being a student speaker at the UAFS fall convocation in 2013. He is also the vice president of NUMediA, a Registered Student Organization dedicated to furthering student familiarity and involvement with all forms of media.

The Comment Section: Social Media’s Black Eye
Presented by Andrea Duhon
Faculty Sponsor: Dr. Nicole Reamer

Recently in the news, a man named Matthew Townsend was arrested for something that many people do without thinking: commenting online. According to The Idaho Statesman, Townsend was arrested for comments that “threatened a police officer”—something that many sum up as simply “ranting and raving.” This instance is one of many over the past few years, as the world of commenting has grown and morphed from a place of open democratic discussion to one of petty arguments, with the occasional death threat. To some people, the right to comment on anything and everything is covered by the first amendment of the United States Constitution. To others it is nothing more than a place for people to act their worst: a place where anonymity provides them a shield to insult and threaten others. This research will use support from both academic scholarship and real-life cases to examine multiple aspects of online commenting to understand its impact on society - both online and “IRL” (in the real life). This will be done in order to better understand why many people value comments so highly, and to assess the positives and negatives of commenting, as well as alternatives to the growing trend of altogether closing or banning the comment section.

Andrea Duhon was born in Lafayette, Louisiana, and moved to Greenwood, Arkansas, in 2010. She graduated from Greenwood High School in 2013 and began attending UAFS in the fall of 2013, majoring in media communication. She is captain of the Lions Quidditch team and a member of NuMedia and the Lions’ Chronicle. She hopes to use her degree to travel the world and see new cultures.
Poster Presentations
Boreham Library
Room 129
Charcot Foot
Presented by Hannah Brown
Faculty Sponsor: Casey Harmon
Table 1

Charcot Foot, also known as Charcot arthropathy, is a condition caused by weakening of the bones in the foot that commonly occurs in an individual with significant neuropathy. Diabetic patients are at risk for developing this condition due to the neuropathic issues associated with the disease itself. The fragile tarsal bones will often fracture causing a shape deformity, giving the patient a rocker-bottom appearance. The condition also affects the tendons and ligaments causing ulceration which can result in the deformity, disability, and amputation. Redness, soreness, and inflammation are a few symptoms requiring immediate medical attention. Depending on the severity of the condition, both non-surgical and surgical methods can be used to treat. The patient’s role is vital in preventing or lessening the complications associated with Charcot arthropathy.

Hannah Brown graduated from Alma High School in 2011. She is currently enrolled in the radiography program and will graduate in July 2016 with an Associate of Applied Science in radiography. She has served as president of the Radiography Student Association and plans to further her education by applying to the UAFS diagnostic medical sonography program. She is currently employed at Sparks Regional Medical Center as a student radiographer. In her free time Hannah enjoys crafting, singing, and watching Netflix.

Arthrogryposis Multiplex Congenita
Presented by Lacy Frederick
Faculty Sponsor: Angie Elmore
Table 2

Arthrogryposis Multiplex Congenita, also known as AMC or Arthrogryposis, is a rare condition affecting 1 in 3000 newborns. AMC is a group of disorders characterized by multiple severe bony deformities and joint contractures. The actual cause of AMC still remains unknown; however, fetal akinesia is thought to be the main contributing factor of joint contractures. There are several symptoms associated with each type of AMC. Ultrasound is the most common test for diagnosing Arthrogryposis, identifying a lack of fetal mobility and allowing for the visualization of joint contractures mainly in the late second and third trimesters. With advancements in technology, AMC can now be detected as early as the first trimester. Currently, there is no cure for Arthrogryposis. However, there are several treatments available to help individuals cope with this condition.

Lacy Frederick graduated from Elkins High School in 2012. She is currently enrolled in the radiography program and will graduate with an Associate of Applied Science in July 2016. Her plans are to continue her education and apply for entrance into the UAFS diagnostic medical sonography program. She enjoys spending time with her family, working out, going to the lake, and traveling.
Syndrome of the Sea
Presented by Mariah Warren
Faculty Sponsor: Angie Elmore
Table 3

Sirenomelia, also known as mermaid syndrome, is a potentially fatal birth defect that is characterized by the fusion of lower limbs or the presence of one lower limb resembling a mermaid tail. Additional abnormalities can occur with this disorder such as cleft palate, spina bifida, scoliosis, and cardiac malformations making it a multisystem condition. Sirenomelia is a very rare birth defect, affecting approximately 1 in every 100,000 births. Sirenomelia is not specific to a certain race; however, it does affect males more often than females with a ratio of 3:1. Children born with this condition usually only survive a few days after birth, although there has been a small number that have lived to be young adults. There are multiple types and degrees of severity associated with Sirenomelia. An ultrasound can diagnose this condition prenatally along with the detection of associated abnormalities. Radiographs can be obtained after delivery to determine the type as well as the severity of Sirenomelia.

Mariah Warren graduated from Spiro High School in 2012. She will graduate with an Associate of Applied Science in Radiography in July 2016. She plans to continue her education by applying to the diagnostic medical sonography program at UAFS. In her free time she enjoys art and spending time with family and friends.

Male Response to Multiple Mating Opportunities in the Bean Beetle, *Callosobruchus malculus*
Presented by Colton Waters
Faculty Sponsor: Dr. Amy Skypala
Table 4

Sexual selection theory predicts that individuals behave in ways that increase their chances of mating success. In the bean beetle (*Callosobruchus malculus*), as in other organisms, males alter reproductive behavior beneficially when other males are present as potential competitors. This study focuses on whether male beetles change their mating behavior when exposed to multiple females as potential mating opportunities. A virgin male beetle was presented with either a solitary female or two females and latency to mate, the duration of the mating and the number of developing eggs were measured. Results were analyzed with a Mann-Whitney U-test and indicated there was no statistical significance between the treatments. Explanations for the lack of significance are discussed.

Colton Waters is a biology major from Booneville and a 2009 graduate of the Booneville High School. He plans to attend physical therapy school after graduating from UAFS in spring 2016.
A Comparison of Genetic Distances Between Migratory Populations of *Tadarida brasiliensis mexicana* (Mexican Free-Tail Bats)
Presented by Gabrielle Back
Faculty Sponsor: Dr. David McClellan

Table 5

Mexican free-tail bats are unique in that, during the summer, most females migrate to colonies in Texas, Oklahoma, Arizona, and New Mexico, while most of the males stay in Mexico. In order to test the hypothesis that migratory populations are genetically distinct, samples containing male and female data from winter colonies were compared to maternity samples from summer colonies. Information from the six most variable loci was taken to analyze allelic frequencies among colonies. This study compares the distinctive breeding populations of Mexican free-tail bats in eight summer colonies and four winter colonies in North America. Genetic distances suggest that the hypothesis that summer and winter colonies of Mexican free-tail bats are genetically distinct is rejected.

Gabrielle Back is a biology major from Kansas City, Missouri. She was homeschooled, graduating from high school in 2012. She will graduate from UAFS in May 2016. She is in the process of applying to graduate school to pursue a degree in wildlife conservation, hopefully in Colorado.

A Comparative Study of the Effects of 4-6-O-benzylidene-D-glucopyranose, a Benzaldehyde Derivative, on Growth and Function of Cancerous and Non-Cancerous Cells
Presented by Daniel Young
Faculty Sponsors: Dr. Brandy Ree and Dr. Sean Curtis

Table 6

Positron emission tomography (PET) scans are a popular mode of action for identifying cancer activity. The patient receives an intravenous injection of radioactive glucose which is then used by physicians to effectively pinpoint cancerous growths. Cancer cells differ energetically from that of normal cells by their lack of use of mitochondria to generate ATP. Instead, cancer cells rely on aerobic glycolysis to produce ATP. Although this may appear as an energetic disadvantage, this serves as an advantage for cancer cells by forcing the cell to remain in a mitotic state. My goal is the use this metabolic shift to increase drug delivery to cancer cells. Research has shown that benzaldehyde has specific antitumor activity on patients with inoperable carcinomas in terminal stages. The exact biochemical process of how the compound works is not fully understood, but tumor regression has consistently been shown. Looking at these two ideas, I attached a D-glucose molecule to that of benzaldehyde, creating 4-6-O-benzylidene-D-glucopyranose. The hope of this research is to use the cancer cells’ strong affinity for glucose against itself by attaching glucose to a known toxin, resulting in the death of the cancer cells.

Daniel Young is currently a senior majoring in biology with a minor in chemistry. He will be graduating May 2016. He transferred to UAFS in fall 2015 after previously attending Oklahoma State University and Eastern Oklahoma State College. He plans to remain on campus after graduation to continue taking classes and doing research while applying for medical school.
Mutagenesis Analysis in Drosophila Screening for Novel Programmed Cell Death Regulations
Presented by Danita Fears and Brittany Holbert
Faculty Sponsor: Dr. Brandy Ree

Table 7

Programmed cell death (PCD) is a process by which multicellular organisms remove unnecessary or damaged cells. During metamorphosis of Drosophila, most larval tissues are removed by PCD to make way for adult tissues. The larval salivary gland are ideally suited as a model system to understand the regulation of PCD. Salivary gland death is triggered by a 20-hydroxycyecdysone pulse at 12 hours after puparium formation (APF). By 14 hr APF, salivary glands exhibit changes in the actin cytoskeleton and significant nuclear breakdown, and salivary glands are destroyed by 16 hr APF. Many of the genes that regulate this process are conserved between Drosophila and mammals. Therefore, studies in genetically more accessible organisms may help us understand defects in PCD associated with tumorigenesis. Our research focuses on genes known to be expressed during salivary gland death, that also have a mammalian homolog. RNA interference is being used to knockdown expression of genes that have potential to play a role in PCD of the salivary glands. Preliminary data revealed Frizzled, CG18540, and CG 7466 as potential programmed cell death regulators.

Danita Fears is a transfer student from Van Buren, Arkansas. She will graduate in December 2016 and has plans to go to physical therapy school, where she hopes to specialize in pediatric physical therapy.

Brittany Holbert is a senior majoring in biology and minoring in chemistry. She is from Keller, Texas, and was a four-year starter for the women’s basketball team at UAFS.
Examination of the Cytotoxicity and Selectivity of Frankincense Oil in Breast Cancer
Presented by Ghaleb Alaidi
Faculty Sponsor: Dr. Brandy Ree
Table 8

Frankincense oil, originating from Africa, India, and the Middle East, has been used to make incense and perfumes for thousands of years, making it important socially and economically. Frankincense is made from aromatic hardened gum resins from Boswellia trees. The components in Frankincense oil have been shown to have anti-inflammatory and anti-neoplastic properties. Boswellia sacra activates the caspase-dependent apoptotic pathway in cultured human pancreatic cancer cells and up-regulates genes that are responsible for cell cycle arrest, cell growth suppression, and apoptosis in cancerous cell lines taken from the bladder. It suppresses cell viability in cancerous cell lines, however not in the normal cells, showing that frankincense oil is selective. These properties give frankincense oil promise as a chemotherapeutic drug. In order to further examine the selective properties and cytotoxic effects of frankincense oil on cancer, the oil will be applied at varying concentrations to cells cultured from adenocarcinoma of the breast, as well as cells cultured from normal breast tissue. My objective is to examine the cell cultures before and after treatment focusing on cell viability, apoptotic markers, and protein expression, with the intent of better understanding the mechanism for cytotoxicity and selectivity previously observed in frankincense oil.

Ghaleb Alaidi was born in Texas, but grew up in Arkansas. He has five siblings and is majoring in biology and with hopes of becoming a doctor one day.
Planarians are flatworms that live in freshwater and marine environments. One planarian can be cut into over two hundred pieces and each can grow into a whole planarian. This remarkable regenerative capability is due to the presence of neoblasts which are similar to the stem cells found in mammals. One neoblast cell is capable of forming thirty different types of cells. Creatine is a naturally occurring nitrogenous organic acid that provides additional energy to the muscles which enables rapid muscular growth and increase in body mass. The goal of this project is to study the effects of creatine on planarian regeneration. We hypothesize that planarian regeneration in presence of creatine HCl will be faster and the regenerated planarians will be larger and have greater body mass. All planarians will be cut in the middle to create a head and tail piece. These pieces will be placed in petri dishes containing two different concentrations of creatine HCl (0.001M and 0.0001M). Images of the regenerating planarians will be taken and processed using ImageJ software for quantitative data analysis. Results will be presented at the UAFS Undergraduate Research Symposium 2016.

Shania Atchison graduated from Southside High School in May 2013. She is currently a junior undergraduate pursuing a degree in biology. After graduating she aspires to attend medical school and pursue a career in pediatric medicine. Her research interests include those in the area of both biology and chemistry.

Henry Gutierrez graduated from Cedarville High School in May 2013. His goal is to attend medical school, specializing in oncology. Currently Henry is pursuing his undergraduate degree in biology with a minor in chemistry. His research interests include exploring the fields of both biology and chemistry research projects with an emphasis on cellular and molecular biology.

Bobby Hill is a graduate of Poteau High School, currently pursuing a degree in biology. After graduating he plans to get his doctoral degree in dental surgery. He is interested in research in the areas of biology and chemistry with an objective to exponentially increase his knowledge base so that he may amplify the results of his passion, further his education, gain personal experience, and contribute to the continual advancement of science and research.

Daniel Stacy graduated from Poteau High School as Valedictorian in May 2013. He is currently a junior pursuing a degree in biology. He aspires to attend and graduate medical school and pursue a career in family medicine. Daniel’s research interests include general biology and chemistry research, social research, and one day, cancer research.
Desalination of Sea Water and the Inherent Problems That Come With It
Presented by Rebecca LeBlanc
Faculty Sponsor: Christopher Knubley
Table 10

Despite advances in seawater desalination, finding fresh water for drinking and other daily activities is a challenge in some areas of the world. While desalination is not a new concept, there are issues that have yet to be resolved. There are very few plants dealing with this task because of issues such as poor yield, environmental risks, and high energy levels needed to achieve fresh water. Environmental issues due to desalination include what to do with excess salt or brine, how to prevent small organisms like plankton and baby fish from being collected in the water, and what potential effects that desalination will have on the oceanic environment. Ways to decrease these issues and improve fresh water yield will be discussed and presented in this study.

Rebecca LeBlanc was born in Batesville, Arkansas, and grew up in Springdale, Arkansas. She graduated from Springdale High School in 2012 and started attending UAFS in fall 2012. She is a proud four-year member of the UAFS Lions Quidditch team. She is also an active member of Astral Fantasy Ink Productions, where she is currently secretary and serving as vice-president as well as director of arts and crafts. Rebecca will graduate this spring with an Associate of General Studies and will then pursue a Bachelor of Science in geology.
<table>
<thead>
<tr>
<th>Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allison Harrison</td>
<td>24</td>
</tr>
<tr>
<td>Andrea Duhon</td>
<td>51</td>
</tr>
<tr>
<td>Ashley Gorham</td>
<td>30</td>
</tr>
<tr>
<td>Averie Warren</td>
<td>46</td>
</tr>
<tr>
<td>Bobby Hill</td>
<td>59</td>
</tr>
<tr>
<td>Brianne Smith</td>
<td>21</td>
</tr>
<tr>
<td>Brittany Holbert</td>
<td>57</td>
</tr>
<tr>
<td>Cara De Lozier</td>
<td>42</td>
</tr>
<tr>
<td>Carol Ann Seahorn</td>
<td>26</td>
</tr>
<tr>
<td>Chandler Satterfield</td>
<td>13</td>
</tr>
<tr>
<td>Cody White</td>
<td>17</td>
</tr>
<tr>
<td>Colton Smith</td>
<td>8</td>
</tr>
<tr>
<td>Colton Waters</td>
<td>55</td>
</tr>
<tr>
<td>Daniel Stacy</td>
<td>59</td>
</tr>
<tr>
<td>Daniel Young</td>
<td>56</td>
</tr>
<tr>
<td>Danita Fears</td>
<td>57</td>
</tr>
<tr>
<td>Dawn Cox</td>
<td>35</td>
</tr>
<tr>
<td>Drew Caple</td>
<td>12</td>
</tr>
<tr>
<td>Erin Langford</td>
<td>39</td>
</tr>
<tr>
<td>Gabrielle Back</td>
<td>56</td>
</tr>
<tr>
<td>Ghaleb Alaidi</td>
<td>58</td>
</tr>
<tr>
<td>Gideon Long</td>
<td>22</td>
</tr>
<tr>
<td>Hannah Brown</td>
<td>54</td>
</tr>
<tr>
<td>Hannah Ware</td>
<td>38</td>
</tr>
<tr>
<td>Henry Gutierrez</td>
<td>59</td>
</tr>
<tr>
<td>Israel Cuevas</td>
<td>16</td>
</tr>
<tr>
<td>Jared Dunning</td>
<td>16</td>
</tr>
<tr>
<td>Jennifer Lord</td>
<td>13</td>
</tr>
<tr>
<td>Jerome Kremers</td>
<td>51</td>
</tr>
<tr>
<td>Jesse Lovelace</td>
<td>47</td>
</tr>
<tr>
<td>Joni Fields-Adams</td>
<td>50</td>
</tr>
<tr>
<td>Joshua Harmon</td>
<td>38</td>
</tr>
<tr>
<td>Joshua Harris</td>
<td>34</td>
</tr>
<tr>
<td>Justin Moore</td>
<td>16</td>
</tr>
<tr>
<td>Katherine Fulmer</td>
<td>31</td>
</tr>
<tr>
<td>Kayla Schluterman</td>
<td>42</td>
</tr>
<tr>
<td>Kimberly Cloud</td>
<td>34</td>
</tr>
<tr>
<td>Lacy Frederick</td>
<td>54</td>
</tr>
<tr>
<td>Lara Milican</td>
<td>8</td>
</tr>
<tr>
<td>Lauren Tipton</td>
<td>24</td>
</tr>
<tr>
<td>Lindsay Tillery</td>
<td>29</td>
</tr>
<tr>
<td>Luis Muniz</td>
<td>9</td>
</tr>
<tr>
<td>Mariah Warren</td>
<td>55</td>
</tr>
<tr>
<td>Matthew Gantt</td>
<td>39</td>
</tr>
<tr>
<td>Nicholas Moen</td>
<td>25</td>
</tr>
<tr>
<td>Rebecca LeBlanc</td>
<td>60</td>
</tr>
<tr>
<td>Regina Smith</td>
<td>28</td>
</tr>
<tr>
<td>Samantha Kendrick</td>
<td>22</td>
</tr>
<tr>
<td>Samuel Hansen</td>
<td>36</td>
</tr>
<tr>
<td>Sara Tomlin</td>
<td>29</td>
</tr>
<tr>
<td>Sarah Rosenkrans</td>
<td>38</td>
</tr>
<tr>
<td>Shane Hale</td>
<td>20</td>
</tr>
<tr>
<td>Shania Atchison</td>
<td>59</td>
</tr>
<tr>
<td>Solon Pender</td>
<td>46</td>
</tr>
<tr>
<td>Steven Franklin</td>
<td>47</td>
</tr>
<tr>
<td>Taylor Rook</td>
<td>12</td>
</tr>
<tr>
<td>Tia Johnston</td>
<td>43</td>
</tr>
<tr>
<td>Tulsa House</td>
<td>46</td>
</tr>
<tr>
<td>Victoria Wiley</td>
<td>29</td>
</tr>
</tbody>
</table>
Poster Presentation Map
Boreham Library - Room 129
Winners of the 2016 Undergraduate Research Symposium will be posted at uafs.edu/about/uafs-undergraduate-research-symposium